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Catalogue Export 22



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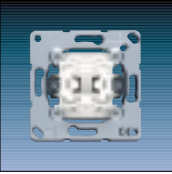
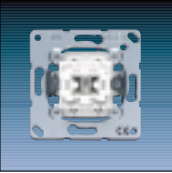
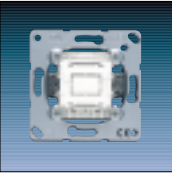
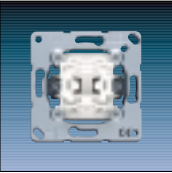
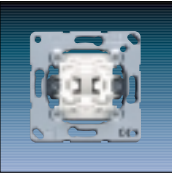
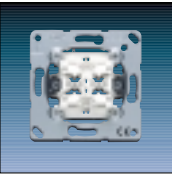
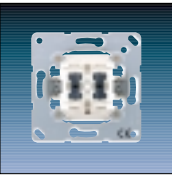
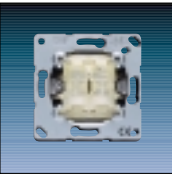
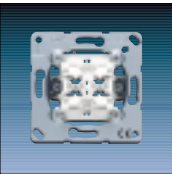
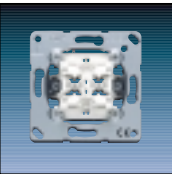


Administration, training centre and production in Schalksmühle

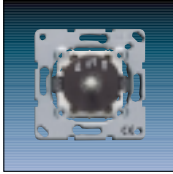

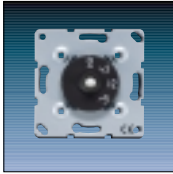
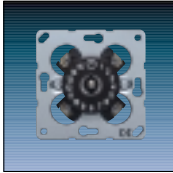
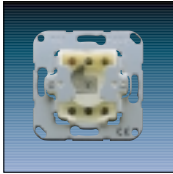
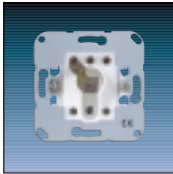
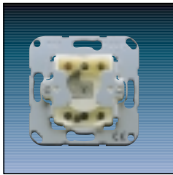


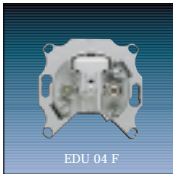


Production and high-bay warehouse in Lünen


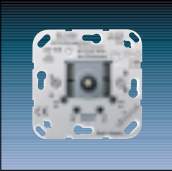

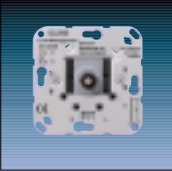






Mechanical inserts

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	1-gang switch insert 1-pole, 1-way, 10 AX/250 V 501 U 2-pole, 1-way, 10 AX/250 V 502 U 1-pole, 2-way, 10 AX/250 V 506 U Intermediate, 10 AX/250 V 507 U 3-pole, 1-way, 16 AX/400 V 503 U	10 10 10 10 10
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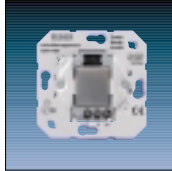
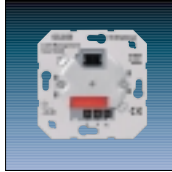

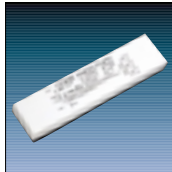


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Contents

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Makati City
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Fax: +63 2 8 50 89 68
e-mail: artlight@mydestiny.net

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ITE Electric Building
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Fax: +65 62 86 49 43
e-mail: enquiry@sg.jungasia.com

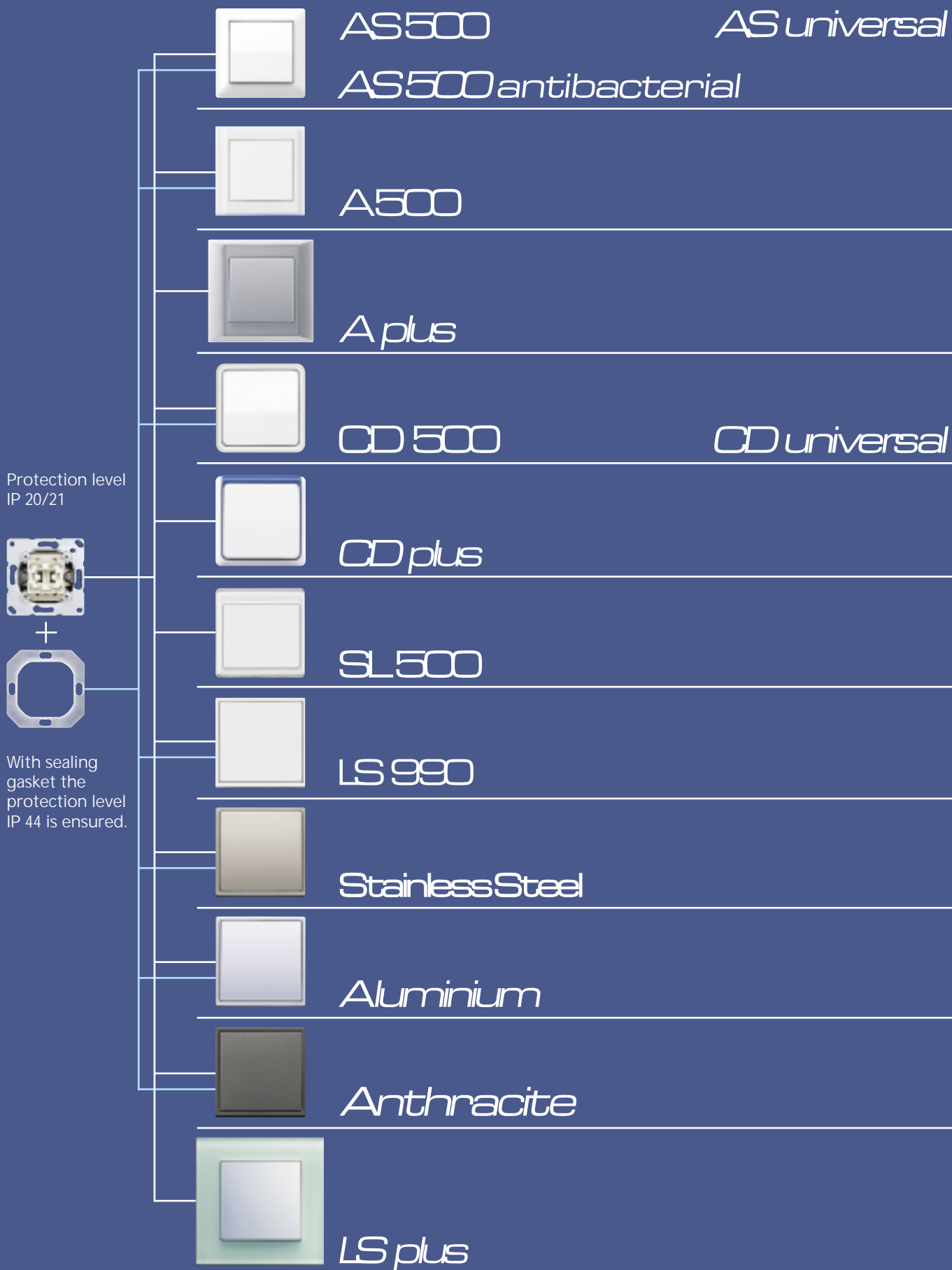
South Korea
Light & Shade
112-18 Chungdamdong
Seoul 135-100
Tel.: +82 2 5 16 47 94
Fax: +82 2 5 16 47 95
e-mail: Insc@korea.com

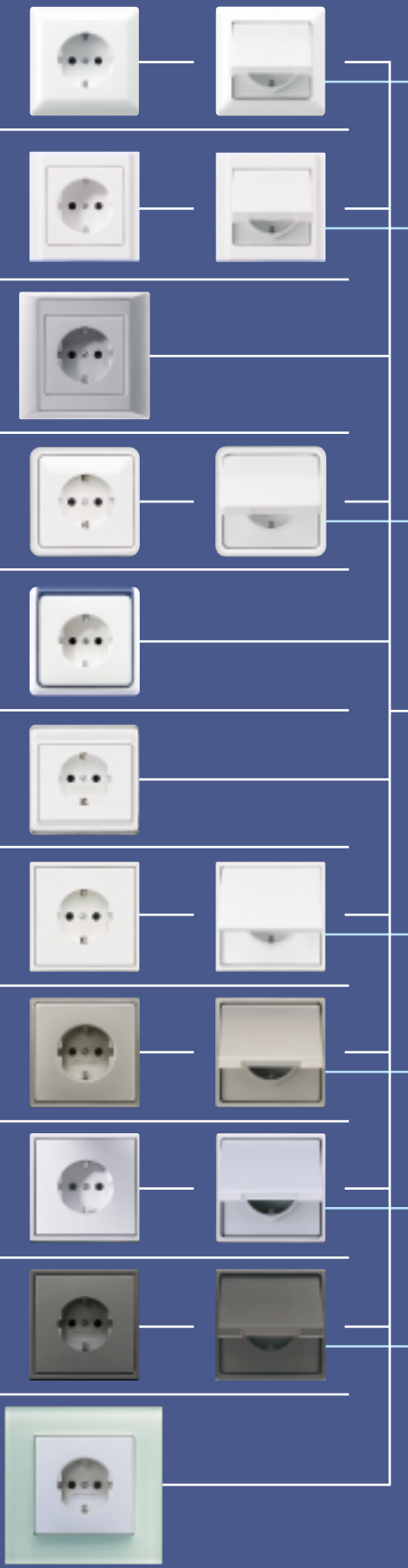
Taiwan
Faradick Co. Ltd.
4F, No. 65-67 Chow-Tze Street
(114) Taipei
Tel.: +886 2 27 98 81 87
Fax: +886 2 27 77 58 89
e-mail: faradick@tdts5.seed.net.tw

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Room 43, 4th Floor, Thai CC Tower
889 South Sathorn Road
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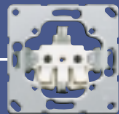
Vietnam
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167 Tran Binh Trong St
Dist 5 HCM City
Tel.: +84 4 8 38 33 04
Fax: +84 4 8 38 33 07
e-mail: cara@hcm.vnn.vn

System overview

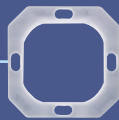




Wiring with
screw terminals
or screwless
connection.
Protection level
IP 20/21.



+



With sealing
gasket and a
hinged lid the
protection level
IP 44 is ensured.

Catalogue Export 22

ALBRECHT JUNG GMBH & CO. KG

Volmestr. 1
58579 Schalksmühle
Germany

Tel: +49 23 55 80 65 53
Fax: +49 23 55 80 62 54
Internet: www.jung.de
E-Mail: mail.vka@jung.de



Frame size

1-gang 96 mm x 96 mm

2-gang 167 mm x 96 mm

3-gang 238 mm x 96 mm

Frames can be horizontally and vertically installed.

Frame height

6.3 mm

Edge radius

R 1.5

Material

FD Aluminium:
AlMg1, matt finished

Stainless Steel:
1.4303 X4 CrNi 18-12,
glass ball blasted

Anthracite:
lacquered aluminium

FD 990:
Thermoplastic material

Colours

ivory similar RAL 1013

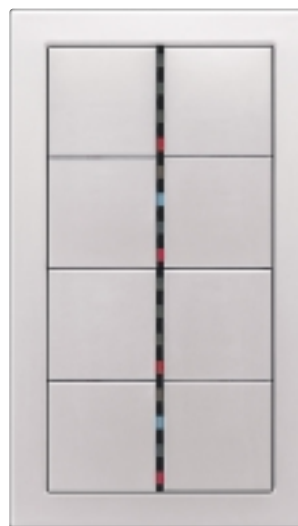
white similar RAL 9010

light grey similar RAL 7035

Protection level

IP 20/IP 21

More details see page 306



The extremely flat shape of this innovative design range ensures a visually perfect appearance on the wall as the frames almost blend into the background. This impressive effect is achieved in an unobtrusive way: harmoniously and completely at ease without appearing exaggerated or contrived. This aura is accentuated by the wide variety of materials available. The spectrum ranges from shiny stainless steel to original aluminium in natural tones or with an anthracite-coloured finish to a plastic version in various colours. With this selection, it is easy to find the ideal supplement to any ambience and interior design concept.

JUNG



Anthracite



Unique effects in metal and lacquer

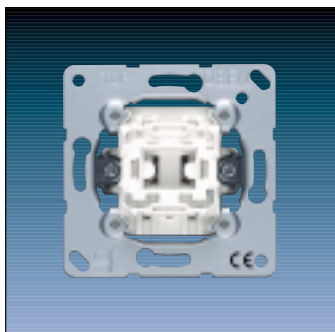
The extraordinary quality of this innovative product development can be both seen and felt. At first glance, the fascinating metallic appearance of the anthracite coloured, lacquered surface catches the eye. This impression is confirmed and amplified by touching the switch made from original aluminium. Through the combination of lacquer on metal, JUNG has succeeded in optimising and sustaining the quality of the material. At the same time, the exclusive surface finish lends the classic design a new and remarkable aura. As is usual in LS ranges, the current anthracite range also offers a comprehensive functional scope. This ensures that all control tasks for a wide variety of scenarios can be implemented in the private or commercial sector without any limitation.



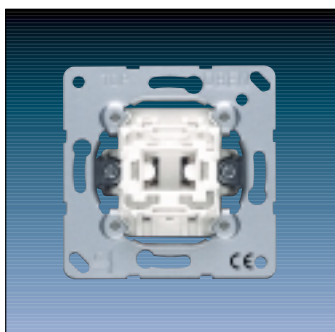
JUNG



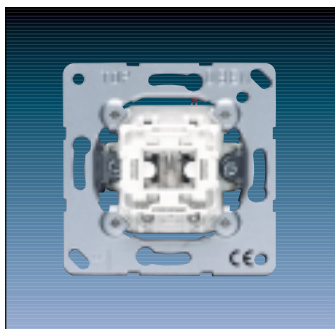
Inserts



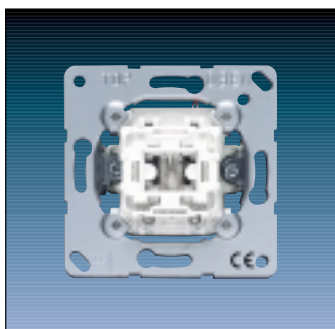
Description	Ref.-no.
1-gang switch insert 10 AX/250 V	
1-pole, 1-way, screwless connection	501 U
2-pole, 1-way, screwless connection	502 U
1-pole, 2-way, screwless connection	506 U
Intermediate, screw terminals	507 U
Illumination in OFF-position is possible with lamps:	
230 V: 90, 95, 90-LED..	
Low voltage: 96 – ..., 961248 LED	
(refer to page 19)	



1-gang switch insert 16 AX/400 V	
Screw terminals for wires up to 4 mm ²	
3-pole, 1-way	503 U
Illumination in OFF-position is possible with lamps:	
230 V: 98-220	
400 V: 98	
(refer to page 19)	



1-gang switch insert 10 AX/250 V	
with indicator light, neutral conductor required	
Screwless connection for wires up to 2.5 mm ²	
2-pole, 1-way	502 KOU
1-pole, 2-way	506 KOU
Indicator light is illuminated, when load is switched ON	
(spare indicator light see page 19)	



1-gang switch insert 16 AX/400 V	
with indicator light, neutral conductor required	
Screw terminals for wires up to 4 mm ²	
3-pole, 1-way	503 KOU
Indicator light is illuminated, when load is switched ON	
(spare indicator light see page 19)	

Inserts

Description	Ref.-no.
1-gang switch insert 20 AX/250 V	
Screw terminals for wires up to 4 mm ²	
1-pole, 1-way	501-20 U
1-pole, 2-way	506-20 U
Intermediate	507-20 U

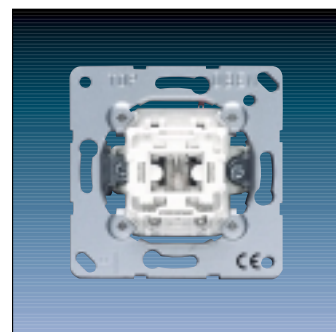
Illumination in OFF-position is only possible with switch 506-20 U and lamp 98-220



1-gang switch insert 20 AX/250 V with indicator light, neutral conductor required	
Screw terminals for wires up to 4 mm ²	
1-pole, 1-way	501-20 KOU
2-pole, 1-way	502-20 KOU
1-pole, 2-way	506-20 KOU

Indicator light is illuminated, when load is switched ON

Spare indicator light	98-220
-----------------------	---------------



1-gang push button insert 10 AX/250 V	
Screwless connection for wires up to 2.5 mm ²	
1-pole, 1-way (make contact)	531 U
1-pole, 2-way (make + break contact)	533 U

Neutral conductor required for illumination of insert 533 U

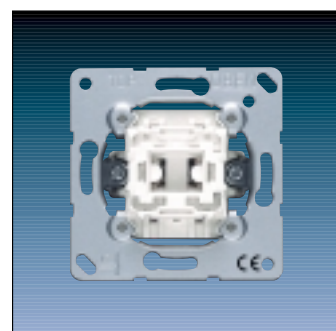
1-pole, 1-way (make contact)	534 U
------------------------------	--------------

Separate terminals (L, N) for indicator light
 Illumination is possible with lamps:
 230 V: 90, 95, 90-LED..
 Low voltage: 96 – .. , 961248 LED
 (refer to page 19)

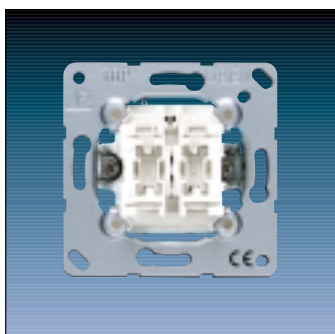


1-gang push button insert 10 AX/250 V	
Screw terminals for wires up to 4 mm ²	
2-pole, 2-way (make + break contact)	533-2 U

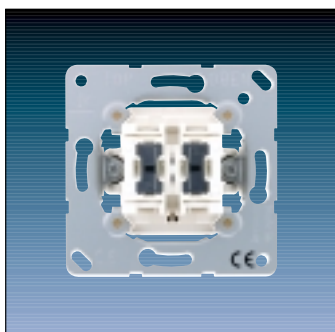
Illumination is possible with lamp 98-220 (230 V)



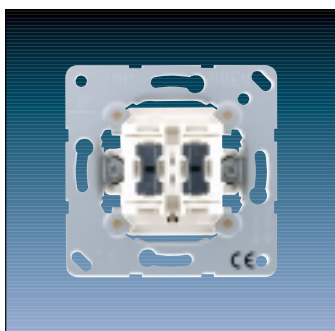
Inserts



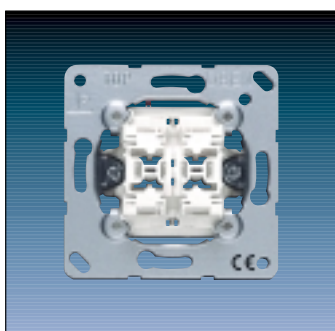
Description	Ref.-no.
2-gang switch insert 10 AX/250 V	
1-pole, 1-way screwless connection for wires up to 2.5 mm ²	505 U
1-pole, 2-way screw terminals for wires up to 4 mm ² , e.g. for two way wirings.	509 U



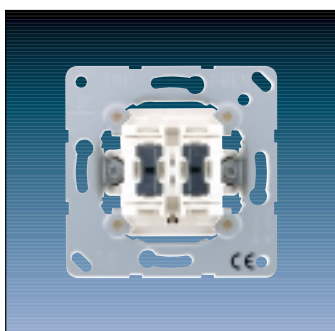
2-gang switch insert 10 AX/250 V	
Screwless connection for wires up to 2.5 mm ²	
1-pole, 1-way	505 U 5
will be delivered with lamps (ref. no. 94), The switch is illuminated in OFF-position. The lamps can be exchanged without disconnecting mains.	



2-gang switch insert 10 AX/250 V	
with indicator lights, neutral conductor required	
Screwless connection for wires up to 2.5 mm ²	
1-pole, 1-way	505 KOU 5
Indicator light is illuminated, when load is switched ON. The lamps can be exchanged without disconnecting mains.	
1-pole, 1-way	505 KOVU 5
Indicator light is illuminated, when load is switched ON. Mechanical interlocking to avoid switching of both rockers at the same time.	



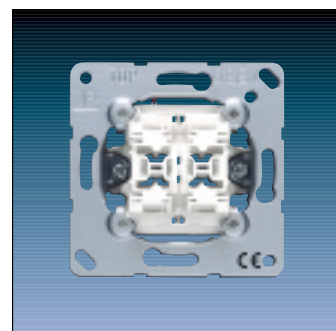
2-gang push-button 10 AX/250 V	
1-pole, 1-way (make contact)	535 U
screwless connection for wires up to 2.5 mm ²	
1-pole, 2-way (make + break contact)	539 U
screw terminals for wires up to 4 mm ²	



2-gang push-button 10 AX/250 V	
Screwless connection for wires up to 2.5 mm ²	
1-pole, 1-way (make contact)	535 U 5
will be delivered with lamps (ref. no. 94), The push-button is illuminated. The lamps can be exchanged without disconnecting mains. A push-button rocker can be changed into a switch rocker by means of removing the spring.	

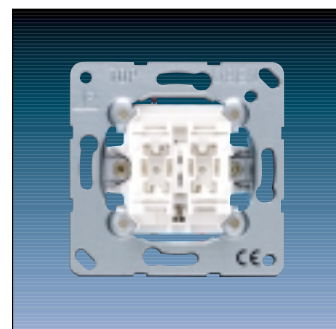
Description	Ref.-no.
Multi switch 10 A/250 V	531-4 U

with screw terminals for wires up to 4 mm².
 2-gang push-button insert with 4 make contacts
 (no mechanical or electrical interlocking!)
 especially designed as controller for wirings with relays
 or built-in dimmers, up to 4 lighting groups can be controlled;
 recommended for ranges CD 500, LS 990;
 rockers are shown in the individual design ranges.



2-gang venetian blind insert 10 AX/250 V	
Screwless connection for wires up to 2.5 mm ²	
1-pole switch	509 VU
1-pole push-button	539 VU

Mechanical interlocking to avoid switching of both rockers
 at the same time.



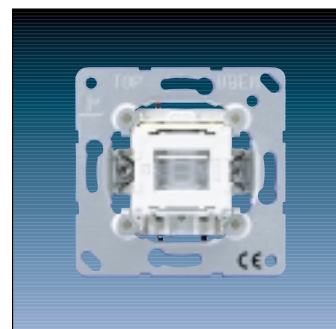
1-gang push switch insert 10 AX/250 V	
Screwless connection for wires up to 2.5 mm ²	
2-pole, 1-way	502 TU
1-pole, 2-way	506 TU
Intermediate	507 TU

Rocker of push switches jump back in original position.
 Illumination in OFF-position is possible for switches 502 TU
 and 506 TU (not in 2-way wiring) with lamps:
 230 V: 90, 95, 90-LED..
 Low voltage: 96 - .. , 961248 LED
 (refer to page 19)



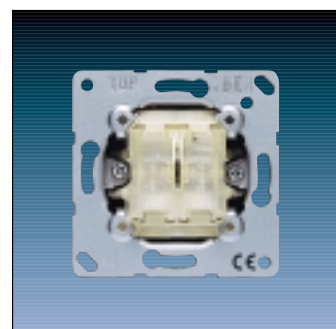
1-gang push switch insert 10 AX/250 V with indicator light, neutral conductor required	
Screwless connection for wires up to 2.5 mm ²	
2-pole, 1-way	502 KOTU
1-pole, 2-way	506 KOTU

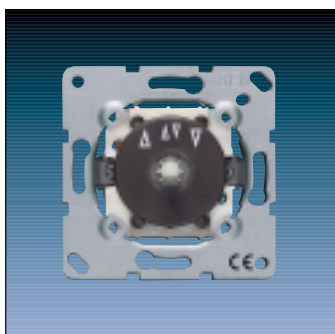
Rocker of push switches jump back in original position.
 Indicator light is illuminated, when load is switched ON.
 (spare indicator light see page 19)



2-gang push switch insert 10 AX/250 V	
Screwless connection for wires up to 2.5 mm ²	
1-pole, 1-way	505 TU
1-pole, 2-way	509 TU

Rocker of push switches jump back in original position





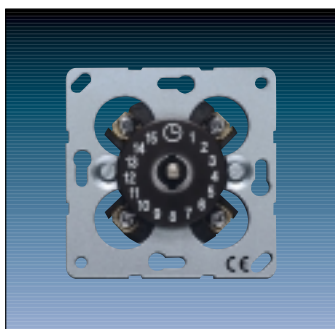
Description	Ref.-no.
Rotary venetian blind switch insert 10 AX/250 V	
Screw terminals for wires up to 4 mm ²	
1-pole	234.10
2-pole	234.20
The rotary switch can be converted into a rotary push-button by means of an additional locking piece.	



Rotary switch insert 20 A/250 V	
Screw terminals for wires up to 4 mm ²	
without pilot light	101-20
with pilot light	101-20 KO
2-pole rotary switch insert, 32 AX/250 V	101-32
including wall box Ø 60 mm, depth 63 mm	
for wires up to Ø 6 mm ²	



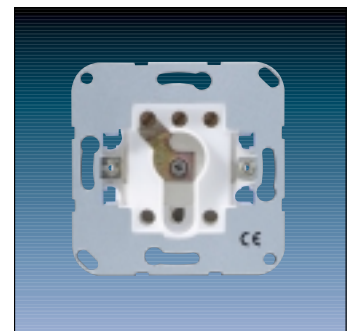
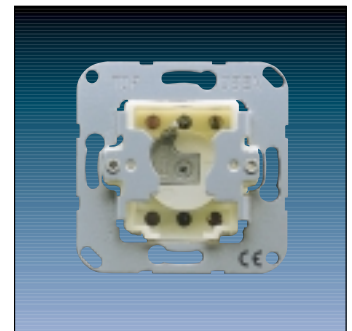
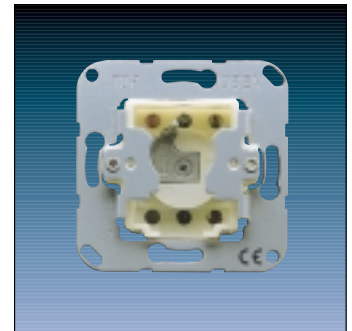
Multiple contact switch (0 - 1 - 2 - 3)	
Screw terminals for wires up to 4 mm ²	
16 AX/250 V	101-4
20 AX/250 V, depth 45 mm	101-4-20
deep wall box required, screw fixing only (without claws)	



Time delay switch insert 16 AX/250 V	
screw fixing only (without claws), accuracy ± 15%	
15 min., 2-pole	1015
30 min., 2-pole	1030
30 min., 1-pole/2-way	1030-20
60 min., 2-pole	1060
2 hours, 2-pole	1120
2 hours, 1-pole/2-way	1120-20
other operating times up to 12 hours on request.	

Key switch inserts Inserts

Description	Ref.-no.
Key switch/push-button inserts 10 AX/250 V Screw terminals for wires up to 4 mm ² Protection against unauthorised dismounting.	
Venetian blind switch, 2-pole enables the control of two electrical drives with different L-conductors. short key turn : push-button function long key turn: switch function	104.28
Venetian blind push-button, 1-pole enables the push-button control of one electrical drive.	134.18
Venetian blind push-button, 2-pole enables the push-button control of two electrical drives with different L-conductors.	134.28
Push-button, 1-pole, 2-way Key turn in right direction enables push-button control of a make- and a break contact.	133.18
Push-button, 2-pole Left key turn: Break contact Right key turn: Make contact	138.18
Key switch inserts 16 AX/250 V, 2-pole, 2-way	106.28
Key switch/push-button inserts 10 AX/250 V Screw terminals for wires up to 4 mm ² NO protection against unauthorised dismounting. For flat center plates only!	
Venetian blind switch, 1-pole	104.15
Venetian blind push-button, 1-pole enables the push-button control of one electrical drive.	134.15
Push-button, 1-pole, 2-way Key turn in right direction enables push-button control of a make- and a break contact.	133.15
Key switch inserts 16 AX/250 V, 1-pole, 2-way	106.15
Key switch/push-button inserts 10 AX/250 V Screw terminals for wires up to 4 mm ² Waterproof version (IP 44) Protection against unauthorised dismounting.	
Venetian blind switch, 1-pole enables the control of an electrical drive. short key turn: push-button function long key turn: switch function	CD 104.18 WU
Venetian blind push-button, 1-pole enables the push-button control of one electrical drive.	CD 134.18 WU
Push-button, 1-pole, 2-way Key turn in right direction enables push-button control of a make- and a break contact.	CD 133.18 WU
Key switch inserts 16 AX/250 V, 1-pole, 2-way	CD 106.18 WU
Locking (profile cylinder) for key switch/push-button inserts	
with individual keys	28
each key set belongs to one cylinder and includes 3 equal keys. Every key set is different.	
with equal keys	28 G
including 3 equal keys The keys of all profile cylinder 28 G are the same. It enables the locking of many profile cylinder with the same key.	
Spare key for 28 G	28 GSL



SAT-TV-FM sockets Inserts

Description	Ref.-no.
-------------	----------

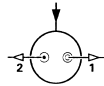
TV-FM socket outlet insert
suitable for terrestrial reception
 connections TV/FM galvanically separated,
 acc. to CENELEC NORM EN 50083
 Frequency: TV up to 1000 MHz
 FM 87.5 – 108 MHz

Return channel prepared (RC)

Single socket

FS 1 D

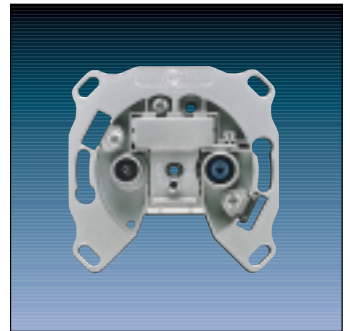
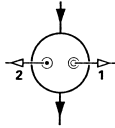
for individual + community installation
 (BK, CATV, MATV)
 connected to decoupling stub lines



Through socket

for loop wired systems,
 decoupling by transformer,
 last through sockets installed
 in a line must be terminated by
 terminal resistor R75

FS 12 D



TV-FM socket outlet insert
suitable for satellite,
terrestrial + broadband cable reception

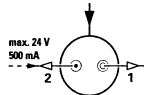
Frequency: TV up to 2,400 MHz
 FM 87.5 – 139 MHz

Return channel prepared (RC)

Single socket

EDU 04 F

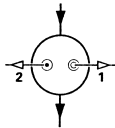
for individual + community installation
 (BK, CATV, MATV)
 connected to decoupling stub lines



Through socket

for loop wired systems,
 decoupling by transformer,
 last through sockets installed
 in a line must be terminated by
 terminal resistor R 75

GEDU 15



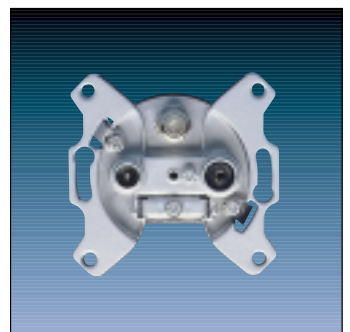
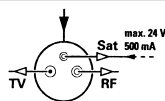
Terminal resistor

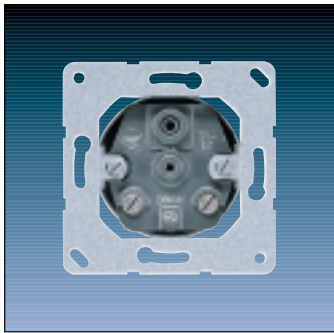
R75

SAT-TV-FM socket outlet insert

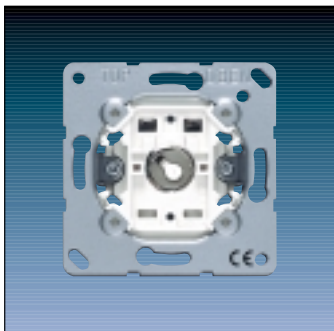
single socket for connection of a radio (FM),
 television (TV) and satellite (SAT) receiver
 Frequency: TV up to 2,050 MHz
 FM 87.5 – 108 MHz

EDU 3902 F





Description	Ref.-no.
Bell insert 4 - 8 V	67 K
80 decibel	



Indicator light insert (without cap)	
max load 5 W	
thread E10	938-10 U
thread E14	938-14 U



E 14-230 LED

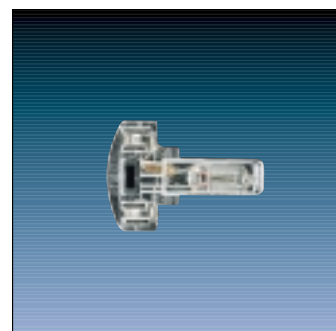
LED cluster lamp	
for indicator light insert	
LED lamp with a high light effect for AC/DC, independent of polarity.	
Shockproof, insensitive to fast switching loops and higher voltage pulses.	
red	E 14-230 LED RT
yellow	E 14-230 LED GE
green	E 14-230 LED GN
Durability:	approx. 50.000 h
Length:	35 mm
Thread:	E14



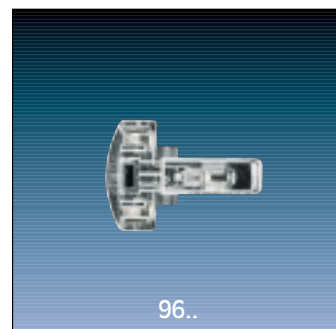
E 14-3 W

Incandescent lamp		E 14-3 W
Nominal voltage: 230 V		
Capacity:	3 W	
Length:	31 mm	
Thread:	E14	

Description	Ref.-no.
Plug-in neon lamp for switch and push-button inserts	
230 V, 1.1 mA	90
230 V, 0.5 mA	95
400 V, 0.5 mA	98
for switches 503, 603.. and 803..	
230 V, 1.1 mA	98-220



Plug-in incandescent lamp for switch and push-button inserts	
12 V, 40 mA	96-12
24 V, 25 mA	96-24
36 V, 20 mA	96-36
48 V, 25 mA	96-48



LED lamp for switch and push-button inserts for AC/DC, independent of polarity. Durability approx. 100,000 h	
red 12 – 48 V, approx. 4 mA	961248 LED RT
green 12 – 48 V, approx. 4 mA	961248 LED GN
red 230 V, approx. 1.1 mA	90-LED RT
green 230 V, approx. 1.1 mA	90-LED GN

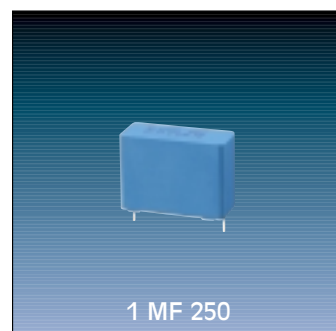


230 V, 0.8 mA for switches 605 W and 805 W	99
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230 V, 0.8 mA for switches 505 U 5, 505 KOU 5, 505 KOUVU 5 and push-button 535 U 5	94
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Capacitor 1 µF	1 MF 250
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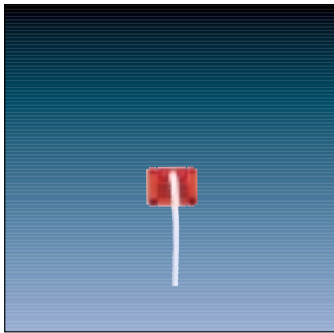
In case several push buttons with orienting light are installed it is necessary to parallel a capacitor with the operating coil (pulse relay, time switch, stair case lighting etc.) in order to ensure a bypass of an excessive current of the fluorescent lamps.



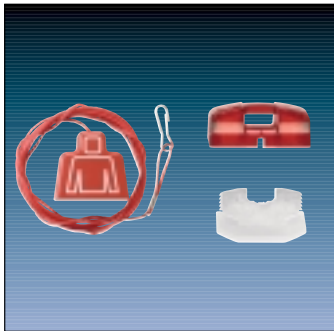
Lamp for SCHUKO socket with pilot light for ref.no. .. 520 KO .. and .. 594-0 KO ..	
Neon lamp 230 V, 1.1 mA durability: 40.000 h	93
LED lamp, red 230 V, approx. 0.5 mA	93-LED RT
LED lamp, green 230 V, approx. 0.5 mA durability: 100.000 h	93-LED GN



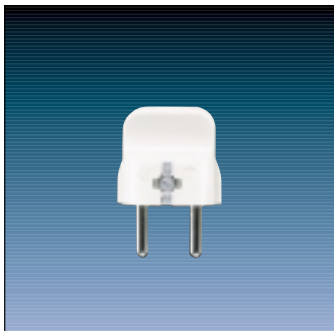
Accessoires



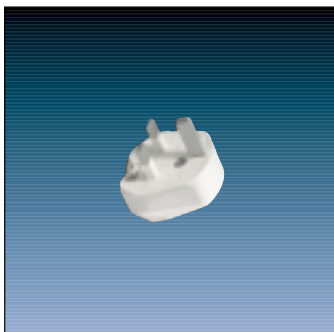
Description	Ref.-no.
Pull cord insert	34
<p>The pull cord insert has to be plugged into a 1-gang center plate with control lens (not ..KO5..) to extend switches or push-buttons with a cord.</p> <p>Suitable inserts: 506 TU, 506 KOTU, 531 U, 534 U, 631 A, 634 A, 331 A</p>	



Extension cord	ZS-34 KO5S
Pull cord insert	34 KO5
<p>The pull cord insert has to be plugged into a 1-gang center plate with control lens (..KO 5..) to extend switches or push-buttons with a cord.</p> <p>The extension cord will be connected to the pull cord insert.</p> <p>Suitable inserts: 506 TU, 506 KOTU, 531 U, 534 U, 631 A, 634 A, 331 A</p>	



SCHUKO-plug, 16 A-AC/10 A-DC/250 V	16 S
<p>2-pole with earth contact. Top cable entry. Ivory coloured.</p>	



Plug for BS sockets	SA 13
<p>2-pole with earth contact. Ivory coloured.</p>	



Spare screw set	47
<p>containing: 6 different screw types (for various center plates, claw fixing ...)</p>	

Description	Ref.-no.
Extra-strong flush-box Ø 60 mm depth: 40 mm for screw + claw fixing of inserts suitable for single mounting and combinations acc. to VDE 0606 slide coupling guarantees standard distance of 71 mm for combinations	55 L
Flush-box Ø 60 mm fire resistant up to 650° C suitable for single mounting and combinations acc. to VDE 0606	
1-gang flush-box depth: 42 mm	
for claw fixing of inserts	1055-02
for screw + claw fixing of inserts	1056-02
depth: 63 mm	
for claw fixing of inserts	1555-02
for screw + claw fixing of inserts	1556-02
2-gang flush-box Ø 60 mm	1656-02
for screw + claw fixing of inserts depth: 42 mm	
snap-in couplings guarantee standard distance of 71 mm for combinations	
British Standard flush-box	BS 6042
according to B.S. 4662 1-gang, square shaped Depth : 40 mm Screw distance: 60.3 mm for claw or screw fixing of inserts, knockouts for conduits and tubes slide coupling for combinations	
Flush-box for hollow-walls fire resistant up to 850° C	
1-gang flush-box cutting hole Ø 68 mm fixing of inserts by screws only	
depth: 47 mm, for panel thickness 7 – 35 mm	9063-01
depth: 41 mm, for panel thickness 0.2 – 35 mm	9068-04
halogen-free version on request	
2-gang flush-box fixing of inserts by screws only depth: 47 mm, cutting hole 2 x Ø 68 mm, for panel thickness 7 – 35 mm	9062-02
knockouts for conduits and tubes of nominal sizes up to 16 mm and IEC tubes of 20 mm halogen-free version on request	





Description	Ref.-no.
Connection box	1505 U
for flush mounting, for wall boxes with Ø 60 mm special flat execution with 5 connector binding screw terminals, each 2 x 2.5 mm ² only 1 screw for fastening the claws snap-in + screw cover, break-proof Dimension: 86 x 86 x 12 mm	



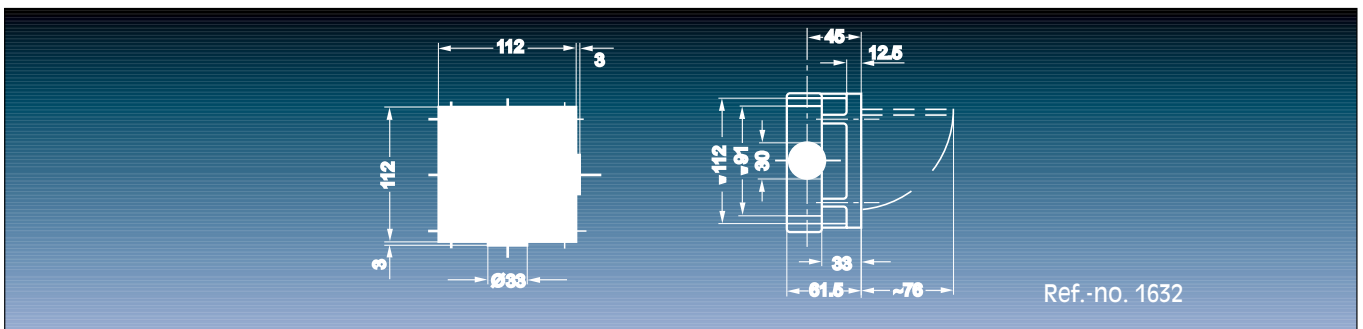
Connection box	1545 U
for flush mounting (screw fixing) with 5 connector binding screw terminals, each 2 x 4 mm ² including flush box of insulated material plaster covering ring, protective cap Dimension: 95 x 95 x 19.5 mm	



Connection box	1545 WU
for flush mounting, water-protected with 5 connector binding screw terminals each 2 x 4 mm ² + rubber seals Dimension: 90 x 90 x 21.5 mm	



Empty housing for floor installation	1632
suitable for all socket inserts Bottom part: thermoplastic material with 4 inlets PG 16 Upper part: cover with hinged lid made of diecast aluminium Protection class: IP 41	



Ref.-no. 1632

Description	Ref.-no.
Loudspeaker connection (Speakon)	
4-pole plug for loudspeaker and amplifier connection for wires up to 4 mm ²	
socket	PB 4
plug	PS 4
Suitable center plate: 168-1, 568-1, .. 568-1..	



Chassis connector

XLR-compatible

with universal housing

Chassis (male)	CXLR-S
Chassis (female)	CXLR-D
Suitable center plate: 168-1, 568-1, .. 568-1..	



Gold plated loudspeaker pole terminal

for professional connection of high quality loudspeaker systems. Cable sockets (6 mm and 8 mm fork) or crimped cables (6 mm²) are connected with a patented clamping nut system. The pole terminal body is manufactured in one piece to obtain the least resistance.

Transfer resistance: 0.1 mΩ clamp connection
1.15 mΩ banana plug 4 mm

Material: 24 carat gold plated copper

red identification	LPK 63 RT
black identification	LPK 63 SW

For installation into center plate ..562.. the mounting plate 63 WBT is required.



High quality cinch connector pair

CIB 63

made of 24 carat gold plated copper, double prismatic contact.

With special pressure spring mechanic. Dielectric made of Teflon.

Inside connection: soldering

For installation into center plate ..562.. the mounting plate 63 WBT is required.



Mounting plate

63 WBT

for installation of gold plated loudspeaker pole terminal and high quality cinch connector pair with center plate ..562..





Description	Ref.-no.
2-pole loudspeaker socket for wires up to 2.5 mm ² Suitable center plates: ..562.. , LS 962 .. , ES 2962, AL 2962 ..	L 2 S

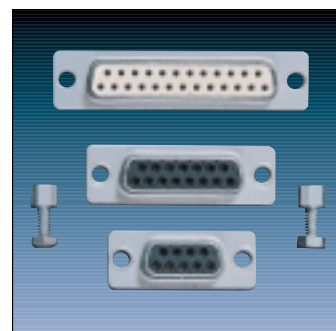


Stereo loudspeaker socket 25 V ~, 60 V DC for wires up to 10 mm ² with 4 frontside plug terminals white	SLA 2 WW
anthracite	SLA 2 AN
Suitable center plates: A 569 PLT .., CD 569 T .., SL 569 T .., LS 969 T .., ES 2969 T, AL 2969 T ..	



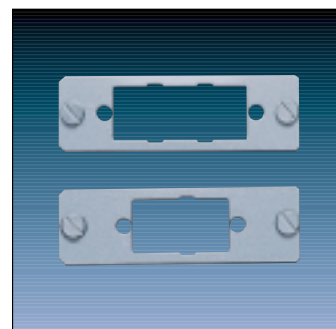
Mono loudspeaker socket 25 V ~, 60 V DC for wires up to 10 mm ² with 2 frontside plug terminals white	MLA 1 WW
anthracite	MLA 1 AN
Suitable center plates: A 569 PLT .., CD 569 T .., SL 569 T .., LS 969 T .., ES 2969 T, AL 2969 T ..	

Description	Ref.-no.
Subminiature D-Sockets (female) including fixing accessories – UNC 4/40	
9-pole	D SUB 9
15-pole	D SUB 15
25-pole	D SUB 25



Mounting plate for subminiature D-sockets

53 x 17 mm,
47 mm distance between fixing centres
(only necessary for center plates 594-1, 594-2, LS 994-1)
for socket D SUB 9 **D 9**
for socket D SUB 15 **D 15**
socket D SUB 25 can be installed without mounting plate

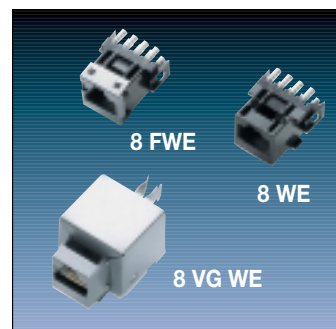


Modular jack sockets

6-pole (RJ12), category 3 (AMP part no. 216000-1)	6 WE
8-pole (RJ45), category 32 (AMP part no. 216005-1)	8 WE
8-pole, semi-shielded, category 3 (AMP part no. 216811-1)	8 FWE

8-pole (RJ45), category 5

fully shielded (AMP part no. 569013-1)	8 VGWE
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BNC connector

Ø 9.7 mm, 75 Ω (soldered connection)	BNC 9.7
Ø 12.7 mm, 50 Ω (crimped connection)	BNC 12.7

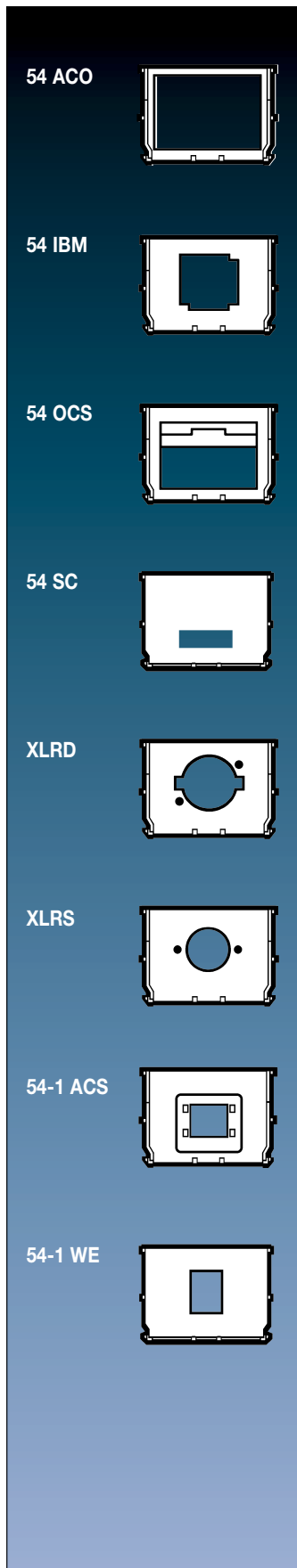
For installation into center plate ..562.. the mounting plate 61 BNC or 62 BNC is required.



Mounting plate

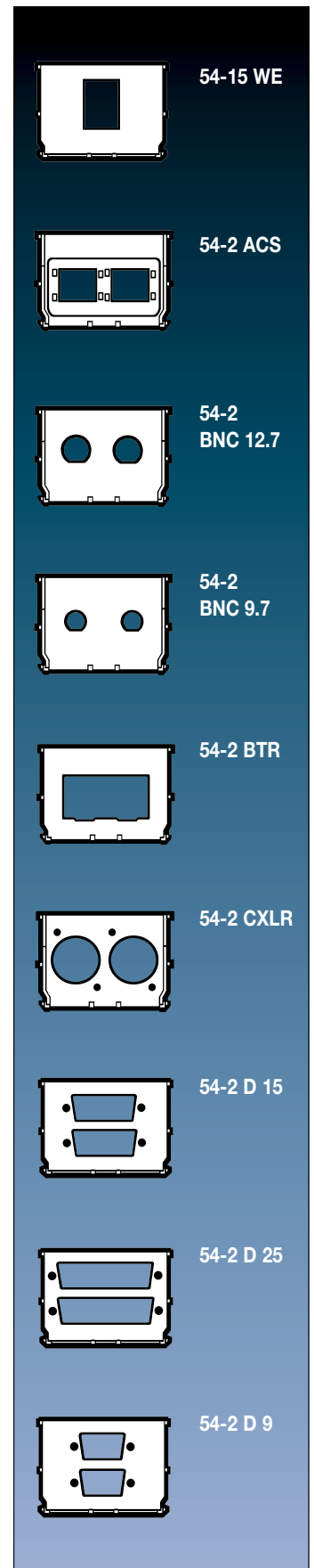
to install BNC connector into center plates .. 562 ..	
for thread Ø 9.7 mm	61 BNC
for thread Ø 12.7 mm	62 BNC

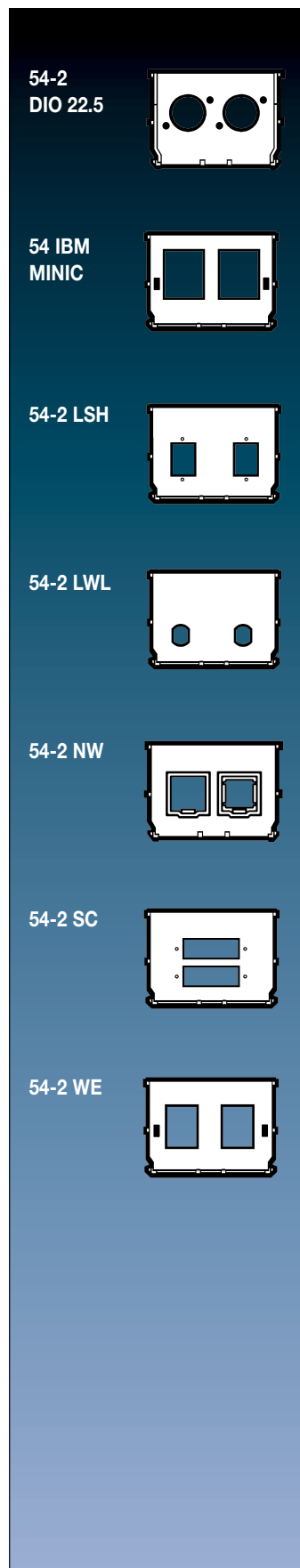




Description	Ref.-no.
Mounting plates for data connection caps	
	54 ACO
for AMP Communication Outlet (ACO) system, shielded, Tyco Electronics AMP no. 406388-1, Cat. 3	
	54 IBM
for 1 dataplug, IBM no. 25L4092, Cat. 3, or IBM no. 60G1060	
	54 OCS
for 1 socket for OCS-system (Open Cabling System) make Telegärtner single module no. J00091A0007, shielded double module no. J00093A0009, shielded	
	54 SC
for 1 Duplex-coupling, LWL, SC system, Amphenol, or Avaya (Lucent Technologies) (AT+T), or Tyco Electronics AMP	
	54 XLRD
for 1 XLR-socket (female)	
	54 XLRS
for 1 XLR-plug (male)	
	54-1 ACS
for 1 socket Reichle + De Massari freenet, freenet, classic system, shielded, no. R925370, Cat. 5e freenet, classic system, unshielded, no. R925371, Cat. 5e freenet, star system, shielded, no. R302372, Cat. 6 freenet, star system, unshielded, no. R302373, Cat. 6 for 1 SC-RJ module freenet, vision system, no. R30574	
	54-1 WE
for 1 modular jack socket Qmax-series, modular, RJ 45 system, shielded, 3M, Cat. 6 modular RJ 12 system, unshielded, JUNG no. 6 WE, Cat. 3 modular, RJ 45 system, unshielded, JUNG no. 8 WE, Cat. 3 Highband-series, modular, RJ 45 system, shielded, Krone, Cat. 6 Compact-HK-series, modular, RJ 45 system, shielded, Krone, Cat. 5e Snap-in Connector LANmark-6 system, modular, RJ 45, shielded, Nexans no. 420.630, Cat. 6 modular, Keystone RJ 45 system, unshielded, Panduit no. KJ88., Cat. 3 modular, Keystone RJ 45 system, unshielded, Panduit no. KJ588., Cat. 5 modular, RJ 12 system, unshielded, RADIALL no. R280MOD804, Cat. 4 modular RJ 45 system, unshielded, RADIALL no. R280MOD805, Cat. 4 modular RJ 45 system, unshielded, RADIALL no. R280MOD807, Cat. 5 modular RJ 45 system, shielded, RADIALL no. R280MOD809, Cat. 5 modular, Keystone RJ 45 system, shielded, SIEMON no. MX6-KS., Cat. 6 modular, RJ 12 system, unshielded, Tyco Electronics AMP no. 216000-1, Cat. 3 modular, RJ 45 system, unshielded, Tyco Electronics AMP no. 216005-1, Cat. 3	
	54-2 TWINAX
for 2 TWINAX-sockets, Tyco Electronics AMP 135019-1	
	54-2 CHAMP
for 2 AMP champ-sockets (Centronics, 24-pole)	

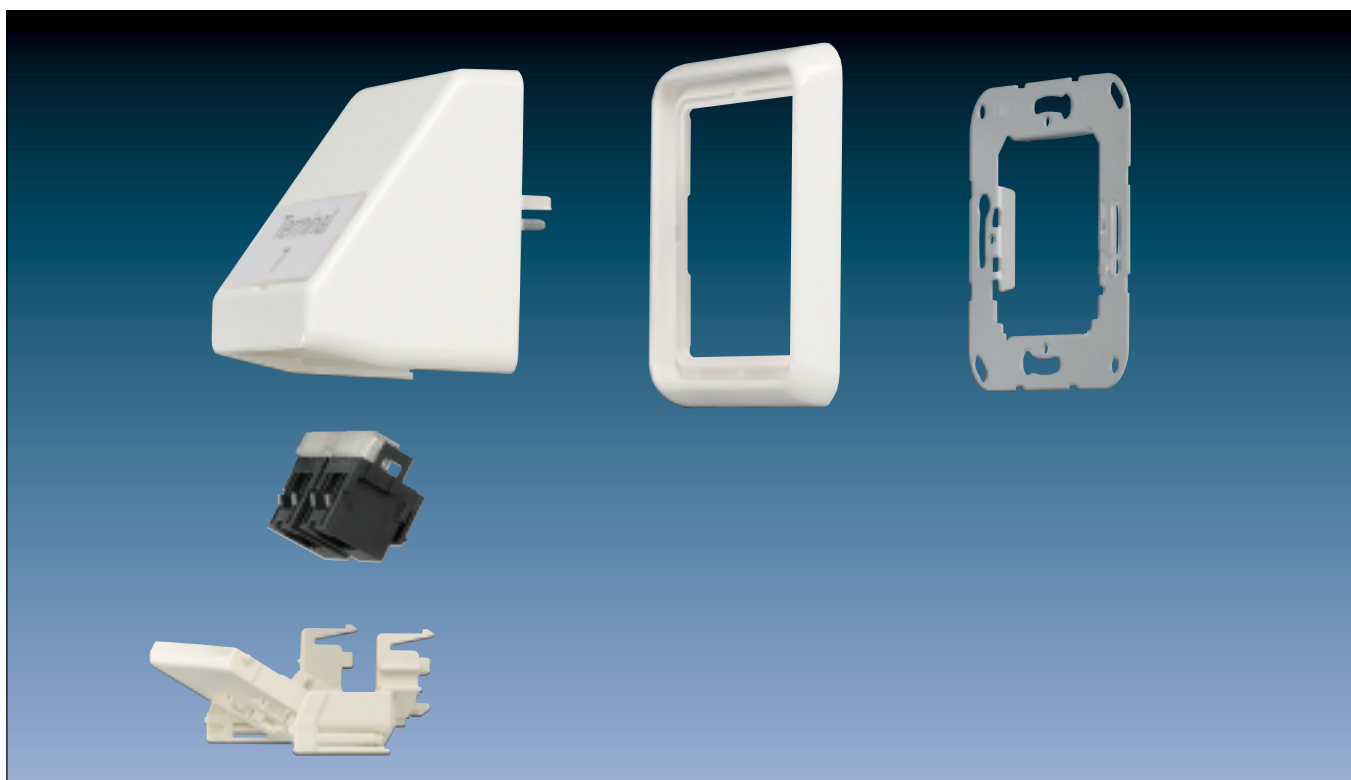
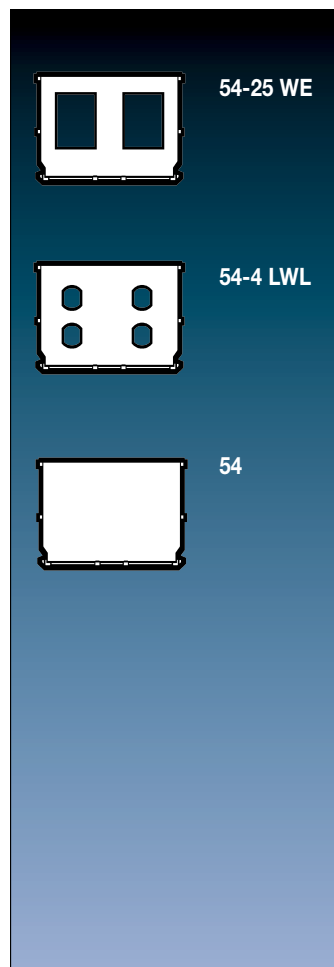
Description	Ref.-no.
Mounting plates for data connection caps	
	54-2 AT
for 2 modular jack sockets make Avaya (Lucent Technologies) M1-series, type M1BH., MPS100BH., MGS200BH..	
	54-15 WE
for 1 modular jack socket Tyco Electronics AMP 110 Connect, RJ 45 system, shielded, JUNG no. 8 VGWE, Cat. 5e 110 Connect, RJ 45 system, shielded, Tyco Electronics AMP no. 0-1116515-1, Cat. 5e 110 Connect, RJ 45 system, shielded, Tyco Electronics AMP no. 0-1375117-1 SL 110 Connect, RJ 45 system, shielded, Tyco Electronics AMP no. 0-1375189-1, Cat. 5e SL 110 Connect, RJ 45 system, unshielded, Tyco Electronics AMP no. 0-1375190-X, Cat. 5e SL 110 Connect, RJ 45 system, shielded, Tyco Electronics AMP no. 0-1375188-1, Cat. 6 SL 110 Connect, RJ 45 system, unshielded, Tyco Electronics AMP no. 0-1375055-3, Cat. 6 Toolless Jack, RJ 45, system, unshielded, Tyco Electronics AMP no. 0-1116603-X, Cat. 3 Toolless Jack, RJ 45, system, unshielded, Tyco Electronics AMP no. 0-1116604-X, Cat. 5e Toolless Jack, RJ 45, system, shielded, Tyco Electronics AMP no. 1339015-1, Cat. 5e Toolless Jack, RJ 45, system, unshielded, Tyco Electronics AMP no. 0-1116605-X, Cat. 6 Toolless Jack, RJ 45, system, shielded, Tyco Electronics AMP no. 1339016-1, Cat. 6 LWL, MTRJ system, Tyco Electronics AMP no. 1278414-1	
	54-2 ACS
for 2 modular jack sockets Reichle & DeMassari freenet, classic system, shielded, no. R35252, Cat. 5e freenet, classic system, unshielded, no. R35251, Cat. 5e freenet, star system, shielded, no. R302377, Cat. 6 freenet, star system, unshielded, no. R302378, Cat. 6 for 1 SC-Compact 2-channel module LWL, freenet, vision system, no. R30575	
	54-2 BNC 12.7
for 2 BNC-sockets with Ø 12.7	
	54-2 BNC 9.7
for 2 BNC-sockets with Ø 9.7	
	54-2 CXL
for 2 sockets CXL-S/CXL-D; PB 4/PS 4	
	54-2 D 15
for 2 subminiature D-sockets, 15-pole, D SUB 15	
	54-2 D 25
for 2 subminiature D-sockets, 25-pole, D SUB 25	
	54-2 D 9
for 2 subminiature D-sockets, 9-pole, D SUB 9	
	54-2 FWE
for 2 modular jack sockets 8 FWE, semi-shielded, cat. 3; Tyco Electronics AMP 569013-1	
	54 TPC
for 2 modular jack sockets 8-pole (RJ 45) make kannegieter type TP-Connect, and type MOD-TAP system 100 (MOD0746)	





Description	Ref.-no.
Mounting plates for data connection caps	
	54 WEV
safety cap for 54-2 WE and 54-2 AT (protection against unallowed plug-off)	
	54-2 ITT
for 2 modular jack sockets type LAN Connect 808MK2, cat. 5e, shielded, or LAN Connect 808MK3, cat. 6, shielded	
	54-2 DIO 22.5
for 2 diode-plugs Ø 16 with 22,5 mm flange fixing for L 2 S	
	54-2 IBM MINIC
for 2 modular jack sockets Advanced Connectivity system (ACS) Silver, MiniC 350, shielded, IBM no. 25H5568, Cat. 6 Advanced Connectivity system (ACS) Gold, MiniC 600, shielded, IBM no. 25L3674, Cat. 7	
	54-2 LSH
for 2 simplex couplings (optic fibre) LWL, SC system, Tyco Electronics AMP LWL, SC system, Avaya (Lucent Technologies) (AT+T) for 2 couplings LWL, E2000 C+C single channel system, make Diamond LWL, E2000 system, make Huber + Suhner LWL, Optoclip II system, make Huber + Suhner	
	54-2 LWL
for 2 couplings, LWL (optic fibre), ST, 2,5 mm bayonet nut connector (BNC)	
	54-2 NW
for 2 modular jack sockets Advanced Connectivity system (ACS) Bronze, modular RJ 45 system, shielded, IBM no. 59G1100, Cat. 5e Advanced Connectivity system (ACS) Bronze, modular RJ 45 system, unshielded., IBM no. 80G2541, Cat. 5e Advanced Connectivity system (ACS) Silver, modular RJ 45 system, shielded, IBM no. 25L3666, Cat. 6 Advanced Connectivity system (ACS) Silver, modular RJ 45 system, unshielded, IBM no. 25L4023, Cat. 6 Nevada Western OMNI 5, modular RJ 45 system, shielded, Thomas + Betts no. 009-5-SH-747-C5, Cat. 5 Nevada Western OMNI 5, modular RJ 45 system, unshielded, Thomas + Betts no. 009-5-790F-C5W, Cat. 5	
	54-2 SC
for 2 Duplex couplings (optic fibre) LWL, SC system, Amphenol LWL, SC system, Avaya (Lucent Technologies) (AT+T) LWL, SC system, Tyco Electronics AMP	
	54-2 GFP
for 2 modular jack sockets make IBM Advanced connectivity System (ACS) or Generic Footprint (GFP) types 11K9586, cat. 5e; 11K9439, cat. 5e; 11K9587, cat. 6; 29P5118, cat. 6; 11K9663, cat. 5e; 11K9661, cat. 5e; 11K9667, cat. 6; 11K9665, cat. 6	

Description	Ref.-no.
Mounting plates for data connection caps	
	54-25 WE
for 2 modular jack sockets Tyco Electronics AMP 110 Connect, RJ 45 system, shielded, JUNG no. 8 VGWE, Cat. 5e 110 Connect, RJ 45 system, shielded, Tyco Electronics AMP no. 0-1116515-1, Cat. 5e 110 Connect, RJ 45 system, shielded, Tyco Electronics AMP no. 0-1375117-1 SL 110 Connect, RJ 45 system, shielded, Tyco Electronics AMP no. 0-1375189-1, Cat. 5e SL 110 Connect, RJ 45 system, unshielded, Tyco Electronics AMP no. 0-1375190-X, Cat. 5e SL 110 Connect, RJ 45 system, shielded, Tyco Electronics AMP no. 0-1375188-1, Cat. 6 SL 110 Connect, RJ 45 system, unshielded, Tyco Electronics AMP no. 0-1375055-3, Cat. 6 Toolless Jack, RJ 45 system, unshielded, Tyco Electronics AMP no. 0-1116603-X, Cat. 3 Toolless Jack, RJ 45 system, unshielded, Tyco Electronics AMP no. 0-1116604-X, Cat. 5e Toolless Jack, RJ 45 system, shielded, Tyco Electronics AMP no. 1339015-1, Cat. 5e Toolless Jack, RJ 45 system, unshielded, Tyco Electronics AMP no. 0-1116605-X, Cat. 6 Toolless Jack, RJ 45 system, shielded, Tyco Electronics AMP no. 1339016-1, Cat. 6 LWL, MTRJ system, Tyco Electronics AMP no. 1278414-1	
	54-4 LWL
for 4 couplings, LWL (optic fibre), ST, 2.5 mm bayonet nut connector (BNC)	
	54
blank plate (for individual drillings)	

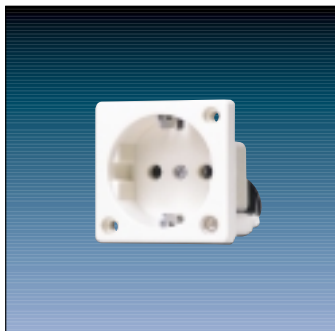


SCHUKO sockets

For applicances, machines or floor boxes



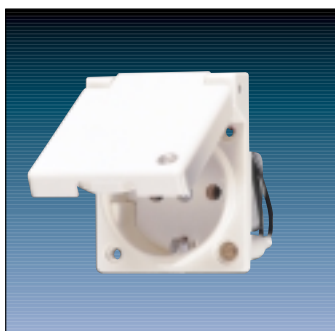
Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
with plate 50 x 50 mm, for installation in appliances, backside connection installation depth 33.7 mm, screw fixing screw connection terminals	
grey (similar to RAL 7035)	121 OG
black (similar to RAL 9005)	121 OS
ivory (similar to RAL 1013)	121 OW
orange (similar to RAL 2004)	121-1017
green (similar to RAL 6029)	121-1018



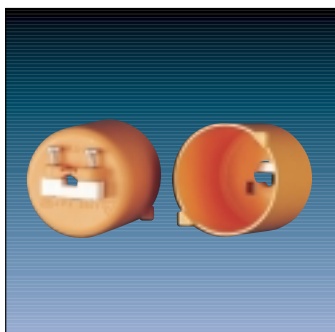
dtto., with pilot light	
grey	121 OKOG
black	121 OKOS
ivory	121 OKOW
orange	121 KO-1017
green	121 KO-1018



SCHUKO-socket with hinged lid, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
with plate 50 x 62 mm, for installation in appliances, backside connection installation depth 33.3 mm, screw fixing	
grey	120 G
black	120 S
ivory	120 W
green	120-1011
orange	120-1012
dtto., for snap-in fixing	
in metalpanels/-plates up to 1 mm thickness, installation depth 34.5 mm	
grey	120 KBG
black	120 KBS
ivory	120 KBW
green	120 KBGN



SCHUKO-socket with hinged lid, with pilot light 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system	
with plate 50 x 62 mm, for installation in appliances, backside connection installation depth 33.3 mm, screw fixing	
grey	120 KOG
black	120 KOS
ivory	120 KOW
green	120 KO-1011
orange	120 KO-1012



Safety cap	121 DO
non-flammable, with tension relief not suitable for sockets 120 KO., 120 KB., 121 KO..	

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth	
16 A-AC/10 A-DC/250 V, German system	
with plate 50 x 50 mm	
for snap-in fixing in metalpanels/-plates	
up to 2 mm thickness	
ivory	CD 120-01
white	CD 120-01 WW
green	CD 120-01 GN
orange	CD 120-01 O



dtto., with child protection (shutter)	
ivory	CD 120-01 KI
white	CD 120-01 KI WW
green	CD 120-01 KI GN
orange	CD 120-01 KI O



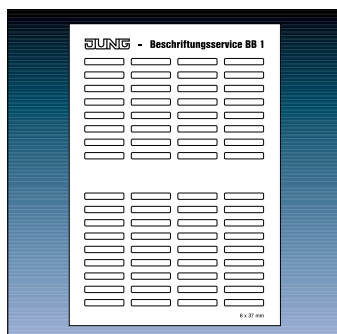
SCHUKO-socket 45°, 2-pole + earth	
16 A-AC/10 A-DC/250 V, German system	
with plate 50 x 50 mm	
for installation e.g. in Ackermann floor boxes	
with fixing distance 57 mm	
ivory	CD 120-45
white	CD 120-45 WW
green	CD 120-45 GN
orange	CD 120-45 O



SCHUKO-socket with pilot light	
2-pole + earth, 16 A-AC/10 A-DC/250 V, German system	
with plate 50 x 50 mm	
for installation e.g. in Ackermann floor boxes	
with fixing distance 57 mm	
ivory	CD 120-90 KO



Devices for labelling



Description	Ref.-no.
Inscription sheet DIN A 4 for individual inscription	
white, 1 sheet each, not suitable for printers	
68 stripes 6 x 37 mm	BB 1
33 stripes 9 x 40 mm	BB 2
34 stripes 7 x 57 mm	BB 3
26 stripes 9 x 58 mm	BB 3.1
16 stripes 17 x 72 mm	BB 4
14 stripes 23 x 59 mm	BB 5
18 stripes 14 x 75.3 mm	BB 10
48 stripes 9 x 27 mm	BB 14
15 stripes 13 x 54 mm + 15 stripes 17 x 54 mm	BB 20
15 stripes 12.4 x 55.5 mm + 21 stripes 13 x 55.5 mm	BB 20.1

Inscription-Tool	S-BT 1.5
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Can also be retrieved via the Internet from <http://www.jung-label.de>

The JUNG Inscription-Tool is used for marking all products quickly and easily with the field provided.

After entering the required item number e.g. CD 590 NA, the format of the corresponding labelling field appears on the screen.

It is now possible to insert text, symbols or graphics, also in colour, into the field.

The label is printed out on conventional white or coloured printer paper, transparencies (recommended particularly for Stainless Steel, Aluminium, Anthracite or Gold) or templates.

You then cut out the text block along the marked lines and place it in the labelling field of the relevant product.

Several fields with various designs can be printed out on the sheet in one operation.

Not suitable for label sheets BB...

Inscription plate	61 NA
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for all flush, surface + waterprotected ranges

suitable inscription sheet = BB 3



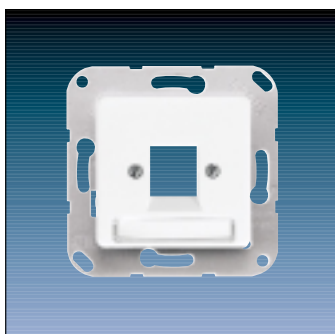
50 x 50 system

JUNG

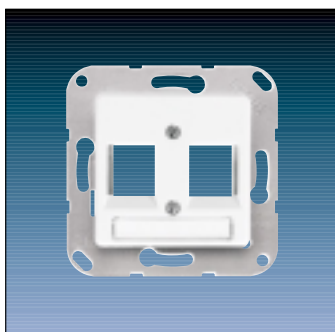


50 x 50 mm inserts are used to complete the various JUNG design ranges with all available sockets in combination with an individual hinged lid or an intermediate frame. In addition, it is possible to integrate standard center plates of other manufacturers into JUNG design ranges.

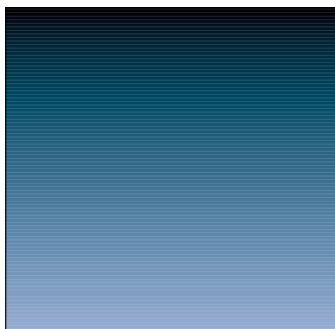
50 x 50 system



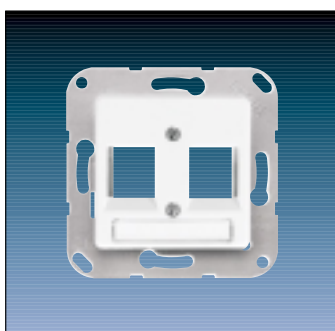
Description	Ref.-no.
Center plate with supporting frame and inscription plate 6 x 37 mm (BB 1) for 1-gang modular jack sockets	
ivory	169-1 NWE
white	169-1 NWE WW
for 2-gang modular jack sockets	
ivory	169-2 NWE
white	169-2 NWE WW
Suitable modular jack inserts:	
JUNG: 6 WE, 8 WE	RADIALL: Cat. 4, 6-pol. RJ 12
Panduit: Cat. 3 RJ 45	Cat. 4, 8-pol. RJ 45
	Cat. 5, 8-pol. RJ 45



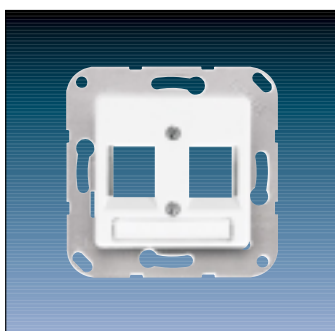
Center plate with supporting frame and inscription plate 6 x 37 mm (BB 1) for 1-gang modular jack sockets	
ivory	169-15 NWE
white	169-15 NWE WW
for 2-gang modular jack sockets	
ivory	169-25 NWE
white	169-25 NWE WW



Suitable modular jack inserts:	
JUNG: 8 VG WE	Toolles-Jack: Cat. 3 unshielded
EMT: Cat. 5e	Cat. 5e shielded/unshielded
MTRJ: LWL-Jack (optic cable)	Cat. 6 shielded/unshielded

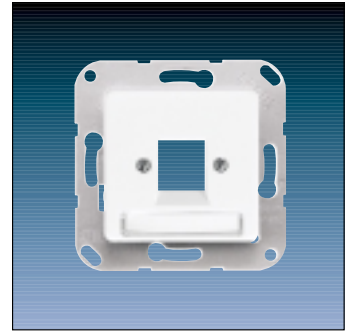


Center plate for 2-gang modular jack sockets with supporting frame and inscription plate 6 x 37 mm (BB 1)	
ivory	169-2 NNW
white	169-2 NNW WW
Suitable modular jack inserts:	
IBM-ACS, Cat. 5e, RJ 45, shielded/unshielded	
Nevada-Western OMNI System, Cat. 5 RJ 45	
Thomas & Betts, shielded/unshielded	

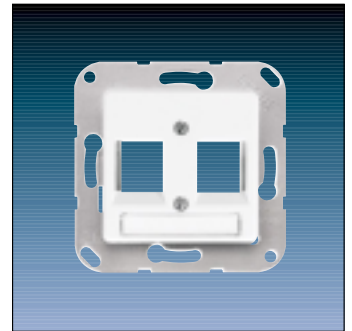


Center plate for 2-gang modular jack sockets with supporting frame and inscription plate 6 x 37 mm (BB1) for Lucent Technologies (AT&T)	
ivory	169-2 NAT
white	169-2 NAT WW
Cat. 3 RJ 45, M1 Series, unshielded	
Cat. 5 RJ 45, MPS100 Series, unshielded	
Cat. 6 RJ 45, MGS200 Series, Giga SPEED, unshielded	

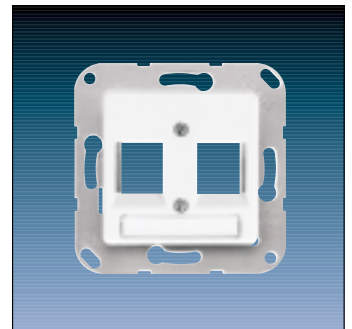
Description	Ref.-no.
Center plate with supporting frame and inscription plate 6 x 37 mm (BB 1) for various modular jack sockets screw fixing only - without claws - for 1 socket 8 FWE	
ivory	169-1 NFWE
white	169-1 NFWE WW
for 2 sockets 8 FWE	
ivory	169-2 NFWE
white	169-2 NFWE WW



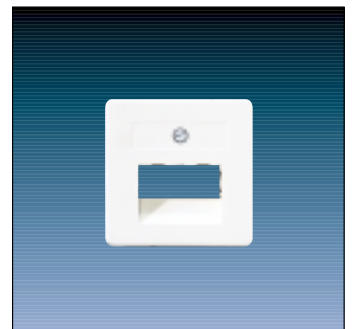
Center plate with shutter for Northern Telecom for 2 sockets with supporting frame and inscription plate 6 x 37 mm (BB 1) screw fixing only, shutter with spring	
ivory	169-2 NNT
white	169-2 NNT WW



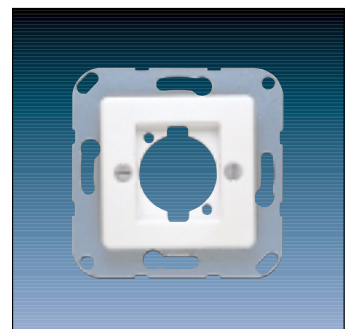
Center plate with shutter for INFRA+ / Radial for 2 sockets with supporting frame and inscription plate 6 x 37 mm (BB 1) screw fixing only, shutter with spring	
ivory	169-2 NINF
white	169-2 NINF WW



Center plate for IAE/UAE, Cat. 5e and Cat. 6 inserts 1 x 8-pol.	
ivory	169-1 UAE
white	169-1 UAE WW
for IAE/UAE, Cat. 5e and Cat. 6 inserts 2 x 8-pol.	
ivory	169-2 UAE
white	169-2 UAE WW

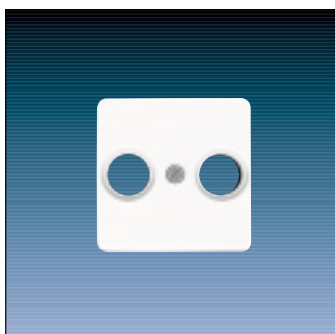


Centre plate for loudspeaker and chassis connector with supporting frame	
ivory	168-1
white	168-1 WW



50 x 50 system

Devices with center plate 50 x 50 mm.
To be installed under center plate with hinged lid, e.g. CD 590 KL,
or with intermediate frames, e.g. 590 Z.



Description	Ref.-no.
Center plate for TV/FM sockets (DIN 45330)	
ivory	161 TV



2-pole socket without earth for flat + round pins Franco-American system 10 A/250 V – 15 A/125 V screw fixing only, without claws	
ivory	CD 110



2-pole socket without earth for round pins 16 A-AC/10 A-DC/250 V screw fixing only, without claws	
ivory	CD 111
white	CD 111 WW
with child protection (shutter)	
ivory	CD 111 KI



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with screw connection terminals screw + claw fixing	
ivory	CD 121
orange	CD 121 O
bronze-beige	CD 121 BB
blue	CD 121 BL
brown	CD 121 BR
green	CD 121 GN
grey	CD 121 GR
light grey	CD 121 LG
platinum-grey	CD 121 PG
red	CD 121 RT
black	CD 121 SW
white	CD 121 WW



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection (shutter)	
ivory	CD 121 KI

50 x 50 system

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with screwless connection terminals screw + claw fixing	
ivory	CD 120
orange	CD 120 O
bronze-beige	CD 120 BB
blue	CD 120 BL
brown	CD 120 BR
green	CD 120 GN
grey	CD 120 GR
light grey	CD 120 LG
platinum-grey	CD 120 PG
red	CD 120 RT
black	CD 120 SW
white	CD 120 WW

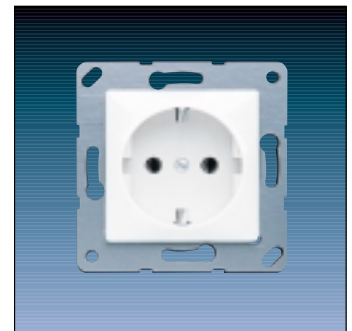
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection (shutter)	
ivory	CD 120 KI
white	CD 120 KI WW

Socket 2-pole + male earth pin 16 A-AC/10 A-DC/2590 V, French/Belgian system with child protection (shutter), with screw connection terminals screw + claw fixing	
ivory	121 FKI
brown	121 FKI B
white	121 FKI WW

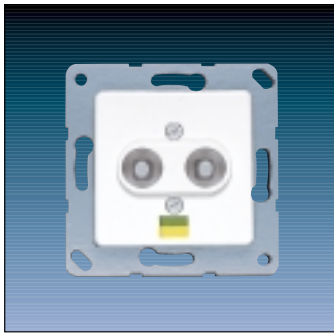
Socket 2-pole + earth US-NEMA system 5-20 R screw fixing only, without claws	
15 A/125 V, ivory	121-15
20 A/125 V, ivory	121-20

HNA-socket 10 A-AC/250 V 2-pole + earth screw fixing only, without claws	
ivory	110 HNA

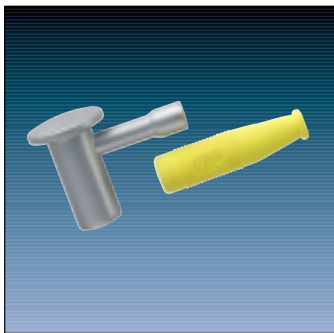
Plug for HNA-socket	10 HNAST
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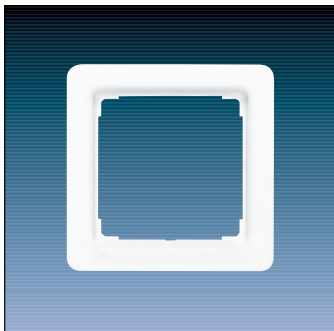
50 x 50 system



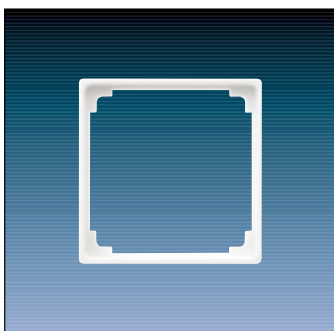
Description	Ref.-no.
Potential compensation socket with center plate with 2 one-pole built-in male sockets acc. to DIN 42801 for wires up to 6 mm ²	
ivory	165-2
delivery with supporting frame	



Plug for 165-2	65 WIS
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Intermediate frame for the design range CD 500 to install devices with center plate 50 x 50 mm (DIN 49075)	
ivory	590 Z
white	CD 590 Z WW



Intermediate frame for the design ranges AS 500, A 500 and A plus to install devices with center plate 50 x 50 mm (DIN 49075)	
ivory	A 590 Z
white	A 590 Z WW
aluminium	A 590 Z AL

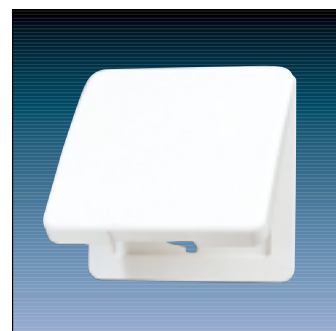
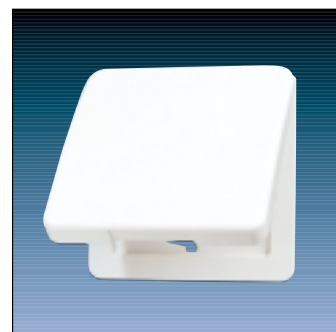
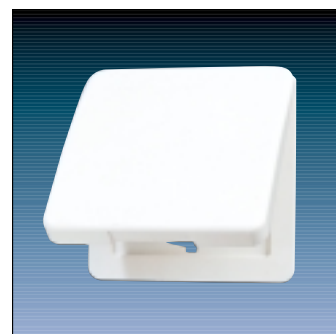


Intermediate frame for the design range LS 990 to install devices with center plate 50 x 50 mm (DIN 49075)	
ivory	LS 961 Z
white	LS 961 Z WW
light grey	LS 961 Z LG

50 x 50 system

■ With sealing gasket ref.-no. 551 WU and frame from range CD 500 or CD universal the protection level IP 44 is ensured.

Description	Ref.-no.
Center plate with hinged lid for the design range CD 500 to install devices with center plate 50 x 50 mm	
ivory	CD 590 KL
white	CD 590 KL WW
blue	CD 590 KL BL
brown	CD 590 KL BR
grey	CD 590 KL GR
green	CD 590 KL GN
light grey	CD 590 KL LG
orange	CD 590 KL O
red	CD 590 KL RT
black	CD 590 KL SW
gold-bronze	CD 590 KL GB
platinum	CD 590 KL PT
Center plate with hinged lid Break proof version with spring for the design range CD 500 to install devices with center plate 50 x 50 mm	
ivory	■ CD 590 BFKL
white	■ CD 590 BFKL WW
blue	■ CD 590 BFKL BL
brown	■ CD 590 BFKL BR
grey	■ CD 590 BFKL GR
green	■ CD 590 BFKL GN
light grey	■ CD 590 BFKL LG
orange	■ CD 590 BFKL O
red	■ CD 590 BFKL RT
black	■ CD 590 BFKL SW
gold-bronze	CD 590 KL GB
platinum	CD 590 KL PT
Center plate with hinged lid and inscription plate 7 x 57 mm (BB 3) Break proof version with spring for the design range CD 500	
ivory	■ CD 590 BFNAKL
white	■ CD 590 BFNAKL WW
blue	■ CD 590 BFNAKL BL
brown	■ CD 590 BFNAKL BR
grey	■ CD 590 BFNAKL GR
green	■ CD 590 BFNAKL GN
light grey	■ CD 590 BFNAKL LG
orange	■ CD 590 BFNAKL O
red	■ CD 590 BFNAKL RT
black	■ CD 590 BFNAKL SW
gold-bronze	CD 590 NAKL GB
platinum	CD 590 NAKL PT
Center plate with convex hinged lid and inscription plate 23 x 59 mm (BB 5) for the design range CD 500	
ivory	CD 554 KL
white	CD 554 KL WW
blue	CD 554 KL BL
brown	CD 554 KL BR
grey	CD 554 KL GR
green	CD 554 KL GN
light grey	CD 554 KL LG
orange	CD 554 KL O
red	CD 554 KL RT
black	CD 554 KL SW

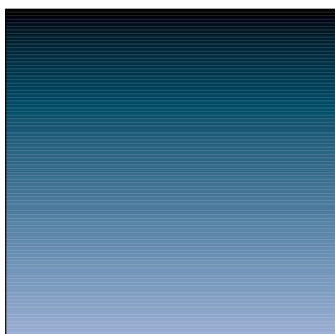


50 x 50 system

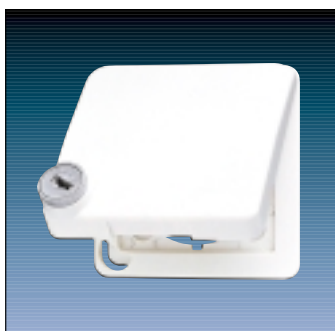
■ With sealing gasket ref.-no. 551 WU and frame from range CD 500 or CD universal the protection level IP 44 is ensured.



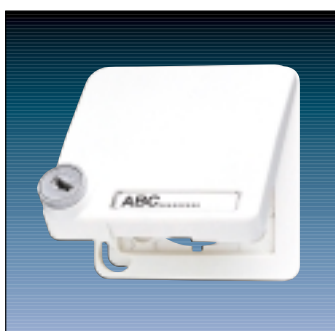
Description	Ref.-no.
Center plate with convex hinged lid with safety lock and inscription plate 23 x 59 mm (BB 5) for the design range CD 500 to install devices with center plate 50 x 50 mm	
ivory	CD 554 SLKL
white	CD 554 SLKL WW
blue	CD 554 SLKL BL
brown	CD 554 SLKL BR
grey	CD 554 SLKL GR
green	CD 554 SLKL GN
light grey	CD 554 SLKL LG
orange	CD 554 SLKL O
red	CD 554 SLKL RT
black	CD 554 SLKL SW



Center plate with hinged lid
with safety lock
Break proof version with spring for the design range CD 500

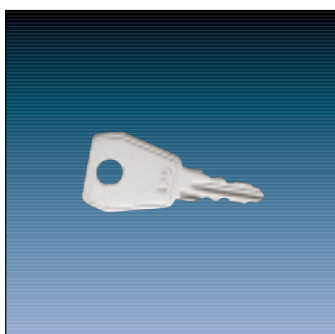


ivory	■	CD 590 BFSLKL
white	■	CD 590 BFSLKL WW
blue	■	CD 590 BFSLKL BL
brown	■	CD 590 BFSLKL BR
grey	■	CD 590 BFSLKL GR
green	■	CD 590 BFSLKL GN
light grey	■	CD 590 BFSLKL LG
orange	■	CD 590 BFSLKL O
red	■	CD 590 BFSLKL RT
black	■	CD 590 BFSLKL SW



Center plate with hinged lid
with safety lock and inscription plate 6 x 37 mm (BB 1)
Break proof version with spring for the design range CD 500

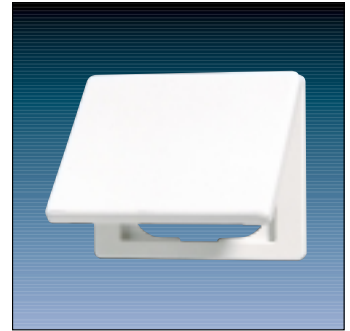
ivory	■	CD 590 BFSLNAKL
white	■	CD 590 BFSLNAKL WW
blue	■	CD 590 BFSLNAKL BL
brown	■	CD 590 BFSLNAKL BR
grey	■	CD 590 BFSLNAKL GR
green	■	CD 590 BFSLNAKL GN
light grey	■	CD 590 BFSLNAKL LG
orange	■	CD 590 BFSLNAKL O
red	■	CD 590 BFSLNAKL RT
black	■	CD 590 BFSLNAKL SW



Spare key	802 SL ... 825 SL
for center plates with hinged lid and safety lock Please indicate lock-no. e.g. 813 SL !	

50 x 50 system

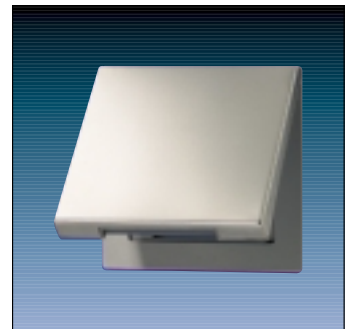
Description	Ref.-no.
Center plate with hinged lid for the design range SL 500 to install devices with center plate 50 x 50 mm	
white	SL 590 KL WW
black	SL 590 KL SW
gold bronze	SL 590 KL GB



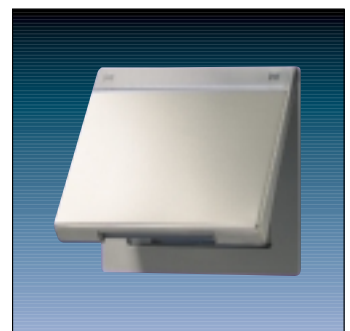
Center plate with hinged lid for the design range LS 990 to install devices with center plate 50 x 50 mm		
ivory	■	LS 990 KL
white	■	LS 990 KL WW
light grey	■	LS 990 KL LG



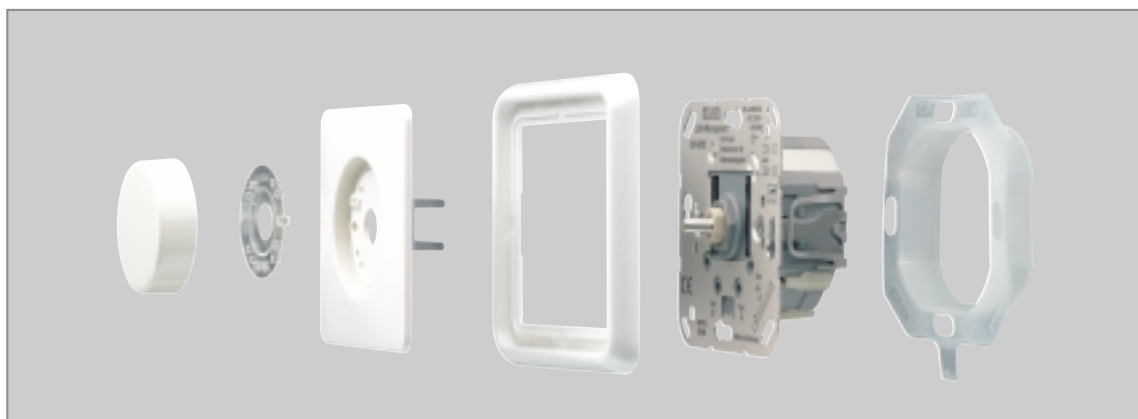
Metal versions		
stainless steel	■	ES 2990 KL
aluminium	■	AL 2990 KL
anthracite	■	AL 2990 KL AN
gold	■	AL 2990 KL GO



Center plate with hinged lid with spring and inscription plate 12 x 55 mm to install devices with center plate 50 x 50 mm		
stainless steel	■	ES 2990 NAKL
aluminium	■	AL 2990 NAKL
anthracite	■	AL 2990 NAKL AN
gold	■	AL 2990 NAKL GO



Electronic





JUNG TRONIC transformer

The electronic transformer is a modern solution for using low voltage halogen light in lighting systems in professional, private and commercial sectors. Due to their compact, small design and low weight, the electronic JUNG transformers are suitable for a wide range of different applications such as architectural lighting, medical technology, furniture and advertising lighting. The TRONIC transformers can be controlled optimally via the JUNG TRONIC and universal dimmers. The load range is 40 to 200 watts.

The TRONIC transformer also offers for example electronic short-circuit protection, thermal protection with automatic power reduction and open-circuit protection. In the event of an overload, the device restarts automatically once the fault has been rectified.

Power extension with the universal power amplifier REG

This power amplifier is used to extend the power of TRONIC or universal dimmers. It makes it possible to dim comprehensive loads such as chandeliers. The device is controlled via a series-connected dimmer or the extension unit which is connected to it.

Depending on the power required, a maximum of ten power amplifiers can be connected to a dimmer. The connected loads are supplied via a common load cable.

Rotary dimmer Built-in dimmer Transformer Amplifier



For more details see technical appendix.



Description	Ref.-no.
Rotary dimmer insert 60 – 400 W	244 EX
Spare fuse (T 1.6H 250 V)	1.6 AH

with two way push switch
Short circuit protected

Nominal voltage: 230/240 V ~, 50/60 Hz
 Connected load: 60 – 400 W (flush mounted)
 60 – 360 W (surface mounted)
 Type of loads: 230/240 V incandescent lamps
 230/240 V halogen lamps
 Wiring: screw terminals for wires up to 4 mm²
 Suitable amplifiers: 246 EB or ULZ 1215 REG
 (for resistive and inductive loads)

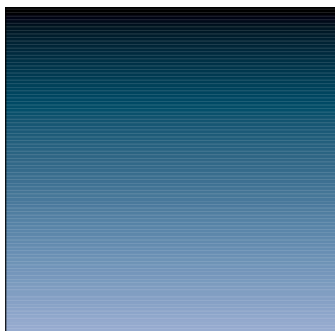
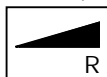


Rotary dimmer insert 60 – 600	266 GDE
Spare fuse (T 2.5 A H 250 V)	2.5 AT

with two way push switch and soft latching function

Nominal voltage: 230 V ~, 50 Hz
 Connected load: 60 – 600 W (flush mounted)
 60 – 550 W (surface mounted)
 Type of loads: 230 V incandescent lamps
 230 V halogen lamps
 Wiring: screwless connection for wires up to 2.5 mm²
 Suitable amplifiers: 246 EB or ULZ 1215 REG
 (for resistive and inductive loads)

Short circuit protected
Overtemperature protection

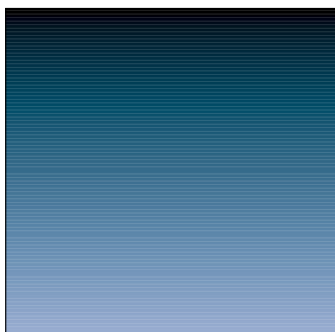


Rotary dimmer insert 100 – 1000 W	211 GDE
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with two way push switch and soft latching function

Nominal voltage: 230/240 V ~, 50 Hz
 Connected load: 100 – 1000 W
 Type of loads: 230/240 V incandescent lamps
 230/240 V halogen lamps
 Wiring: screw terminals for wires up to 4 mm²
 Suitable amplifiers: 246 EB or ULZ 1215 REG
 (for resistive and inductive loads)

Short circuit protected
Overtemperature protection
Lamp saving soft start



Rotary dimmer Electronic

Description	Ref.-no.
Rotary dimmer insert 110 V with two way push switch Short circuit protected	244-110

Nominal voltage: 110/127 V ~, 50/60 Hz
 Connected load: 60 – 400 W
 Type of loads: 110/127 V incandescent lamps
 Wiring: screw terminals for wires up to 4 mm²



TRONIC-dimmer insert 20 – 360 W with two way push switch	243 EX
---	--------

Nominal voltage: 230/240 V ~, 50 Hz
 Connected load: 20 – 360 W (flush mounted)
 20 – 320 W (surface mounted)
 Type of loads: 230 V incandescent lamps
 230 V halogen lamps
 TRONIC transformers
 mixed loads of the specified types
 Wiring: screw terminals for wires up to 4 mm²
 Suitable amplifiers: 247 EB or ULZ 1215 REG
 (for resistive and capacitive loads)

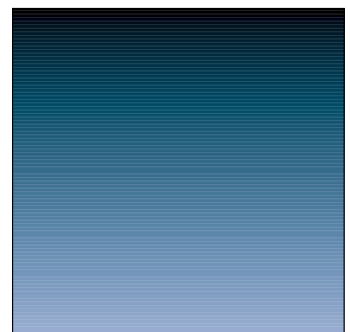
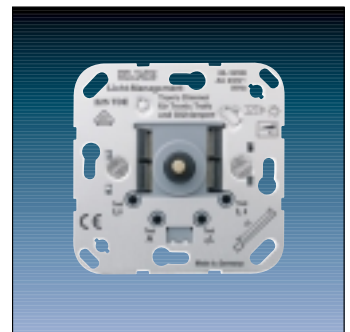
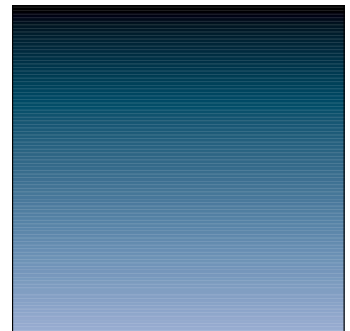
Short circuit protected
 Overtemperature protection



TRONIC-dimmer insert 20 – 525 W with two way push switch and soft latching function	225 TDE
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Nominal voltage: 230/240 V ~, 50 Hz
 Connected load: 20 – 525 W (flush mounted)
 20 – 500 W (surface mounted)
 Type of loads: 230 V incandescent lamps
 230 V halogen lamps
 TRONIC transformers
 mixed loads of the specified types
 Wiring: screwless connection for wires up to 2.5 mm²
 Suitable amplifiers: 247 EB or ULZ 1215 REG
 (for resistive and capacitive loads)

Short circuit protected
 Overtemperature protection
 Lamp saving soft start



For more details see technical appendix.

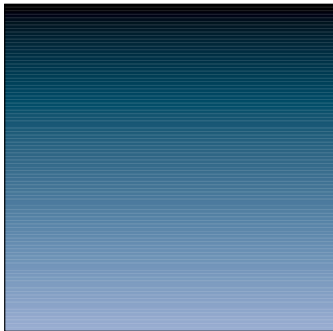


Description	Ref.-no.
Rotary dimmer insert 20 – 500 W/VA	244 HEX
Spare fuse (T 3.15H 250V)	3.15 AT

Dimmer with two way push switch

Nominal voltage: 230/240 V ~, 50/60 Hz
 Connected load: 20 – 500 W/VA (flush mounted)
 20 – 420 W/VA (surface mounted)
 Type of loads: 230 V incandescent lamps
 230 V halogen lamps
 conventional transformers (inductive)
 mixed loads of the specified types
 screw terminals for wires up to 4 mm²
 Wiring: Suitable amplifiers: 246 EB or ULZ 1215 REG
 (for resistive and inductive loads)

Short circuit protected
 Overtemperature protection

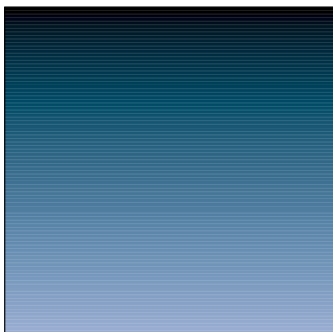


Rotary dimmer insert 40 – 500 W/VA	225 NVDE
Spare fuse (T 3.15 A H 250V)	3.15 AT

Dimmer with two way push switch
 and soft latching function

Nominal voltage: 230 V ~, 50 Hz
 Connected load: 40 – 500 W/VA (flush mounted)
 40 – 450 W/VA (surface mounted)
 Type of loads: 230 V incandescent lamps
 230 V halogen lamps
 Conventional transformers (inductive)
 mixed loads of the specified types
 screwless connection for wires up to 2.5 mm²
 Wiring: Suitable amplifiers: 246 EB or ULZ 1215 REG
 (for resistive and inductive loads)

Short circuit protected
 Overtemperature protection



Rotary dimmer Electronic

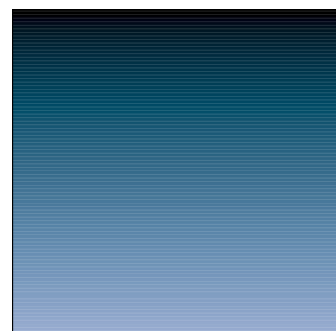
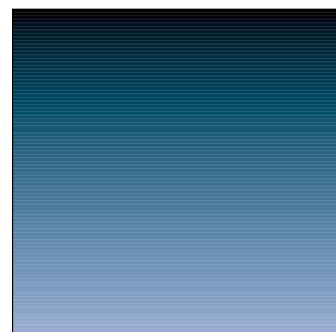
Description	Ref.-no.
Universal dimmer insert 50 – 420 W/VA with push switch and soft latching function. Incremental control without end position. (replaces 254 UDIE)	254 UDIE1
Nominal voltage:	230 V ~, 50/60 Hz
Connected load:	50 – 420 W/VA (flush mounted) 50 – 400 W/VA (surface mounted)
Type of loads:	230 V incandescent lamps 230 V halogen lamps, conventional transformers (inductive), TRONIC transformers (capacitive), mixed loads of the specified types (not capacitive with inductive loads)
Wiring:	screwless connection for wires up to 2.5 mm ²
Setting range:	360° – fast turn from min. to max. brightness 720° – slow turn from min. to max. brightness
Suitable amplifiers:	246 EB or ULZ 1215 REG (for resistive and inductive loads) 247 EB or ULZ 1215 REG (for resistive and capacitive loads)



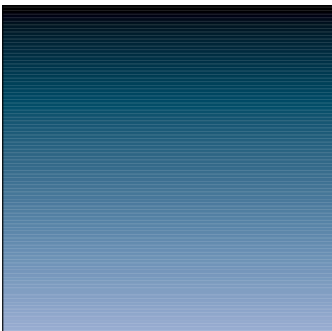
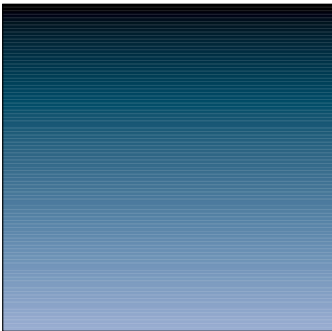
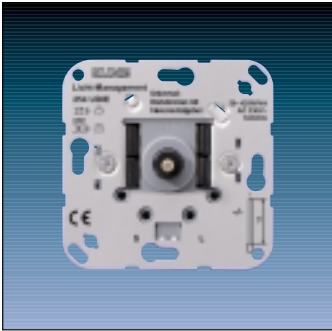
Other features:

- automatic selection of operation mode (trailing edge or leading edge)
- short circuit protected
- overtemperature protection
- lamp saving soft start
- up to 5 satellites (254 NIE) can be connected to the dimmer
- satellite with identical operation functions

Satellite dimmer insert	254 NIE1
for dimmer 254 UDIE1 with push switch and soft latching function (replaces 254NIE)	
Nominal voltage:	230 V ~, 50/60 Hz
Wiring:	screwless connection for wires up to 2.5 mm ²
Neutral conductor not required	



For more details see technical appendix.



Description	Ref.-no.
Universal dimmer insert 110 V / 50 – 340 W/VA	254 UDIE-110

with push switch and soft latching function.
Incremental control without end position.

Nominal voltage:	110/127 V ~, 50/60 Hz
Connected load:	50 – 340 W/VA (flush mounted) 50 – 300 W/VA (surface mounted)
Type of loads:	110/127 V incandescent lamps 110/127 V halogen lamps, conventional transformers (inductive), TRONIC transformers (capacitive), mixed loads of the specified types (not capacitive with inductive loads)
Wiring:	screwless connection for wires up to 2.5 mm ²
Setting range:	360° – fast turn from min. to max. brightness 720° – slow turn from min. to max. brightness



Other features:

- automatic selection of operation mode (trailing edge or leading edge)
- short circuit protected
- overtemperature protection
- lamp saving soft start
- up to 5 satellites (254 NIE-110) can be connected to the dimmer
- satellite with identical operation functions

Satellite dimmer insert 110 V	254 NIE-110
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for dimmer 254 UDIE-110
with push switch and soft latching function,
neutral conductor required.

Nominal voltage:	230 V ~, 50/60 Hz
Wiring:	screwless connection for wires up to 2.5 mm ²

Rotary dimmer Electronic

Description	Ref.-no.
DALI potentiometer insert	240 DPE
Spare fuse (F 0.5 A H 250V)	0.5 AF

for dimming of fluorescent lamps
controlled by DALI ballasts

Control voltage:	0 ... 10 V
Control current:	max. 2 mA
Wiring:	screw terminals for wires up to 4 mm ²

Function

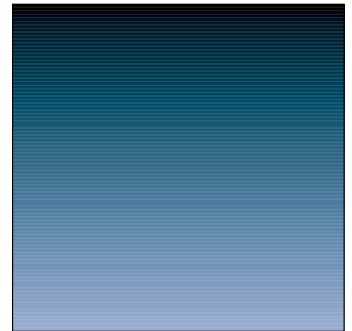
The DALI potentiometer insert is designed as brightness control for electronic ballasts with DALI interface. Up to 64 DALI devices can be controlled with several DALI potentiometers connected in parallel. The DALI potentiometer insert is not suitable for use in combination with other DALI potentiometers or stations. The DALI voltage must be supplied from a power supply unit in compliance with the DALI specifications (DIN IEC 60929) (e.g. Helvar or Philips). The selection of the DALI power supply unit depends on the number of DALI devices and DALI potentiometer inserts connected. For more details see technical appendix.

Electronic potentiometer 1 – 10 V
for dimming of fluorescent lamps
controlled by electronic ballasts
or electronic transformers with control voltage 1 – 10 V

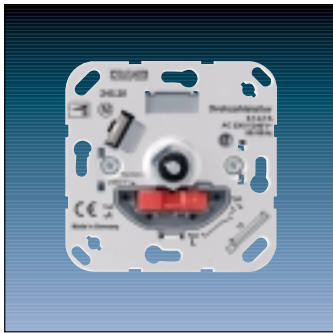
with switch function	240-10
with push-button function	240-31
Spare fuse (F 0.5 A H 250V)	0.5 AF

Switching capacity of mains switch:	230/240 V ~, 50/60 Hz 6A (switch function), 2A (push-button function) for resistive loads
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Control voltage:	0.7 ... 12 V
Control current:	max. 50 mA
Wiring:	screw terminals for wires up to 4 mm ²



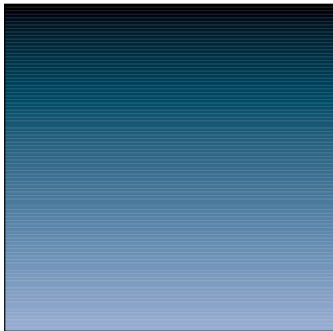
For more details see technical appendix.



Description	Ref.-no.
Speed regulator insert	245.20
Spare fuse (T 2.5 A H 250V)	2.5 AT

for controlling the speed of single-phase motors
such as induction motors, shaded-pole motors
or universal motors.

Nominal voltage: 230 V ~, 50 Hz
 Nominal current: 0.1 – 2.3 A (flush mounted)
 0.1 – 1.6 A (surface mounted)
 Wiring: screw terminals for wires up to 4 mm²
 Short circuit protected
 Overtemperature protection

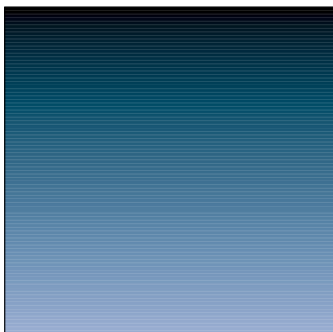


TRONIC built-in dimmer 20 – 700 W	247.07 EB
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e.g. for false ceilings
 Switching and dimming operations are controlled from extension units (push-buttons)

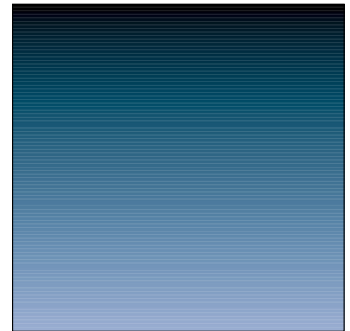
Nominal voltage: 230 V ~, 50 Hz
 Connected load: 20 – 700 W
 Type of loads: 230 V incandescent lamps
 230 V halogen lamps
 TRONIC transformers
 mixed loads of the specified types
 Dimension: 212 x 48.5 x 46 mm
 Wiring: screwless connection for wires up to 2.5 mm²
 Suitable amplifiers: 247 EB or ULZ 1215 REG
 (for resistive and capacitive loads)


Short circuit proof
 Overtemperature protection

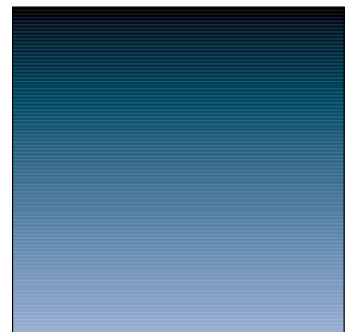


Push-button controller / Amplifier Electronic

Description	Ref.-no.
TRONIC built-in amplifier 60 – 700 W for TRONIC-dimmers, e.g. for false ceilings mains + neutral conductor necessary	247 EB
Nominal voltage:	230 V ~, 50 Hz
Connected load:	60 – 700 W
Type of loads:	230 V incandescent lamps 230 V halogen lamps TRONIC transformers mixed loads of the specified types
Dimension:	212 x 48.5 x 46 mm
Suitable dimmer:	1254 UDE, 254 UDIE, 254 UDIE1, 225 TDE, 247.07 EB, UD 1255 REG, FUD 1253 EB
Short circuit protected Overtemperature protection	
	



Built-in amplifier 100 – 600 W/VA	246 EB
for conventional dimmers, e.g. for false ceilings mains + neutral conductor necessary	
Nominal voltage:	230 V ~, 50 Hz
Connected load:	100 – 600 W/VA
Type of loads:	230 V incandescent lamps 230 V halogen lamps conventional transformers mixed loads of the specified types
Dimension:	212 x 48.5 x 46 mm
Suitable dimmer:	1254 UDE, 1225 SDE, 254 UDIE, 254 UDIE1, 225 NVDE, 266 GDE, 211 GDE, FUD 1253 EB, UD 1255 REG
Short circuit protected Overtemperature protection	
	



Built-in push-button controller	240-10 EB
for dimming of fluorescent lamps controlled by electronic ballasts or TRONIC transformers with control voltage 1 – 10 V, operation by push-buttons	
Nominal voltage:	230 V AC, 50/60 Hz
Switch contact:	relay
nominal current:	incandescent lamps, 2300 W ballasts/transformers depending on type of ballasts
Control current:	max. 200 mA
Short circuit protection:	to be provided by 10 A circuit breaker
No-load security:	yes
Galvanical separation:	2 kV basic isolation
Dimension:	175 x 42 x 18 mm



For more details see technical appendix.




Description	Ref.-no.
Universal dimmer (replaces 245 TD REG) for DIN rail mounting, 2 units with integrated push-buttons and status LED	UD 1255 REG
Nominal voltage:	230 V ~, 50/60 Hz
Connected load:	50 – 500 W/VA
Rated power loss:	5 W
Ambient temperature:	45° C
Type of loads:	230 V incandescent lamps 230 V halogen lamps, conventional transformers (inductive), TRONIC transformers (capacitive), mixed loads of the specified types (not capacitive with inductive loads)
Suitable dimmers:	246 EB, 247 EB or ULZ 1215 REG
Number of satellite:	unlimited number of 1220 NE unlimited number of conventional push-buttons Different types of satellites can be combined.
Other features:	automatical selection of operation mode (trailing edge or leading edge) short circuit protected overload protected overtemperature protection lamp saving soft start storing of brightness value




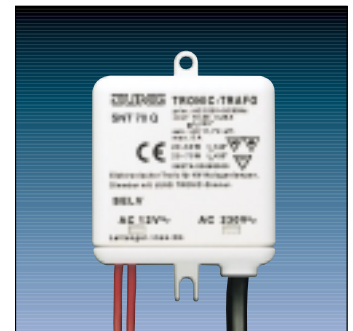
Description	Ref.-no.
Universal amplifier (replaces 245 TL REG, 245 NL REG) for DIN rail mounting, 2 units Function: The universal amplifier extends the power of various dimmer. The device can only be operated by means of the extended dimmer. Depending on the required power it is possible to connect up to 10 amplifier (cascadable) to one dimmer.	ULZ 1215 REG
Nominal voltage:	230 V ~, 50/60 Hz
Connected load:	200 – 500 W/VA
Rated power loss:	5 W
Ambient temperature:	45° C
Type of loads:	230 V incandescent lamps 230 V halogen lamps, conventional transformers (inductive), TRONIC transformers (capacitive), mixed loads of the specified types (not capacitive with inductive loads)


Suitable dimmer	Max. amount of cascaded amplifier for	
	resistive/capacitive	inductive loads
UD 1255 REG	10, each 500 W	5, each 420 VA
245 TDREG	10, each 500 W	-----
FUD 1254 REG	10, each 500 W	5, each 420 VA
1254 UDE	10, each 500 W	5, each 420 VA
254 UDIE, 254 UDIE1	10, each 500 W	5, each 420 VA
225 TDE / 243 EX	10, each 500 W	-----
FUD 1253 EB	10, each 500 W	5, each 300 VA
247.07 EB	10, each 400 W	-----
3601 REG (KNX/EIB)	10, each 500 W (1-gang)	5, each 420 VA (1-gang)
3602 REG (KNX/EIB)	10, each 500 W (2-gang)	5, each 250 VA (2-gang)

Description	Ref.-no.
TRONIC transformer	SNT 40
Nominal capacity:	10 – 40 W
Nominal voltage:	230 V AC, 50/60 Hz
Output voltage:	11,7 V eff. ~ 50 kHz
Unity power factor:	$\cos \varphi = 0.98$
Short circuit protection:	electronic protection without fuse
Test marks:	VDE, 
Dimensions:	73 x 35.5 x 18 mm
Ambient temperature:	max. 50° C
Housing temperature:	max. 85° C
Output cable length:	max. 2 m




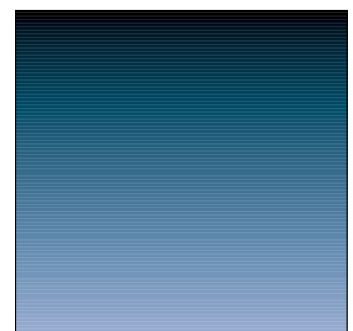
Description	Ref.-no.
TRONIC transformer	SNT 70 Q
Nominal capacity:	20 – 70 W (T = 40° C) 20 – 60 W (T = 50° C)
Nominal voltage:	230 V AC, 50/60 Hz
Output voltage:	11,7 V eff. ~ 40 kHz
Unity power factor:	$\cos \varphi = 0.98$
Short circuit protection:	electronic protection without fuse
Test marks:	VDE, 
Dimensions:	49 x 48 x 28 mm
Ambient temperature:	max. 50° C
Housing temperature:	max. 75° C
Output cable length:	max. 2 m



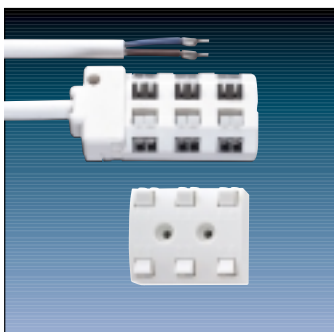
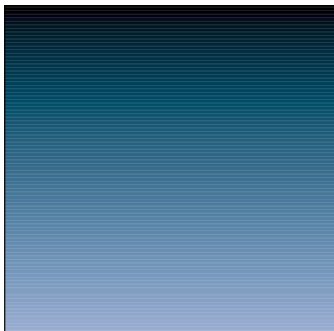
Description	Ref.-no.
TRONIC transformer	SNT 70 F
Nominal capacity:	20 – 70 W
Nominal voltage:	230 V AC, 50/60 Hz
Output voltage:	11,7 V eff. ~ 40 kHz
Unity power factor:	$\cos \varphi = 0.98$
Short circuit protection:	electronic protection without fuse
Test marks:	VDE, 
Dimensions:	152 x 44 x 17.5 mm
Ambient temperature:	max. 50° C
Housing temperature:	max. 90° C
Output cable length:	max. 2 m
Primary circuit:	1 screw terminal pairs
Secondary circuit:	1 screw terminal pairs



Description	Ref.-no.
TRONIC transformer	SNT 105 F
Nominal capacity:	20 – 105 W
Nominal voltage:	230 V AC, 50/60 Hz
Output voltage:	11,7 V eff. ~ 40 kHz
Unity power factor:	$\cos \varphi = 0.98$
Short circuit protection:	electronic protection without fuse
Test marks:	VDE, 
Dimensions:	175 x 42 x 18 mm
Ambient temperature:	max. 50° C
Housing temperature:	max. 80° C
Output cable length:	max. 1 m
Primary circuit:	2 screw terminal pairs
Secondary circuit:	3 screw terminal pairs



For more details see technical appendix.



Description	Ref.-no.
TRONIC transformer	SNT 105-35
Nominal capacity:	35 – 105 W
Nominal voltage:	230 V AC, 50 Hz
Output voltage:	11,7 V eff. ~ 40 kHz
Unity power factor:	cos φ = 0.98
Short circuit protection:	electronic protection without fuse
Test marks:	VDE, $\nabla\nabla$
Dimensions:	172.5 x 42 x 18 mm
Ambient temperature:	max. 50° C
Housing temperature:	max. 75° C
Output cable length:	max. 2 m
Primary circuit:	2 screw terminal pairs
Secondary circuit:	210 mm extension



Description	Ref.-no.
TRONIC transformer	SNT 150
Nominal capacity:	20 – 150 W
Nominal voltage:	230 V AC, 50/60 Hz
Output voltage:	11,7 V eff. ~ 40 kHz
Unity power factor:	cos φ = 0.98
Short circuit protection:	electronic protection without fuse
Test marks:	VDE, $\nabla\nabla$
Dimensions:	176 x 42 x 38 mm
Ambient temperature:	max. 50° C
Housing temperature:	max. 75° C
Output cable length:	max. 1 m
Primary circuit:	2 screw terminal pairs
Secondary circuit:	3 screw terminal pairs



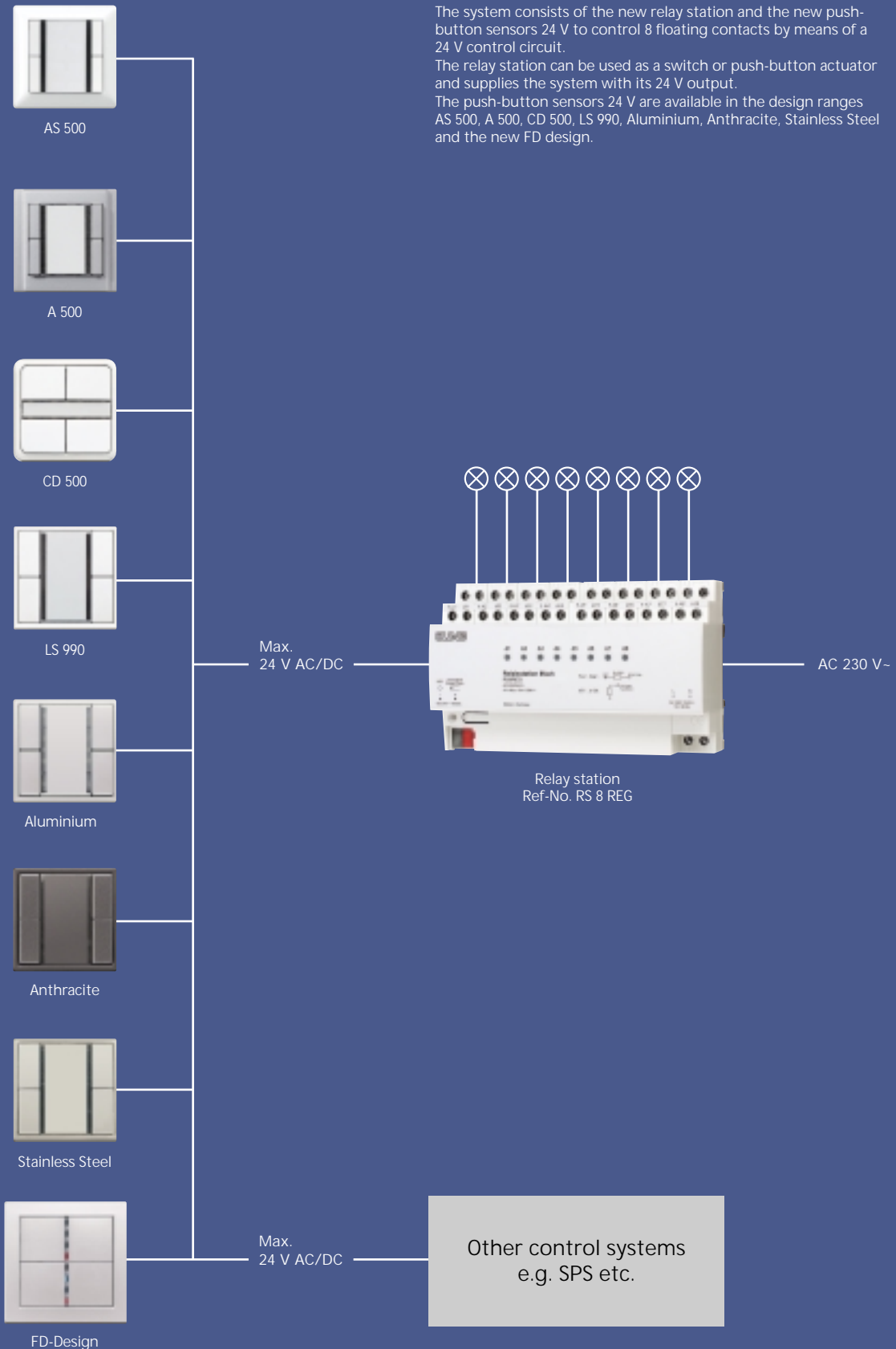
Description	Ref.-no.
TRONIC transformer	SNT 200
Nominal capacity:	50 – 200 W
Nominal voltage:	230 V AC, 50 Hz
Output voltage:	11,7 V eff. ~ 40 kHz
Unity power factor:	cos φ = 0.98
Short circuit protection:	electronic protection without fuse
Test marks:	VDE, $\nabla\nabla$
Dimensions:	176 x 42 x 38 mm
Ambient temperature:	max. 45° C
Housing temperature:	max. 65° C
Output cable length:	max. 2 m
Primary circuit:	2 screw terminal pairs
Secondary circuit:	2 screw terminal pairs



Distribution terminal for TRONIC transformer	
Capacity:	primary 17 A = 200 W at 12 V secondary 8.5 A each terminal = 100 W at 12 V

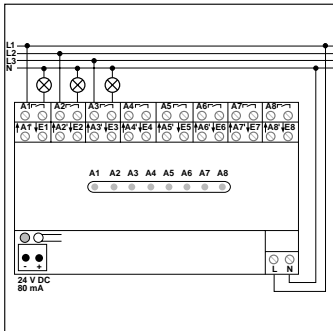
6-gang	26
Suitable transformer: SNT 70 F, SNT 105 F, SNT 150, SNT 200	

5-gang	25
Suitable transformer: All transformer	



Relay station

For more details see technical appendix.



Description	Ref.-no.
Relay station 8-gang	RS 8 REG

The relay station is equipped with 8 floating contacts with a max. current of 10 A to control various loads.

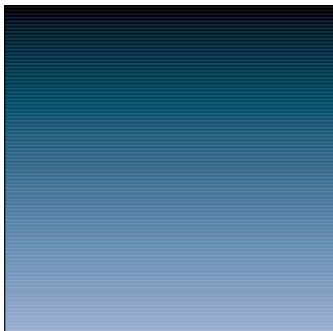
The floating contacts can be used as switch or push-button contacts.

The relay station may be controlled with push-button sensors 24 V or conventional push-buttons (e.g. 531 U).

The device is also equipped with 8 outputs for the status LED at the push-button sensors 24 V to indicate the status of each floating contact.

An integrated power supply output provides the control circuit with 24 V DC.

Rated voltage:	AC 230 V ~, 50/60 Hz
Ambient temperature:	-5 ... +45° C
Contacts:	8 floating contacts
Switching capacity:	250 V ~ / 10 A (each contact) or incandescent lamps, 1400 W 230 V halogen lamps, 1225 W conventional transformer, 1200 VA TRONIC transformer, 1200 VA motors, 600 W
Status outputs:	24 V DC / 10 mA max.
Control inputs:	24 V max.



Push-button sensor 24 V

The push-button sensor 24 V can be connected to the 8-gang relay station, ref.no. RS 8 REG or other control systems with control voltage of max. 24 V.

The push-button sensor is available in 4-gang up to 8-gang version.

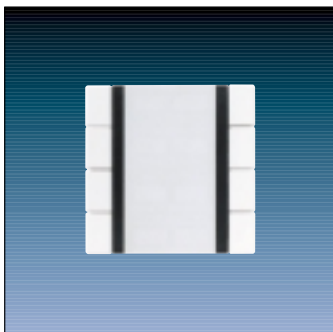
To each push-button a red status LED is assigned for status indication.

Connection to the device is made at the back by means of a terminal block.

With each push-button one channel of the relay station can be controlled.

Technical data

Rated voltage:	AC/DC 24 V SELV	Power consumption:	max. 0.2 W
Current load:	max. 20 mA per push-button		(all LED on)
LED current:	approx. 1 mA per LED	Type of protection:	IP 20
Connection:	2 x terminal block 9-pole, 0.25 ... 0.8 mm ² single wire	Ambient temperature:	-5 ... +45° C



Push-button sensor 24 V

for the design ranges AS 500, A 500, A plus

4-gang

ivory	A 2224
white	A 2224 WW
aluminium	A 2224 AL

8-gang

ivory	A 2248
white	A 2248 WW
aluminium	A 2248 AL



Push-button sensor 24 V

for the design ranges CD 500, CD plus

4-gang

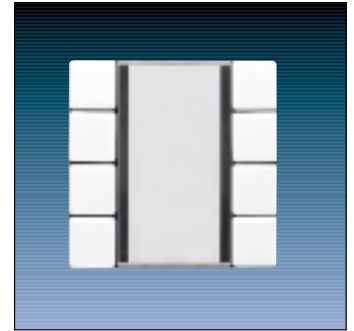
ivory	CD 2224
white	CD 2224 WW

8-gang

ivory	CD 2248
white	CD 2248 WW

Push-button sensor 24 V

Description	Ref.-no.
Push-button sensor 24 V for the design ranges LS 990, LS plus	
4-gang	
ivory	LS 2224
white	LS 2224 WW
light grey	LS 2224 LG
8-gang	
ivory	LS 2248
white	LS 2248 WW
light grey	LS 2248 LG

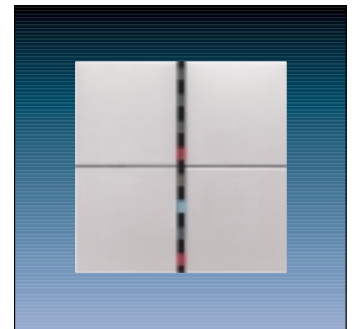


Push-button sensor 24 V for the design ranges Stainless Steel, Aluminium, Anthracite, LS plus	
4-gang	
stainless steel	ES 2224
aluminium (lacquered)	AL 2224
anthracite (lacquered)	AL 2224 AN
8-gang	
stainless steel	ES 2248
aluminium (lacquered)	AL 2248
anthracite (lacquered)	AL 2248 AN

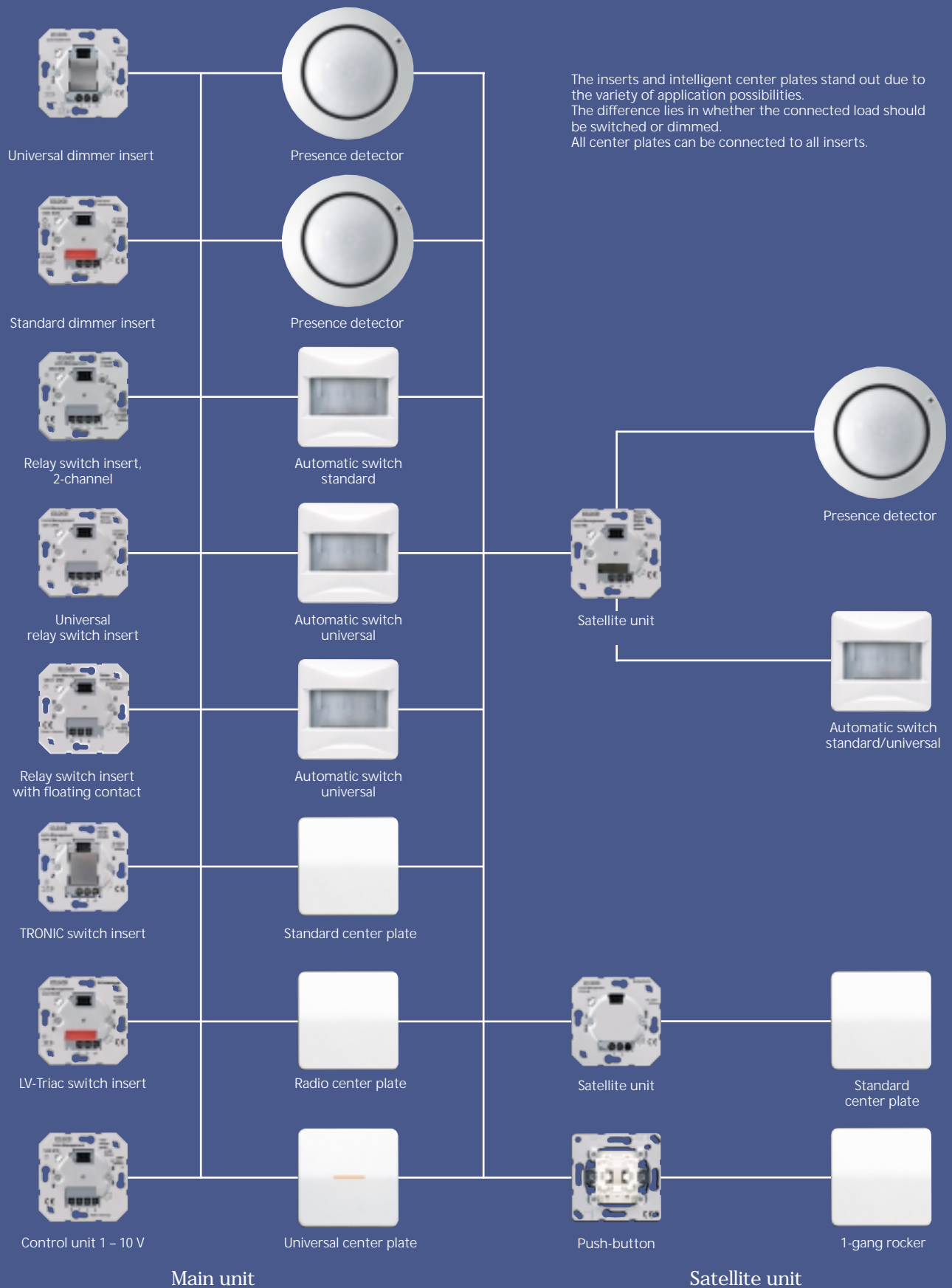


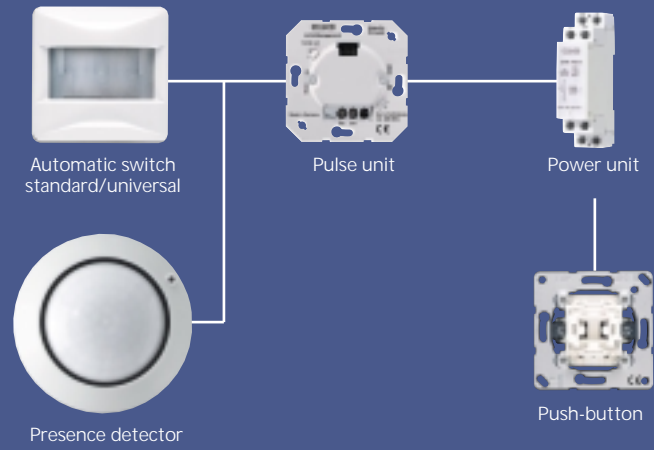
Push-button sensor 24 V
for the new FD-design
The push-button sensor 24 V can be connected to the 8-gang
relay station, ref. no. RS8 REG or other control systems.

For more details of the new FD-Design please refer to page 314



Light Management



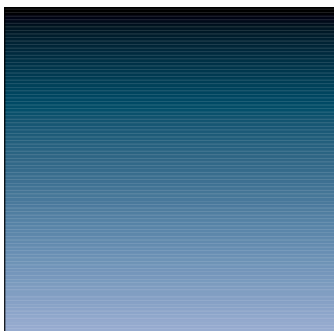
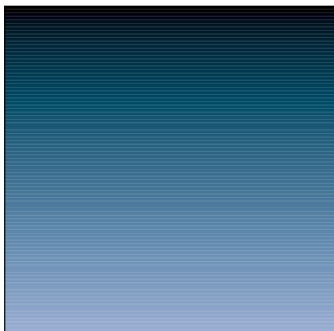
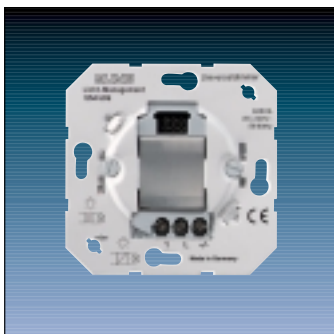


Staircase application



Light Management Touch dimmer inserts

For more details see technical appendix.



Description	Ref.-no.
Universal dimmer insert 50 – 420 W/VA	1254 UDE

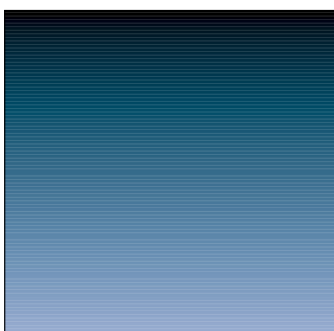
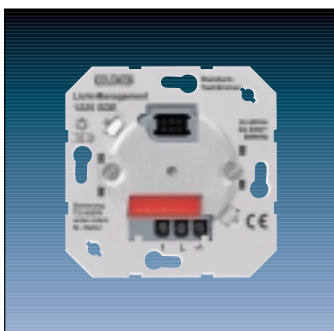
for switching and dimming of various light sources

Nominal voltage:	AC 230 V ~, 50/60 Hz
Connected load:	50 – 420 W/VA 230 V incandescent lamps (resistive load, trailing edge) 230 V halogen lamps (resistive load, trailing edge) TRONIC transformers (capacitive load, trailing edge) Conventional transformers (inductive load, leading edge) Impose at least 85 % of the rated load on conventional transformers Mixed loads of the specified types For mixed loads with conventional transformers, do not exceed a resistive load (incandescent lamps, halogen HV lamps) portion of 50%.
Suitable amplifiers:	247 EB, 246 EB, ULZ 1215 REG
Number of satellite:	unlimited number of 1220 NE unlimited number of conventional push-buttons 5 satellites of 1223 NE Different types of satellites can be combined
Total length of satellite connecting cable:	max. 100 m
Other features:	Lamp-saving soft start Short-circuit protection Overtemperature protection Storing of brightness value Overload protected



Standard dimmer insert 20 – 500 W/VA	1225 SDE
Spare fuse (T 2 A H 250 V)	2 AT

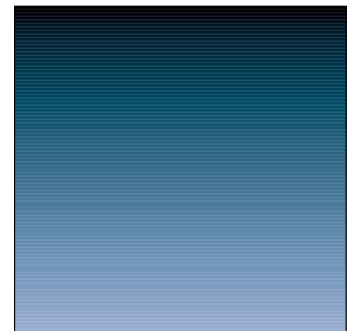
for switching and dimming of various light sources



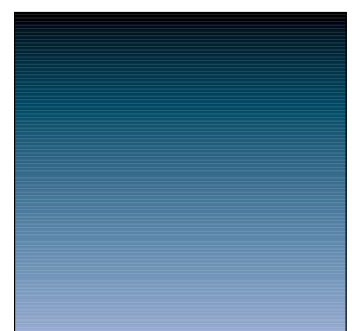
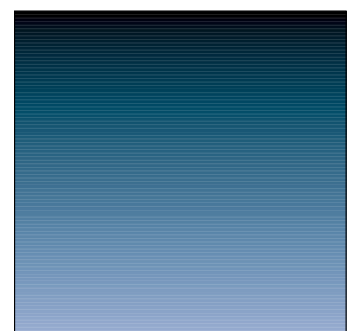
Nominal voltage:	AC 230 V ~, 50/60 Hz
Connected load:	20 – 500 W/VA 230 V incandescent lamps (resistive load, trailing edge) 230 V halogen lamps (resistive load, trailing edge) conventional transformers (inductive load, leading edge) Impose at least 85 % of the rated load on conventional transformers Mixed loads of the specified types
Suitable amplifiers:	246 EB, ULZ 1215 REG
Number of satellite:	unlimited number of 1220 NE unlimited number of conventional push-buttons 5 satellites of 1223 NE Different types of satellites can be combined
Total length of satellite connecting cable:	max. 100 m
Other features:	Lamp-saving soft start Short-circuit protection Overtemperature protection Storing of brightness value



Description	Packing	Ref.-no.
Control unit 1 – 10 V		1240 STE
for switching and dimming of electronic ballasts (EVC) with 1 – 10 V interface or TRONIC transformers with 1 – 10 V interface. The lamp is switched on and off via the load circuit and dimmed via the 1 – 10 V interface. N-conductor required		
Nominal voltage:	AC 230 V ~, 50/60 Hz	
Connected load:	electronic ballasts with 1 – 10 V interface, dependent on manufacturer of EVC comparable with 700 W incandescent lamps	
Signal voltage:	0,5 ... 10 V	
Signal current:	max. 50 mA	
Performance:	relay with make-contact	
Number of satellite:	unlimited number of 1220 NE unlimited number of conventional push-buttons 10 satellites of 1223 NE	
Total length of satellite connecting cable:	max. 100 m	
Short-circuit protection:	The load output has no internal protection. For protection install a circuit-breaker of 10 A ahead of the device. The 1-10 V control output is short-circuit protected for the control current.	

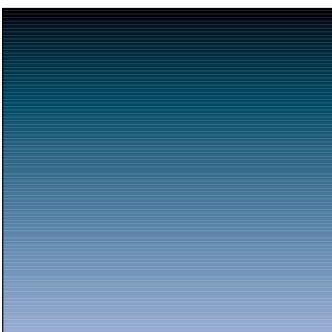
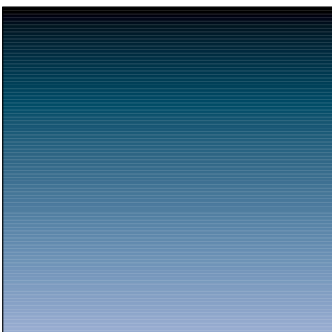


Description	Packing	Ref.-no.
Universal relay switch insert		1201 URE
1-channel for switching of various light sources and electrical consumers up to a maximum of 10 A N-conductor required		
Nominal voltage:	AC 230 V ~, 50/60 Hz	
Connected load:	230 V incandescent lamps 2300 W 230 V halogen lamps 2300 W TRONIC transformers 1500 W conventional transformers 1000 VA Impose at least 85 % of the rated load on conventional transformers	
	Fluorescent lamps, non compensated 1200 W parallel compensated 920 W lead-lag circuit 2300 W Mixed loads of the specified types	
Number of satellite:	unlimited number of 1220 NE unlimited number of conventional push-buttons 10 satellites of 1223 NE Different types of satellites can be combined	
Total length of satellite connecting cable:	max. 100 m	
Short-circuit protection:	The load output has no internal protection. For protection install a circuit-breaker of 10 A ahead of the device.	
Attention:	Energy saving lamps cause high peak current, reduction of capacity necessary! Please check suitability of lamps before installation!	



Light Management Switch inserts

For more details see technical appendix.



Description	Ref.-no.						
Universal relay switch insert 1-channel switch with additional floating contact for switching of different external conductors (min. 12 V, 100 mA /no SELV) N-conductor required	1201-1 URE						
Nominal voltage: AC 230 V ~, 50/60 Hz Connected load: <table border="0"> <tr> <td>230 V incandescent lamps</td> <td>800 W</td> </tr> <tr> <td>230 V halogen lamps</td> <td>750 W</td> </tr> <tr> <td>Mixed loads of the specified types</td> <td></td> </tr> </table> Minimum load: 12 V, 100 mA Number of satellite: <ul style="list-style-type: none"> unlimited number of 1220 NE unlimited number of conventional push-buttons 10 satellites of 1223 NE Different types of satellites can be combined Total length of satellite connecting cable: max. 100 m Short-circuit protection: The load output has no internal protection. For protection install a circuit-breaker of 10 A ahead of the device.	230 V incandescent lamps	800 W	230 V halogen lamps	750 W	Mixed loads of the specified types		
230 V incandescent lamps	800 W						
230 V halogen lamps	750 W						
Mixed loads of the specified types							

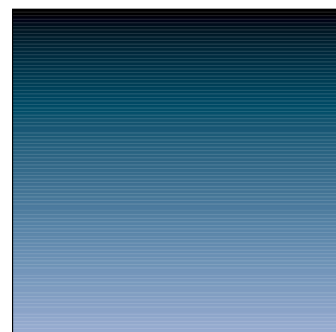
Description	Ref.-no.																														
Relay switch insert 2-channels switch N-conductor required	1202 URE																														
The universal relay switch insert has two switching channels and is used for heating, ventilation and air conditioning systems (HVAC) and lighting applications. The relay contact of channel 1 is at 230 V ~ mains potential. The relay contact of channel 2 is floating and can be used, for instance, for switching of a 2nd phase or another circuit (no SELV circuits) Channel 2 can be switched on and off with a delay.																															
Nominal voltage: AC 230 V ~, 50/60 Hz Connected load: <table border="0"> <tr> <td>Channel 1:</td> <td>230 V incandescent lamps</td> <td>1000 W</td> </tr> <tr> <td></td> <td>230 V halogen lamps</td> <td>1000 W</td> </tr> <tr> <td></td> <td>TRONIC transformers</td> <td>750 W</td> </tr> <tr> <td></td> <td>conventional transformers</td> <td>750 VA</td> </tr> <tr> <td></td> <td>Fluorescent lamps, non compensated</td> <td>500 W</td> </tr> <tr> <td></td> <td>parallel compensated</td> <td>400 W</td> </tr> <tr> <td>Channel 2 (HVAC):</td> <td>floating contact</td> <td></td> </tr> <tr> <td></td> <td>230 V incandescent lamps</td> <td>800 W</td> </tr> <tr> <td></td> <td>230 V halogen lamps</td> <td>750 W</td> </tr> <tr> <td></td> <td>Motor load</td> <td>450 VA</td> </tr> </table> at a max. starting current of 2.1 A OFF delay of channel 2: Adjustable (2, 10, 30, 60, 120 min) Number of satellite: <ul style="list-style-type: none"> unlimited number of 1220 NE unlimited number of conventional push-buttons 10 satellites of 1223 NE Different types of satellites can be combined Total length of satellite connecting cable: max. 100 m Attention: Energy saving lamps cause high peak current, reduction of capacity necessary! Please check suitability of lamps before installation!	Channel 1:	230 V incandescent lamps	1000 W		230 V halogen lamps	1000 W		TRONIC transformers	750 W		conventional transformers	750 VA		Fluorescent lamps, non compensated	500 W		parallel compensated	400 W	Channel 2 (HVAC):	floating contact			230 V incandescent lamps	800 W		230 V halogen lamps	750 W		Motor load	450 VA	
Channel 1:	230 V incandescent lamps	1000 W																													
	230 V halogen lamps	1000 W																													
	TRONIC transformers	750 W																													
	conventional transformers	750 VA																													
	Fluorescent lamps, non compensated	500 W																													
	parallel compensated	400 W																													
Channel 2 (HVAC):	floating contact																														
	230 V incandescent lamps	800 W																													
	230 V halogen lamps	750 W																													
	Motor load	450 VA																													

Switch inserts Light Management

Description	Ref.-no.
TRONIC switch insert 50 – 420 W/VA	1254 TSE

for soundless switching of various light sources and electrical consumers

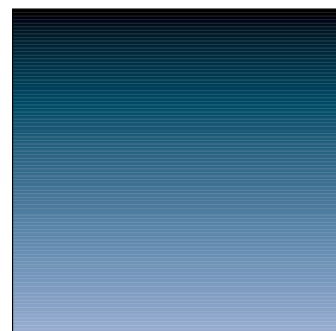
Nominal voltage:	AC 230 V ~, 50/60 Hz
Connected load:	50 – 420 W/VA 230 V incandescent lamps 230 V halogen lamps TRONIC transformers Mixed loads of the specified types
Number of satellite:	unlimited number of 1220 NE unlimited number of conventional push-buttons 10 satellites of 1223 NE Different types of satellites can be combined
Total length of satellite connecting cable:	max. 100 m
Suitable amplifiers:	247 EB, 246 EB, ULZ 1215 REG
Other features:	Lamp-saving soft start Short-circuit protection Overtemperature protection Overload protected



LV-Triac switch insert 40 – 400 W/VA	1244 NVSE
Spare fuse (T1.6 A H 250 V)	1.6 AT

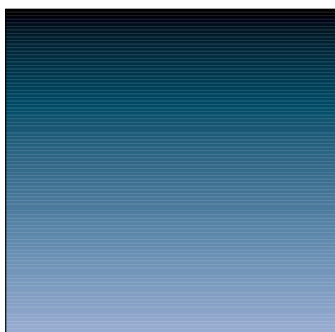
for soundless switching of various light sources and electrical consumers

Nominal voltage:	AC 230 V ~, 50/60 Hz
Connected load:	40 – 400 W/VA 230 V incandescent lamps 230 V halogen lamps Conventional transformers Impose at least 85 % of the rated load on conventional transformers Mixed loads of the specified types
Number of satellite:	unlimited number of 1220 NE unlimited number of conventional push-buttons 10 satellites of 1223 NE Different types of satellites can be combined
Total length of satellite connecting cable:	max. 100 m
Suitable amplifiers:	246 EB, ULZ 1215 REG
Other features:	Lamp-saving soft start Short-circuit protection Overtemperature protection



Light Management Satellite inserts

For more details see technical appendix.



Description	Ref.-no.
Satellite insert "2-wire"	1220 NE

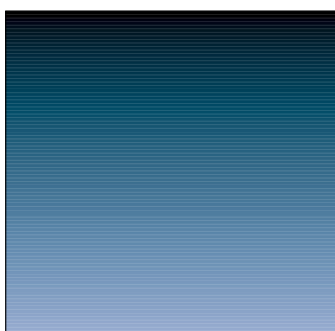
to extend installations with switching or dimming inserts.
The satellite insert can only be operated with the standard center plate ..1561.07.. and offers the same operation features as the master unit.

Nominal voltage: AC 230 V ~, 50/60 Hz

Total length of satellite connecting cable: max. 100 m

The satellite insert is suitable for following inserts:

Universal dimmer insert	1254 UDE
Standard dimmer insert	1225 SDE
Control unit 1 – 10 V	1240 STE
Universal relay switch insert	1201 URE
Universal relay switch insert	1201-1 URE
Universal relay switch insert	1202 URE
TRONIC switch insert	1254 TSE
LV-Triac switch insert	1244 NVSE



Satellite insert "3-wire"	1223 NE
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to extend installations with switching or dimming inserts.
The satellite insert can only be operated with automatic switches and the presence detector universal. N-conductor required

Nominal voltage: AC 230 V ~, 50/60 Hz

Total length of satellite connecting cable: max. 100 m

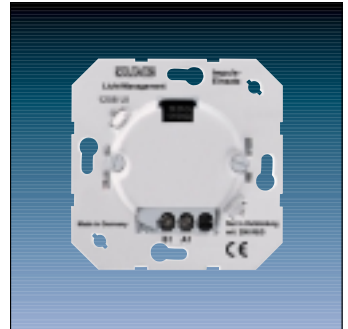
The satellite insert is suitable for following inserts:

Universal dimmer insert	1254 UDE
Standard dimmer insert	1225 SDE
Control unit 1 – 10 V	1240 STE
Universal relay switch insert	1201 URE
Universal relay switch insert	1201-1 URE
Universal relay switch insert	1202 URE
TRONIC switch insert	1254 TSE
LV-Triac switch insert	1244 NVSE

Staircase application Light Management

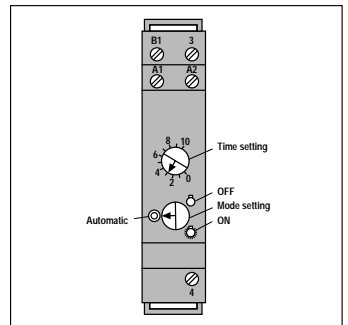
Description	Ref.-no.
Pulse unit	1208 UI

to realise a staircase automatic switch circuit
 upgrading of 3- or 4-wire staircase lighting systems with automatic switches.
 A staircase automatic switch circuit is consisting of pulse unit, center plate or
 automatic switch and power unit.
 Max. 8 pulse units.
 In connection with mechanical push-buttons, e.g. 531 U (not illuminated)
 only 6 pulse units are allowed. The pulse unit together with the
 power unit is the only admissible combination.



Power unit for DIN rail mounting	208 REG
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Nominal voltage: 230 V AC / 50 Hz
 Power consumption: approx. 1 W
 Width: 1 TE (= 17.5 mm)
 Nominal capacity: 16 A / 250 V AC
 Ind. load $\cos \varphi = 0,6$: 5 A (230 V AC)
 Duty ratio: 100 %
 Interference suppr.: acc. to EN 55014
 Connection terminal: max 4.0 mm²
 Breaking capacity: 1000 W incandescent lamps
 Fluorescent lamps: 1000 W lead-lag circuit
 700 W electronic ballast
 Temperature range: -5° C – +50° C



Light Management Center plates



For more details see technical appendix.

Description	Ref.-no.
Standard center plate	.. 1561.07 ..

for switch, touch dimmer and satellite inserts

Touch dimmer inserts: 1254 UDE, 1225 SDE, 1240 STE
 Switch inserts: 1201 URE, 1201-1 URE, 1202 URE, 1254 TSE, 1244 NVSE

Satellite inserts: 1220 NE

Function with dimming insert:

The standard center plate works on the basis of the two-area principle, i.e. there is one touch area each for the 'brighter' and 'darker' dimming directions.

Operation from the switched-off state:

Short touch: UPPER or LOWER touch area or full surface: ON
 Longer touch: UPPER touch area: Dimming to maximum brightness
 LOWER touch area: Switching on to minimum brightness

Operation from the switched-on state:

Short touch: UPPER or LOWER touch area or full surface: OFF
 Longer touch: UPPER touch area: Dimming to maximum
 LOWER touch area: Dimming to minimum
 Full-surface operation : Storing the current brightness

Function with switching insert:

Switching ON and OFF (toggling) is possible with UPPER -, LOWER touch area or full surface operation

Function with satellite insert:

Same function as center plate on master insert.

The standard center plate is available in all design ranges:

AS 500, ABAS 500

ivory	AS 1561.07
white	AS 1561.07 WW
ivory	ABAS 1561.07
white	ABAS 1561.07 WW

A 500, A plus

white	A 1561.07 WW
aluminium	A 1561.07 AL

CD 500, CD plus

ivory	CD 1561.07
white	CD 1561.07 WW
brown	CD 1561.07 BR
blue	CD 1561.07 BL
grey	CD 1561.07 GR
light grey	CD 1561.07 LG
red	CD 1561.07 RT
black	CD 1561.07 SW
gold-bronze	CD 1561.07 GB
platinum	CD 1561.07 PT

SL 500

white	SL 1561.07 WW
bronze	SL 1561.07 GB
black	SL 1561.07 SW

LS 990, Aluminium, Anthracite, Stainless Steel, Gold

ivory	LS 1561.07
white	LS 1561.07 WW
light grey	LS 1561.07 LG
stainless steel	ES 1561.07
aluminium	AL 1561.07
anthracite	AL 1561.07 AN
gold	AL 1561.07 GO

Center plates Light Management

Description	Ref.-no.
Radio center plate with radio receiver for manual or radio-controlled switching and dimming.	.. 1561.07 F ..

Touch dimmer inserts: 1254 UDE, 1225 SDE, 1240 STE
 Switch inserts: 1201 URE, 1201-1 URE, 1202 URE,
 1254 TSE, 1244 NVSE

Function with dimming insert:
 The radio center plate works on the basis of the two-area principle,
 i.e. there is one touch area each for the 'brighter' and 'darker' dimming directions.

Operation from the switched-off state:
 Short touch: UPPER or LOWER touch area or full surface: ON
 Longer touch: UPPER touch area: Dimming to maximum brightness
 LOWER touch area: Switching on to minimum brightness

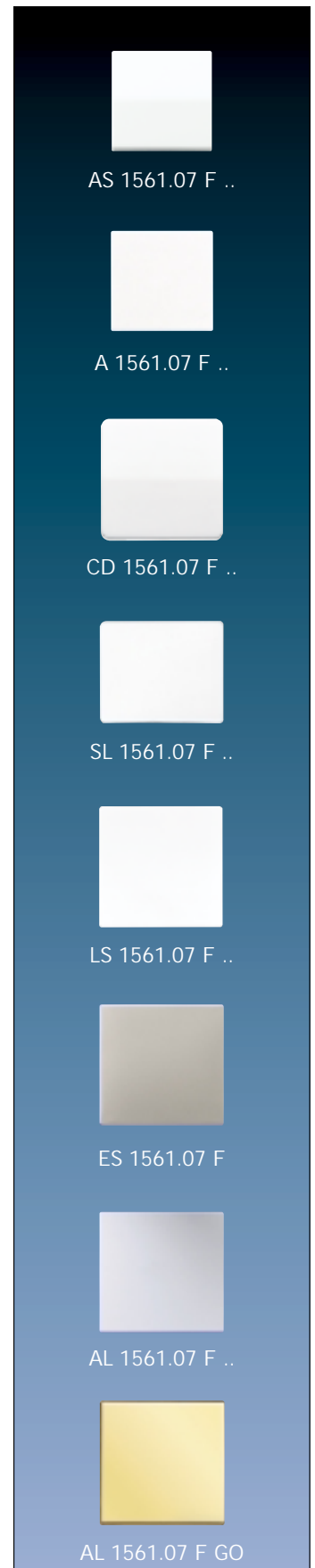
Operation from the switched-on state:
 Short touch: UPPER or LOWER touch area or full surface: OFF
 Longer touch: UPPER touch area: Dimming to maximum
 LOWER touch area: Dimming to minimum
 Full-surface operation: Storing the current brightness

Function with switching insert:
 Switching ON and OFF (toggling) is possible with UPPER -, LOWER touch area or full surface operation

The radio center plate is available in all design ranges:

AS 500, ABAS 500

ivory	AS 1561.07 F
white	AS 1561.07 F WW
ivory	ABAS 1561.07 F
white	ABAS 1561.07 F WW
A 500, A plus	
white	A 1561.07 F WW
aluminium	A 1561.07 F AL
CD 500, CD plus	
ivory	CD 1561.07 F
white	CD 1561.07 F WW
brown	CD 1561.07 F BR
blue	CD 1561.07 F BL
grey	CD 1561.07 F GR
light grey	CD 1561.07 F LG
red	CD 1561.07 F RT
black	CD 1561.07 F SW
gold-bronze	CD 1561.07 F GB
platinum	CD 1561.07 F PT
SL 500	
white	SL 1561.07 F WW
bronze	SL 1561.07 F GB
black	SL 1561.07 F SW
LS 990, Aluminium, Anthracite, Stainless Steel, Gold	
ivory	LS 1561.07 F
white	LS 1561.07 F WW
light grey	LS 1561.07 F LG
stainless steel	ES 1561.07 F
aluminium	AL 1561.07 F
anthracite	AL 1561.07 F AN
gold	AL 1561.07 F GO



Light Management Center plates

For more details see technical appendix.



Description	Ref.-no.
Universal center plate for switch and touch dimmer inserts	.. 1561.07 U ..

Touch dimmer inserts: 1254 UDE, 1225 SDE, 1240 STE
Switch inserts: 1201 URE, 1201-1 URE, 1254 TSE, 1244 NVSE

The radio center plate is available in the design ranges:

AS 500	
ivory	AS 1561.07 U
white	AS 1561.07 U WW

A 500, A plus	
white	A 1561.07 U WW
aluminium	A 1561.07 U AL

CD 500, CD plus	
ivory	CD 1561.07 U
white	CD 1561.07 U WW
brown	CD 1561.07 U BR
blue	CD 1561.07 U BL
grey	CD 1561.07 U GR
light grey	CD 1561.07 U LG
red	CD 1561.07 U RT
black	CD 1561.07 U SW
gold-bronze	CD 1561.07 U GB
platinum	CD 1561.07 U PT

SL 500	
white	SL 1561.07 U WW
bronze	SL 1561.07 U GB
black	SL 1561.07 U SW

LS 990, Aluminium, Anthracite, Stainless Steel, Gold	
ivory	LS 1561.07 U
white	LS 1561.07 U WW
light grey	LS 1561.07 U LG
stainless steel	ES 1561.07 U
aluminium	AL 1561.07 F
anthracite	AL 1561.07 U AN
gold	AL 1561.07 U GO

Universal center plate

Functional principle

The universal center plate is used for manual or automatic switching of lamps in combination with a switching or dimming insert. Center plates and inserts of the Light Management can be combined to realize the desired application. Four different modes of operation can be selected with a switch.

1. Timer switch

The lights are switched on for a predefined span of time. The operation areas are staircases, hotel corridors, outside lightings or other rooms where light is required only for certain time. In combination with a dimmer insert the light can be dimmed down to a certain brightness value after the turn-off delay. In combination with a switching insert the flashing illumination indicates the end of the turn-off delay.

2. Twilight switch

In this mode of operation, the light is switched on manually or automatically and off only automatically. The light cannot be switched off manually. If the ambient brightness drops below the preset brightness threshold, the universal center plate switches the light on. If the preset brightness threshold is exceeded by about the double, the light is switched off again.

3. Memory switch (simulation of presence)

In this mode of operation, the lighting is switched on or off manually or automatically.

This mode has two basic settings:

Record: manual operation, switching times are stored

Replay: automatic switching at the stored times

In the "Record" settings the lighting can be switched on and off manually.

Over a period of seven days, up to 120 switching events are stored. If more switch actuations are performed, the oldest ones are overwritten. A switching state (on or off) must have a length of at least 20 seconds.

In the "Replay" settings the lighting is switched on or off automatically at the stored times.

Manual operation is still possible. These switching times are not stored.

Manual operation does not interfere with the "Replay" function.

If no switching times or only an insufficient number of switching times are stored, the device performs random switching. Random switching is performed until the time to the next switch-on time stored is less than 48 hours or less than eight hours to the next switch-off time stored.

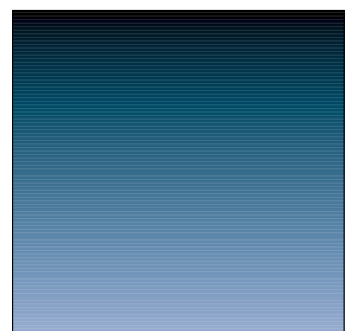
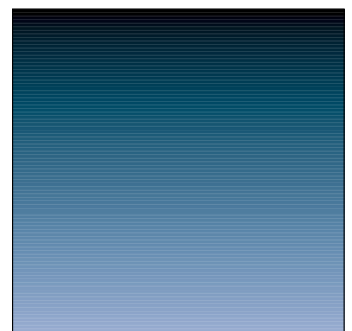
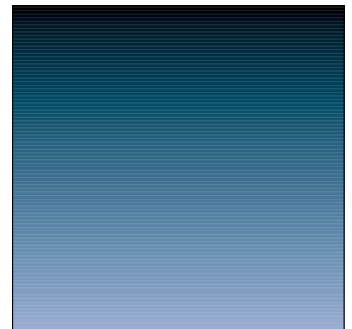
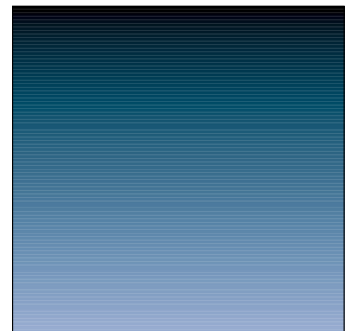
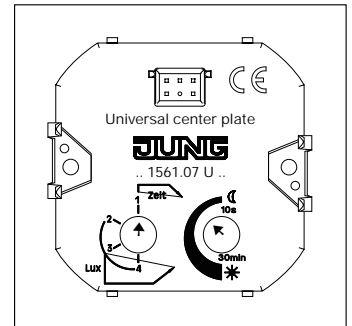
4. Random switch

The lights are switched on randomly during darkness (simulation of presence).

In combination with a "3-wire" extension insert and a presence detector or an automatic switch, the light can also be switched depending on movement (not in the twilight switch mode).

Adjusting the mode of operation

The universal center plate has four modes of operation which are selected with a red rotary switch at the back of the universal center plate. Changing the mode of operation deletes all stored settings (switching times, memory values, basic brightness).



Light Management Center plates

For more details see technical appendix.



Description	Ref.-no.
Automatic switch 180° for switch and touch dimmer inserts	
Touch dimmer inserts:	1254 UDE, 1225 SDE, 1240 STE
Switch inserts:	1201 URE, 1201-1 URE, 1202 URE, 1254 TSE, 1244 NVSE
Satellite inserts:	1223 NE
Staircase insert:	1208 UI
The automatic switch is available for all design ranges:	
AS 500, A 500, A plus (available colours: ivory, white, aluminium)	
Automatic switch standard, 1.1 m - IP 20	A 1180 ..
Automatic switch standard, 2.2 m - IP 20	A 1280 ..
Automatic switch universal, 1.1 m - IP 20	A 1180-1 ..
Automatic switch universal, 2.2 m - IP 20	A 1280-1 ..
Automatic switch standard, 1.1 m - IP 44	A 1180 WU ..
Automatic switch standard, 2.2 m - IP 44	A 1280 WU ..
Automatic switch universal, 1.1 m - IP 44	A 1180-1 WU ..
Automatic switch universal, 2.2 m - IP 44	A 1280-1 WU ..
CD 500, CD plus (available colours: ivory, white, blue, brown, grey, light grey, red, black, gold-bronze, platinum)	
Automatic switch standard, 1.1 m - IP 20	CD 1180 ..
Automatic switch standard, 2.2 m - IP 20	CD 1280 ..
Automatic switch universal, 1.1 m - IP 20	CD 1180-1 ..
Automatic switch universal, 2.2 m - IP 20	CD 1280-1 ..
Automatic switch standard, 1.1 m - IP 44	CD 1180 WU ..
Automatic switch standard, 2.2 m - IP 44	CD 1280 WU ..
Automatic switch universal, 1.1 m - IP 44	CD 1180-1 WU ..
Automatic switch universal, 2.2 m - IP 44	CD 1280-1 WU ..
SL 500 (available colours: white, black, bronze)	
Automatic switch standard, 1.1 m - IP 20	SL 1180 ..
Automatic switch standard, 2.2 m - IP 20	SL 1280 ..
Automatic switch universal, 1.1 m - IP 20	SL 1180-1 ..
Automatic switch universal, 2.2 m - IP 20	SL 1280-1 ..
LS 990, LS plus (available colours: ivory, white, light grey)	
Automatic switch standard, 1.1 m - IP 20	LS 1180 ..
Automatic switch standard, 2.2 m - IP 20	LS 1280 ..
Automatic switch universal, 1.1 m - IP 20	LS 1180-1 ..
Automatic switch universal, 2.2 m - IP 20	LS 1280-1 ..
Metal versions, LS plus (Stainless Steel, Aluminium, Anthracite, Gold)	
Automatic switch standard, 1.1 m - IP 20	AL 1180 ..
Automatic switch standard, 2.2 m - IP 20	AL 1280 ..
Automatic switch universal, 1.1 m - IP 20	AL 1180-1 ..
Automatic switch universal, 2.2 m - IP 20	AL 1280-1 ..
Automatic switch standard, 1.1 m - IP 20	ES 1180
Automatic switch standard, 2.2 m - IP 20	ES 1280
Automatic switch universal, 1.1 m - IP 20	ES 1180-1
Automatic switch universal, 2.2 m - IP 20	ES 1280-1
Automatic switch standard, 1.1 m - IP 44	ES 1180 WU
Automatic switch standard, 2.2 m - IP 44	ES 1280 WU
Automatic switch universal, 1.1 m - IP 44	ES 1180-1 WU
Automatic switch universal, 2.2 m - IP 44	ES 1280-1 WU

Function:

Automatic switches respond to movement caused by human beings, animals or objects and initiate switching operations.

Automatic switches remain operative as long as movements are detected; otherwise they will be switched off after elapse of a time delay.

Note: It must be avoided that direct sunlight meets the lens system, the sensor may be destroyed by the high thermal energy.

Inserts to be installed at a height of 1.10 m or 2.20 m depending on the type of lens involved.

Lens for 1.10 m installation height (pictures ① and ②)

Size of detection range: 10 x 12 m

Details refer to an installation height of 1.10 m.

The rated detection range may vary as a function of different installation heights.

This lens is not suitable for exterior applications.

For moisture-proof applications install lens of water-proof design (type of protection IP 44).

Lens for 2.20 m installation height (pictures ③ and ④)

Detection range in case of 2.20 m installation height: 12 x 12 m

Details refer to an installation height of 2.20 m.

The rated detection range may vary as a function of different installation heights.

For moisture-proof applications install lens of water-proof design (type of protection IP 44).

Lenses for installation height of 2.20 m can be mounted also at 1.10 m (picture ⑤)

Technical data:

Detection angle:	180°
Rated voltage:	Power supply via insert
Type of protection:	IP 20 / IP 44 (depending on design)

Lens for 1.10 m installation height

Nominal range, front:	10 m
Nominal range, lateral:	2 x 6 m
Installation height for nominal range:	1.10 m
Number of lenses/lens levels:	18 / 2

Lens for 2.20 m installation height

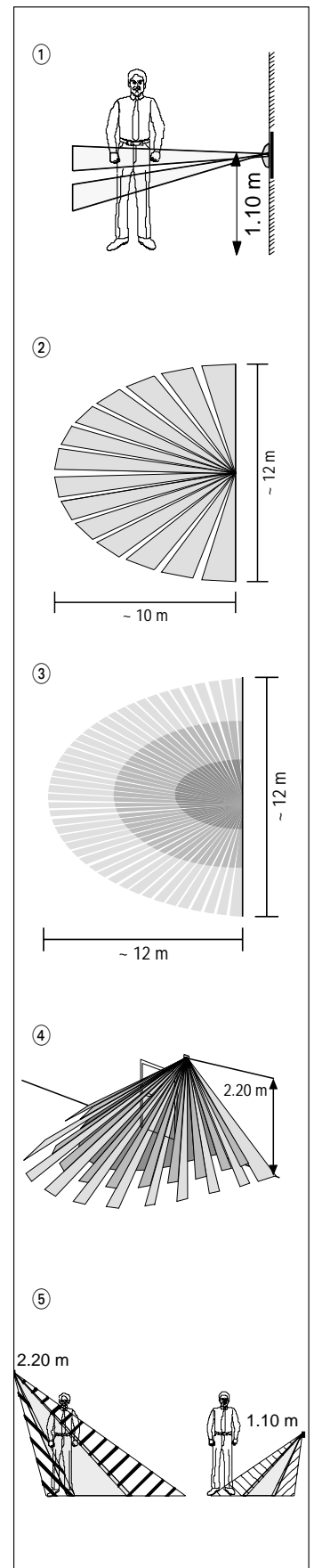
Nominal range, front:	12 m
Nominal range, lateral:	2 x 6 m
Installation height for nominal range:	2.20 m
Number of lenses/lens levels:	26 / 3

Standard version

Startup time:	approx. 2 min
Brightness sensor:	approx. 20 Lux

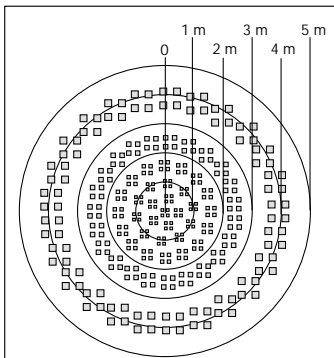
Universal version

Start-up time:	approx. 10 sec – 30 min
Threshold value of brightness sensor:	approx. 3 – 80 Lux + daylight operation
Sensitivity:	approx. 100 % – 20 %

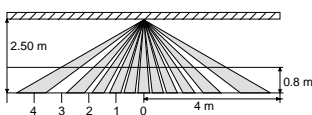


Light Management

For more details see technical appendix.



The presence detector has a detection area of 360°. The PIR sensor technology operates with 6 detection planes and 80 lenses. The range is approx. 5 m on average at desk height (approx. 80 cm).



At mounting heights above 2.5 m, the detection area is increased. The monitoring density and sensitivity are simultaneously reduced.

Description	Ref.-no.
Presence detector universal	PMU 360 WW

The presence detector serves to save energy by switching off unused light sources.

The presence detector compact is therefore used to monitor internal rooms for the presence of persons. It has to be installed under the ceiling of the room from where it monitors the work surface below.

The detector works with a passive infrared sensor (PIR sensor) and responds to thermal movement triggered by persons, animals or objects. When movements are detected below a presettable brightness threshold, the detector switches on an electrical consumer. The device remains on, as long as movements are detected.

The presence detector is used in combination with Light Management inserts.

The selection of the inserts depends on the type of load. To enlarge the field of detection, a presence detector is used in combination with an "3-wire" extension insert and connected to the main unit. The evaluation of brightness and the presetting of the turn-off delay are effected exclusively in the main unit.

Combination with a switching insert

Universal relay switch insert	1201 URE
Universal relay switch insert 2-gang	1202 URE
TRONIC switch insert	1254 TSE
LV-Triac switch insert	1244 NVSE

The lighting is always switched on with maximum brightness.

The lighting is switched off in either of the two following cases.

- No movement is being detected anymore. The lighting is switched off after the preset turn-off delay has elapsed.
- The brightness on the monitored surface exceeds durably at least twice the preset value (e.g. due to more daylight), the presence detector switches off after 10 minutes at the latest even if movements continue. Exceeding of the preset brightness is signalled by flashing of the LED.

Combination with a dimming insert

Universal dimmer insert	1254 UDE
Standard dimmer insert	1225 SDE
Control unit 1 – 10 V	1240 STE

The lighting is at first switched on with maximum brightness. The lighting is then dimmed down to such a level that the brightness is kept constant at the reference value preset on the presence detector. This means that the lighting is dimmed down or switched off with increasing daylight and switched on or increased in intensity with decreasing daylight.

The dimming characteristic is designed in such a way that the user is virtually not aware of the light intensity regulation.

The lighting is switched off in either of the two following cases:

- If no movement is detected anymore and if the preset turn-off delay has elapsed, the lighting is dimmed down depending on the actual dimming level within maximum 1 minute to the lowest dimming position. If no further movements are detected within the next 5 minutes, the light is switched off completely.
- The presence detector has reduced the lighting to the lowest dimming position. The brightness on the monitored surface nevertheless exceeds the preset reference value by at least 1.5 times (e.g. due to more daylight). The lighting is now switched off after 10 minutes at the latest even if movements continue. Exceeding of the preset brightness is signalled by flashing of the LED.

Technical data

Angle of detection:	360°
Nominal field of detection at desktop level:	Ø approx. 5 m
Nominal field of detection at floor level:	Ø approx. 8 m
Height of installation for nominal field of detection:	approx. 2.5 m
The nominal field of detection varies with the height of installation.	
Number of lenses/levels of detection:	80 / 6
Nominal voltage:	230 V AC, 50 Hz
Shut-off delay:	1 sec. in the test mode; approx. 10 sec. – 30 min.
Brightness:	approx. 10 – 1000 lux

Number of extensions connected to flushmounting insert

"2-wire" extension insert:	unlimited
Mechanical push-button:	unlimited
Illuminated push-buttons must have a separate N terminal.	
"3-wire" extension insert (1223 NE) with:	
– Universal dimmer insert:	max. 5
– other inserts:	max. 10
Total length of extension connection cable:	max. 100 m

Description	Ref.-no.
Radio-controlled presence detector	FPM 360 WW

Dimensions: diameter 103 mm – height 42 mm

The battery-operated, radio-controlled presence detector enables optimum energy savings by presence-controlled lighting.

It operates with a passive infrared sensor (PIR) and reacts to thermal movements triggered by people, animals or objects. It sends a radio telegram that can be evaluated by all radio-controlled dimming and switch actuators.

It can also control the heating, ventilation and air conditioning systems, independent of presence or lighting, in connection with the 2-channel relay insert with floating contacts.

If the brightness level falls below an adjustable setpoint and on detection of movement, the presence detector switches on the taught-in radio-controlled switch actuator.

This device carries out lighting control dependent on the brightness setpoint value.

The lighting controller remains switched on while the presence detector can sense movement.

If no further movements is detected, it is switched off once an adjustable overshoot period has elapsed.

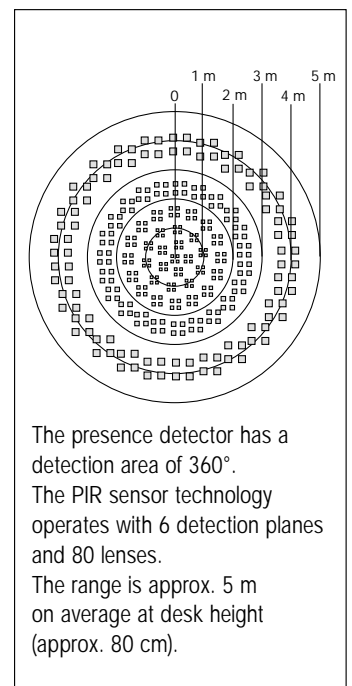
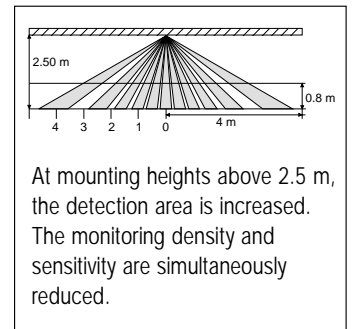
It is also switched off if an upper brightness limit is exceeded. To monitor larger areas, several presence detectors can be used together in one system. In this case, one presence detector acts as the master while all other presence detectors are used as slaves.

Technical data

Nominal voltage:	6 V
Batteries:	4 x 1.5 V micro RL03 (AAA) alkaline (not included with supply)

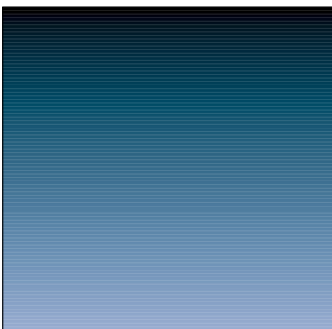
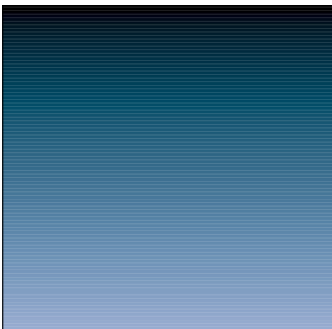
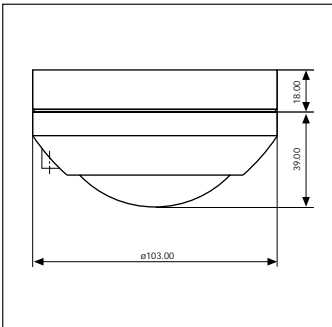
Note: Do not use zinc carbon batteries (R03).

Transmission frequency:	433.42 MHz
Modulation:	AKS
Transmission range:	max. 100 m in free field
Radio codes:	> 1 billion
Detection angle:	approx. 360°
Nominal range:	
Desk height	approx. Ø 5 m
Floor	approx. Ø 8 m
Mounting height for nominal range:	2.5 m
Overshoot period:	approx. 2 min to 1 hour
Brightness:	approx. 3 to 2000 lux
Temperature range:	0° C to +45° C
Type of protection:	IP 20



Light Management

For more details see technical appendix.



Description	Ref.-no.
Presence detector compact	PMK 360 WW

with integrated relay switch,
no switch or touch dimmer insert required.

The presence detector serves to save energy by switching off unused light sources. The device is therefore used to monitor internal rooms for the presence of persons. It has to be installed under the ceiling of the room from where it monitors the work surface below. The detector works with a passive infrared sensor (PIR sensor) and responds to thermal movement triggered by persons, animals or objects. When movements are detected below a presettable brightness threshold, the detector switches on an electrical consumer. The device remains on, as long as movements are detected. When no movements are detected anymore, the presence detector switches off after a preset shut-off delay. If the brightness of the surface under supervision is permanently at least twice as high as the preset brightness (e.g. due to supplementary daylight), the test LED flashes and the presence detector switches off after 10 minutes at the latest even if movements are still being detected.

Technical data

Angle of detection:	360°
Nominal field of detection at desktop level:	Ø approx. 5 m
Nominal field of detection at floor level:	Ø approx. 8 m
Height of installation for nominal field of detection:	approx. 2.5 m
The nominal field of detection varies with the height of installation.	
Number of lenses/levels of detection:	80 / 6
Nominal voltage:	230 V AC, 50 Hz
Shut-off delay:	1 sec. in the test mode; approx. 10 sec. – 30 min.
Brightness:	approx. 10 – 1000 lux
Admissible loads	
Incandescent lamps:	1000 W
230 V halogen lamps:	1000 W
Tronic-transformer:	750 W
Conventional transformer:	750 W
Fluorescent lamps	
– not compensated:	500 VA
– parallel compensated:	400 VA

If large areas are to be monitored, it is possible to use up to five presence detectors together in the same system. In conjunction with energy saving lamps please observe high switch on currents.

Description	Ref.-no.
-------------	----------

Electronic time delay switch
complete device,
no switch insert required.

This device is a system component consisting of cover and insert to be installed into a 60 mm flush box (recommendation: deep box) .The device facilitates the programmed, time-controlled switching of various lighting fittings. Due to the use of an efficient relay with floating contacts, consumers of up to a maximum of 1000 W can be switched. Via two separate extension inputs, the consumer can be switched by a push-button (mechanical 2-gang push-button insert, 2 make contacts).

Nominal voltage:	AC 230 V ~, 50 Hz neutral conductor required	
Connected load:	230 V incandescent lamps	1000 W
	230 V halogen lamps	1000 W
	TRONIC transformers	750 W
	conventional transformers	750 VA
	Impose at least 85 % of the rated load on conventional transformers	
	Fluorescent lamps, non compensated	500 VA
	parallel compensated	400 VA
	lead-lag circuit	1000 VA
	Switching time interval :	1 minute min.
Connecting terminals :	Screw terminals for 2.5 mm ² max. or 2 x 1.5 mm ²	

The electronic time delay switch is available for the design ranges:

AS 500, A 500, A plus

ivory	A 5201 T
white	A 5201 T WW
aluminium	A 5201 T AL

CD 500, CD plus

ivory	CD 5201 T
white	CD 5201 T WW
brown	CD 5201 T BR
blue	CD 5201 T BL
grey	CD 5201 T GR
light grey	CD 5201 T LG
red	CD 5201 T RT
black	CD 5201 T SW
gold-bronze	CD 5201 T GB
platinum	CD 5201 T PT

SL 500

white	SL 5201 T WW
bronze	SL 5201 T GB
black	SL 5201 T SW

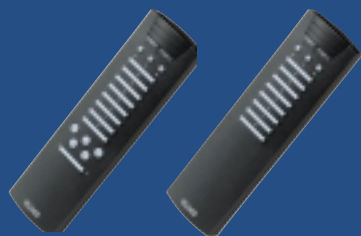
LS 990, Aluminium, Anthracite, Stainless Steel, Gold

ivory	LS 5201 T
white	LS 5201 T WW
light grey	LS 5201 T LG
stainless steel	ES 5201 T
aluminium	AL 5201 T
anthracite	AL 5201 T AN
gold	AL 5201 T GO



Radio Management system overview

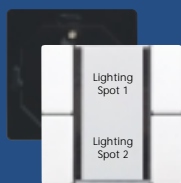
Transmitter



Radio hand held transmitter



Radio hand held transmitter „Mini“



“Flat” wall-mounted radio transmitter



Flush mounted radio transmitter with 2-gang push-button sensor



“Flat” wall-mounted radio automatic switch



Radio timer thermostat



Radio multifunction transmitter



Universal radio transmitter



Radio presence detector



Radio observer 180

Radio Management Controller



The JUNG Radio Management system operates at approx. 433 MHz within the limited ISM frequency band that is enabled for industrial, scientific and medical applications. The range as well as the ability to penetrate matter are very good in this area of frequency. They even penetrate walls and ceilings and can therefore relay signals throughout the building. The JUNG Radio Management system operates with the minimum level of radiated power. There is no danger of negative effects on the human body as a result of radiation. The system is divided into the three device groups of transmitter, repeater and receiver.

Repeater



Basic version



Repeater in plug adapter housing with SCHUKO socket

Receiver

Lighting control



Radio-controlled actuator, switch or push-button



Radio-controlled blinds actuator



Radio-controlled universal in-line dimmer

DIN rail devices



Master receiver



Radio antenna



Radio universal dimming actuator



Radio-controlled push-button controller
Radio-controlled universal dimmer



Center plate with radio receiver



Radio-controlled plug adapter switch/dimmer

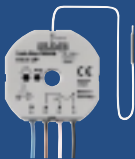


Radio switch actuator



Radio push-button controller

Blinds control



Radio-controlled blinds actuator

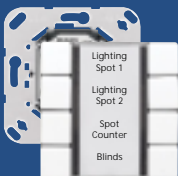


Center plate for motor control inserts



Radio blinds actuator

KNX/EIB



Radio-controlled push-button, 4-gang for bus coupling unit



Radio-controlled EIB converter

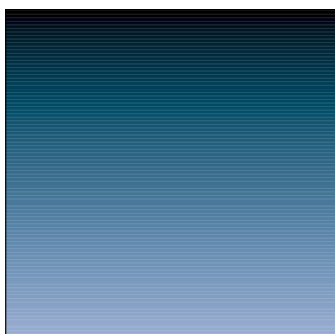
Temperature Management



Radio-controlled valve drive

Radio Management Transmitter

For more details see technical appendix.



Radio hand-held transmitter

The hand-held transmitter sends a radio telegram after a push-button operation.

This telegram is understood and evaluated by all the receivers of the Radio Management system.

There are three groups available (A, B, C), each with 8 channel push-buttons (on/off – up/down – dimming) i.e. 24 radio receivers can be operated individually.

Central control by ALL ON / ALL OFF buttons.

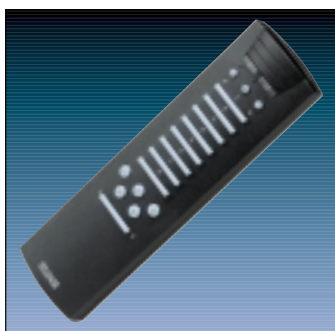
Transmission range: max. 100 m (free field).

The hand-held transmitter is operated with 4 x micro (AAA), alkaline (LR03) batteries (not included).

Battery life: approx. 3 years.



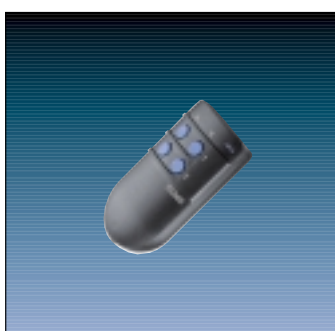
Description	Ref.-no.
Radio hand-held transmitter	
Standard version	48 FH
colour: anthracite	



Comfort version	48 KFH
additional function: 5 light scenes, master dimming	
colour: anthracite	



Wall-fixing	
for 48 FH / 48 KFH	WH 48
colour: anthracite	



Mini version	42 FH
The "Mini" hand-held transmitter controls 2 channels (On/Off, Up/Down and dimming function)	
colour: anthracite	
Battery operation with one lithium button cell (CR 2032) which is supplied with the device.	
Transmission range: max. 30 m (free field)	
Battery life: approx. 5 years	

For technical details see appendix.

Description	Ref.-no.
Universal radio transmitter mains operated	FUS 22 UP

The universal radio transmitter can be used to extend an existing electrical installation by the possibility of transmitting 230 V control commands by radio. The transmitter can be operated for switching, dimming or blind/shutter control functions. When mains voltage (230 V ~) is applied to inputs (E1, E2), the universal radio transmitter transmits radio telegrams which are evaluated by all radio-controlled receivers. For selection and indication of the mode of operation, the device is equipped with a push-button and an LED.

Mode A:	2-channel dimming, toggling (E1 and E2)
Mode B:	2-channel switching (E1 and E2)
Mode C:	1-channel dimming (E1/E2)
Mode D:	1-channel blind/shutter (E1/E2)

Technical data	
Power supply:	AC 230 V ~
Transmit frequency:	433.42 MHz, ASK
Transmitting range:	appr. 100 m (in free field)
Operating temperature:	ca. -20° C ... +55° C
Protection level:	IP 20
Dimension (Ø x H):	52 mm x 23 mm

Radio multifunction transmitter mains operated	FMS 4 UP
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The radio multifunction transmitter is a battery-operated four-channel radio transmitter for the extension of an existing radio control installation.

At its four inputs the multifunction radio transmitter detects switching states of volt-free installation switches or push-buttons.

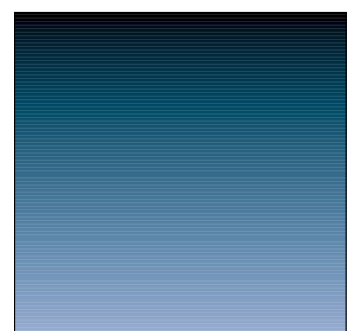
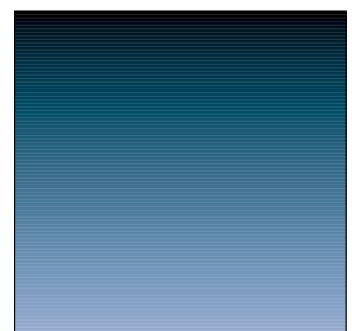
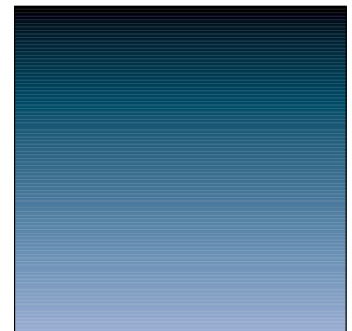
It transmits radio telegrams which can be decoded by all radio control receivers.

A 5-digit dipswitch facilitates the selection of eight different modes of operation.

A red LED indicates the transmission of radio telegrams (slow unsymmetrical blinking, 4 Hz) or an empty battery „LowBatt“ (quick symmetrical blinking, 10 Hz).

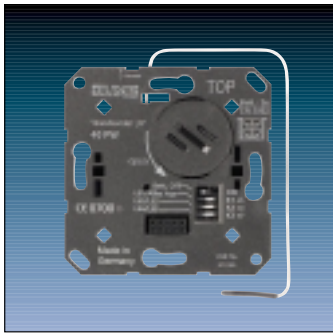
The multifunction transmitter is powered by a lithium button cell (CR 2032) which is supplied with the device.

Technical data	
Power supply:	3 VDC
Battery:	1 x CR 2032 lithium cell
Length of connecting lines:	approx. 290 mm
Transmit frequency:	433.42 MHz, ASK
Transmitting range:	100 m max. (in free field)
Protection level:	IP 20
Temperature range:	approx. -20° C to +55° C
Dimensions (L x W x H):	45 x 40 x 10 mm



Radio Management Transmitter

For technical details see appendix.



Description	Ref.-no.
Flush-mounted radio transmitter	40 FW

Installation into standard wall box or with surface cap.

Range: 100 m (free field).

Battery-operated with two lithium button cells (CR2032) which are included.

Battery life: approx. 3 years.

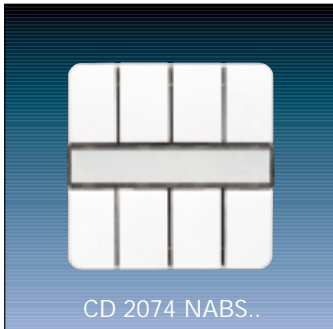
The wall-mounted transmitter is operated in combination with standard push-button sensors (1-gang, 2-gang or 4-gang).

After the push-button sensor is pressed, the transmitter sends a radio telegram which is understood and evaluated by all the receivers of the Radio Management system.

Possible modes: on/off, dimming, light scene, central off (to be selected by microswitches).

The number of radio channels available depends on the sensor control used.

Two opposite keys are assigned to one channel.



Push-button sensor "Standard"
for flush-mounted radio transmitter 40 FW

for ranges CD 500 + CD plus

1-gang (1-channel transmission)	CD 2071 NABS..
---------------------------------	----------------

2-gang (2-channel transmission)	CD 2072 NABS..
---------------------------------	----------------

4-gang (4-channel transmission)	CD 2074 NABS..
---------------------------------	----------------

available colours: ivory, white (..WW), blue (..BL), brown (..BR), grey (..GR), light grey (..LG), red (..RT), black (..SW), gold bronze (..GB), platinum (..PT)



for ranges AS 500, A 500 + A plus

1-gang (1-channel transmission)	A 2071 NABS..
---------------------------------	---------------

2-gang (2-channel transmission)	A 2072 NABS..
---------------------------------	---------------

4-gang (4-channel transmission)	A 2074 NABS..
---------------------------------	---------------

available colours: ivory, white (..WW), aluminium (..AL)



for ranges LS 990 + LS plus

1-gang (1-channel transmission)	LS 2071 NABS..
---------------------------------	----------------

2-gang (2-channel transmission)	LS 2072 NABS..
---------------------------------	----------------

4-gang (4-channel transmission)	LS 2074 NABS..
---------------------------------	----------------

available colours: ivory, white (..WW), light grey (..LG), black (..SW)



for ranges Stainless Steel + LS plus

1-gang (1-channel transmission)	ES 2071 NABS
---------------------------------	--------------

2-gang (2-channel transmission)	ES 2072 NABS
---------------------------------	--------------

4-gang (4-channel transmission)	ES 2074 NABS
---------------------------------	--------------

for ranges Aluminium + LS plus

1-gang (1-channel transmission)	AL 2071 NABS
---------------------------------	--------------

2-gang (2-channel transmission)	AL 2072 NABS
---------------------------------	--------------

4-gang (4-channel transmission)	AL 2074 NABS
---------------------------------	--------------

for ranges Anthracite + LS plus

1-gang (1-channel transmission)	AL 2071 NABS AN
---------------------------------	-----------------

2-gang (2-channel transmission)	AL 2072 NABS AN
---------------------------------	-----------------

4-gang (4-channel transmission)	AL 2074 NABS AN
---------------------------------	-----------------

for ranges Gold + LS plus

1-gang (1-channel transmission)	AL 2071 NABS GO
---------------------------------	-----------------

2-gang (2-channel transmission)	AL 2072 NABS GO
---------------------------------	-----------------

4-gang (4-channel transmission)	AL 2074 NABS GO
---------------------------------	-----------------

"Flat" Wall-mounted radio transmitter

sends a radio telegram after a push-button sensor is pressed.

The telegram is understood and evaluated by all the radio receivers of the Radio Management system.

Possible modes: on/off, dimming, light mood, central off (to be selected by microswitches).

Range: approx. 30 m (free field).

Battery operation with two lithium button cells (CR 2016) which are included. Battery life: approx. 3 years.

Installation is carried out with the appropriate frame directly onto a level surface (plaster, wood, glass, mirror or flush box) using adhesive or screws. The number of radio channels available depends on the sensor control used. Two opposite keys are assigned to one channel.

Description	Ref.-no.
-------------	----------

**"Flat" Wall-mounted radio transmitter
for ranges CD 500 + CD plus**

1-channel	ivory	CD 41 F
	white	CD 41 F WW
2-channel	ivory	CD 42 F
	white	CD 42 F WW
4-channel	ivory	CD 44 F
	white	CD 44 F WW

for ranges Stainless Steel + LS plus

1-channel	stainless steel	ES 41 F
2-channel	stainless steel	ES 42 F
4-channel	stainless steel	ES 44 F

for ranges Aluminium + LS plus

1-channel	aluminium (lacquered)	AL 41 F
2-channel	aluminium (lacquered)	AL 42 F
4-channel	aluminium (lacquered)	AL 44 F

for ranges Anthracite + LS plus

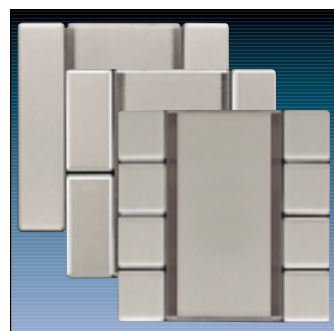
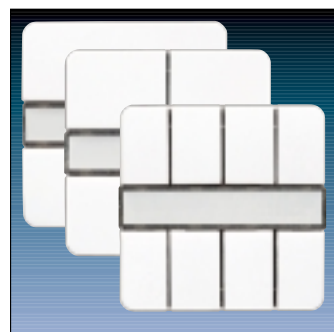
1-channel	anthracite (lacquered)	AL 41 F AN
2-channel	anthracite (lacquered)	AL 42 F AN
4-channel	anthracite (lacquered)	AL 44 F AN

for ranges Gold + LS plus

1-channel	gold (lacquered)	AL 41 F GO
2-channel	gold (lacquered)	AL 42 F GO
4-channel	gold (lacquered)	AL 44 F GO

for ranges LS 990 + LS plus

1-channel	ivory	LS 41 F
	white	LS 41 F WW
	light grey	LS 41 F LG
2-channel	ivory	LS 42 F
	white	LS 42 F WW
	light grey	LS 42 F LG
4-channel	ivory	LS 44 F
	white	LS 44 F WW
	light grey	LS 44 F LG



Radio Management Transmitter

For technical details see appendix.



Description	Ref.-no.
"Flat" radio automatic switch 180° for radio-controlled switching lens type 1.1 m	
for ranges A 500 / AS 500 + A plus	
ivory	A FAS 180
white	A FAS 180 WW



for ranges CD 500 + CD plus	
ivory	CD FAS 180
white	CD FAS 180 WW
Other colours on request	



for ranges LS 990 + LS plus	
ivory	LS FAS 180
white	LS FAS 180 WW
Other LS 990 colours on request	



for ranges Aluminium/Anthracite + LS plus	
aluminium	AL FAS 180
anthracite	AL FAS 180 AN



for ranges Stainless Steel + LS plus	
stainless steel	ES FAS 180

Function:

The "flat" radio automatic switch responds to thermal movements caused by persons, animals or objects and initiates switching operations.

The radio automatic switch transmits a radio data telegram which is received and evaluated by all switching and dimming actuators of the Radio Management system (exception: shutter actuators) and the radio-controlled performance unit.

When using radio switching and dimming actuators, observe the switch on time of 1 min. preset in the actuator (see operating instructions).

Battery

The radio automatic switch is operated with a lithium button cell (CR 2450) (supplied with the insert).

Fitting

Stick or screw the bottom plate of the radio automatic switch directly onto a level surface (e.g. plastered surface, wood, glass, mirror or switch box).

The "TOP/OBEN" mark must be on top.

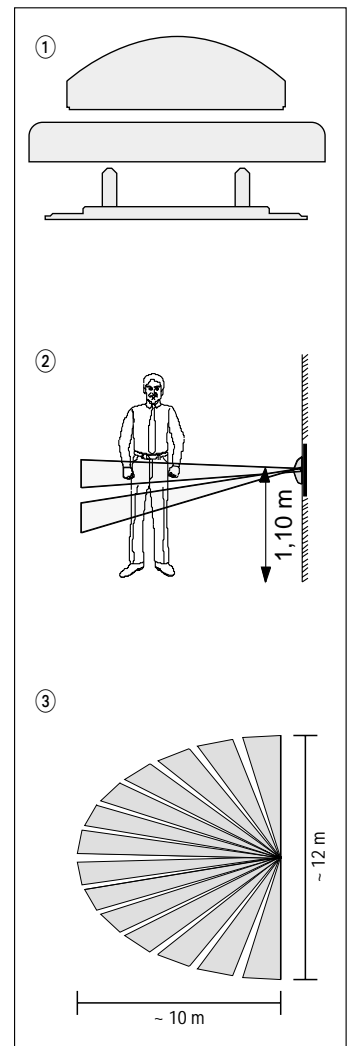
The radio automatic switch is plugged onto the bottom plate together with frame as shown in fig. ①. Tighten the screws only to such a degree that the frame can no longer be moved.

Note: Do not mount in direct sunlight!

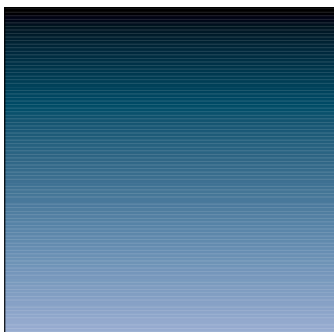
The rated detection range may vary as a function of different installation heights. This lens is not suitable for exterior applications.

Technical data

Detection angle:	180°
Type of protection:	IP 20
Nominal range, front:	10 m
Nominal range, lateral:	2 x 6 m
Installation height for nominal range:	1.10 m
Battery:	3 V DC (CR 2450)
Frequency:	433.42 MHz
Lense levels:	2
Lense amount:	18



Radio Management Repeater



By the use of repeater, the radius of action of the Radio Management system is highly extended. The repeater receives radio telegrams from a programmed radio transmitter and repeats them. The telegram is received and evaluated by a radio receiver.

Cascading of repeaters is not possible, i. e. telegrams sent by a repeater are not repeated by another repeater. Several repeaters can be installed within one system, for example, two repeaters transmit to a radio actuator.

Install the repeater in the middle of the desired radio link, if possible.

Up to 60 radio transmitters can be taught into one repeater.



Description	Ref.-no.
Repeater	100 FR

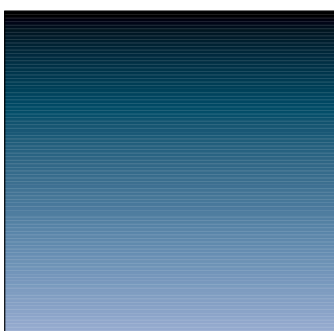
Technical data	
Power supply:	230 V ~, 50 Hz
Temperature range:	-20° C to +55 °C
Type of protection:	IP 20
Length of the mains cable:	1.5 m
Dimensions (W x H x D):	110 x 94 x 38 mm



Repeater	100 FRSG
----------	----------

in plug adapter housing with SCHUKO-socket
(only suitable in countries with German socket system)
The SCHUKO-socket with child protection retains all functions.

Technical data	
Power supply:	230 V ~
Temperature range:	-20° C to +55° C
Frequency:	433.42 MHz, ASK
Type of protection:	IP 20
Dimensions:	163 x 70 x 72 mm



Reception frequency: 433.42 MHz, ASK
 For technical details see appendix.

Description	Ref.-no.
Radio-controlled switch actuator mains operated, live + neutral required	
1-channel switch	FA 10 UP
1-channel push-button	FA 10 UPT

Max. pulse duration of 10 sec.

The radio-controlled switch actuator switches electrical loads (230 V ~ / 8 A) as soon as it has received an appropriate taught-in radio signal.

Up to 14 radio transmitters can be taught into the radio-controlled switch actuator.

On receipt of a radio signal from a radio-controlled observer, the device switches on for a period of approx. 1 min.

Light scene

The operation of light scene (switching only) is possible using the radio hand-held or wall-mounted transmitter (e.g. the lighting is switched on).

The required light scene push-button of the radio hand-held or wall-mounted transmitter must be taught into the radio-controlled actuator.

Up to 5 light scenes can be stored.

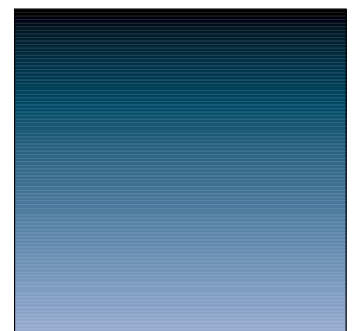
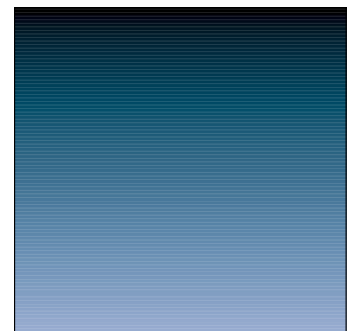
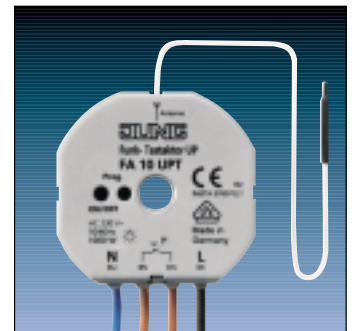
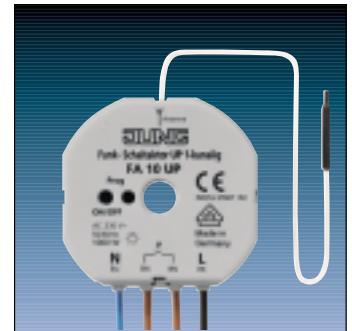
Technical data

Nominal voltage:	230 V ~, 50/60 Hz
Switching contact:	Relay, floating contact, 8 A
Miniature circuit-breaker:	10 A
Switching capacity:	
Incandescent lamps	1000 W
High voltage halogen lamps	1000 W
Low voltage halogen lamps	
– conventional transformers	750 VA, with min. 85 % nominal load
– TRONIC-transformers	750 W
Fluorescent lamps	
– not compensated	500 VA
– parallel compensated	400 VA
– lead-lag circuit	1000 VA
Temperature range:	-20° C to +55° C
Type of protection:	IP 20
Dimensions (Ø x H):	52 x 23 mm, centre hole Ø 7.5 mm

Note: Energy-saving lamps generate extremely high current peaks when they are switched on which can lead to bonding of the switching contact. You should therefore check the suitability of the lamps before use. The make contact has basic insulation internally and is separated from the phase.

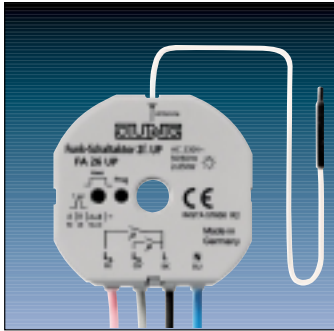
The following loads can be switched:

Functional extra-low voltage (FELV) or one phase L (230 V ~) against the neutral conductor N.



Radio Management Receiver

Reception frequency: 433.42 MHz, ASK
 For technical details see appendix.



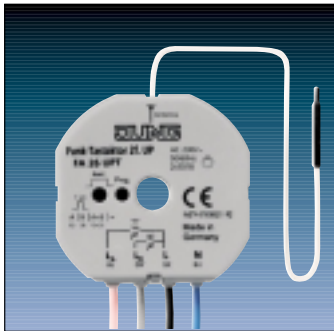
Description	Ref.-no.
Radio-controlled switch actuator FM mains operated, live + neutral required	
2-channel switch	FA 26 UP
2-channel push-button	FA 26 UPT

Max. pulse duration of 10 sec.

The 2-channel, radio-controlled switch actuator enables two electrical loads to be switched independently by radio control.

Up to 7 radio transmitters per channel can be taught into the switch actuator.

On receipt of a taught-in radio signal from a radio-controlled observer, the device switches on for a period of approx. 1 minute.



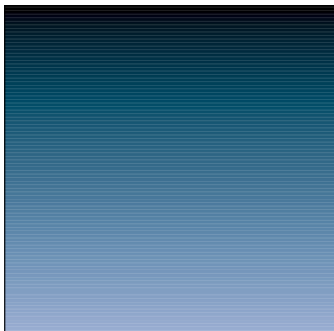
Light scene

The operation of light scene (switching only) is possible using the radio hand-held or wall-mounted transmitter (e.g. the lighting is switched on).

The required light mood push-button of the radio hand-held or wall-mounted transmitter must be taught into the radio-controlled actuator. Up to 5 light scenes can be stored.

Technical data

Nominal voltage:	230 V ~, 50/60 Hz
Switching contact:	Relay, μ floating contact, 6 A (only for resistive load)
Miniature circuit-breaker:	10 A
Switching capacity (per channel):	
Incandescent lamps	350 W
High voltage halogen lamps	300 W
Low voltage halogen lamps	
– conventional transformers	350 VA, with min. 85 % nominal load
– TRONIC transformers	300 W
Fluorescent lamps	
– not compensated	350 VA
Number of possible transmitters:	max. 7 per channel
Temperature range:	-20° C to +55° C
Type of protection:	IP 20
Dimensions (Ø x H):	52 x 23 mm, centre hole Ø 7.5 mm
Not suitable for fluorescent lamps with parallel compensation 47 μ F or lead-lag circuit as well as energy-saving lamps.	



Description	Ref.-no.
Radio-controlled blinds actuator FM mains operated, live + neutral required	FAJ 6 UP

The radio-controlled blinds actuator enables the wireless remote control of a shutter or blinds motor. Dependent on the operation of a radio transmitter, the louvres are adjusted (short push-button action <1 sec) or the blinds are moved (long push-button action > 1 sec).

Up to 14 radio-controlled transmitters can be taught into the radio-controlled blinds actuator.

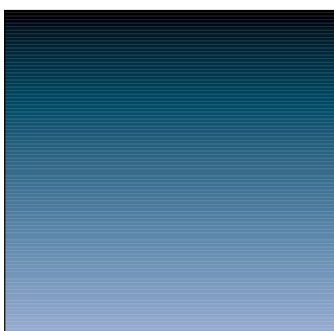
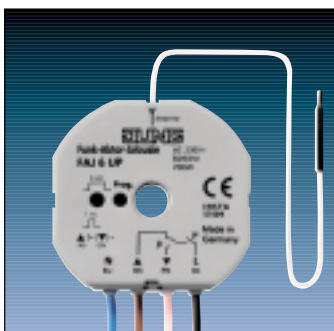
Light scene

The limit position of the blind (top or bottom) can be integrated together with the lighting into a maximum of 5 light scenes.

The required light scene push-button of the radio hand-held or wall-mounted transmitter must be taught into the radio-controlled actuator.

Technical data

Nominal voltage:	230 V ~, 50/60 Hz
Miniature circuit-breaker:	10 A
Switching capacity:	max. 1 motor 700 W
Relay output:	2 make contacts (non-floating and interlocked)
Reversing time for change in direction:	approx. 1 sec
Continuous operation:	approx. 2 min
Temperature range:	-20° C to +55° C
Type of protection:	IP 20
Dimensions (Ø x H):	52 x 23 mm, centre hole Ø 7.5 mm



The radio-controlled plug adapters permit radio-controlled switching and dimming (only FZD 1254 WW) of non-stationary and mains-plug equipped electrical appliances (230 V ~) as, for instance, table or standard lamps. The adapter is operated either with a radio transmitter of the Radio Management System or locally (only switching). The starting brightness can be stored in the device as memory brightness. On receipt of the radio signal from a radio-controlled observer, it switches on for a period of approx. 1 min.

Up to 30 radio transmitters can be taught into the plug adapter dimmer.

Light scene

The radio-controlled adapter can be integrated in up to five light scenes which are activated with the corresponding radio transmitters (e.g. hand-held transmitter 'Comfort') and stored. The desired light scene key must be taught into the radio-controlled adapter.

Description	Ref.-no.
Radio-controlled plug adapter switch in SCHUKO-socket housing (only suitable in countries with German socket system)	FZS 10 WW

Technical data

Nominal voltage:	230 V ~, 50 Hz
Fuse:	T 6.3 H 250 V
Switching capacity (relay contact):	
Incandescent lamps	1000 W
High voltage halogen lamps	1000 W
Low voltage halogen lamps	
- conventional transformers	750 VA
- TRONIC transformer	750 W
Fluorescent lamps	
- not compensated	500 VA
- parallel compensated	400 VA
- lead-lag circuit	1000 VA
Temperature range:	-20° C to +55° C
Type of protection:	IP 20
Dimensions (L x W x D):	136 x 70 x 72 mm

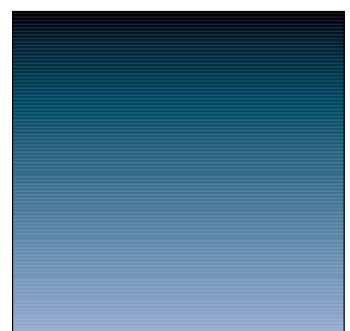
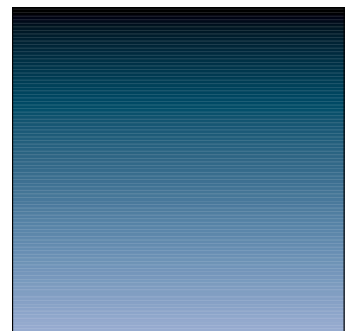
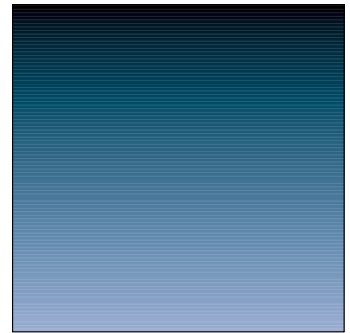
Radio-controlled plug adapter dimmer in SCHUKO-socket housing (only suitable in countries with German socket system)	FZD 1254 WW
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Technical data

Nominal voltage:	230 V ~, 50/60 Hz
Fuse:	T 6.3 H 250 V
Connected load:	50 – 315 W/VA
	230 V Incandescent lamps
	High voltage halogen lamps
	Low voltage halogen lamps with
	- conventional transformers
	- TRONIC transformer
	Mixed loads of specific load types are permitted (not capacitive with inductive loads).
Dimensions (L x W x D):	136 x 70 x 72 mm

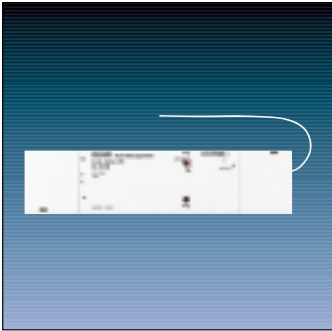


Note: Energy-saving lamps generate extremely high current peaks when they are switched on which can lead to bonding of the switching contact. You should therefore check the suitability of the lamps before use.



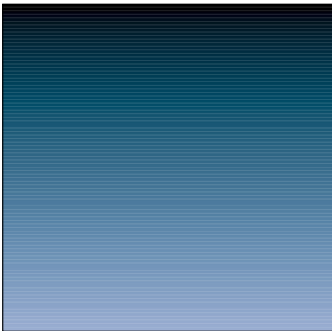
Radio Management Receiver

Reception frequency: 433.42 MHz, ASK
For technical details see appendix.



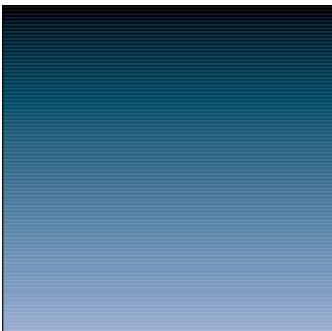
Description	Ref.-no.
Radio-controlled switch actuator, built-in switch	FA 10 EB

The radio-controlled switch actuator switches electrical loads (230 V / 10 A) as soon as it has received a corresponding taught-in radio-signal. Up to 30 transmitters can be taught into the radio-controlled switch actuator. On receipt of a radio signal from the radio-controlled observer, it switches on for a period of approx. 1 min. The radio-controlled switch actuator can be operated via a satellite station signal (230 V) e.g. push-button 531 U or satellite station 1220 NE.



Light scene
The operation of light scene (switching only) is possible using the radio hand-held or wall-mounted transmitter (e.g. the lighting is switched on). The required light scene push-button of the radio hand-held or wall-mounted transmitter must be taught into the radio-controlled actuator. Up to 5 light scenes can be stored.

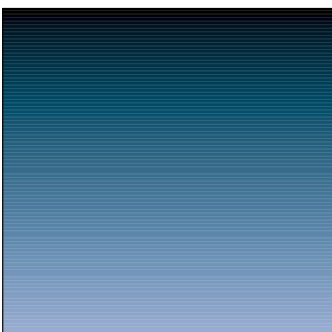
Technical data	
Nominal voltage:	230 V ~, 50 Hz
Switching contact:	Relay (10 A)
Switching capacity:	
Incandescent lamps	2300 W
High voltage halogen lamps	
– conventional transformers	1000 W
– TRONIC transformers	1500 W
Fluorescent lamps	
– not compensated	1200 W
– parallel compensated	920 W
– lead-lag circuit	2300 W
Temperature range:	–20° C to +55° C
Type of protection:	IP 20
Number of satellite stations:	unlimited
Dimensions (L x W x H):	175 x 42 x 18 mm



Description	Ref.-no.
Radio-controlled push-button controller, built-in	FST 1240 EB

The radio-controlled push-button controller 1...10 V enables the lighting to be controlled remotely via radio. The luminaire can thus be switched (short switch operation) or dimmed (long switch operation). On receipt of a radio signal from the radio-controlled observer, it switches on for a period of approx. 1 min. The operation in light scene is possible. Up to 30 radio transmitters can be taught into the radio-controlled push-button controller.

Technical data	
Power supply:	230 V ~, 50/60 Hz
Control voltage:	1 – 10 V
Control current:	max. 15 mA
Electrical isolation 1 – 10 V:	2 kV basic insulation
Switching contact:	μ relay contact
Connected load:	
Resistive load	max. 1800 W
Electronic ballast, transformer	type-dependent
Line protection:	10 A
Temperature range:	–20° C to +55° C
Type of protection:	IP 20
Dimensions (L x W x H):	187 x 28 x 28 mm



Description	Ref.-no.
Radio-controlled universal dimmer, built-in	FUD 1253 EB

The radio-controlled universal dimmer enables the wireless remote control and manual triggering of luminaires.

The lighting can be switched (short switch operation) or dimmed (long switch operation). On receipt of a radio signal from the radio-controlled observer, it switches on for a period of approx. 1 min. The operation in light scene is possible.

Up to 30 radio transmitters can be taught into the radio-controlled universal dimmer. The radio-controlled universal dimmer can be operated via a satellite station signal (230 V) e.g. satellite station ref.-no. 1220 NE or push-button ref.-no. 531 U.

Light scene

The universal in-line dimmer can be integrated into light scene.

These are recalled using the radio hand-held or wall-mounted transmitter.

The required light scene push-button of the radio hand-held or wall-mounted transmitter must be taught into the universal in-line dimmer. Up to 5 light scenes can be stored.

Technical data

Power supply: 230 V ~, 50 Hz (neutral conductor not required)

Connected load: 50 – 315 W/VA

 230 V incandescent lamps
230 V halogen lamps
TRONIC transformers
Conventional transformers

Mixed loads of specified load types are permitted (not capacitive with inductive loads).

In the case of a mixed load with conventional transformers, 50 % of the resistive load (incandescent lamps, high voltage lamps) should not be exceeded.

Suitable amplifiers: 247 EB, 246 EB, ULZ 1215 REG

Number of satellite stations: unlimited

Emitted interference: according to EN 55015

Temperature range: 0° C to +55° C

Type of protection: IP 20

Dimensions (L x W x H): 187 x 28 x 28 mm

Radio-controlled universal in-line dimmer	FUSD 1253 SW
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The radio-controlled universal in-line dimmer enables the wireless remote control of luminaires.

The luminaire can thus be switched (short switch operation) or dimmed (long switch operation).

The operation can be carried out with a radio-controlled hand-held or wall-mounted transmitter.

The required initial brightness value can be stored (memory function).

Up to 30 radio transmitters can be taught into the universal in-line dimmer.

Light scene

The universal in-line dimmer can be integrated into light scene.

These are recalled using the radio hand-held or wall-mounted transmitter.

The required light scene push-button of the radio hand-held or wall-mounted transmitter must be taught into the universal in-line dimmer. Up to 5 light scenes can be stored.

Technical data

Nominal voltage: 230 V ~, 50 Hz

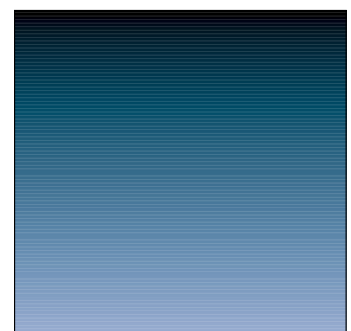
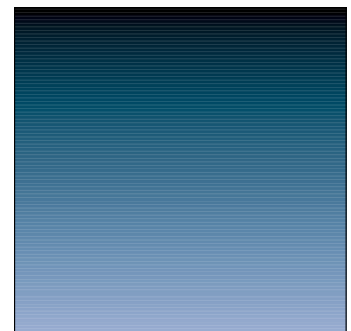
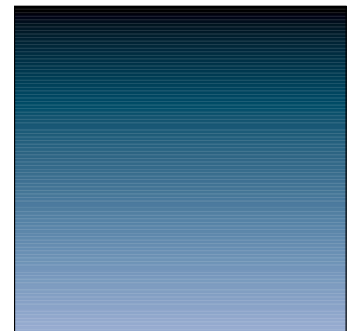
Connected load: 50 – 315 W/VA

 230 V incandescent lamps
230 V halogen lamps
TRONIC transformers
Conventional transformers

Mixed loads of specified load types are permitted (not capacitive with inductive loads).

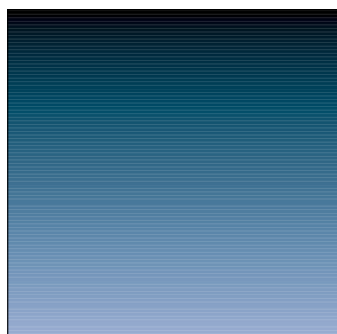
In the case of a mixed load with conventional transformers, 50 % of the resistive load (incandescent lamps, high voltage lamps) should not be exceeded.

Dimensions (L x W x H): 126 x 60 x 28 mm



Radio Management Receiver

For more details see technical appendix.



Function of the radio center plate:

1. Longer operation of the upper half: dimming from min. to max.
2. Short operation of the upper half: ON
3. Longer operation of the lower half: dimming from max. to min.
4. Short operation of the lower half: OFF
5. Short operation of the whole surface area: ON or OFF
6. Operation of the whole surface area when supply is connected for min. 3 sec.: the current dimming value is stored as a memory value

Description	Ref.-no.
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Radio center plate for switching and dimming inserts 1201 URE, 1201-1 URE, 1202 URE, 1225 SDE, 1240 STE, 1244 NVSE, 1254 TSE, 1254 UDE	
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for ranges CD 500 + CD plus

ivory*	CD 1561.07 F
blue	CD 1561.07 F BL
brown	CD 1561.07 F BR
grey	CD 1561.07 F GR
light grey	CD 1561.07 F LG
red	CD 1561.07 F RT
black	CD 1561.07 F SW
white	CD 1561.07 F WW
gold bronze	CD 1561.07 F GB
platinum	CD 1561.07 F PT



for ranges AS 500 + A plus

ivory	AS 1561.07 F
white	AS 1561.07 F WW



for ranges A 500 + A plus

white	A 1561.07 F WW
aluminium	A 1561.07 F AL



for range SL 500

white	SL 1561.07 F WW
gold bronze	SL 1561.07 F GB
black	SL 1561.07 F SW

Description	Ref.-no.
Radio center plate for switching and dimming inserts 1201 URE, 1201-1 URE, 1202 URE, 1225 SDE, 1240 STE, 1244 NVSE, 1254 TSE, 1254 UDE	

for ranges LS 990 + LS plus

ivory	LS 1561.07 F
white	LS 1561.07 F WW
light grey	LS 1561.07 F LG



for ranges Stainless Steel + LS plus

stainless steel	ES 1561.07 F
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for ranges Aluminium + LS plus

aluminium	AL 1561.07 F
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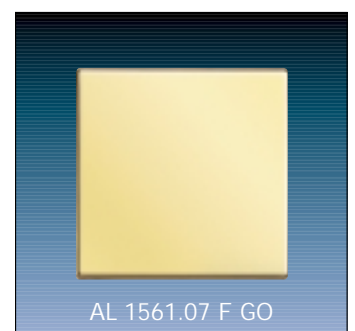
for ranges Anthracite + LS plus

anthracite	AL 1561.07 F AN
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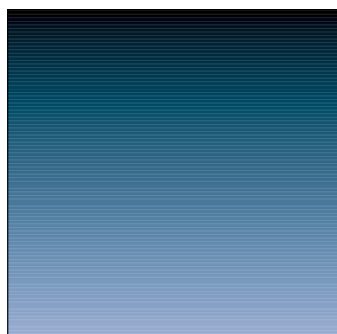
for ranges Gold + LS plus

gold	AL 1561.07 F GO
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Radio Management Receiver

For more details see technical appendix.



Function of the center plate with radio receiver for motor control inserts:

1. The center plate with radio receiver is a component of the Blinds Management system.
When used with the motor controller insert, it is possible to control a shutter motor by radio remote control and manually.
2. Short operation (up to 1 sec.): The blind remains in motion for the duration of the push-button action.
This function is used to adjust the louvres of the blind. Long operation (at least 1 sec.): Shutter control remains locked for approx. 2 min. i.e. "continuous operation".
3. Up to 30 radio transmitters can be taught in. Radio hand-held transmitter, radio wall-mounted transmitter and radio universal transmitter can be used.
4. The limit positions of a blind (Up or Down) can be integrated into light scene.



Description	Ref.-no.
Center plate with radio receiver for motor control inserts 220 ME, 230 ME, 232 ME and 224 ME	

for ranges CD 500 + CD plus

ivory	CD 5232 F
blue	CD 5232 F BL
brown	CD 5232 F BR
grey	CD 5232 F GR
light grey	CD 5232 F LG
red	CD 5232 F RT
black	CD 5232 F SW
white	CD 5232 F WW
bronze	CD 5232 F GB
platinum	CD 5232 F PT

with terminals for sensors 32 G, 32 SD and connector 32 K

ivory	CD 5232 FS
blue	CD 5232 FS BL
brown	CD 5232 FS GR
light grey	CD 5232 FS LG
red	CD 5232 FS RT
black	CD 5232 FS SW
white	CD 5232 FS WW
bronze	CD 5232 FS GB
platinum	CD 5232 FS PT



for ranges AS 500

ivory	AS 5232 F
white	AS 5232 F WW

with terminals for sensors 32 G, 32 SD and connector 32 K

ivory	AS 5232 FS
white	AS 5232 FS WW



for ranges A 500 + A plus

white	A 5232 F WW
aluminium	A 5232 F AL

with terminals for sensors 32 G, 32 SD and connector 32 K

white	A 5232 FS WW
aluminium	A 5232 FS AL



Receiver Radio Management

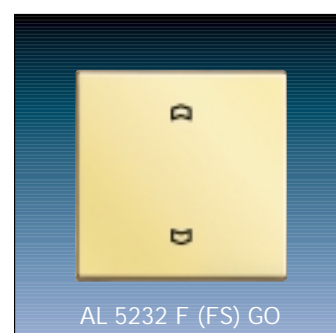
Description	Ref.-no.
Center plate with radio receiver for motor control inserts 220 ME, 230 ME, 232 ME and 224 ME	
for range SL 500	
bronze	SL 5232 F GB
black	SL 5232 F SW
white	SL 5232 F WW
with terminals for sensors 32 G, 32 SD and connector 32 K	
bronze	SL 5232 FS GB
black	SL 5232 FS SW
white	SL 5232 FS WW



for ranges LS 990 + LS plus	
ivory	LS 5232 F
light grey	LS 5232 F LG
white	LS 5232 F WW
with terminals for sensors 32 G, 32 SD and connector 32 K	
ivory	LS 5232 FS
light grey	LS 5232 FS LG
white	LS 5232 FS WW



for ranges Stainless Steel, Aluminium, Anthracite, Gold + LS plus	
stainless steel	ES 5232 F
aluminium	AL 5232 F
anthracite	AL 5232 F AN
gold	AL 5232 F GO
with terminals for sensors 32 G, 32 SD and connector 32 K	
stainless steel	ES 5232 FS
aluminium	AL 5232 FS
anthracite	AL 5232 FS AN
gold	AL 5232 FS GO



Radio Management Receiver

For more details see technical appendix.



Description	Ref.-no.
Master receiver for DIN rail mounting, 2 units	FK 100 REG

Function:

The master receiver is used to receive radio signals from various radio transmitters. It converts the radio signal and sends the information to the radio actuators via a bus line. It is possible to connect up to 30 radio actuators to the master receiver. The device has an integrated antenna. For a better radio reception it can be extended with an external radio antenna (F-ANT).

Connection:

The master receiver is connected to the radio actuators via a two-wire busline. The total length of the wire between all actuators may not be longer than 3 m. A wire (twisted with Ø 0,8 mm) with a testing voltage of AC 2,5 kV has to be used (e.g. YCM 2x2x0,8 or J-Y(St)Y 2x2x0,8).

Technical data

Power supply:	230 V ~, 50/60 Hz
Temperature range:	0° C to +45° C
Frequency:	433.42 MHz
Type of protection:	IP 20
Dimensions:	36 mm (2 units)



Radio switch actuator for DIN rail mounting, 2 units	FA 10 REG
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Function:

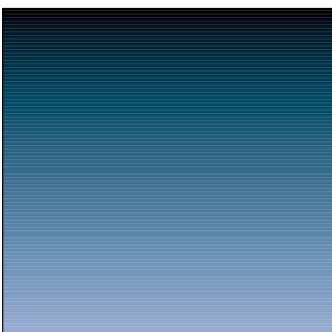
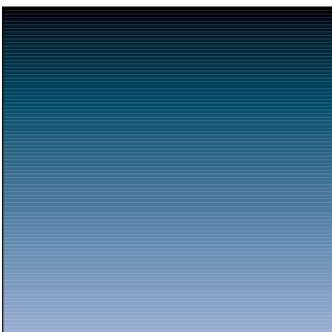
In connection with the master receiver the radio switch actuator enables radio controlled switching of electrical loads. It receives radio signals from various radio transmitters. On receipt of the radio signal from a radio-controlled observer, it switches on for a period of approx. 1 min. Up to 30 radio transmitters can be taught into the radio switch actuator.

Light scene:

The radio switch actuator can be integrated in up to five light scenes which are activated with the corresponding radio transmitters (e.g. hand-held transmitter 'Comfort') and stored. The desired light scene key must be taught into the radio switch actuator.

Technical data

Nominal voltage:	230 V ~, 50/60 Hz
Connected load:	
Incandescent lamps	2300 W
HV-halogen lamps with	
– conventional transformer	1000 W
– TRONIC transformer	1500 W
Fluorescent lamps	
– not compensated	1200 W
– parallel compens.	0920 W
– dual circuit	2300 W
Temperature range:	0° C to +45° C
Frequency:	433,42 MHz
Type of protection:	IP 20
Switching contact:	relay (10 A)
Number of satellites:	unlimited
Dimensions:	36 mm (2 units)



Description	Ref.-no.
Radio universal dimming actuator for DIN rail mounting, 4 units	FUD 1254 REG

Function:

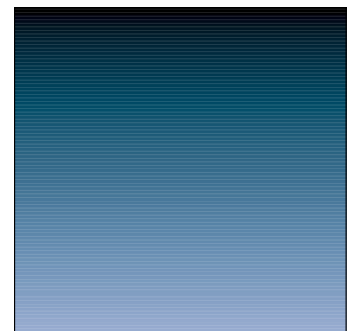
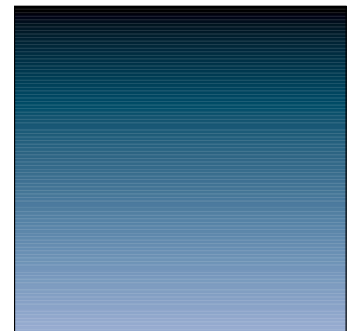
In connection with the master receiver the radio universal dimming actuator enables radio controlled switching and dimming of electrical loads. It receives radio signals from various radio transmitters. Beside the radio transmitter the light can be switched with satellites or directly on the device. The type of load is automatically learned by the universal dimmer. A selected brightness level can be stored as memory value in the device. On receipt of the radio signal from a radio-controlled observer, it switches on for a period of approx. 1 min. Up to 30 radio transmitters can be taught into the radio switch actuator.

Light scene:

The radio universal dimming actuator can be integrated in up to five light scenes which are activated with the corresponding radio transmitters (e.g. hand-held transmitter 'Comfort') and stored. The desired light scene key must be taught into the radio universal dimming actuator.

Technical data

Nominal voltage:	230 V ~, 50/60 Hz
Temperature range:	0° C to +45° C
Frequency:	433.42 MHz
Type of protection:	IP 20
Power attachment:	max. 10
Satellites:	unlimited
Dimensions:	72 mm (4 units)
Connected load:	50 – 400 W/VA
	230 V incandescent lamps
	230 V halogen lamps
	TRONIC transformers
	Conventional transformers
	Mixed loads of the specified types



Description	Ref.-no.
Radio push-button controller for DIN rail mounting, 4 units	FST 1240 REG

Function:

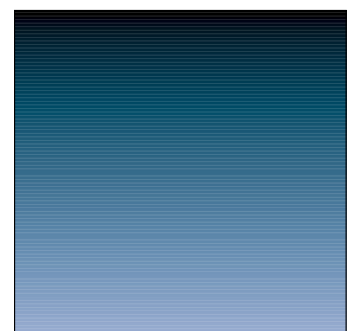
In connection with the master receiver the radio push-button-controller actuator enables radio controlled switching and dimming of electrical loads with a control voltage of 1 – 10 V (e.g. for dimming of fluorescent lamps controlled by electronic ballasts). It receives radio signals from various radio transmitters. A selected brightness level can be stored as memory value in the device. On receipt of the radio signal from a radio-controlled observer, it switches on for a period of approx. 1 min. Up to 30 radio transmitters can be taught into the radio push-button-controller actuator.

Light scene:

The radio push-button-controller actuator can be integrated in up to five light scenes which are activated with the corresponding radio transmitters (e.g. hand-held transmitter 'Comfort') and stored. The desired light scene key must be taught into the device.

Technical data

Nominal voltage:	230 V ~, 50/60 Hz	Switch contact:	μ relay contact
Temperature range:	0° C to +45° C	Resistive load:	max. 1800 W
Frequency:	433.42 MHz	Electric ballast,	
Type of protection:	IP 20	Transformer:	type-dependent
Dimensions:	72 mm (4 units)		
Control voltage:	1 – 10 V		
Control current:	max 15 mA		



Radio Management Receiver

For more details see technical appendix.



Description	Ref.-no.
Radio blinds actuator for DIN rail mounting, 2 units	FAJ 6 REG

Function:

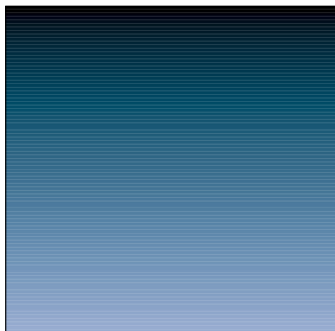
In connection with the master receiver the radio blinds actuator enables radio controlled switching of shutter-motors. It receives radio signals from various radio transmitters to open or close the blinds. A short command of the radio transmitter is used to adjust the louvres. Up to 14 radio transmitters can be taught into the radio blinds actuator.

Light scene:

The radio blinds actuator can be integrated in up to five light scenes which are activated with the corresponding radio transmitters (e.g. hand-held transmitter 'Comfort') and stored. The desired light scene key must be taught into the radio blinds actuator.

Technical data

Nominal voltage:	230 V ~, 50/60 Hz
Temperature range:	0° C to +45° C
Frequency:	433.42 MHz
Type of protection:	IP 20
Switching capacity:	max. one motor 700 VA
Operation time:	2 minutes
Switching time:	1 second (shift in direction)
Dimensions:	36 mm (2 units)



Radio antenna for master radio receiver FK 100 REG with magnetic connection and 275 cm cable extension Height: 20 cm	F-ANT
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Description	Ref.-no.
Radio Management Controller	
Version: V0 with DCF 77 time switch	
language version	
German	FMC 1000
English	FMC 1000 GB
Dutch	FMC 1000 NL

Spanish: available via JUNG Electro Iberia, Spain

Connection via white, 1.5 m power cable supplied with Euro plug or directly on the 230 V installation cable.

Power consumption max. 2.1 W.

Emergency power supply via 5 micro batteries (type: AAA 1.5 V LR 03 – not included with supply).

Radio operation (send/receive) for approx. 2 to 6 hours (depending on the charge level of the batteries).

With the Radio Management controller, all the installed radio components can be regulated and monitored fully automatically from a central location using time control i.e. when required. This is carried out either using individually created time programs or spontaneously via lifestyle or event programs (lightsscenes): depending on the programming, the blinds in the bedroom are closed, the lighting in the nursery is dimmed to 50 %, the blinds in the lounge are closed and the lights are switched off or dimmed – regardless of whether the occupant is at home or away. All the functions can also be implemented locally. Data entries, operating states, the current time and ambient temperature are indicated on the illuminated text display and evaluated. Settings are saved and new functions are read into the device using chip cards. Data exchange is possible with external devices e.g. PC, GSM module etc.(in preparation) via the interface (RJ 45 socket).

The following functions are possible with version 0 (V0):

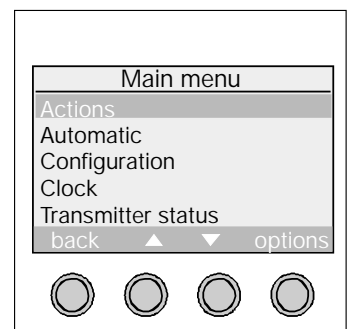
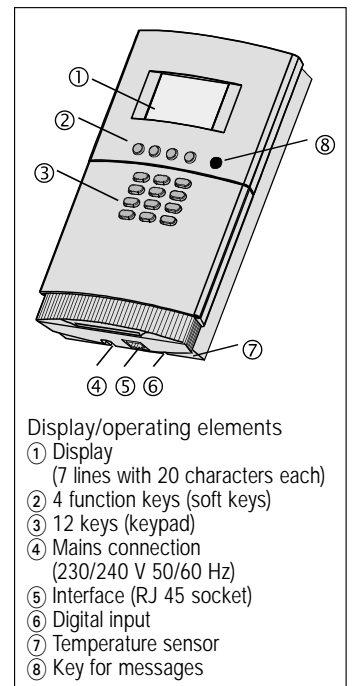
- Commissioning possible with 230 V mains connection and with batteries
- Time-dependent signal issued at intervals via buzzer when device is battery-operated or 'LOW-BAT' display when mains-operated
- Existing radio assignment is NOT deleted by the Radio Management controller
- Subdivision into 20 groups e.g. rooms
- Control of actuators for the lighting: dimming via absolute values (%)
- Control of actuators for the blinds: movement into limit position via long operation, louvre adjustment via short operation, possible to teach in the operating time of the blinds
- Lightsscenes 1 to 5, all ON, all OFF; 'Coming', 'going' scenarios, quick dial
- Master reset for parameters or logic operations, taught-in transmitters/receivers are retained
- Time function with DCF 77 time switch (switching increment 1 min.): 'Time and switch object' logic operation, presence simulation/random function, no permanent display of the logo (flashing antenna) when signal is not received
- Repeater function
- Save/download configuration onto chip card (master card) and retrieve
- Firmware update possible with chip card
- Preselected programs e.g. conservatory, awning, roller blind programs with astro function
- Staggered operation of the blinds (limitation of inrush currents, fixed period = 3 sec.)
- Logic and time-dependent operation of sensors/actuators, AND, OR, EXOR, NOT functions
- Alphanumeric text input similar to mobile phone (SMS) with keys (0) to (9), (*), (#)
- Soft keys (F1) to (F4) with fixed programming, freely programmable 'blue' key
- Quick dial (lightsscenes, scenarios) with numerical keys (1) to (9)
- 'Transmitter test' menu: taught-in transmitters are displayed with the associated designation
- 7 x 20 text characters only in accordance with ISO 8859/1.2, ASCII 0-255 (Latin letters, Arabic numbers)
- During mains operation, the display is illuminated for approx. 1 min. when the keys are pressed
- Display of the room temperature
- More features and details in the operation manual

Behaviour on mains voltage failure/recovery

Failure: Storing of all parameters (transmitters, actuators, logic operations). Fault indication via display and via integrated buzzer at intervals. Emergency power supply is activated if batteries have been inserted.

Recovery: Normal function is activated. Display 'Time mains failure'.

Master reset: With the FMC master reset card supplied, all the data in the Radio Management controller can be irrevocably deleted. The Radio Management controller is then returned to the supplied state.

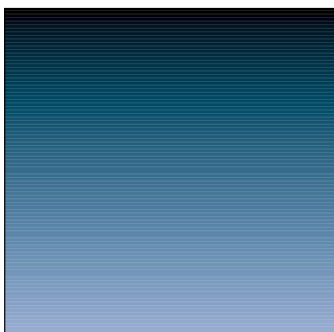
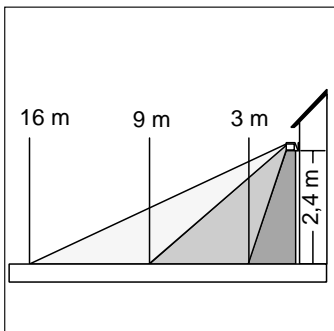
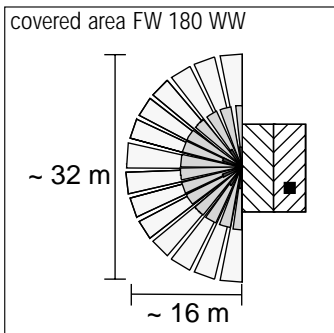


Radio Management Observer

IP 55

Not suitable for alarm systems!

For more details see technical appendix.



Description	Ref.-no.
Radio-controlled Observer 180 IP 55	FW 180 WW

With a semicircular field of detection 16 x 32 m (180) at a mounting height of approx. 2,40 m.
144 switching segments on 3 levels with an LED functional display and a clip-on cover for limiting the field of detection.

The sensitivity can be adjusted by approx. 20 – 100 %.

Depending on the programming, the radio telegrams from the radio-controlled observer and received by the radio-controlled performance unit (operating time can be set in steps from 30 sec. to 15 min.), by the short-touch key of the radio receiver and by the radio-controlled actuator built-in which then switch on for approx. 1 min.

Technical data

Nominal voltage:	9 V DC	Range:	approx. 100 m (free field)
Battery type:	9 V monobloc battery	Detection radius:	180°
Battery life:		Detection field:	16 x 32 m
Lithium (1,2 Ah):	approx. 4 years	Mounting height:	approx. 2,40 m
Alkaline (0,55 Ah):	approx. 1,5 years	Sensitivity:	20 % – 100 %
Power consumption		Evaluation	
Daytime operation:	approx. 0,14 mW	Operation range:	3 – 200 lux, ± 50 %
Night operation:	approx. 0,27 mW	Temperatur range:	-25° C up to +55° C
Radio transmission:	approx. 27 mW	Type of protection:	IP 55
Transmission power:	< 10 mW		
Transm. frequency:	433.42 MHz, ASK		

Radio-controlled performance unit	FWL 2200 WW
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in connection with the radio-controlled observer ref.-no. FW 180 WW.

Additional function: ON for 2 hours, OFF for 2 hours are possible with conventional push-button or hand-held transmitter ref.no. 42 FH, 48 FH, 48 KFH, wall-mounted transmitter 40 FW, ..41 F., ..42 F., ..44 F., multifunction transmitter FMS 4 UP and Universal transmitter FUS 22 UP.

Technical data

Nominal voltage:	AC 230 V ~, 50 Hz	Miniature circuit-breaker:	10 A
Switch contact:	Relay	Power consumption:	2 W
Switching capacity		Inrush current:	max. 20 A
Incandescent lamps	2500 W	Operating time:	approx. 10 sec. – 15 min. ± 10 % retriggered
High voltage		Brightness setting:	approx. 3 – 80 lux ± 10 %
halogen lamps:	2500 W	Transmission frequency:	433.42 MHz, ASK
Fluorescent lamps		Temperature range:	-25° C up to +55° C
not compensated:	1200 W	Type of protection:	IP 55
parallel comp.:	920 W		
lead-lag circuit:	2400 W		

Additional function via push-button (break contact)

Pulse duration:	400 ms, ± 50 %
Pulse interval:	600 ms
1st function:	1 x pulse, operating time
2nd function:	2 x pulse, ON = 2 hrs, ± 10 %
3rd function:	3 x pulse, OFF = 2 hrs, ± 10 %

Attention: energy saving lamps cause high peak current, reduction of capacity necessary!
Please check suitability of lamps before installation!

Description	Ref.-no.
Radio presence detector	FPM 360 WW

Dimensions: diameter 103 mm – height 42 mm

The battery-operated, radio presence detector enables optimum energy savings by presence-controlled lighting.

It operates with a passive infrared sensor (PIR) and reacts to thermal movements triggered by people, animals or objects. It sends a radio telegram that can be evaluated by all radio-controlled dimming and switch actuators.

It can also control the heating, ventilation and air conditioning systems, independent of presence or lighting, in connection with the 2-channel relay insert with floating contacts.

If the brightness level falls below an adjustable setpoint and on detection of movement, the presence detector switches on the taught-in radio-controlled switch actuator.

This device carries out lighting control dependent on the brightness setpoint value.

The lighting controller remains switched on while the presence detector can sense movement.

If no further movements is detected, it is switched off once an adjustable overshoot period has elapsed.

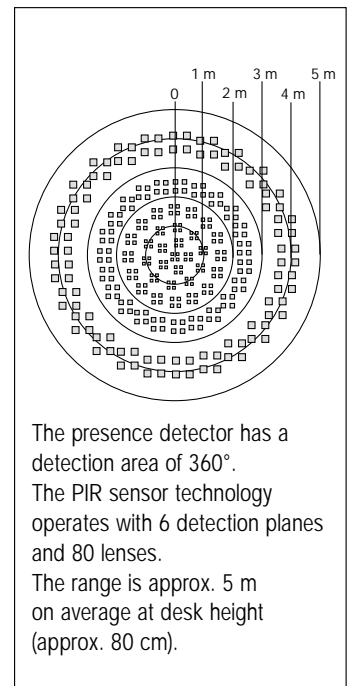
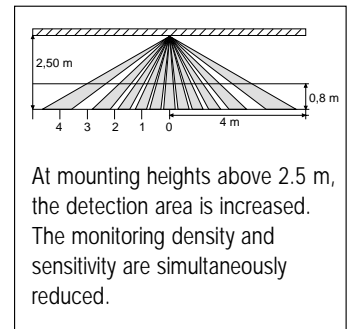
It is also switched off if an upper brightness limit is exceeded. To monitor larger areas, several presence detectors can be used together in one system. In this case, one presence detector acts as the master while all other presence detectors are used as slaves.

Technical data

Nominal voltage:	6 V
Batteries:	4 x 1.5 V micro RL03 (AAA) alkaline (not included with supply)

Note: Do not use zinc carbon batteries (R03).

Transmission frequency:	433.42 MHz
Modulation:	AKS
Transmission range:	max. 100 m in free field
Radio codes:	> 1 billion
Detection angle:	approx. 360°
Nominal range:	
Desk height	approx. Ø 5 m
Floor	approx. Ø 8 m
Mounting height for nominal range:	2.5 m
Overshoot period:	approx. 2 min to 1 hour
Brightness:	approx. 3 to 2000 lux
Temperature range:	0° C to +45° C
Type of protection:	IP 20



Radio-controlled EIB converter	2700 AP
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surface mounted, in connection with radio-controlled observer ref.-no. FW 100 WW, universal transmitter ref.-no. FUS 22 UP, hand-held transmitter ref.-no. 48 KFH, 48 FH, 42 FH, wall-mounted transmitter ref.-no. 40 FW, ..41 F., ..42 F., ..44 F. and multifunction transmitter ref.-no. FMS 4 UP

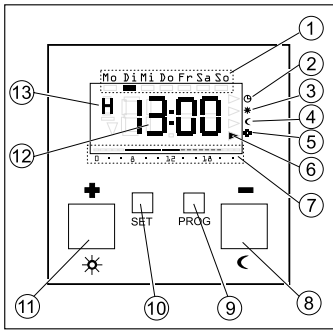
Function

The KNX/EIB radio control converter can be used to integrate Radio Management transmitters into the KNX/EIB system. Radio data telegrams received from components learned in are converted into corresponding EIB telegrams. Data transfer is unidirectional. Further information available on request.



Radio Management Temperature control

For more details see technical appendix.



Radio timer thermostat display for radio-controlled temperature control
 The radio timer thermostat is an electronic controlling device with an integral clock.
 It can activate an external temperature or time controlled switching relay via radio transmission.
 Temperature measurement is carried out via an implemented sensor.
 Information like the desired temperature or the actual value are transmitted to the
 Radio Management Controller or directly to the radio-controlled valve drive.

Technical data

Power supply:	230 V ~
Power consumption:	approx. 4 VA
Transmitted frequency:	433.42 MHz
Temperature ranges:	+18 ... +30° C comfort temperature +10 ... +22° C lowering temperature +5 ... +15° C anti-freeze temperature



- ① Current weekday
- ② Symbol for "Time program" operating mode
- ③ Symbol for "Comfort temperature" operating mode
- ④ Symbol for "Lowering temperature" operating mode
- ⑤ Symbol for "Anti-freeze" operating mode
- ⑥ The respective current operating mode, indicated by means of triangles
- ⑦ Range set for comfort temperature in the time program
- ⑧ Economy button
- ⑨ "Program" button
- ⑩ "Set" button
- ⑪ Party button
- ⑫ Display for time or temperature
- ⑬ Further setting information



Description	Ref.-no.
for ranges AS 500, A 500 + A plus	
ivory	A HLK-FT
white	A HLK-FT WW
aluminium	A HLK-FT AL

for ranges ST 500, CD 500 + CD plus	
ivory	CD HLK-FT
white	CD HLK-FT WW

for ranges LS 990 + LS plus	
ivory	LS HLK-FT
white	LS HLK-FT WW

for ranges Aluminium + LS plus	
aluminium	AL HLK-FT

for ranges Anthracite + LS plus	
anthracite	AL HLK-FT AN

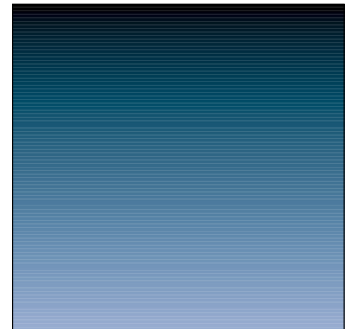
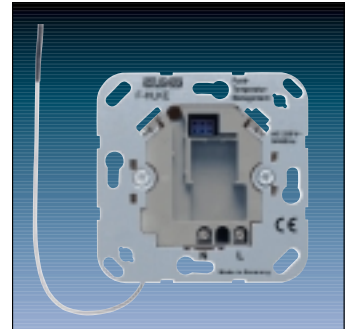
for ranges Stainless Steel + LS plus	
stainless steel	ES HLK-FT

Description	Ref.-no.
Radio timer thermostat insert for radio-controlled temperature control	F-HLKE

The radio timer thermostat insert is used in conjunction with the radio timer thermostat display. It can be mounted into a flush-mounted wall box. The recommended mounting height is 1.50 m.

Technical data

Power supply:	230 V ~
Power consumption:	approx. 4 VA
Transmitted frequency:	433.42 MHz
Max. ambient temperature:	0 to +50° C

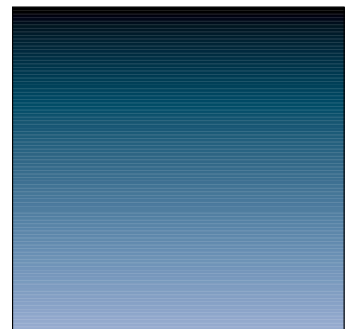


Radio-controlled valve drive	HLK-FMS
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The radio-controlled valve drive is used to control radiators or under floor heating systems. The device is battery-operated and can be controlled by radio signals of the radio timer thermostat or the Radio Management Controller. The valve drive is equipped with two push-buttons to adjust the desired temperature.

Technical data

Power supply:	3 V
Battery:	2 x 1.5 V Mignon LR06 (AA) 2600 mAh (batteries not included)
Valve power:	80 N
Valve stroke:	7.5 mm
Dimension:	51 x 80 x 60 mm
Suitable for:	valve bases from Roth, KaMo, MNG, Heimeier, Gampper



Blinds Management



Motor control insert direct

For a connected load of 230 V for the motor. Ideal for retrofitting as the insert operates without a neutral conductor.



Direct 230 V~

Motor control insert standard

For a connected load of 230 V for the motor. Has no satellite input and therefore represents a cost-effective solution for single applications.



Standard 230 V~

Motor control insert universal

For a connected load of 230 V for the motor. Additional shutter control devices for group and central operation can be connected via satellite inputs.



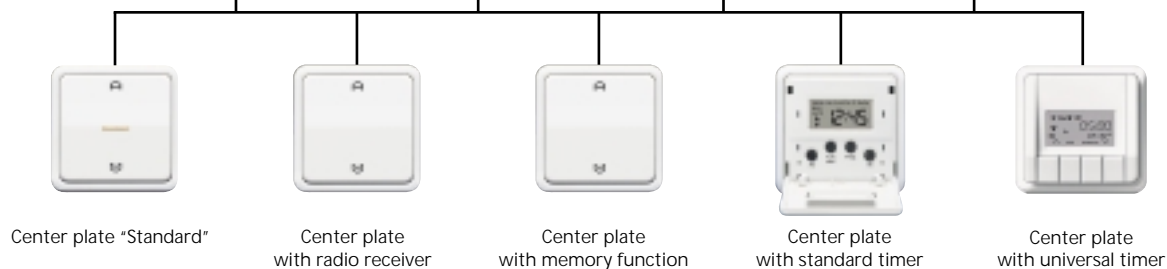
Universal 230 V~

Motor control insert universal

For a connected load of 24 V for the motor. Additional shutter control devices for group and central operation can be connected via satellite inputs.



Universal 24 V DC



JUNG



Blinds /
Temperature
Management

The new center plate with timer function provides convincing performance for fully automatic blind control with a high degree of flexibility. Three separate programme modes are provided for storing independent timing cycles, for example for daily operation, for short weekend holidays or for a lengthy holiday trip. Altogether 18 switching times can be programmed.



Blinds Management Motor control inserts

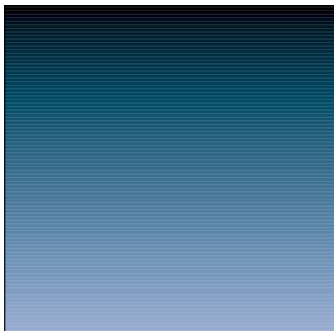
For more details see technical appendix.



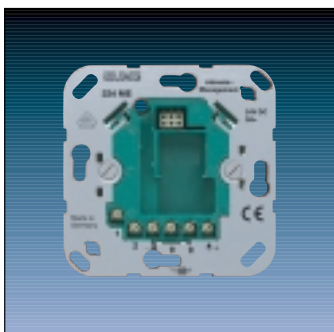
Description	Ref.-no.
Motor control insert "Standard" stand-alone device No satellite operation possible. 1 motor with a limit position switch up to a maximum of 1000 VA can be controlled with one motor controller insert. Please observe the information given by the motor manufactures.	230 ME
Nominal voltage:	AC 230 V ~, 50/60 Hz, neutral line required
Switching capacity:	max. 1 motor 1000 VA
Relay output:	2 make contacts, interlocked
Connecting terminals :	screw terminals for 2.5 mm ² max. or 2 x 1.5 mm ²



Description	Ref.-no.
Motor control insert "Universal" 1 motor with a limit position switch up to a maximum of 1000 VA can be controlled with each motor controller insert. Please observe the information given by the motor manufactures. Satellite inputs allow to connect the system to further mechanical push-buttons and blinds controllers. Satellite inputs can also be used for a „wind alarm“ function. Furthermore, the complete functionality of the Blinds Management system including sensors can be implemented.	232 ME
Nominal voltage:	AC 230 V ~, 50/60 Hz, neutral line required
Switching capacity:	max. 1 motor 1000 VA
Relay output:	2 make contacts, interlocked
Connecting terminals :	screw terminals for 2.5 mm ² max. or 2 x 1.5 mm ²



Description	Ref.-no.
Motor control insert "Direct" stand-alone device, neutral line not required No satellite operation possible. 1 motor with a limit position switch up to a maximum of 1000 VA can be controlled per motor controller insert. Please observe the information given by the motor manufactures.	220 ME
Nominal voltage:	AC 230 V ~, 50/60 Hz,
Switching capacity:	max. 1 motor 1000 VA
Relay output:	2 make contacts, interlocked
Connecting terminals :	screw terminals for 2.5 mm ² max. or 2 x 1.5 mm ²



Description	Ref.-no.
Motor controller insert "Universal" 24 V DC The motor controller insert can control one or more motors (parallel connection) with a total current of 3 A. The motor controller insert requires a power supply unit for 24 V DC SELV. A protected separation between primary and secondary side of the power supply unit must be ensured. Please observe the information given by the motor manufactures.	224 ME
Nominal voltage:	DC 24 V, ±10 %
Switching capacity:	max. 3 A
Relay output:	2 change-over relays in a reversing polarity circuit
Connecting terminals :	screw terminals for 2.5 mm ² max. or 2 x 1.5 mm ²

Description	Ref.-no.
Center plate for motor control inserts with anti lock-out function (and terminal for sensors) The center plate with activated "anti lock-out function" assures, that nobody can be shut out by automatic blinds (e.g. wind, alarm, brightness sensor, timer). A blind/shutter position can be set. The blind/shutter will stop at the desired position.	
Motor control inserts: 230 ME, 232 ME, 220 ME, 224 ME	
Function	
Short touch:	UPPER or LOWER touch area for adjusting the slats, blind/shutter will be moved for the period the push-button is held, stopping the continuous moving
Longer touch:	LOWER touch area for continuous move downwards
Longer touch (> 4 sec.):	FULL touch area for activating the storing mode, UPPER touch area for activating the "anti lock-out function" (illuminated LED)
Short touch:	UPPER touch area for deactivating the "anti lock-out function"
After mains failures the anti lock-out function is also deactivated.	
Additional function with sensors	
Sun protection:	A brightness sensor permits automatic lowering of the blind/shutter dependent on sunshine.
Glass break protection:	A glass break sensor is attached to the window pane. When the pane breaks, the blind/shutter moves down to the lower limit stop.
Sensors:	32 G, 32 SD, LA 90
The center plate for motor control inserts is available for the design ranges:	
AS 500, ABAS 500 (available colours: ivory, white)	
with anti lock-out function	AS 5232 ..
with anti lock-out function and terminal for sensor	AS 5232 S ..
with anti lock-out function	ABAS 5232 ..
A 500, A plus (available colours: white, aluminium)	
with anti lock-out function	A 5232 ..
with anti lock-out function and terminal for sensor	A 5232 S ..
CD 500, CD plus (available colours: ivory, white, blue, brown, grey, light grey, red, black, gold-bronze, platinum)	
with anti lock-out function	CD 5232 ..
with anti lock-out function and terminal for sensor	CD 5232 S ..
SL 500 (available colours: white, black, bronze)	
with anti lock-out function	SL 5232 ..
with anti lock-out function and terminal for sensor	SL 5232 S ..
LS 990, LS plus (available colours: ivory, white, light grey)	
with anti lock-out function	LS 5232 ..
with anti lock-out function and terminal for sensor	LS 5232 S ..
Metal versions, LS plus (Aluminium, Anthracite, Stainless Steel, Gold)	
with anti lock-out function	AL 5232 ..
with anti lock-out function and terminal for sensor	AL 5232 S ..
with anti lock-out function	ES 5232
with anti lock-out function and terminal for sensor	ES 5232 S



Blinds Management Center plates

For more details see technical appendix.



Description	Ref.-no.
Center plate for motor control inserts with radio receiver (and terminal for sensors) The center plate is also a component of the Radio Management system. When used with the motor controller insert, it is possible to control a blinds/shutter motor by radio remote control and manually. Up to 30 radio transmitters can be taught in.	
Motor control inserts: 230 ME, 232 ME, 220 ME, 224 ME	
Function	
Short touch (< 1 sec.):	UPPER or LOWER touch area for adjusting the slats, blind/shutter will be moved for the period the push button is held, stopping the continuous moving
Longer touch (> 1 sec.):	LOWER touch area for continuous moving downwards UPPER touch area for continuous moving upwards
Additional function with sensors	
Sun protection:	A brightness sensor permits automatic lowering of the blind/shutter dependent on sunshine.
Glass break protection:	A glass break sensor is attached to the window pane. When the pane breaks, the blind/shutter moves down to the lower limit stop.
Sensors:	32 G, 32 SD
The center plate for motor control inserts with radio receiver is available for the design ranges:	
AS 500, ABAS 500 (available colours: ivory, white)	
with radio receiver	AS 5232 F ..
with radio receiver and terminal for sensor	AS 5232 FS ..
with radio receiver and terminal for sensor	ABAS 5232 FS ..
A 500, A plus (available colours: white, aluminium)	
with radio receiver	A 5232 F ..
with radio receiver and terminal for sensor	A 5232 FS ..
CD 500, CD plus (available colours: ivory, white, blue, brown, grey, light grey, red, black, gold-bronze, platinum)	
with radio receiver	CD 5232 F ..
with radio receiver and terminal for sensor	CD 5232 FS ..
SL 500 (available colours: white, black, bronze)	
with radio receiver	SL 5232 F ..
with radio receiver and terminal for sensor	SL 5232 FS ..
LS 990, LS plus (available colours: ivory, white, light grey)	
with radio receiver	LS 5232 F ..
with radio receiver and terminal for sensor	LS 5232 FS ..
Metal versions, LS plus (Stainless Steel, Aluminium, Anthracite, Gold)	
with radio receiver	AL 5232 F ..
with radio receiver and terminal for sensor	AL 5232 FS ..
with radio receiver	ES 5232 F
with radio receiver and terminal for sensor	ES 5232 FS

Center plates Blinds Management

Description	Ref.-no.
Center plate for motor control inserts with memory function (and terminal for sensors)	
The center plate with memory function enables the individual storing of one up and one down operation time. These two blind operation times are repeated every 24 hours. This provides comfortable, automatic blinds control which can, for example, be used for presence simulation.	

Motor control inserts: 230 ME, 232 ME, 220 ME, 224 ME

Function

Short touch (< 1 sec.):	UPPER or LOWER touch area for adjusting the slats, blind/shutter will be moved for the period the push button is held, stopping the continuous moving
Longer touch (> 1 sec.):	LOWER touch area for continuous moving downwards UPPER touch area for continuous moving upwards
Longer touch (> 3.5 sec.):	Storing of the up or down operation time.
Longer touch (> 8 sec.):	Switching between manual and memory mode

Additional function with sensors

Sun protection:	A brightness sensor permits automatic lowering of the blind/shutter dependent on sunshine.
Glass break protection:	A glass break sensor is attached to the window pane. When the pane breaks, the blind/shutter moves down to the lower limit stop.
Sensors:	32 G, 32 SD

The center plate for motor control inserts with memory function is available for the design ranges:

AS 500 (available colours: ivory, white)

with memory function	AS 5232 M ..
with memory function and terminal for sensor	AS 5232 MS ..

A 500, A4 plus (available colours: white, aluminium)

with memory function	A 5232 M..
with memory function and terminal for sensor	A 5232 MS ..

CD 500, CD plus (available colours: ivory, white, blue, brown, grey, light grey, red, black, gold-bronze, platinum)

with memory function	CD 5232 M..
with memory function and terminal for sensor	CD 5232 MS ..

SL 500 (available colours: white, black, bronze)

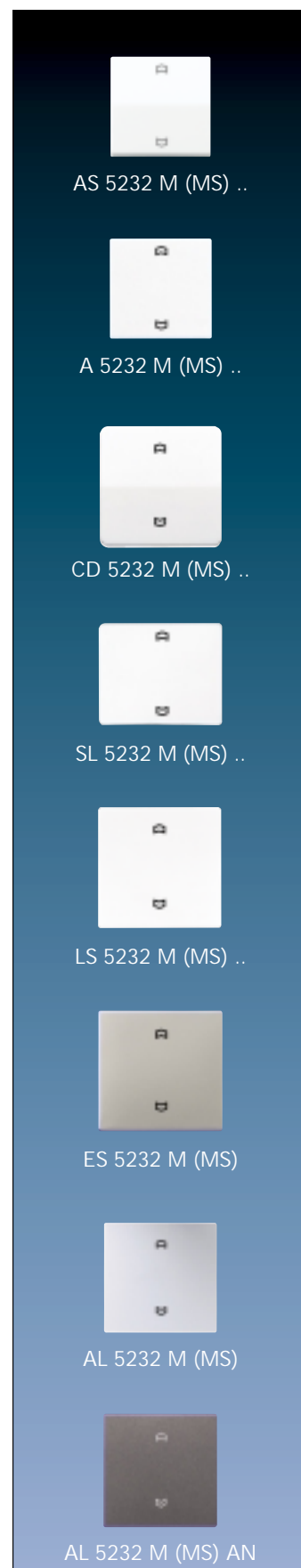
with memory function	SL 5232 M..
with memory function and terminal for sensor	SL 5232 MS ..

LS 990, LS plus (available colours: ivory, white, light grey)

with memory function	LS 5232 M..
with memory function and terminal for sensor	LS 5232 MS ..

Metal versions, LS plus (Stainless Steel, Aluminium, Anthracite, Gold)

with memory function	AL 5232 M..
with memory function and terminal for sensor	AL 5232 MS ..
with memory function	ES 5232 M
with memory function and terminal for sensor	ES 5232 MS



Blinds Management Center plates

For more details see technical appendix.



Description	Ref.-no.
Center plate for motor control inserts with timer function "Standard"	
The device permits time-controlled switching of blind/shutter motors with a maximum rating of 1000 VA. The motor must be equipped with limit switches.	

Motor control inserts: 230 ME, 232 ME, 220 ME, 224 ME

Function

Short touch (< 1 sec.):	Left or right push button for adjusting the slats, blind/shutter will be moved for the period the push button is held, stopping the continuous moving
Longer touch (> 1 sec.):	Left push button for continuous moving upwards Right push button for continuous moving downwards
Product features:	Easy operation with 4 keys Programming without insert possible Switching time blocks Mo – Fr 1 x UP, 1 x DOWN Switching time blocks Sa – So: 1 x UP, 1 x DOWN Fast programming function Factory-programmed switching times Power reserve > 6 hrs. with charge storage capacitor

The center plate for motor control inserts with timer function "Standard" is available for the design ranges:

AS 500, A 500, A plus

ivory	A 5232 ST
white	A 5232 ST WW
aluminium	A 5232 ST AL

CD 500, CD plus

ivory	CD 5232 ST
white	CD 5232 ST WW
blue	CD 5232 ST BL
brown	CD 5232 ST BR
grey	CD 5232 ST GR
light grey	CD 5232 ST LG
red	CD 5232 ST RT
black	CD 5232 ST SW
gold-bronze	CD 5232 ST GB
platinum	CD 5232 ST PT

SL 500

white	SL 5232 ST WW
black	SL 5232 ST SW
bronze	SL 5232 ST GB

LS 990, LS plus

ivory	LS 5232 ST
white	LS 5232 ST WW
light grey	LS 5232 ST LG

Metal versions, LS plus

Stainless Steel	ES 5232 ST
Aluminium	AL 5232 ST
Anthracite	AL 5232 ST AN
Gold	AL 5232 ST GO

Description	Ref.-no.
Center plate for motor control inserts with timer function "universal" (and terminal for sensors) Used in combination with a motor control insert, the center plate with timer function "universal" constitutes an automatic blind/shutter control system with programmable switching times. Each blind/shutter control can drive only one motor.	
Motor control inserts: 230 ME, 232 ME, 220 ME, 224 ME	
Product features	
– Simple operation with four key	
– Display of the next moving time	
– Three memory programs for a total of up to 18 switching times	
– Factory-programmed switching times in two memory programs	
– Random function	
– Astro function	
– Individual Astro function with Astro time shift	
– Random and Astro functions can be combined	
– Automatic summer/winter time switching	
– Individual motor operating times adjustable	
– Programmed switching times are permanently safe.	
– Actual data (time, month, date, day) safe up to 24 hours (no attendance and no back-up batteries required).	
– Wind alarm function via extension unit (only with motor control insert ME 232)	
Additional function with sensors	
Sun protection:	A brightness sensor permits automatic lowering of the blind/shutter dependent on sunshine.
Twilight function:	A brightness sensor permits automatic lowering of the blind/shutter in the evening (twilight) and ascending the blind/shutter in the morning
Glass break protection:	A glass break sensor is attached to the window pane. When the pane breaks, the blind/shutter moves down to the lower limit stop.
Sensors:	32 G, 32 SD, LA 90
The center plate for motor control inserts with timer function "universal" is available for the design ranges:	
AS 500, A 500, A plus (available colours: ivory, white, aluminium)	
with timer function "universal"	A 5232 T3 ..
with timer function "universal" and terminal for sensor	A 5232 TS3 ..
CD 500, CD plus (available colours: ivory, white, blue, brown, grey, light grey, red, black, gold-bronze, platinum)	
with timer function "universal"	CD 5232 T3 ..
with timer function "universal" and terminal for sensor	CD 5232 TS3 ..
SL 500 (available colours: white, black, bronze)	
with timer function "universal"	SL 5232 T ..
with timer function "universal" and terminal for sensor	SL 5232 TS ..
(the SL 500 design range does not offer all features, please refer to appendix)	
LS 990, LS plus (available colours: ivory, white, light grey)	
with timer function "universal"	LS 5232 T3 ..
with timer function "universal" and terminal for sensor	LS 5232 TS3 ..
Metal versions, LS plus (Stainless Steel, Aluminium, Anthracite, Gold)	
with timer function "universal"	ES 5232 T3
with timer function "universal" and terminal for sensor	ES 5232 TS3
with timer function "universal"	AL 5232 T3 ..
with timer function "universal" and terminal for sensor	AL 5232 TS3 ..

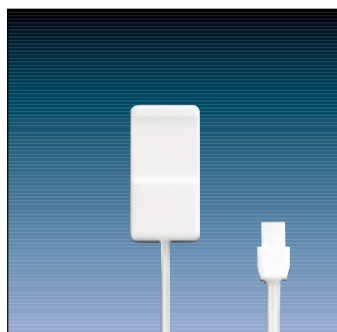


Blinds Management Accessories



Description	Ref.-no.
Sunlight / dawn sensor	32 SD

Sunlight protection offers an automatic move-down of the blinds when the brightness intensity rises above a pre-set level. The end-position of the blinds may be individually selected by positioning the detector on the window. Dawn function offers an automatic move-down of the blinds when the brightness intensity falls below a pre-set level.



Glass-break sensor	32 G
--------------------	------

for inspection of smooth glass windows within a radius of 2 m (no multilayer-glass, structure-glass or wired glass). The glass may not be pasted or damaged. The detector is fixed on the window by special metal/glass adhesive. The shutter moves down automatically when the window is destroyed in order to provide weather protection.



Brightness sensor	LA 90
-------------------	-------

for outside installation. The sensor offers an automatic move-up and move-down of the blinds depending on the present brightness value.



Wind sensor	VT 04
-------------	-------

The wind sensor should be fitted to the roof or house wall. It must be installed at a position suitable for wind intensity measurements. The wind sensor facilitates the moving up of blinds and shutters, depending upon the wind intensity. The up position protects sensitive louver blades, thus providing safety when wind speed is increasing.

The wind sensor will be connected to converter 32 U.



Converter	32 U
-----------	------

for connection of wind sensor WW 90 or devices of other manufacturers. Wind speed alarm has top priority, blinds will in any case be moved-up and be kept in a locked position until wind slows down.

Description	Ref.-no.
Rain sensor	RW 90

The rain sensor detects rain, snow, etc. It is connected directly to terminal 2 of the motor control insert "Universal" 232 ME.

The mounting location needs the open access of the rain for a fast response.

Note: The sensor sticks have to be adjusted horizontally with a slight inclination so that the water can move to the tips.

Technical data

Nominal voltage:	AC 230 V ~	Heating:	electronically controlled, max. 60° C
Nominal current:	approx. 30 mA	Dimensions:	120 x 80 x 55 mm
Protection level:	IP 65	Operation temperature:	-15° C to + 60° C
Output:	floating 2-way contact		
Heating capacity:	3 W 5 A/250 V ~		

Connector	32 K
-----------	------

The connector will be attached to the center plate with sensor connection or insert through the 3-pole connection terminal. The connector has two terminals to connect one sunlight /dawn sensor and one glass-break sensor.

Decoupling relay	TR-S
------------------	------

230 V ~, 5 A

For blinds control in case more than one motor should be connected to a mechanical switch/push button or a motor control insert (230 ME, 232 ME, 220 ME).

The relay is designed for two drives.

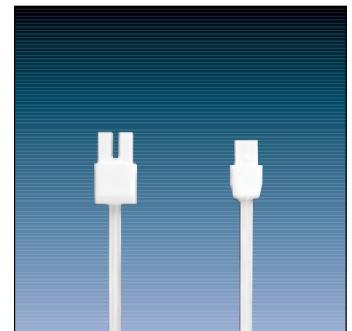
Decoupling relay	TR-S REG
------------------	----------

DIN rail mounting device

230 V ~, 5 A

For blinds control in case more than one motor should be connected to a mechanical switch/push button or a motor control insert (230 ME, 232 ME, 220 ME).

The relay is designed for two drives.

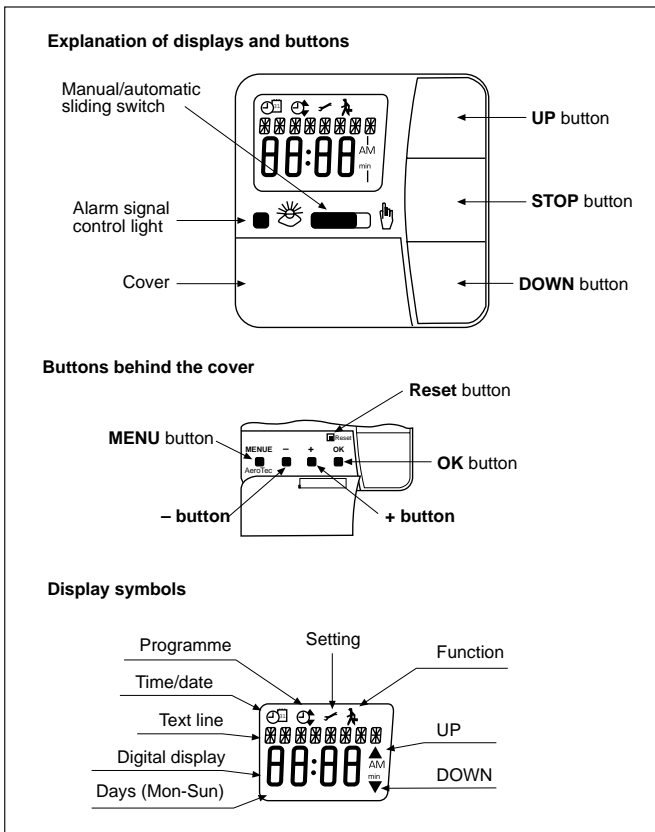


Blinds Management Awning control



Description	Ref.-no.
Aero Tec 04	
ivory	AT 04
white	AT 04 WW

The AeroTec timer is pre-programmed ex works with current date and time (CET) settings and operates sun protection systems on the basis of sunlight intensity and wind speed.
 The AeroTec timer can be operated manually at any time.
 This device runs on battery power, meaning it can even be programmed if the operating device has been removed, as the display does not disappear.
 The AeroTec timer may be used to operate sun protection systems only.

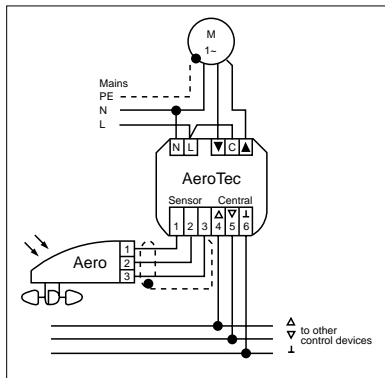


Technical data
 Nominal voltage: AC 230 – 240 V ~, 50/60 Hz
 Connected load: Max. one motor up to 1000 W
 Switched current: 5 A /250 V AC for cos φ = 1
 Battery type: 1 x CR 2032
 Protection level: IP 20
 Output: 2 relais, floating contacts
 Input: Brightness sensor
 Combi sensor
 Wind sensor
 Rain sensor

- Features**
- Controller for awnings
 - Voice controlled (15 languages)
 - Ex works pre-programmed
 - Sensors can be connected
 - Manual control always possible
 - Additional switching time
 - Adjustable inside position
 - Cloth stretching function

Connection

- L = Phase
- N = Neutral conductor
- ▼ = Motor down
- C = Phase of motor
- ▲ = Motor up

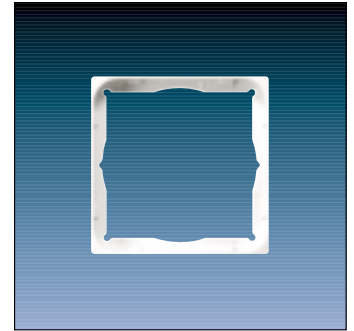


Connection

- 1 / 2 / 3 = Combi sensor (AR 04)
- or
- 2 / 3 = Wind sensor (VT 04)
- and
- 1 / 3 = Brightness sensor (LA 90)
- 4 / 6 = Rain sensor (RW 90)
- 4 / 5 / 6 = Push button (539 VU)

Note
 It is not possible to use a sensor for more than one "Aero Tec 04".

Description	Ref.-no.
Intermediate frame to install "Aero Tec 04" in the design ranges AS 500, A 500, A plus	
ivory	A AT 581 Z
white	A AT 581 Z WW



Intermediate frame to install "Aero Tec 04" in the design ranges CD 500, CD plus	
ivory	CD AT 581 Z
white	CD AT 581 Z WW



Combi sensor	AR 04
<p>The combi sensor is used in combination with the awning control "AeroTec 04". It detects wind speed and brightness values. The combi sensor facilitates the moving up of blinds and shutters, depending upon the wind and brightness intensity. Always use shielded control wire to connect the sensor.</p>	





Room thermostat insert
1-pole break contact



Center plate
for room thermostat insert



Room thermostat insert
1-pole/2-way contact



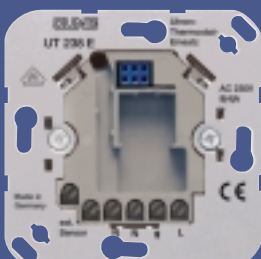
Center plate
for room thermostat insert



Floor thermostat insert



Center plate
for floor thermostat insert



Timer thermostat insert



Timer thermostat display



Radio timer
thermostat insert



Radio timer
thermostat display

The Temperature Management contains controller for heating, cooling and floor heating systems.

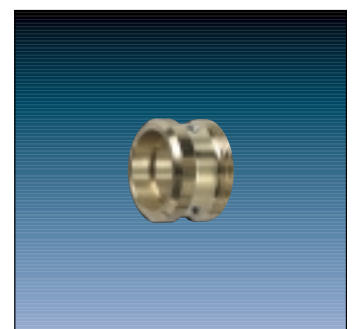
The respective center plates are available in the design ranges AS 500, A 500, CD 500/CD plus, SL 500, LS 990 as well as Stainless Steel, Aluminium, Anthracite and Gold.

For time controlled temperature regulation JUNG developed the timer thermostat and for wireless solutions the radio timer thermostat display.

32 individual switching times arranged for one week can be stored. An optimised heat up performance makes sure, that the desired temperature is already achieved at the selected time by means of advanced heating.

Description	Ref.-no.
Room thermostat insert for heating only The room thermostat insert is intended for the control of temperature within enclosed areas. It is available in two versions.	
250 V ~	TR 231 U
24 V ~	TR 241 U
Neutral conductor required, 1-pole break contact On/off switch + pilot light Separate terminal for temperature reduction of 4 K (e.g. during night time)	
Switching current: 10 (4)* A Nominal range: +5° C – +30° C Hysteresis: 0.5 K	
Room thermostat insert for heating and cooling The room thermostat insert is intended for the control of temperature within enclosed areas. It is available in two versions.	
250 V ~	TR 236 U
24 V ~	TR 246 U
Neutral conductor required, 1-pole/2-way contact without switch, without pilot light Switching current: 10 (4)* A (heating), 5 (2)* A (cooling) Nominal range: +5° C – +30° C Hysteresis: 0.5 K	
Floor thermostat insert	FTR 231 U
for control of electrical floor heating and floor temperature systems with NTC remote sensor Neutral conductor required 1-pole make contact On/off switch LED indicates heating Separate terminal for temperature reduction of 5 K (e.g. during night time)	
Switching current: 10 (4)* A Nominal range: +10° C – +50° C Hysteresis: 1 K	
Spare NTC sensor	FF 7.8
NTC in plastic cap (7.8 mm Ø) with black wire, 4 m	
Thermal electrical valve drive	TVA 110 WW
The valve drive opens and closes valve bottom parts without any noise with a minimum of energy. It can be controlled by a digital or analog 2-point control signal. The function can be adjusted easily to normally CLOSED or normally OPENED operation.	
Nominal voltage: AC 230 V ~ Function: without supply CLOSED or OPENED Power consumption: during operation 2.5 W Switch on current: max 250 mA Run time: for 3.6 mm approx. 3 min. Operation Temperature: –5° C to +50° C Protection: IP 43 / IP 44 if vertical Suitable for: valve bottom parts from Roth, Rehau, KaMo, MNG, Heimer, Gampfer	
Adapter	A 110
for mounting on Danfoss RA-N (RA 2000)	

* = Value for inductive loads with $\cos \varphi = 0.6$



For more details see technical appendix.



Description	Ref.-no.
Center plates for temperature inserts for the design ranges	
AS 500, A 500, A plus	
for TR 231 U and TR 241 U	
ivory	A TR 231 PL
white	A TR 231 PL WW
aluminium	A TR 231 PL AL
for TR 236 U and TR 246 U	
ivory	A TR 236 PL
white	A TR 236 PL WW
aluminium	A TR 236 PL AL
for FTR 231 U	
ivory	A FTR 231 PL
white	A FTR 231 PL WW
aluminium	A FTR 231 PL AL
Special knob	
prevents manipulation of temperature settings	
ivory	MS TR 231 PL
white	MS TR 231 PL WW
aluminium	MS TR 231 PL AL



Center plates for temperature inserts for the design ranges	
CD 500, CD plus	
available colours:	
ivory, white, blue, brown, grey, light grey, red, black, gold-bronze, platinum	
for TR 231 U and TR 241 U	
ivory	CD TR 231 PL
other colours	CD TR 231 PL ..
for TR 236 U and TR 246 U	
ivory	CD TR 236 PL
other colours	CD TR 236 PL ..
for FTR 231 U	
ivory	CD FTR 231 PL
other colours	CD FTR 231 PL ..
Special knob	
prevents manipulation of temperature settings	
ivory	MS TR 231 PL
other colours	MS TR 231 PL ..

Description	Ref.-no.
Center plates for temperature inserts for the design ranges	
SL 500	
for TR 231 U and TR 241 U	
white	SL TR 231 PL WW
black	SL TR 231 PL SW
bronze	SL TR 231 PL GB
for TR 236 U and TR 246 U	
white	SL TR 236 PL WW
black	SL TR 236 PL SW
bronze	SL TR 236 PL GB
for FTR 231 U	
white	SL FTR 231 PL WW
black	SL FTR 231 PL SW
bronze	SL FTR 231 PL GB
Special knob	
prevents manipulation of temperature settings	
white	MS TR 231 PL WW
black	MS TR 231 PL SW
bronze/beige	MS TR 231 PL BB

**Center plates for temperature inserts
for the design ranges**

LS 990 (available colours: ivory, white, light grey)
Stainless Steel, Aluminium, Anthracite, Gold and LS plus

for TR 231 U and TR 241 U	
LS 990	LS TR 231 PL ..
stainless steel	ES TR 231 PL
aluminium, anthracite and gold	AL TR 231 PL ..
for TR 236 U and TR 246 U	
LS 990	LS TR 236 PL ..
stainless steel	ES TR 236 PL
aluminium, anthracite and gold	AL TR 236 PL ..
for FTR 231 U	
LS 990	LS TR 231 PL ..
stainless steel	ES TR 231 PL
aluminium, anthracite and gold	AL TR 231 PL ..
Special knob	
prevents manipulation of temperature settings	
LS 990	MS TR 231 PL ..
stainless steel	MS TR 231 PL ES
aluminium, anthracite and gold	MS TR 231 PL AL ..



For more details see technical appendix.



A UT 238 D ..

CD UT 238 D ..

SL UT 238 D ..

LS UT 238 D ..

ES UT 238 D

Description	Ref.-no.
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**Timer thermostat display
for the timer thermostat insert UT 238 E**

for the design ranges

AS 500, A 500, A plus

ivory	A UT 238 D
white	A UT 238 D WW
aluminium	A UT 238 D AL

CD 500, CD plus

ivory	CD UT 238 D
white	CD UT 238 D WW
blue	CD UT 238 D BL
brown	CD UT 238 D BR
grey	CD UT 238 D GR
light grey	CD UT 238 D LG
red	CD UT 238 D RT
black	CD UT 238 D SW
gold-bronze	CD UT 238 D GB
platinum	CD UT 238 D PT

SL 500

white	SL UT 238 D WW
black	SL UT 238 D SW
bronze	SL UT 238 D GB

LS 990, LS plus

ivory	LS UT 238 D
white	LS UT 238 D WW
light grey	LS UT 238 D LG

Metal versions, LS plus

stainless steel	ES UT 238 D
aluminium	AL UT 238 D
anthracite	AL UT 238 D AN
gold	AL UT 238 D GO

Timer thermostat display

The timer thermostat display enables the time controlled temperature regulation of single rooms or floor heating systems. It has an integrated time switch for weekly settings. 32 individual switching times arranged for one week may be stored.

The beginning and the end of the heating period can be accurately defined.

An optimised heat up performance makes sure, that the desired temperature is already achieved at the selected time by means of advanced heating.

The timer thermostat display works similarly to a delay switch – at specific times which can be set, the heating system is regulated to three temperatures which can be set.

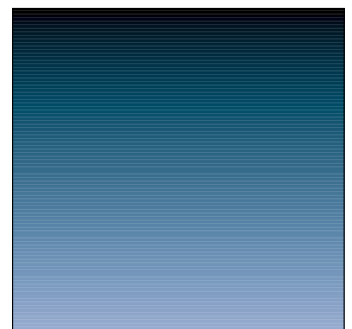
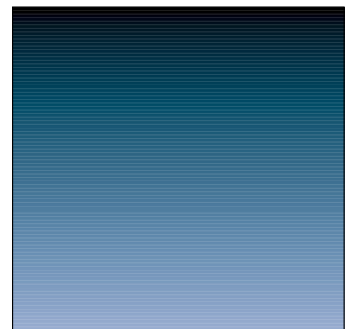
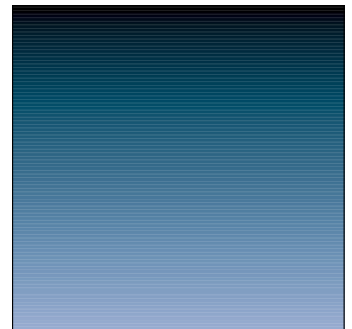
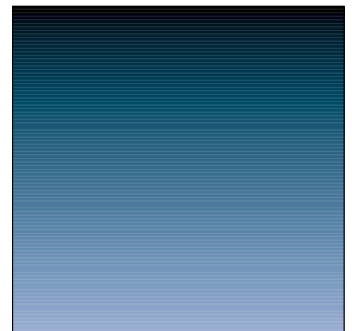
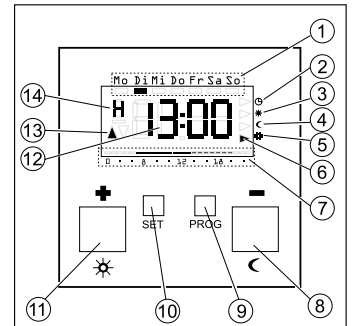
- The comfort temperature is usually used for the daytime, precisely for the periods of present.
- The lowering temperature is usually used for the night. It is also called the economy temperature.
- The anti-freeze temperature is usually used for longer periods of absence (e.g. holidays)
The temperature is just high enough to protect the heating system against freezing.

Display and buttons

- ① The current weekday is displayed here.
- ② Symbol for the "Time program" operating mode.
- ③ Symbol for the "Comfort temperature" operating mode.
- ④ Symbol for the "Lowering temperature" operating mode.
- ⑤ Symbol for the "Anti-freeze temperature" operating mode.
- ⑥ The respective current operating mode is indicated here by means of triangles.
- ⑦ The ranges set for the comfort temperature in the time program are displayed here.
- ⑧ – or ☾ button, also called the economy button.
- ⑨ **PROG** button
- ⑩ **SET** button
- ⑪ + or ☀ button, also called the party button.
- ⑫ The time is displayed here. You can have this display changed by the installer to, for example, the temperature display.
- ⑬ This triangle indicates whether heating (▲) or cooling (▼) is being carried out.
- ⑭ Further information on the settings which you carry out is displayed here:
e.g. an H if you set the time.

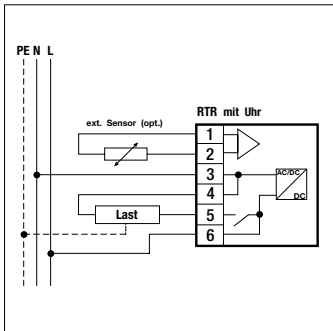
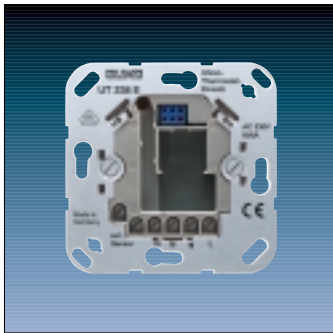
Technical data

Time functions:	Timer switch with week program , automatic switching between summer and winter time
Hysteresis:	± 0.1 ... ± 1.3 K, can be set in steps of 0.1 K
Switching times:	32, to be arranged in steps of 10 min. over one week
Power reserve:	min. 4 hours over gold cap
Min. switching period:	20 s up to 500 s, in steps of 10 s
Valve test mode:	The thermostat switches the valve after 7 days of no switching action (e.g. in the summer)
Connection:	Screw terminals for wires up to 2.5 mm ²
Durability:	min. 50.000 switching
Temperature range:	+10 ... +40° C comfort- and lowering temperature +5 ... +15° C anti-freeze temperature +5 ... +55° C limiting temperature increment 0.5 K



Temperature Management

For more details see technical appendix.



Description	Ref.-no.
Timer thermostat insert	UT 238 E

The timer thermostat insert is used in combination with a timer thermostat display of the desired design range.

Nominal voltage:	AC 230 V ~, 50 Hz, neutral conductor required
Switching current:	8 A relay contact (4 A for inductive loads with $\cos \varphi = 0.6$)
Relay output:	make contacts
Ambient temperature:	0° C – +50° C
Sensor:	Internal sensor, external sensor can be connected
Connection:	Screw terminals for 2.5 mm ² max. or 2 x 1.5 mm ² Terminal 1 – external sensor Terminal 2 – external sensor Terminal 3 – neutral conductor Terminal 4 – neutral conductor Terminal 5 – relay contact Terminal 6 – phase

External sensor

for timer thermostat insert

Ø 8.5, 35 mm, in plastic cap

FF 8.5

Ø 5, 40 mm, in brass tube

FF 5

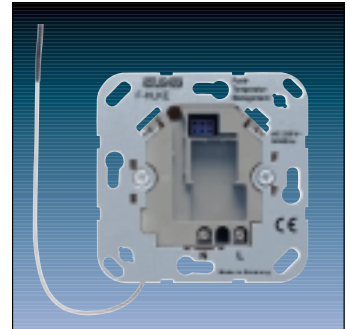
for measuring floor temperature,
extended with 4 m black cable

Temperature Management

Description	Ref.-no.
Radio timer thermostat insert	F-HLKE

for radio-controlled temperature control

The radio timer thermostat insert is used in conjunction with the radio timer thermostat display. it can be mounted into a flush-mounted wall box. The recommended mounting height is 1.50 m.



Radio timer thermostat display

for radio-controlled temperature control

for ranges AS 500, A 500 + A plus

ivory	A HLK-FT
white	A HLK-FT WW
aluminium	A HLK-FT AL



for ranges CD 500 + CD plus

ivory	CD HLK-FT
white	CD HLK-FT WW



for ranges LS 990 + LS plus

ivory	LS HLK-FT
white	LS HLK-FT WW

for ranges Aluminium + LS plus

aluminium	AL HLK-FT
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for ranges Stainless Steel + LS plus

stainless steel	ES HLK-FT
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for ranges Anthracite + LS plus

anthracite	AL HLK-FT AN
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Radio-controlled valve drive

HLK-FMS

The radio-controlled valve drive is used to control radiators or under floor heating systems.

The device is battery-operated and can be controlled by radio signals of the Radio timer thermostat or the Radio Management Controller. The valve drive is equipped with two push-buttons to adjust the desired temperature.





The observer range from JUNG offers a variety of solutions which have been developed for specific applications.

With its movable, spherical head, the automatic observer 110 even copes with unfavourable installation conditions. It can be rotated, tilted and swivelled in all directions.

The automatic observer 70 is used in narrow detection areas and is ideal for terraced houses. With an angle of 70° and a range of 8 m, it monitors an area of 11 m.

The sensor head of the automatic observer 220 is able to rotate and swivel. It has a detection area of 220° and can record everything and everyone around it. Due to the special rear view monitoring function, no-one can pass unnoticed even from behind.



With a detection angle of 110° and a maximum range of 16 m, it monitors an area comprising 16 zones which are distributed across three planes. Integrated twilight sensors as well as an infinitely adjustable normal and day mode are part of the progressive technology.



Five monitoring planes guarantee a high level of functional reliability. The robust, splash-proof Observer is available in white and anthracite with a matching coloured lens.



The observer 220 uses the latest digital microprocessor technology which guarantees a precise evaluation of the signals as well as error-free operation. A further benefit as regards security: the observer does not react to artificial light and any attempts to manipulate it using a torch have no effect.



Observer

Not suitable for alarm systems!

For technical details see appendix.

Description	Ref.-no.
Observer 220°	W 220 WW

with digital signal evaluation

The 220° observer responds to thermal movements triggered, for example, by persons, animals or motor vehicles. On detecting objects, the device switches on consumers such as a lamp or a bell. The detector remains on as long as movements are detected. In all other cases, the 220° observer switches off after the preset delay time.

In addition, the short-time mode can be selected. This mode facilitates the activation of acoustic signalling devices for monitoring of entrance doors (door-bell/door-chime). The response of the device is indicated visually. By means of an adjustable twilight switch, the switching function can be selected in a way that the device is activated only below a certain brightness value or over the day. The device can be adapted to local conditions by turning it to the desired direction. Possibly existing thermal signal sources leading to undesired switching events can be eliminated by adjusting the sensitivity and/or by using self-adhesive masking segments.

The detector is highly insensitive to scattered light. During the transition from night to day, the detection of movements is stopped only after the preset brightness level has been exceeded for at least 10 minutes. Manipulation of the device e.g. by using a pocket flashlight to illuminate the detector and to prevent it from responding is thus excluded. During the transition from day to night, the detection of movements is started only after the ambient brightness has remained below the preset brightness level for at least 2 min. This avoids unintentional activation of the detector by a short-time drop of the ambient brightness below the preset brightness level (e.g. by a cloud) at which the device is activated.

By actuating a mechanical push-button (break contact; e.g. 533 U) several times, you can change among the different modes • Detector mode • Light ON for four hours • Light OFF for four hours • Test mode.

Technical data:

Nominal range:	approx. 16 m	Protective system:	IP 55, jet-proof
Installation height:	approx. 2.40 m	Connections:	L, N, μ (relay)
Detection field:	approx. 220°, with separate undercrawling protection	Delay time:	wiring up to 2.5 mm ² approx. 2 sec up to 30 min infinitely adjustable short-time puls 0.5 sec
Rated voltage:	230/240 VAC, 50/60 Hz	Temperature range:	-20° C up to +55° C
Switching contact:	relay at AC 230 V mains potential	Switching capacity:	
Starting current:	approx. 20 A for 4 seconds at 10 % duty cycle	Incandescent lamps	2300 W
Automatic cut-out:	execute in acc. with local guidelines, max. however 16 A	HV halogen lamps	2300 W
Load line length:	100 m max. in total	LV halogen lamps with	
Brightness sensor:	day-time and night-time operation approx. 1 – 1000 lux infinitely adjustable	Tronic transformers	1200 W
Immunity time:	app. 2 sec up to 10 min	conv. transformers	1200 W
Sensitivity:	app. 20 – 100 % infinitely adjustable	Fluorescent lamps	uncompensated 1200 W short-compensated 920 W
		twin-lamp circuit	2300 W

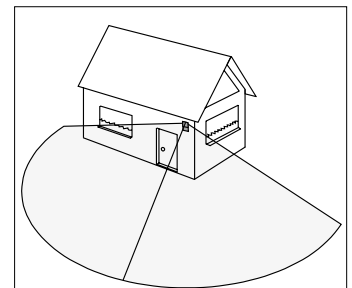
Important: When switched on „energy-saving lamps“ produce very high inrush currents which may cause the switch contact to get stuck. Be careful with high switch-on peak currents with „energy saving lamps“. Check the lamps for suitability prior to using them.

Delay time limitation: Once the detector has switched on, the brightness is no longer evaluated.

To prevent the light from remaining permanently on (e.g. beyond dawn) with permanent movements in the detection field occurring all the time, the device is provided with an intelligent limiting function.

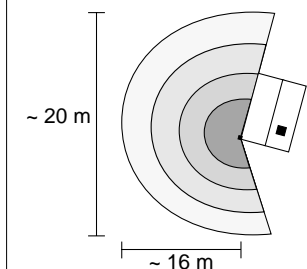
The delay time (time the light remains on after detection of the last movement) is selected depending on the real switch-on time:

Switch-on time	Delay time (approx)	
up to 60 min	depending on setting	This means, that the detector switches off after
up to 70 min	4 min	90 minutes, at the latest, even if there are still
up to 75 min	2 min	movements in the detection field.
up to 80 min	1 min	Restarting will only be effected if the ambient
up to 85 min	30 sec	brightness drops below the preset brightness level
up to 90 min	15 sec	and if a movement is detected in the detection field.
90 min	switching-off	



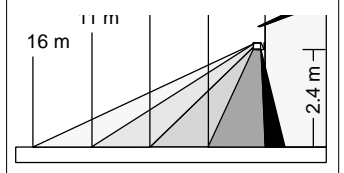
Field of detection:

The 220° observer has a very dense, horseshoe-shaped field of detection of 220° consisting of four levels with more than 580 switching segments and additional protection against undercrawling.



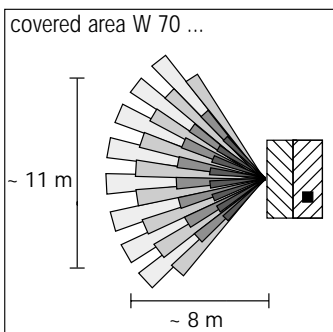
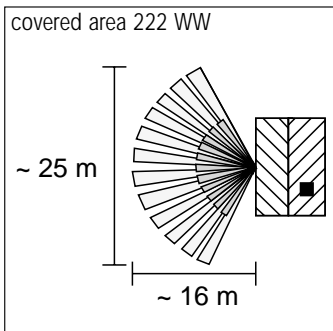
4 Detection levels:

1st level:
from approx. 0 to approx. 3 m
2nd level:
from approx. 3 to approx. 7 m
3rd level:
from approx. 7 to approx. 11 m
4th level:
from approx. 11 to approx. 16 m
Protection against undercrawling:
approx. 0 m to approx. 0.4 m



Observer

Not suitable for alarm systems.



Description	Ref.-no.
Observer 110°	222 WW

covered area: 16 x 25 m
at a mounting height of 2.40 m.
including screens for reduction of the covered area, 3D joint

Technical data:

Nominal voltage:	230 V AC, 50 Hz	Temperature range:	-35° C up to +50° C
Switching capacity:		Operating time:	12 sec up to 12 min continuously adjustable
- incandescent lamps	2200 W/VA	Brightness sensor:	5 – 3000 lux + daytime operation continuously adjustable
- 230 V halogen lamps	1000 W	Protection level:	IP 55
Mounting height:	2.40 m	Setting possibilities:	
Peak load:	max. 16 A	- rotating	180° horizontal
Switching current:		- inclining	180° vertical
- ohmic load	max. 10 A	- swivelling	90°
- cos. φ = 0,5 inductive	max. 5 A		
Rest current when			
Contact open:	1 mA		

interference suppression: acc. VDE 0875/6.77

Observer 70°

white	W 70 WW
anthracite	W 70 AN

covered area: 8 x 11 m
at a mounting height of 2.40 m.
the covered area is mechanically adjustable
at 3 levels

Technical data:

Nominal voltage:	230 V AC, 50 Hz	Temperature range:	-25° C up to +50° C
Switching contact:	relay, μ -contact	Operating time:	10 sec up to 5 min continuously adjustable
Breaking capacity:		Brightness sensor:	day and night operation Continuously adjustable
- incandescent lamps:	1000 W	Sensitivity:	adjustable at 3 levels
- 230 V halogen lamps:	1000 W	Mounting height:	2.40 m
Halogen lamps		Protection level:	IP 55
- standard transformer			
- (85% of rated load)	750 VA		
- TRONIC-transformer	750 W		
Fluorescent lamps			
- not compensated	500 VA		
- paral. compens. 47 μ F	400 VA		
- lead-lag circuit	1000 W		

Attention: energy saving lamps cause high peak current, reduction of capacity necessary!
Please check suitability of lamps before installation!

radio controlled Observer

Not suitable for alarm systems!

For technical details see appendix.

Description	Ref.-no.
Radio-controlled observer 180 IP 55	FW 180 WW

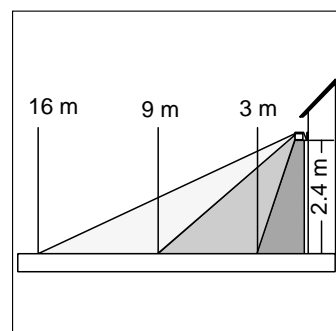
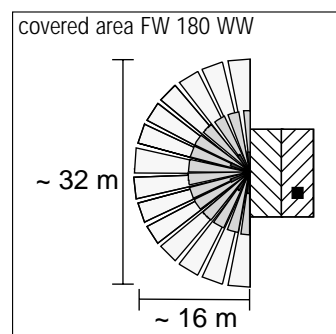
With a semicircular field of detection 16 x 32 m (180°) at a mounting height of approx. 2.40 m.
144 switching segments on 3 levels with an LED functional display and a clip-on cover for limiting the field of detection.

The sensitivity can be adjusted by approx. 20 – 100 %.

Depending on the programming, the radio telegrams from the radio-controlled observer are received by the radio-controlled performance unit (operating time can be set in steps from 30 sec. to 15 min.), by the radio center plate and by the radio-controlled actuators built-in, which then switch on for approx. 1 min.

Technical data

Nominal voltage:	9 V DC	Range:	approx. 100 m (free field)
Battery type:	9 V monobloc battery	Detection radius:	180°
Battery life:		Detection field:	16 x 32 m
Lithium (1.2 Ah):	approx. 4 years	Mounting height:	approx. 2.40 m
Alkaline (0.55 Ah):	approx. 1.5 years	Sensitivity:	20 % – 100 %
Power consumption		Evaluation	
Daytime operation:	approx. 0.14 mW	Operation range:	3 – 200 lux, ± 50 %
Night operation:	approx. 0.27 mW	Temperatur range:	-25° C up to +55° C
Radio transmission:	approx. 27 mW	Type of protection:	IP 55
Transmission power:	< 10 mW		
Transm. frequency:	433.42 MHz, ASK		



Radio-controlled performance unit	FWL 2200 WW
-----------------------------------	-------------

in connection with the radio-controlled observer ref.-no. FW 180 WW.

Additional function: ON for 2 hours, OFF for 2 hours are possible with conventional push-button or hand-held transmitter ref.-no. 42 FH, 48 FH, 48 KFH, and wall-mounted transmitter ref.-no 40 FW, ..41 F., ..42 F., ..44 F., multifunction transmitter ref.-no FMS 4 UP and Universal transmitter ref.-no FUS 22 UP.

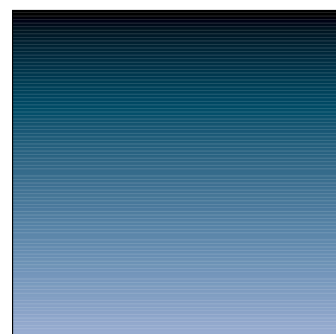
Technical data

Nominal voltage:	AC 230 V ~, 50 Hz	Miniature circuit-breaker:	10 A
Switch contact:	Relay	Power consumption:	2 W
Switching capacity		Inrush current:	max. 20 A
Incandescent lamps	2500 W	Operating time:	approx. 10 sec. – 15 min. ± 10 % retriggered
High voltage		Brightness setting:	approx. 3 – 80 lux ± 10 %
halogen lamps:	2500 W	Transmission frequency:	433.42 MHz, ASK
Fluorescent lamps		Temperature range:	-25° C up to +55° C
not compensated:	1200 W	Type of protection:	IP 55
parallel comp.:	920 W		
lead-lag circuit:	2400 W		

Additional function via push-button (break contact)

Pulse duration:	400 ms, ± 50 %
Pulse interval:	600 ms
1st function:	1 x pulse, operating time
2nd function:	2 x pulse, ON = 2 hrs, ± 10 %
3rd function:	3 x pulse, OFF = 2 hrs, ± 10 %

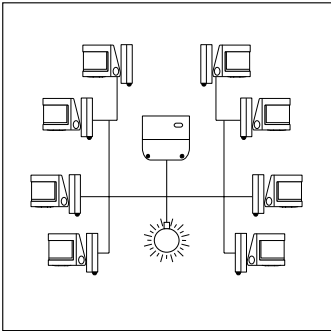
Attention: energy saving lamps cause high peak current, reduction of capacity necessary!
Please check suitability of lamps before installation!



Observer-System

Not suitable for alarm systems!

For technical details see appendix.



Principle of operation

Infrared sensors respond to thermal motion caused by people, animals or things and pass the information on to the system control unit; the performance unit analyses the information and will switch on the electrical consumer(s).

The observer system is practical at all places where several sensors are necessary.

Up to 2 x 8 sensors may be connected to a central unit by simple wiring.

Recommended cable for sensors: JY-ST-Y 2 x 2 x 0.8 or YR 4 x 0.8, max. length 100 m!



Description

System sensor 180°

covered area: 16 x 32 m (180°)
at a mounting height of 2.40 m.

144 zones on 3 levels, with LED pilot-lamp

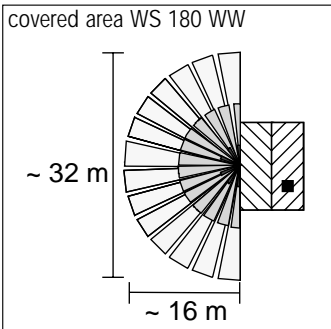
and screen for reduction of covered area

to be installed in combination with system control units

WL 2200 WW, WL 2200 REG, WL 2200-2 REG

Ref.-no.

WS 180 WW



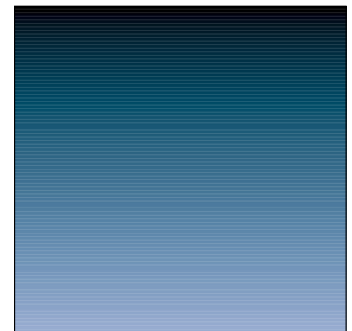
Description	Ref.-no.
System control unit	WL 2200 WW

to be installed in combination with system sensor WS 180 WW
for connection of max. 8 sensors

Technical data:

Nominal voltage:	230 V AC, 50 Hz	Ambient temperature:	-25° C – +55° C
Switch contact:	relay	Peak load:	max. 20 A
Breaking capacity:		Operating time:	4 sec up to 15 min
– incandescent lamps:	2500 W	Accuracy:	± 10%
– 230 V halogen lamps:	2500 W	Brightness sensor:	3 lux up to 80 lux
– fluorescent lamps		Accuracy:	± 35%
– not compensated	1200 W	Forced switched-off:	after max. 90 min
– parallel compens.	920 W	Protection level:	IP 55
– lead-lag circuit	2400 W		

Attention: energy saving lamps cause high peak current, reduction of capacity necessary!
Please check suitability of lamps before installation!



System control unit for DIN rail mounting
to be installed in combination with system sensors WS 180 WW
for max. 8 sensors

1-channel	WL 2200 REG
-----------	-------------

Switch contact: relay (floating contact)
if the unit shall be operated with DC (direct current)
a separate relay has to be used

Min. load: 12 V AC / 100 mA

Attention: energy saving lamps cause high peak current, reduction of capacity necessary!
Please check suitability of lamps before installation!

for max. 16 sensors

8 sensors per channel



2-channels	WL 2200-2 REG
------------	---------------

switch contact: 1 x relay (switched mains)
1 x relay (floating contact, for switching different mains)

not suitable for SELV

Attention: energy saving lamps cause high peak current, reduction of capacity necessary!
Please check suitability of lamps before installation!



LED Lighting Technology

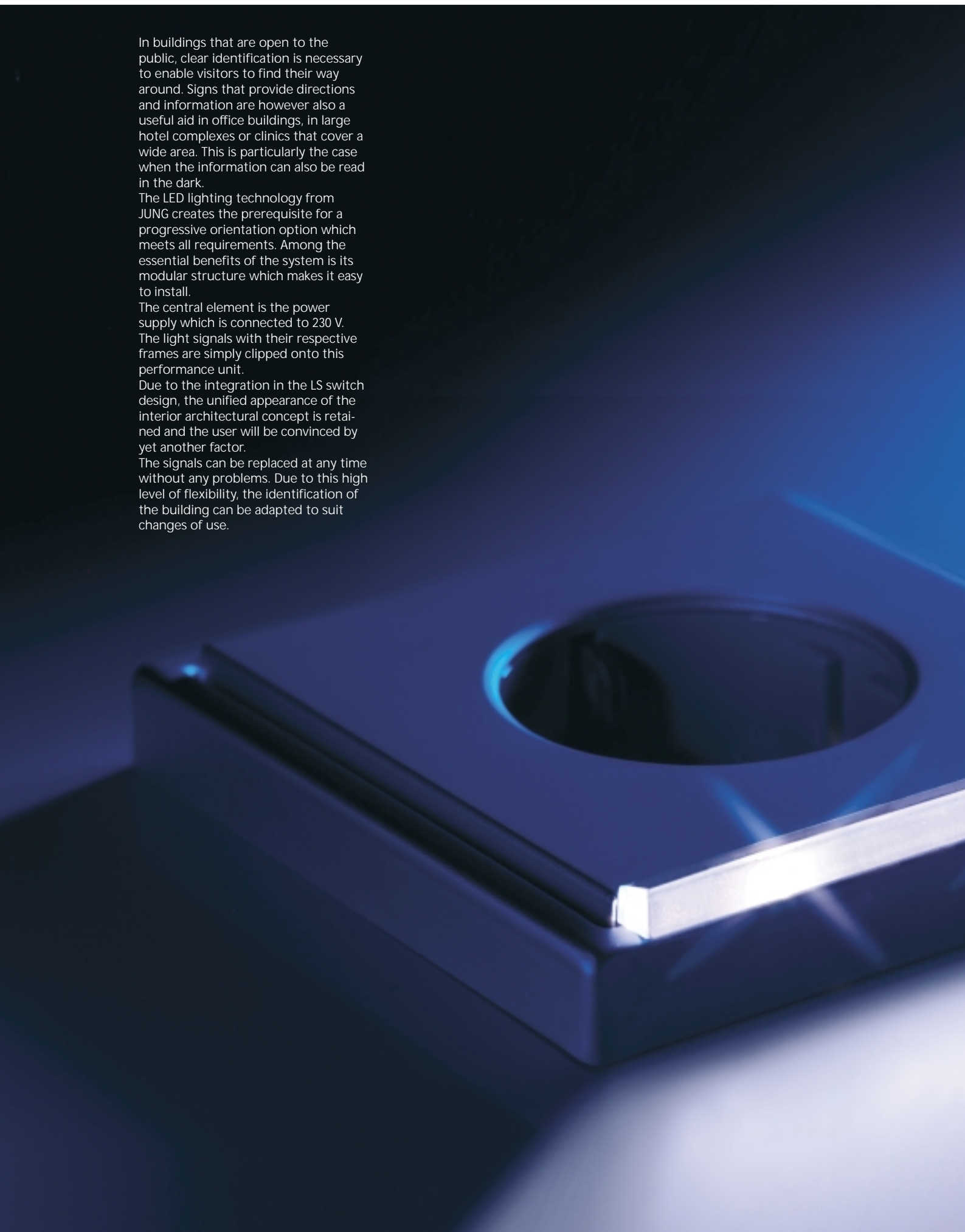
In buildings that are open to the public, clear identification is necessary to enable visitors to find their way around. Signs that provide directions and information are however also a useful aid in office buildings, in large hotel complexes or clinics that cover a wide area. This is particularly the case when the information can also be read in the dark.

The LED lighting technology from JUNG creates the prerequisite for a progressive orientation option which meets all requirements. Among the essential benefits of the system is its modular structure which makes it easy to install.

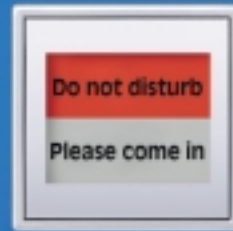
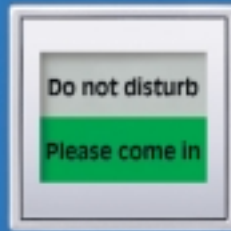
The central element is the power supply which is connected to 230 V. The light signals with their respective frames are simply clipped onto this performance unit.

Due to the integration in the LS switch design, the unified appearance of the interior architectural concept is retained and the user will be convinced by yet another factor.

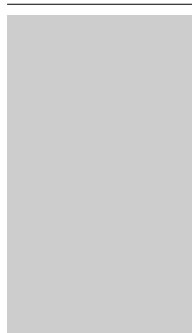
The signals can be replaced at any time without any problems. Due to this high level of flexibility, the identification of the building can be adapted to suit changes of use.



JUNG

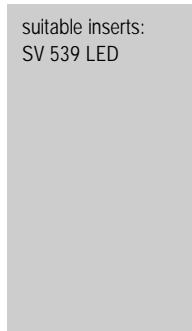


LED Lighting Technology



Description	Ref.-No.
LED power supply insert	SV 539 LED
230 V, 50 Hz	
non dimmable,	
connection: L, N, L'	

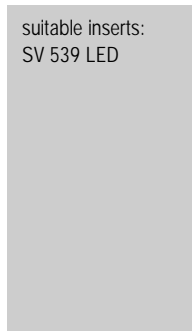
The LED power supply insert is exclusively used for LED pilot light covers.



suitable inserts:
SV 539 LED

LED pilot light
with white and blue LEDs
connections L and N for white LEDs, L' and N for blue LEDs,
inscribable with symbols and for standard transparencies.

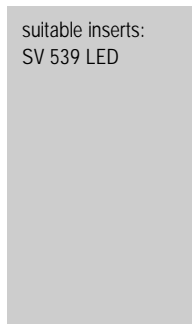
white	LS 539 WW LED WB
light grey	LS 539 LG LED WB
aluminium	AL 2539 LED WB
anthracite	AL 2539 AN LED WB
stainless steel	ES 2539 LED WB



suitable inserts:
SV 539 LED

LED red/green pilot light
with two light pads
connections L and N for green LEDs, L' and N for red LEDs,
inscribable with symbols and for standard transparencies.

white	LS 539-2 WW LEDR G
light grey	LS 539-2 LG LEDR G
aluminium	AL 2539-2 LEDR G
anthracite	AL 2539-2 AN LEDR G
stainless steel	ES 2539-2 LEDR G



suitable inserts:
SV 539 LED

LED floor pilot light with white LEDs, connection: L, N

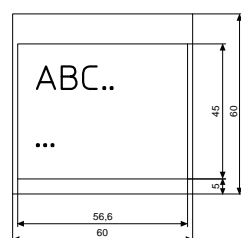
white	LS 539-0 WW LED W
light grey	LS 539-0 LG LED W
aluminium	AL 2539-0 LED W
anthracite	AL 2539-0 AN LED W
stainless steel	ES 2539-0 LED W

LED floor pilot light with blue LEDs, connection: L, N

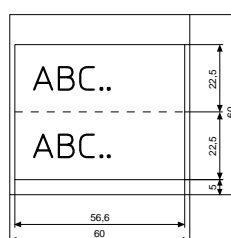
white	LS 539-0 WW LED B
light grey	LS 539-0 LG LED B
aluminium	AL 2539-0 LED B
anthracite	AL 2539-0 AN LED B
stainless steel	ES 2539-0 LED B


Various symbols available on request or can be downloaded under:
www.jung-label.de

Symbol foil for LED pilot light

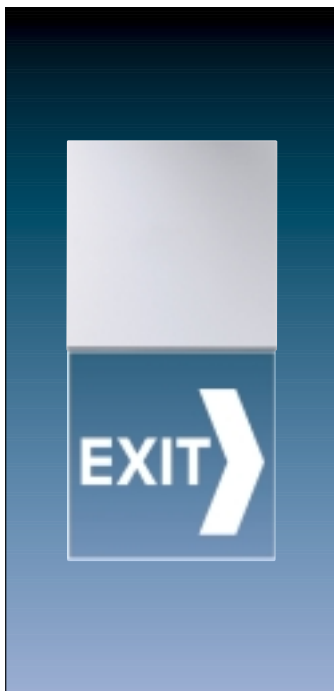


Symbol foil for LED red/green pilot light



Description	Ref.-No.		
<p>SCHUKO-socket, 2-pole + earth with white LED floor pilot light and child protection (shutter) The LED is removable. It can be connected directly to the socket or via a switch by means of an 220 mm extension cord.</p>			
<p>LED floor pilot light with white LEDs</p>			
<p>Design range LS 990</p>			
<p>white</p>	<p>LS 520-O WW LED W</p>		
<p>light grey</p>	<p>LS 520-O LG LED W</p>		
<p>Metal versions</p>			
<p>aluminium</p>	<p>AL 2520-O LED W</p>		
<p>anthracite</p>	<p>AL 2520-O AN LED W</p>		
<p>stainless steel</p>			
<p>ES 2520-O LED W</p>			
<p>Spare LED insert</p>			
<p>520-O LEDW-1</p>			

LED Lighting Technology



suitable inserts:
SV 539 LED

Decal information
will be delivered
according to indi-
vial specification.

Description	Ref.-No.
LED pilot light with short decal information and white LEDs	
white	LS 539 N71 WW LED W
light grey	LS 539 N71 LG LED W
aluminium	AL 2539 N71 LED W
anthracite	AL 2539 N71 AN LED W
stainless steel	ES 2539 N71 LED W

Dimensions:

Decal information	71 x 71 mm
Complete device	71 x 142 mm

For complete installation a frame of the respective
design range (LS/AL/ES) is required
(see page 279 + 300).



suitable inserts:
SV 539 LED

Decal information
will be delivered
according to indi-
vial specification

Description	Ref.-No.
LED pilot light with short decal information and blue LEDs	
white	LS 539 N71 WW LED B
light grey	LS 539 N71 LG LED B
aluminium	AL 2539 N71 LED B
anthracite	AL 2539 N71 AN LED B
stainless steel	ES 2539 N71 LED B

Dimensions:

Decal information	71 x 71 mm
Complete device	71 x 142 mm

For complete installation a frame of the respective
design range (LS/AL/ES) is required
(see page 279 + 300).

For your individual inscription please visit our website www.jung-label.de.
On the website you may download an order form or the easy labeling soft-
ware to select your individual LED pilot light with decal information.

Further information about labeling prices on request.

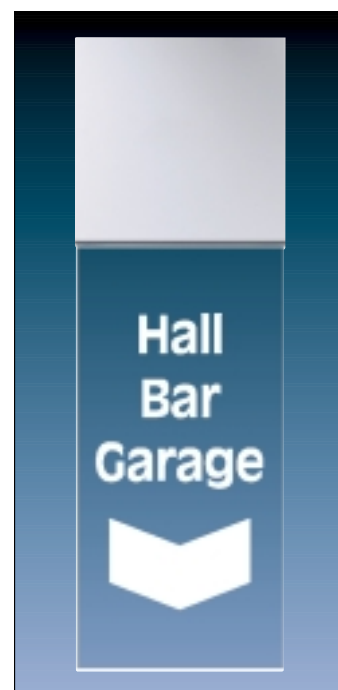
Description	Ref.-No.
LED pilot light with long decal information and white LEDs	
white	LS 539 N142 WW LED W
light grey	LS 539 N142 LG LED W
aluminium	AL 2539 N142 LED W
anthracite	AL 2539 N142 AN LED W
stainless steel	ES 2539 N142 LED W

Dimensions:	
Decal information	71 x 142 mm
Complete device	71 x 213 mm

For complete installation a frame of the respective design range (LS/AL/ES) is required (see page 279 + 300).

suitable inserts:
SV 539 LED

Decal information
will be delivered
according to indi-
vial specification



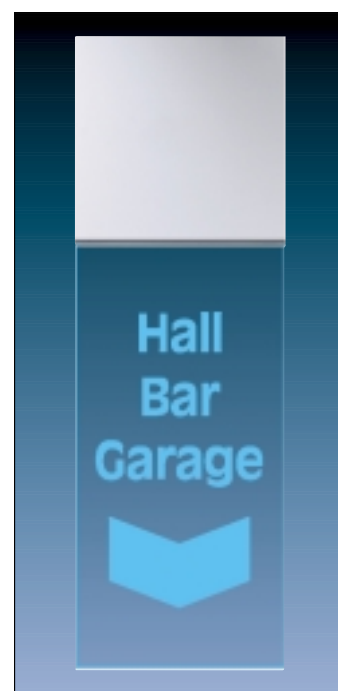
LED pilot light with long decal information and blue LEDs	
white	LS 539 N142 WW LED B
light grey	LS 539 N142 LG LED B
aluminium	AL 2539 N142 LED B
anthracite	AL 2539 N142 AN LED B
stainless steel	ES 2539 N142 LED B

Dimensions:	
Decal information	71 x 142 mm
Complete device	71 x 213 mm

For complete installation a frame of the respective design range (LS/AL/ES) is required (see page 279 + 300).

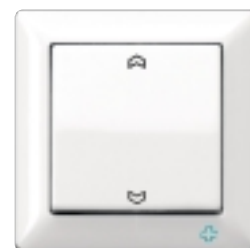
suitable inserts:
SV 539 LED

Decal information
will be delivered
according to indi-
vial specification



For your individual inscription please visit our website www.jung-label.de. On the website you may download an order form or the easy labeling software to select your individual LED pilot light with decal information.

Further information about labeling prices on request.



The new range AS 500 accomplishes a new standard in form and function. Frame and center plate compose a harmonic unit. The coverage of the range reaches from the complex KNX/EIB technology over Light- and Blinds- up to Radio-Management.

Frame size:

- 1-gang 80.5 mm x 80.5 mm
 - 2-gang 151.5 mm x 80.5 mm
 - 3-gang 222.5 mm x 80.5 mm
 - 4-gang 293.5 mm x 80.5 mm
 - 5-gang 364.5 mm x 80.5 mm
- Frames can be horizontally and vertically installed.

Material AS 500:
duroplastic

Material AS 500 antibacterial:
antibacterial duroplastic

Protection level:
IP 20/IP 21
IP 44 in connection with
sealing gasket

Colours:
ivory similar RAL 1013
white similar RAL 9010



The new range AS 500 antibacterial is made of antibacterial duroplastic which impedes the growth and spread of bacteria and viruses.

Therefore the new AS 500 antibacterial is most suitable for the use in hospitals, day-care centres, nursing homes and other facilities with high hygienic requirements.



AS 500 / AS 500 antibacterial

All devices have to be completed with frames AS 581 .. – AS 585 .. !

■ With sealing gasket ref.-no. 551 WU and frame from range AS 500 the protection level IP 44 is ensured.



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

Description	Ref.-No.
1-gang rocker	
ivory*	■ AS 591
white*	■ AS 591 WW
antibacterial version	
ivory*	■ ABAS 591
white*	■ ABAS 591 WW

* illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.



suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

1-gang rocker with transparent lens	
ivory	■ AS 591 KO5
white	■ AS 591 KO5 WW
antibacterial version	
ivory	■ ABAS 591 KO5
white	■ ABAS 591 KO5 WW



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

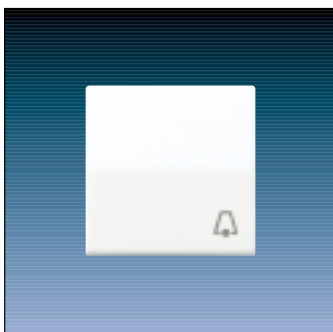
1-gang rocker with symbol "light"	
ivory*	■ AS 591 L
white*	■ AS 591 L WW
antibacterial version	
ivory*	■ ABAS 591 L
white*	■ ABAS 591 L WW

* illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.



suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

1-gang rocker with symbol "light" and lens	
ivory	■ AS 591 KO5L
white	■ AS 591 KO5L WW
antibacterial version	
ivory	■ ABAS 591 KO5L
white	■ ABAS 591 KO5L WW



suitable inserts:
531 U,
533 U,
533-2 U,
534 U

1-gang rocker with symbol "bell"	
ivory*	■ AS 591 K
white*	■ AS 591 K WW
antibacterial version	
ivory*	■ ABAS 591 K
white*	■ ABAS 591 K WW

* illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.

Description	Ref.-No.
1-gang rocker with symbol "bell" and lens	
ivory	■ AS 591 KO5K
white	■ AS 591 KO5K WW
antibacterial version	
ivory	■ ABAS 591 KO5K
white	■ ABAS 591 KO5K WW

suitable inserts:
531 U,
533 U,
533-2 U,
534 U



1-gang rocker with symbol "door"	
ivory*	■ AS 591 T
white*	■ AS 591 T WW
antibacterial version	
ivory*	■ ABAS 591 T
white*	■ ABAS 591 T WW

* illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.

suitable inserts:
531 U,
533 U,
533-2 U,
534 U



1-gang rocker with symbol "door" and lens	
ivory	■ AS 591 KO5T
white	■ AS 591 KO5T WW
antibacterial version	
ivory	■ ABAS 591 KO5T
white	■ ABAS 591 KO5T WW

suitable inserts:
531 U,
533 U,
533-2 U,
534 U



2-gang rocker	
ivory	■ AS 591-5
white	■ AS 591-5 WW
antibacterial version	
ivory	■ ABAS 591-5
white	■ ABAS 591-5 WW

suitable inserts:
505 U, 509 U,
535 U, 539 U,
505 TU, 509 TU,
505-20 U,
509-20 U



2-gang rocker with transparent lens	
ivory	■ AS 591-5 KO5
white	■ AS 591-5 KO5 WW
antibacterial version	
ivory	■ ABAS 591-5 KO5
white	■ ABAS 591-5 KO5 WW

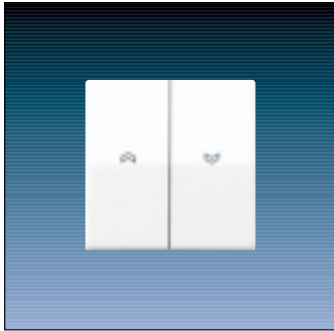
suitable inserts:
505 KOU 5,
505 KOVU 5



AS 500 / AS 500 antibacterial

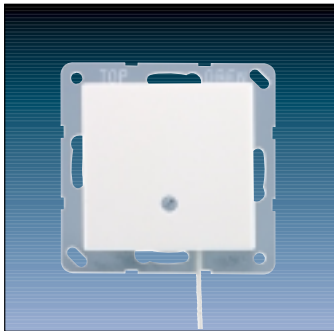
All devices have to be completed with frames AS 581 .. – AS 585 .. !

■ With sealing gasket ref.-no. 551 WU and frame from range AS 500 the protection level IP 44 is ensured.



suitable inserts:
509 VU,
539 VU

Description	Ref.-No.
2-gang rocker with symbols	
ivory	■ AS 591-5 P
white	■ AS 591-5 P WW
antibacterial version	
ivory	■ ABAS 591-5 P
white	■ ABAS 591-5 P WW



complete device
incl. insert

Pull cord switch, 10 AX/250 V ~ with 50 mm pull cord

ivory	■ A 506 NUZ
white	■ A 506 NUZ WW



suitable inserts:
531 U, 533 U,
533-2 U, 534 U



standard key card

Key card holder

When inserting the key card (being supplied by the door lock manufacturer) a contact will be given to the distribution board (relay). Depending on the installation/wiring all connected lights and other electric consumers will be supplied with energy. Individual control of the lights and ac/heater by JUNG rocker switches or dimmers. The key card has to be removed when leaving the room; the energy supply will be cut automatically. Illumination (orienting light) possible.

ivory	A 590 CARD
white	A 590 CARD WW

Note: suitable for cards with min. length 80 mm.
width 45 – 54 mm, thickness 0.5 – 1 mm.

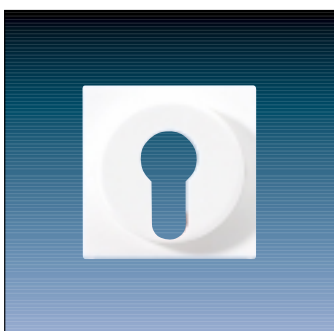


suitable inserts:
104.15, 134.15,
133-15, 106.15

Center plate for key switch

flat version

ivory	A 525 PL
white	A 525 PL WW



suitable inserts:
(IP 20)
104.28, 134.18,
134.28, 133.18,
106.28, 138.18
(IP 44)
CD 104.18 WU
CD 134.18 WU
CD 133.18 WU
CD 106.18 WU

Center plate for key switch

ivory	A 528 PL
white	A 528 PL WW

incl. two entry rosettes,
one blank and one with printed arrows

AS 500 antibacterial / AS 500

Description	Ref.-No.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system full plate (no frame necessary)	
ivory	AS 520
white	AS 520 WW
antibacterial version	
ivory	ABAS 520
white	ABAS 520 WW

screwless
connection for
wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system full plate (no frame necessary) with child protection (shutter)	
ivory	AS 520 KI
white	AS 520 KI WW
antibacterial version	
ivory	ABAS 520 KI
white	ABAS 520 KI WW

screwless
connection for
wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system full plate (no frame necessary)	
ivory	AS 521
white	AS 521 WW
antibacterial version	
ivory	ABAS 521
white	ABAS 521 WW

screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system full plate (no frame necessary) with child protection (shutter)	
ivory	AS 521 KI
white	AS 521 KI WW
antibacterial version	
ivory	ABAS 521 KI
white	ABAS 521 KI WW

screw terminals
for wires up to
2.5 mm²



AS 500 / AS 500 antibacterial

All devices have to be completed with frames AS 581 .. – AS 585 .. !



screwless connection for wires up to 2.5 mm²

Description	Ref.-No.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system	
ivory	A 520
white	A 520 WW
antibacterial version	
ivory	ABA 520
white	ABA 520 WW



screwless connection for wires up to 2.5 mm²

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with child protection (shutter)	
ivory	A 520 KI
white	A 520 KI WW
antibacterial version	
ivory	ABA 520 KI
white	ABA 520 KI WW



screw terminals for wires up to 2.5 mm²



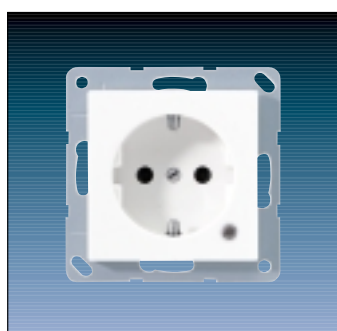
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system	
ivory	A 521
white	A 521 WW
antibacterial version	
ivory	ABA 521
white	ABA 521 WW



screw terminals for wires up to 2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with child protection (shutter)	
ivory	A 521 KI
white	A 521 KI WW
antibacterial version	
ivory	ABA 521 KI
white	ABA 521 KI WW



screwless connection for wires up to 2.5 mm²

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with pilot light	
ivory	A 520 KO
white	A 520 KO WW
antibacterial version	
ivory	ABA 520 KO
white	ABA 520 KO WW

AS 500 antibacterial / AS 500

All devices have to be completed with frames AS 581 .. – AS 585 .. !

■ With sealing gasket ref.-no. 551 WU and frame from range AS 500 the protection level IP 44 is ensured.

Description	Ref.-No.
SCHUKO-socket 45°, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system especially suitable for vertical combination of several outlets, screw fixing only	
ivory	A 520-45
white	A 520-45 WW

screwless
connection for
wires up to
2.5 mm²



SCHUKO-socket 45°, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system especially suitable for vertical combination of several outlets, screw fixing only with child protection (shutter)	
ivory	A 520-45 KI
white	A 520-45 KI WW

screwless
connection for
wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/250 V ~, German system with integrated surge voltage protection with child protection (shutter)	
ivory	A 521 KIUF
white	A 521 KIUF WW

screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with hinged lid	
ivory	■ AS 520 KL
white	■ AS 520 KL WW
antibacterial version	
ivory	■ ABAS 520 KL
white	■ ABAS 520 KL WW

screwless
connection for
wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with hinged lid with child protection (shutter)	
ivory	■ AS 520 KLKI
white	■ AS 520 KLKI WW
antibacterial version	
ivory	■ ABAS 520 KLKI
white	■ ABAS 520 KLKI WW

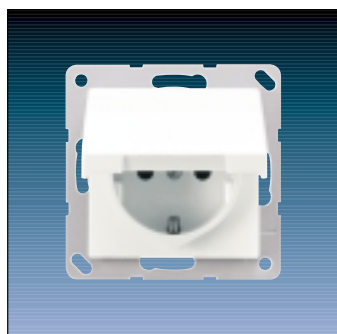
screwless
connection for
wires up to
2.5 mm²



AS 500 / AS 500 antibacterial

All devices have to be completed with frames AS 581 .. – AS 585 .. !

■ With sealing gasket ref.-no. 551 WU and frame from range AS 500 the protection level IP 44 is ensured.



screw terminals
for wires up to
2.5 mm²



Description

Ref.-No.

SCHUKO-socket, 2-pole + earth
16 A-AC/10 A-DC/250 V ~, German system
with hinged lid

ivory ■ AS 521 KL

white ■ AS 521 KL WW

antibacterial version available on request



screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth
16 A-AC/10 A-DC/250 V ~, German system
with hinged lid
with child protection (shutter)

ivory ■ AS 521 KIKL

white ■ AS 521 KIKL WW

antibacterial version available on request



screwless
connection for
wires up to
2.5 mm²

SCHUKO-socket, 2-pole + earth
16 A-AC/10 A-DC/250 V ~, German system
with pilot light
with hinged lid

ivory ■ AS 520 KLKO

white ■ AS 520 KLKO WW

antibacterial version

ivory ■ ABAS 520 KLKO

white ■ ABAS 520 KLKO WW



screwless
connection for
wires up to
2.5 mm²

Socket, 2-pole + male earth pin
16 A-AC/10 A-DC/250 V ~, French/Belgian system
full plate (no frame necessary)

ivory ■ AS 520 F

white ■ AS 520 F WW

with child protection (shutter)

ivory ■ AS 520 FKI

white ■ AS 520 FKI WW



screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + male earth pin
16 A-AC/10 A-DC/250 V ~, French/Belgian system
full plate (no frame necessary)

ivory AS 521 F

white AS 521 F WW

Description	Ref.-No.
Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system full plate (no frame necessary) with child protection (shutter)	
ivory	AS 521 FKI
white	AS 521 FKI WW

screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system	
ivory	A 520 F
white	A 520 F WW

screwless
connection for
wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system with child protection (shutter)	
ivory	A 520 FKI
white	A 520 FKI WW

screwless
connection for
wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system	
ivory	A 521 F
white	A 521 F WW
with child protection (shutter)	
ivory	A 521 FKI
white	A 521 FKI WW

screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system with hinged lid and child protection (shutter)	
ivory	■ AS 521 FKIKL
white	■ AS 521 FKIKL WW

screw terminals
for wires up to
2.5 mm²



All devices have to be completed with frames AS 581 .. – AS 585 .. !



screw terminals
for wires up to
2.5 mm²



Description

Ref.-No.

Socket, 2-pole without earth
16 A-AC/10 A-DC/250 V ~, for round pins
screw fixing only (with claws)

ivory **A 511 N**

white **A 511 N WW**

with child protection (shutter)

ivory **A 511 NKI**

white **A 511 NKI WW**



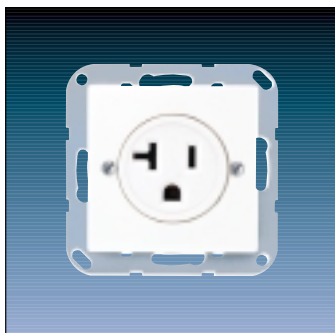
screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + earth
US-NEMA system 5-20 R
15 A/125 V ~
center plate

ivory **A 521-15**

white **A 521-15 WW**



screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + earth
US-NEMA system 5-20 R
20 A/125 V ~
center plate

ivory **A 521-20**

white **A 521-20 WW**



screw terminals
for wires up to
4 mm²



Socket, 2-pole + earth
13 A/250 V ~, British system, acc. to B.S. 1363: 1995
center plate with child protection (shutter)
screw fixing into standard wall boxes with Ø 60 mm
single steel boxes with fixing centres 60.3 mm

ivory **A 521 BS**

white **A 521 BS WW**



screw terminals
for wires up to
4 mm²



Double-pole switched socket, 2-pole + earth
13 A/250 V ~, British system, acc. to B.S. 1363: 1995
center plate with child protection (shutter) and pilot light (red rocker)
screw fixing into standard wall boxes with Ø 60 mm
single steel boxes with fixing centres 60.3 mm

ivory **A 172 KO**

white **A 172 KO WW**

without pilot light, ivory rocker **A 172**

without pilot light, white rocker **A 172 WW**

Description	Ref.-No.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system for installation in cable duct boxes 2-gang, dimension: 151.5 x 80.5 mm	
ivory	AS 522
white	AS 522 WW
3-gang, dimension: 151.5 x 80.5 mm	
ivory	AS 523
white	AS 523 WW

No frame
necessary.



Switch + socket combination 1-gang/2-way switch 10 A/250 V ~ + SCHUKO-socket 16 A-AC/250 V ~, German system screw- and claw fixing into standard wall boxes with Ø 60 mm	
ivory	AS 5576 U
white	AS 5576 U WW

screw terminals
for wires up to
2.5 mm²,
single device,
not suitable for
combination.
No frame
necessary.



Switch + socket combination 2-gang/1-way switch 10 A/250 V ~ + SCHUKO-socket 16 A-AC/250 V ~, German system only screw fixing into standard wall boxes with Ø 60 mm	
ivory	AS 5575 EU
white	AS 5575 EU WW

screw terminals
for wires up to
2.5 mm²,
single device,
not suitable for
combination.
No frame
necessary.



2-gang SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system screw- and claw fixing into standard wall boxes with Ø 60 mm	
ivory	AS 5020 U
white	AS 5020 U WW

screwless
connection
terminals
for wires up to
2.5 mm²,
single device,
not suitable for
combination.
No frame
necessary.



2-gang SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with child protection (shutter) screw- and claw fixing into standard wall boxes with Ø 60 mm	
ivory	AS 5020 KIU
white	AS 5020 KIU WW

screwless
connection
terminals
for wires up to
2.5 mm²,
single device,
not suitable for
combination.
No frame
necessary.



All devices have to be completed with frames AS 581 .. – AS 585 .. !



screw terminals
for wires up to
2,5 mm²,
single device,
not suitable for
combination.
No frame
necessary.



Description

Ref.-No.

2-gang SCHUKO-socket, 2-pole + earth
16 A-AC/10 A-DC/250 V ~, German system
screw- and claw fixing into standard wall boxes with Ø 60 mm

ivory **AS 5022 U**

white **AS 5022 U WW**

with child protection (shutter)

ivory **AS 5022 KIU**

white **AS 5022 KIU WW**



screw terminals
for wires up to
2,5 mm²,
single device,
not suitable for
combinations.
No frame
necessary.



Switch + socket combination

2-gang/1-way switch 10 A/250 V ~

+ 2-pole socket 16 A-AC/250 V ~

screw fixing into standard wall boxes
with Ø 60 mm (without claws)

ivory **AS 5545 EU**

white **AS 5545 EU WW**



screw terminals
for wires up to
2,5 mm²,
single device,
not suitable for
combinations.
No frame
necessary.



Switch + socket combination

1-gang/2-way switch 10 A/250 V ~

+ 2-pole socket 16 A-AC/250 V ~

screw fixing into standard wall boxes
with Ø 60 mm (without claws)

ivory **AS 5546 EU**

white **AS 5546 EU WW**



screwless
connection
terminals
for wires up to
2,5 mm²,
single device,
not suitable for
combination.
No frame
necessary.

2-gang socket, 2-pole without earth
16 A-AC/10 A-DC/250 V ~
screw fixing into standard wall boxes
with Ø 60 mm (without claws)

ivory **AS 5010 U**

white **AS 5010 U WW**

with child protection (shutter)

ivory **AS 5010 KIU**

white **AS 5010 KIU WW**



screw terminals



HNA socket, 2-pole + earth
10 A-DC/250 V ~

ivory **A 10 HNA**

white **A 10 HNA WW**

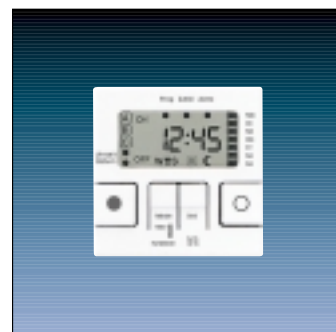
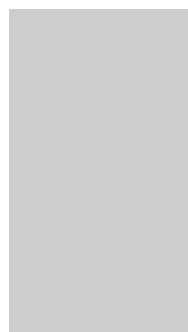
Plug for HNA-socket **10 HNA ST**

Description	Ref.-No.
Potential compensation socket e.g. for separate earthing of medical appliances in hospitals with 2 one-pole male sockets acc. to DIN 42801 screw fixing only	
ivory	A 565-2
white	A 565-2 WW

screw terminals
for wires up
to 6 mm²



Electronic time delay switch 1000 VA, 230 V, 50 Hz with astro mode, random generator ± 15 min.,	
ivory	A 5201 T
white	A 5201 T WW
neutral protective line necessary	



Standard center plate for touch dimmer inserts or electronic switch inserts	
ivory	AS 1561.07
white	AS 1561.07 WW
antibacterial version	
ivory	ABAS 1561.07
white	ABAS 1561.07 WW

suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1220 NE,
1240 STE



Radio center plate with radio-controlled receiver for touch dimmer inserts or electronic switch inserts	
ivory	AS 1561.07 F
white	AS 1561.07 F WW
antibacterial version	
ivory	ABAS 1561.07 F
white	ABAS 1561.07 F WW

suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1240 STE



Universal center plate for touch dimmer inserts or electronic switch inserts with 4 optional functions	
ivory	AS 1561.07 U
white	AS 1561.07 U WW

suitable inserts:
1201 URE,
1201-1 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1240 STE



for more technical/functional details see page 69

AS 500

All devices have to be completed with frames AS 581 .. – AS 585 .. !

■ With sealing gasket ref.-no. 551 WU and frame from range AS 500 the protection level IP 44 is ensured.



suitable inserts:
211 GDE, 266 GDE,
225 NVDE,
225 TDE,
254 UDIE1,
254 NIE1,
240-31, 244-110,
254 UDIE-110,
254 NIE-110,
243 EX, 244 EX,
244 HEX

Description	Ref.-No.
Center plate with knob for dimmer inserts (clip-on fixing)	
ivory	■ A 540
white	■ A 540 WW
antibacterial version	
ivory	■ ABA 540
white	■ ABA 540 WW



suitable inserts:
245.20

Center plate with knob for speed regulator inserts	
ivory	■ A 540.20
white	■ A 540.20 WW
antibacterial version	
ivory	■ ABA 540.20
white	■ ABA 540.20 WW



suitable inserts:
234.10, 234.20,
1015, 1030, 1060,
1120, 1120-20,
101-4, 101-4-20,
101-20,
101-20 KO, 101-32

Center plate with knob	
ivory	■ A 541
white	■ A 541 WW
antibacterial version	
ivory	■ ABA 541
white	■ ABA 541 WW



Sealing gasket	40 D
To obtain protection level IP 44 with center plates with knob	



Complete device

No frame
necessary.

Dimmer for incandescent lamps with rotary on/off switch 60 – 400 W/230 V ~ full plate	
ivory	AS 5544.02 V
white	AS 5544.02 V WW
antibacterial version	
ivory	ABAS 5544.02 V
white	ABAS 5544.02 V WW



Description	Ref.-No.
Automatic switch 180°	
lens type 1.10 m	
standard version	
ivory	A 1180
white	A 1180 WW
universal version	
ivory	A 1180-1
white	A 1180-1 WW

suitable inserts:
 1201 URE,
 1201-1 URE,
 1202 URE,
 1225 SDE,
 1240 STE,
 1254 UDE,
 1254 TSE,
 1244 NVSE,
 1223 NE,
 1208 UI



Automatic switch 180°	
lens type 2.20 m	
standard version	
ivory	A 1280
white	A 1280 WW
universal version	
ivory	A 1280-1
white	A 1280-1 WW

suitable inserts:
 1201 URE,
 1201-1 URE,
 1202 URE,
 1225 SDE,
 1240 STE,
 1254 UDE,
 1254 TSE,
 1244 NVSE,
 1223 NE,
 1208 UI



Automatic switch 180°	
lens type 1.10 m	
IP 44 possible with sealing gasket 551 WU	
standard version	
ivory	A 1180 WU
white	A 1180 WU WW
universal version	
ivory	A 1180-1 WU
white	A 1180-1 WU WW

suitable inserts:
 1201 URE,
 1201-1 URE,
 1202 URE,
 1225 SDE,
 1240 STE,
 1254 UDE,
 1254 TSE,
 1244 NVSE,
 1223 NE,
 1208 UI



Automatic switch 180°	
lens type 2.20 m	
IP 44 possible with sealing gasket 551 WU	
standard version	
ivory	A 1280 WU
white	A 1280 WU WW
universal version	
ivory	A 1280-1 WU
white	A 1280-1 WU WW

suitable inserts:
 1201 URE,
 1201-1 URE,
 1202 URE,
 1225 SDE,
 1240 STE,
 1254 UDE,
 1254 TSE,
 1244 NVSE,
 1223 NE,
 1208 UI



1-gang rocker with glass plate		
for emergency and alarm purposes		
for switch- and push-button inserts		
red (similar RAL 3000)		AS 561 GL RT
blue (similar RAL 5015)		AS 561 GL BL
yellow (similar RAL 1004)		AS 561 GL GE
Frame 1-gang, red (similar RAL 3000)		AS 581 GL RT
Spare glass plate 64 x 53 mm		60 GL
Spare foil		AS 60 FO

suitable inserts:
 501 U, 502 U, 503 U,
 506 U, 507 U, 531 U,
 533 U, 533-2 U,
 534 U, 502 KOU,
 503 KOU, 506 KOU,
 531 U, 533 U, 534 U,
 501-20 KOU,
 502-20 KOU,
 506-20 KOU,
 502 KOTU,
 506 KOTU



AS 500 / AS 500 antibacterial

All devices have to be completed with frames AS 581 .. – AS 585 .. !



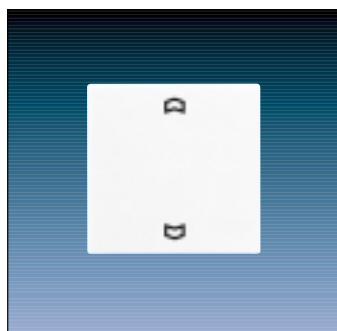
suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

Description	Ref.-No.
Center plate for motor control inserts with lock-out function	
ivory	AS 5232
white	AS 5232 WW
antibacterial version	
ivory	ABAS 5232
white	ABAS 5232 WW



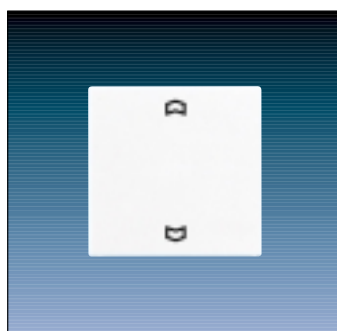
suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K

Description	Ref.-No.
Center plate for motor control inserts with anti lock-out function and terminal for sensors	
ivory	AS 5232 S
white	AS 5232 S WW



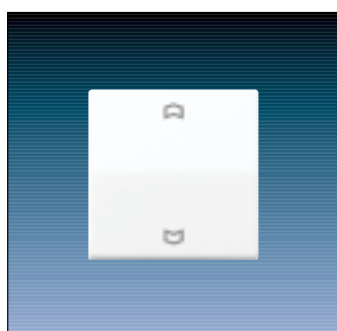
suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

Description	Ref.-No.
Center plate for motor control inserts with radio controlled receiver	
ivory	AS 5232 F
white	AS 5232 F WW



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K

Description	Ref.-No.
Center plate for motor control inserts with radio controlled receiver and terminal for sensors	
ivory	AS 5232 FS
white	AS 5232 FS WW
antibacterial version	
ivory	ABAS 5232 FS
white	ABAS 5232 FS WW

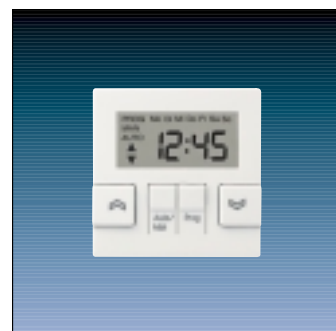


suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K

Description	Ref.-No.
Center plate for motor control inserts with memory function	
ivory	AS 5232 M
white	AS 5232 M WW
with memory function and terminal for sensors	
ivory	AS 5232 MS
white	AS 5232 MS WW

Description	Ref.-No.
Center plate for motor control inserts with timer function "standard"	
ivory	A 5232 ST
white	A 5232 ST WW

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME



Center plate for motor control inserts with timer function "universal"	
ivory	A 5232 T3
white	A 5232 T3 WW

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME



Center plate for motor control inserts with timer function "universal" and terminal for sensors	
ivory	A 5232 TS3
white	A 5232 TS3 WW

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K

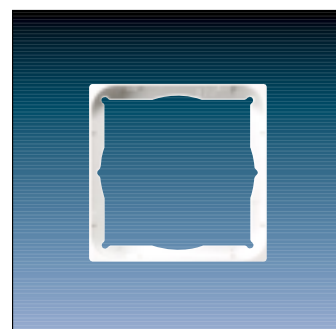
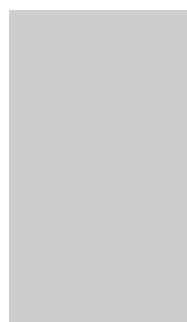


Awning control "Aero Tec 04"	
ivory	AT 04
white	AT 04 WW

complete device



Required frame for awning control	
ivory	A AT 581 Z
white	A AT 581 Z WW

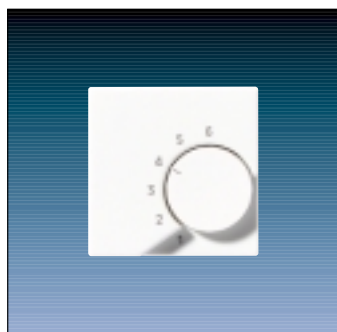


All devices have to be completed with frames AS 581 .. – AS 585 .. !



suitable inserts:
TR 231 U,
TR 241 U

Description	Ref.-No.
Center plate for room thermostat insert	
ivory	A TR 231 PL
white	A TR 231 PL WW



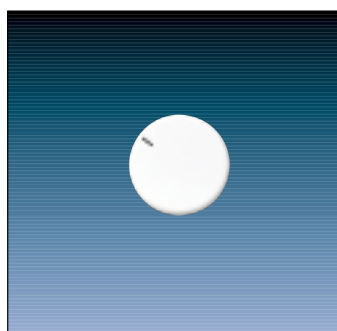
suitable inserts:
TR 236 U,
TR 246 U

Center plate for room thermostat insert	
ivory	A TR 236 PL
white	A TR 236 PL WW



suitable inserts:
FTR 231 U

Center plate for floor thermostat insert	
ivory	A FTR 231 PL
white	A FTR 231 PL WW



Special knob for thermostat center plates	
prevents unallowed manipulation of the thermostat setting	
ivory	MS TR 231 PL
white	MS TR 231 PL WW



suitable inserts:
UT 238 E

Timer thermostat display	
ivory	A UT 238 D
white	A UT 238 D WW
for more technical/functional details see page 119	

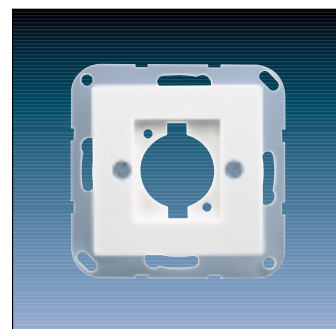
Description	Ref.-No.
Center plate for 2 loudspeaker or BNC sockets	
ivory	A 562
white	A 562 WW

suitable inserts:
BNC 9.7,
BNC 12.7,
L 2 S



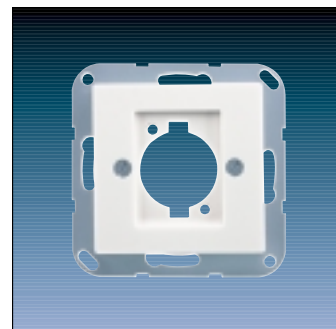
Center plate for loudspeaker connector and chassis connector	
ivory	A 568-1
white	A 568-1 WW

suitable inserts:
PB 4,
CLXR-D



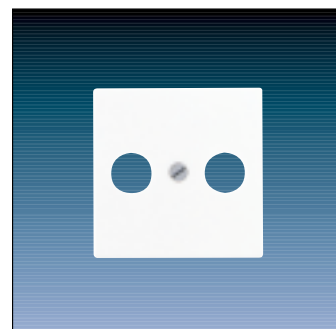
Center plate for XLR-sockets for make Binder, Cannon, Neutrik	
ivory	A 568
white	A 568 WW

suitable inserts:
XLR-D



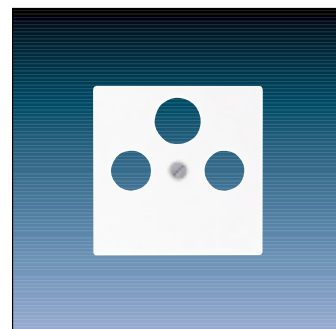
Center plate for TV-FM socket according to DIN 45330	
ivory	A 561 PL TV
white	A 561 PL TV WW

suitable inserts:
FS 1 D,
FS 12 D;
EDU 04 F,
GEDU 15

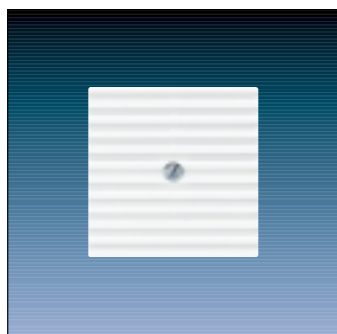


Center plate for TV-FM-SAT socket according to DIN 45330	
ivory	A 561 PL SAT
white	A 561 PL SAT WW

suitable inserts:
EDU 3902 F



All devices have to be completed with frames AS 581 .. – AS 585 .. !

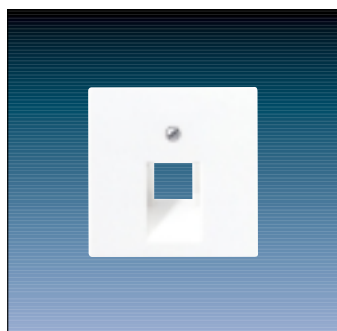


suitable inserts:
67 K

Description	Ref.-No.
Center plate for door bell 67 K	
ivory	A 567
white	A 567 WW



Cable outlet with center plate and insert	
ivory	AS 590 A
white	AS 590 A WW



suitable inserts:
UAE 4 UPO,
UAE 8 UPO,
UAE 8 UPO K5,
UAE 8 UPO K6,
UAE 8 UPO K5US

Center plate for 1-gang modular jack sockets UAE..	
ivory	A 569-1 PL UA
white	A 569-1 PL UA WW




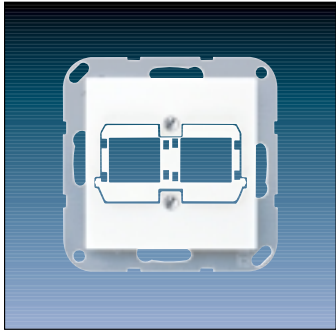



suitable inserts:
UAE 2x8 UPO,
UAE 8-8 UPO K5,
UAE 8-8 UPO K6
UAE 8-8 UPO K5US

Center plate for 2-gang modular jack sockets UAE..	
ivory	A 569-2 PL UA
white	A 569-2 PL UA WW



suitable inserts:
JUNG: 6 WE/8 WE
AMP:
216 000-2, ..005-1,
..005-4, 000-1
Radiall:
R 280 MOD 804
R 280 MOD 805
R 280 MOD 807
Panduit:
KJ 88., KJ 588...

Center plate with shutter for 1-gang modular jack sockets with supporting frame for screw fixing and shutter with spring	
ivory	A 569-1 NWE
white	A 569-1 NWE WW

Description	Ref.-No.		
Center plate with shutter for 2-gang modular jack sockets with supporting frame for screw fixing and shutter with spring		suitable inserts: JUNG: 6 WE/8 WE AMP: 216 000-2, ..005-1, ..005-4, 000-1 Radial: R 280 MOD 804 R 280 MOD 805 R 280 MOD 807 Panduit: KJ 88..., KJ 588...	
ivory	A 569-2 NWE		
white	A 569-2 NWE WW		
Center plate with shutter for IBM-ACS, Reichle + DeMassari with supporting frame for screw fixing		suitable inserts: ACS sockets R 35251, R 35252, R 302377, R 302378	
ivory	A 569-21 ACS		
white	A 569-21 ACS WW		
Center plate with shutter for 1-gang modular jack sockets with supporting frame for screw fixing and shutter with spring		suitable inserts: JUNG: 8 VGWE Tyco Electronics AMP 110 connect system: 0-1116515-1 0-1375117-1	
ivory	A 569-15 NWE		
white	A 569-15 NWE WW		
Center plate with shutter for 2-gang modular jack sockets with supporting frame for screw fixing and shutter with spring		suitable inserts: JUNG: 8 VGWE Tyco Electronics AMP 110 connect system: 0-1116515-1 0-1375117-1	
ivory	A 569-25 NWE		
white	A 569-25 NWE WW		
Center plate with shutter for 2-gang modular jack sockets with supporting frame for screw fixing and shutter with spring		suitable inserts: Avaya (Lucent Technologies) AT&T series: M 1 BH MPS 100 series: (MPS 100 BH..) MGS 200 series: (MGS 200 BH..)	
ivory	A 569-2 NAT		
white	A 569-2 NAT WW		

All devices have to be completed with frames AS 581 .. – AS 585 .. !



suitable inserts:
Radial:
R280MOD813
INFRA:
7700 U/7700 D
7700 E

Description

**Center plates with shutter
for 2-gang modular jack sockets
with supporting frame for screw fixing
and shutter with spring**

Ref.-No.

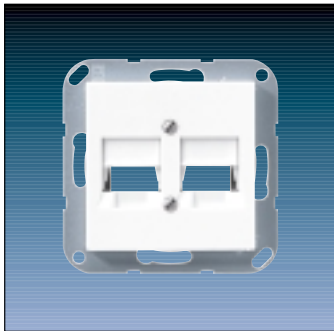
Center plate for INFRA+ / Radial

ivory

A 569-2 NINF

white

A 569-2 NINF WW



suitable inserts:
PANDUIT
CJ588T, CDJD588T
CJS588T, CJ5E88T
CJD5E88T,
CJS5E88T,
CJ688TP,
CJD688TP,
CJD688P,
OPTI-JACK (LWL)
FJJG ..

Center plate for PANDUIT

ivory

A 569-2 NPAND

white

A 569-2 NPAND WW



suitable inserts:
ITT Canon,
LAN Connect RJ45,
shielded/unshielded,
Cat. 5e = 808 MK2,
Cat. 6 = 808 MK3

Center plate for ITT Canon

ivory

A 569-2 NITT

white

A 569-2 NITT WW



suitable inserts:
Nexans ref-No.:
ACS-410.010,
ACS-410.020,
ACS-410.030

Center plate for Nexans (ALCATEL)

ivory

A 569-2 NALCAT

white

A 569-2 NALCAT WW



suitable inserts:
LexCom ref-No.:
306540001,
306510005,
306510006,
306510007,
306510008,
306520005,
306520006,
306520007,
306520008

Center plate for LEXCOM

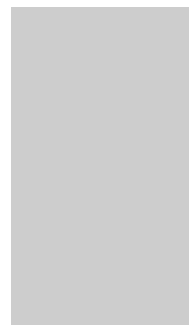
ivory

A 569-2 NLEX

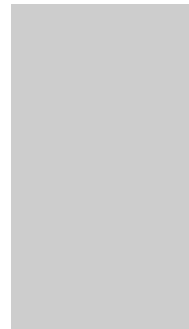
white

A 569-2 NLEX WW

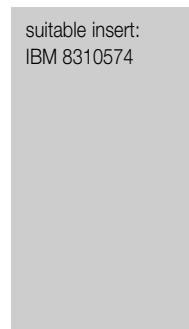
Description	Ref.-No.
Blank center plate for snap-on fixing with supporting frame suitable for individual cuttings and drillings	
ivory	A 594-0
white	A 594-0 WW



Blank center plate with supporting frame for screw fixing	
ivory	A 561 B
white	A 561 B WW



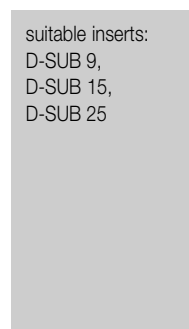
Center plate with hinged lid for IBM data plug with inscription plate	
ivory	A 591 IBM
white	A 591 IBM WW



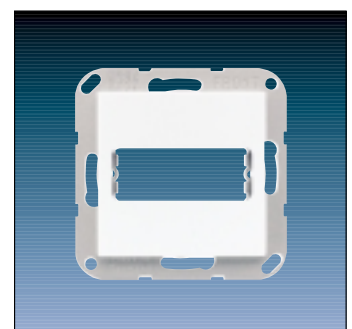
suitable insert:
IBM 8310574



Center plate for subminiature D-socket with supporting frame, screw fixing only (without claws)	
ivory	A 594-1
white	A 594-1 WW



suitable inserts:
D-SUB 9,
D-SUB 15,
D-SUB 25



Center plate for command devices with Ø 22.5 mm e.g. emergency switches with supporting frame	
ivory	A 564
white	A 564 WW



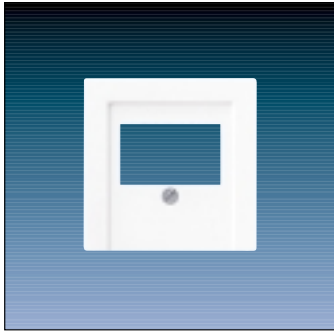
suitable inserts:
Moeller,
Rafi,
Schlegel,
Lumitas,
EAO,
Télemecanique



AS 500

All devices have to be completed with frames AS 581 .. – AS 585 .. !

■ With sealing gasket ref.-no. 551 WU and frame from range AS 500 the protection level IP 44 is ensured.



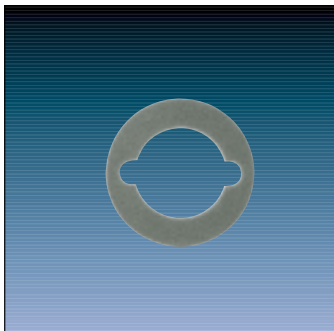
suitable inserts:
SLA 2 WW,
SLA 2 AN,
MLA 1 WW,
MLA 1 AN

Description	Ref.-No.
Center plate for stereo/mono loudspeaker socket	
ivory	A 569 PLT
white	A 569 PLT WW
antibacterial version	
ivory	ABA 569 PLT
white	ABA 569 PLT WW



suitable inserts:
938-10 U,
938-14 U

Description	Ref.-No.
Center plate for pilot light insert	
ivory	■ A 537 PL
white	■ A 537 PL WW



Sealing gasket	■ 37 D
-----------------------	---------------

To obtain protection level IP 44 the sealing gasket has to be placed into the pilot light center plate.

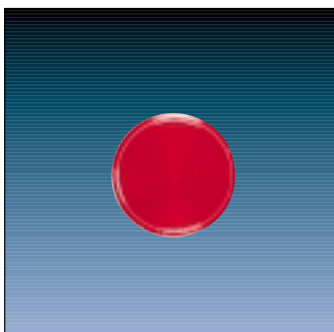


Screw cap for center plate A 537..
flat, for lamps up to max. length of 35 mm

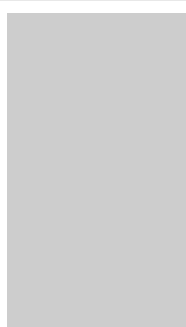
clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08

high, for lamps up to max. length of 54 mm

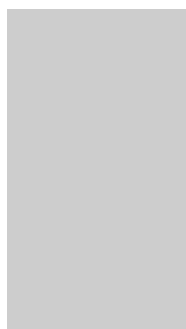
clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL



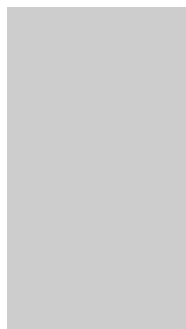
Description	Ref.-No.
Intermediate frame for installation of devices with center plates of 50 x 50 mm	
ivory	A 590 Z
white	A 590 Z WW



Description	Ref.-No.
Sealing gasket for all flush mounted switches, push buttons, dimmer, sockets, venetian blind switch, automatic switches, time delay switches and devices with center plates 50 x 50 mm	551 WU

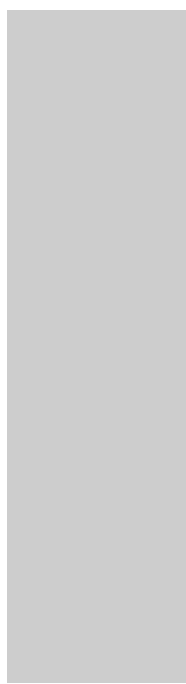


Frame for horizontal and vertical installation		
ivory	1-gang, 80.5 x 80.5 mm	AS 581
	2-gang, 80.5 x 151.5 mm	AS 582
	3-gang, 80.5 x 222.5 mm	AS 583
	4-gang, 80.5 x 293.5 mm	AS 584
	5-gang, 80.5 x 364.5 mm	AS 585
white	1-gang, 80.5 x 80.5 mm	AS 581 WW
	2-gang, 80.5 x 151.5 mm	AS 582 WW
	3-gang, 80.5 x 222.5 mm	AS 583 WW
	4-gang, 80.5 x 293.5 mm	AS 584 WW
	5-gang, 80.5 x 364.5 mm	AS 585 WW



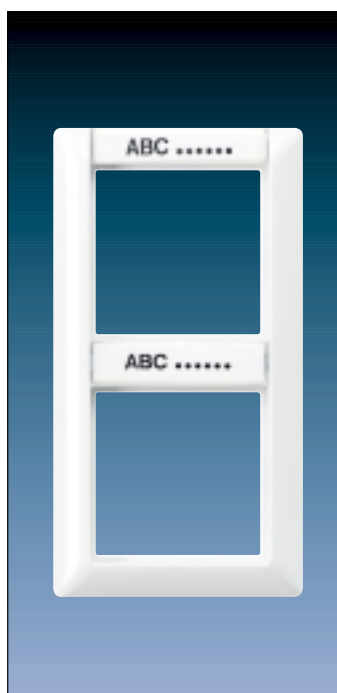
antibacterial version		
ivory	1-gang, 80.5 x 80.5 mm	ABAS 581 N
	2-gang, 80.5 x 151.5 mm	ABAS 582 N
	3-gang, 80.5 x 222.5 mm	ABAS 583 N
white	1-gang, 80.5 x 80.5 mm	ABAS 581 N WW
	2-gang, 80.5 x 151.5 mm	ABAS 582 N WW
	3-gang, 80.5 x 222.5 mm	ABAS 583 N WW

4/5-gang frames only on request

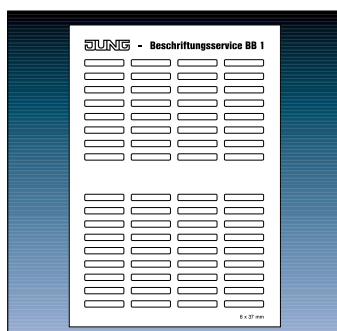
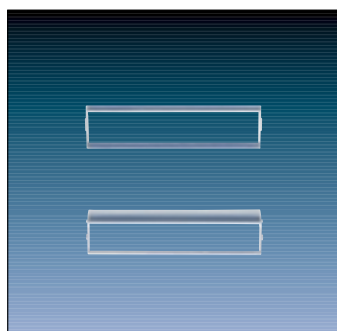


AS 500 / AS 500 antibacterial

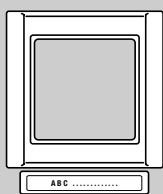
■ With sealing gasket ref.-no. 551 WU the protection level IP 44 is ensured.



Inscription sheet
BB 20.1



Inscription sheet
BB 3



Description	Ref.-No.
-------------	----------

Frame

with inscription plate 13 x 55.5 mm

ivory	1-gang, 80.5 x 80.5 mm	■	AS 581 NA
white	1-gang, 80.5 x 80.5 mm	■	AS 581 NA WW

antibacterial version

ivory	1-gang, 80.5 x 80.5 mm	■	ABAS 581 NNA
white	1-gang, 80.5 x 80.5 mm	■	ABAS 581 NNA WW

Frame for vertical installation

with inscription plates 13 x 55.5 and 12.4 x 55.5 mm

ivory	2-gang, 80.5 x 151.5 mm	■	AS 582 NA
white	2-gang, 80.5 x 151.5 mm	■	AS 582 NA WW
ivory	3-gang, 80.5 x 222.5 mm	■	AS 583 NA
white	3-gang, 80.5 x 222.5 mm	■	AS 583 NA WW
ivory	4-gang, 80.5 x 293.5 mm	■	AS 584 NA
white	4-gang, 80.5 x 293.5 mm	■	AS 584 NA WW
ivory	5-gang, 80.5 x 364.5 mm	■	AS 585 NA
white	5-gang, 80.5 x 364.5 mm	■	AS 585 NA WW

antibacterial version

ivory	2-gang, 80.5 x 151.5 mm	■	ABAS 582 NNA
white	2-gang, 80.5 x 151.5 mm	■	ABAS 582 NNA WW

Frame for horizontal installation

with inscription plates 13 x 55.5 mm

ivory	2-gang, 151.5 mm x 80.5 mm	■	AS 5820 NA
white	2-gang, 151.5 mm x 80.5 mm	■	AS 5820 NA WW
ivory	3-gang, 222.5 mm x 80.5 mm	■	AS 5830 NA
white	3-gang, 222.5 mm x 80.5 mm	■	AS 5830 NA WW
ivory	4-gang, 293.5 mm x 80.5 mm	■	AS 5840 NA
white	4-gang, 293.5 mm x 80.5 mm	■	AS 5840 NA WW
ivory	5-gang, 364.5 mm x 80.5 mm	■	AS 5850 NA
white	5-gang, 364.5 mm x 80.5 mm	■	AS 5850 NA WW

Cover for inscription plate

Spare part

12.4 x 55.5 mm	AS 81 NA
13 x 55.5 mm	AS 82 NA

Inscription sheet DIN A 4 for individual inscription

white, 1 sheet each	
34 stripes 7 x 57 mm	BB 3
15 stripes 12.4 x 55.5 mm	
21 stripes 13 x 55.5 mm	BB 20.1

Inscription plate

61 NA

for flush- and surface mounted frames and surface caps
to extend frames with inscriptions.

The protection level IP 44 is **not** ensured.

Description	Ref.-No.
Surface cap with integrated non-flammable mounting plate 1-gang 85 x 85 x 46.1 mm	
ivory	AS 581 A W
white	AS 581 A WW
with inscription plate	
ivory	AS 581 ANA W
white	AS 581 ANA WW

suitable for all
devices with center
plate



Surface cap with integrated non-flammable mounting plate 2-gang 156 x 85 x 46.3 mm	
ivory	AS 582 A W
white	AS 582 A WW

suitable for all
devices with center
plate



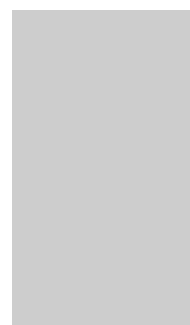
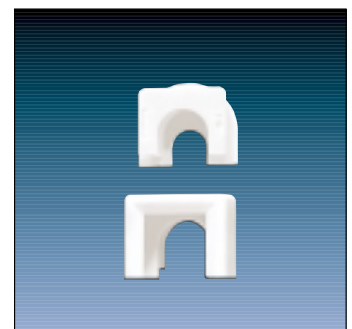
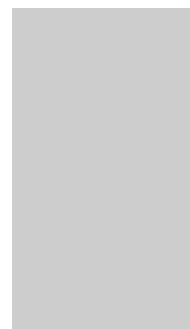
Surface cap with integrated non-flammable mounting plate 3-gang 227 x 85 x 46.3 mm	
ivory	AS 583 A W
white	AS 583 A WW

Accessories for cables, pipes, trunkings

Inlet for cable and minitrunking	
ivory	11
white	11 WW

Inlet for trunking 15 x 15 mm	
ivory	12
white	12 WW

Inlet for pipes with outside Ø 16 mm	
ivory	13
white	13 WW



JUNG

AS universal



AS universal is persuasive due to its impact-resistant material in the new AS 500 design. All rooms which are subject to special requirements can thus be equipped universally in the design of the new standard. The splash-proof IP 44 version is achieved with only one sealing element.



Frame size:
1-gang 80.5 mm x 80.5 mm
2-gang 151.5 mm x 80.5 mm
3-gang 222.5 mm x 80.5 mm
4-gang 293.5 mm x 80.5 mm
5-gang 364.5 mm x 80.5 mm

Frames can be horizontally and vertically installed.

Material AS universal:
thermoplastic

Protection level:
IP 20/IP 21
IP 44 in connection with
sealing gasket



Colours:
ivory similar RAL 1013
white similar RAL 9010

All devices have to be completed with frames AS 581 BF .. – AS 585 BF .. !

■ With sealing gasket ref.-no. 551 WU and frame from range AS 500 the protection level IP 44 is ensured.

Description	Ref.-No.
1-gang rocker	
ivory	■ AS 591 BF
white	■ AS 591 BF WW
illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.	

suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U



1-gang rocker with transparent lens	
ivory	■ AS 591 KO5BF
white	■ AS 591 KO5BF WW

suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 U,
506-20 KOU,
502 KOTU,
506 KOTU



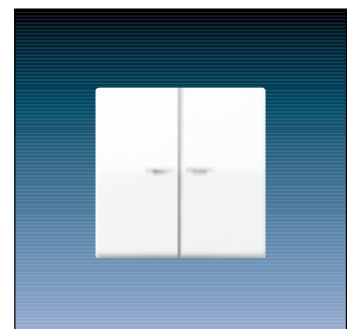
2-gang rocker	
ivory	■ AS 591-5 BF
white	■ AS 591-5 BF WW

suitable inserts:
505 U, 509 U,
535 U, 539 U,
505 TU, 509 TU,
505-20 U,
509-20 U



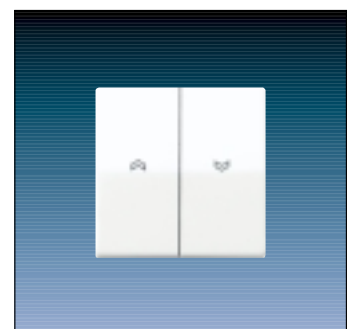
2-gang rocker with transparent lens	
ivory	■ AS 591-5 KO5BF
white	■ AS 591-5 KO5BF WW

suitable inserts:
505 KOU 5,
505 KOVU 5



2-gang rocker with symbols	
ivory	■ AS 591-5 PBF
white	■ AS 591-5 PBF WW

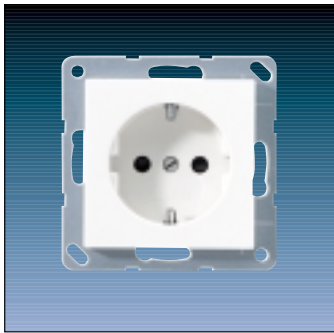
suitable inserts:
509 VU,
539 VU



AS 500 universal breakproof

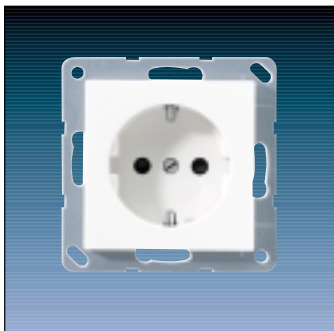
All devices have to be completed with frames AS 581 BF .. – AS 585 BF .. !

■ With sealing gasket ref.-no. 551 WU and frame from range AS 500 the protection level IP 44 is ensured.



screwless connection for wires up to 2.5 mm²

Description	Ref.-No.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system	
ivory	A 520 BF
white	A 520 BF WW
green	A 520 BF GN
orange	A 520 BF O



screw terminals for wires up to 2.5 mm²



Description	Ref.-No.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system	
ivory	A 521 BF
white	A 521 BF WW
green	A 521 BF GN
orange	A 521 BF O



screwless connection for wires up to 2.5 mm²

Description	Ref.-No.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with child protection (shutter)	
ivory	A 520 KIBF
white	A 520 KIBF WW
green	A 520 KIBF GN
orange	A 520 KIBF O



screw terminals for wires up to 2.5 mm²



Description	Ref.-No.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with child protection (shutter)	
ivory	A 521 KIBF
white	A 521 KIBF WW
green	A 521 KIBF GN
orange	A 521 KIBF O



screwless connection for wires up to 2.5 mm²

Description	Ref.-No.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system center plate with hinged lid	
ivory	■ AS 520 BFKL
white	■ AS 520 BFKL WW
green	■ AS 520 BFKL GN
orange	■ AS 520 BFKL O

Description	Ref.-No.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system center plate with hinged lid	
ivory	■ AS 521 BFKL
white	■ AS 521 BFKL WW
green	■ AS 521 BFKL GN
orange	■ AS 521 BFKL O

screw terminals
for wires up to
2.5 mm²



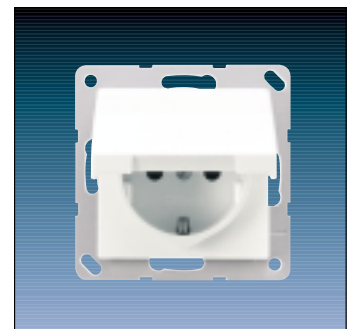
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with child protection (shutter) center plate with hinged lid	
ivory	■ AS 520 BFKIKL
white	■ AS 520 BFKIKL WW
green	■ AS 520 BFKIKL GN
orange	■ AS 520 BFKIKL O

screwless connec-
tion for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with child protection (shutter) center plate with hinged lid	
ivory	■ AS 521 BFKIKL
white	■ AS 521 BFKIKL WW
green	■ AS 521 BFKIKL GN
orange	■ AS 521 BFKIKL O

screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with pilot light center plate with hinged lid	
ivory	■ AS 520 BFKOKL
white	■ AS 520 BFKOKL WW
green	■ AS 520 BFKOKL GN
orange	■ AS 520 BFKOKL O

screwless connec-
tion for wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system	
ivory	A 521 F BF
white	A 521 F BF WW

screw terminals
for wires up to
2.5 mm²



AS 500 universal breakproof

All devices have to be completed with frames AS 581 .. – AS 585 .. !



screw terminals
for wires up to
2.5 mm²



Description

Ref.-No.

Socket, 2-pole + male earth pin
16 A-AC/10 A-DC/250 V ~, French/Belgian system
with child protection (shutter)

ivory

A 521 FBFKI

white

A 521 FBFKI WW



screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + male earth pin
16 A-AC/10 A-DC/250 V ~, French/Belgian system
with child protection (shutter)
and center plate with hinged lid

ivory

AS 521 FBFKIKL

white

AS 521 FBFKIKL WW



SCHUKO-socket, 2-pole + earth
16 A-AC/10 A-DC/250 V ~, German system
center plate with hinged lid
with safety lock (24 different lock versions)

ivory

AS 520 BFSLKL

white

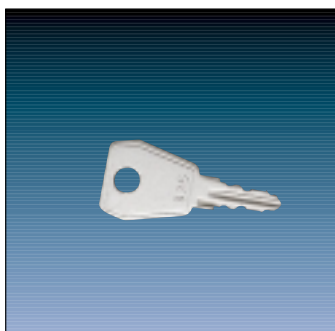
AS 520 BFSLKL WW

green

AS 520 BFSLKL GN

orange

AS 520 BFSLKL O



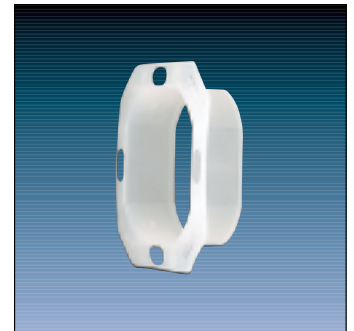
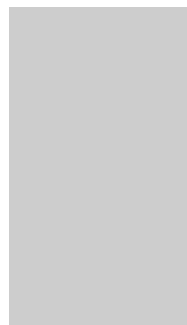
Extra key

(when ordering please indicate lock number)

802 SL to 825 SL

■ With sealing gasket ref.-no. 551 WU the protection level IP 44 is ensured.

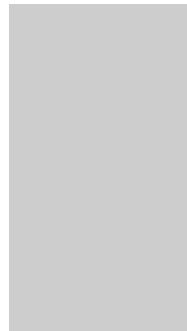
Description	Ref.-No.
Sealing gasket	551 WU



Frame for horizontal and vertical installation

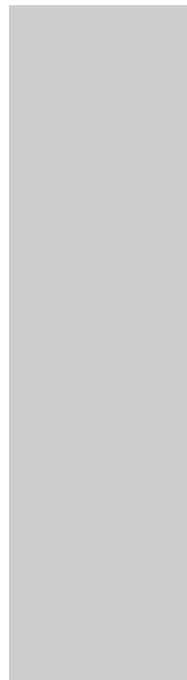
ivory

1-gang, 80.5 x 80.5 mm	■ AS 581 BF
2-gang, 80.5 x 151.5 mm	■ AS 582 BF
3-gang, 80.5 x 222.5 mm	■ AS 583 BF
4-gang, 80.5 x 293.5 mm	■ AS 584 BF
5-gang, 80.5 x 364.5 mm	■ AS 585 BF



white

1-gang, 80.5 x 80.5 mm	■ AS 581 BF WW
2-gang, 80.5 x 151.5 mm	■ AS 582 BF WW
3-gang, 80.5 x 222.5 mm	■ AS 583 BF WW
4-gang, 80.5 x 293.5 mm	■ AS 584 BF WW
5-gang, 80.5 x 364.5 mm	■ AS 585 BF WW



green

1-gang, 80.5 x 80.5 mm	■ AS 581 BF GN
2-gang, 80.5 x 151.5 mm	■ AS 582 BF GN
3-gang, 80.5 x 222.5 mm	■ AS 583 BF GN
4-gang, 80.5 x 293.5 mm	■ AS 584 BF GN
5-gang, 80.5 x 364.5 mm	■ AS 585 BF GN

orange

1-gang, 80.5 x 80.5 mm	■ AS 581 BF O
2-gang, 80.5 x 151.5 mm	■ AS 582 BF O
3-gang, 80.5 x 222.5 mm	■ AS 583 BF O
4-gang, 80.5 x 293.5 mm	■ AS 584 BF O
5-gang, 80.5 x 364.5 mm	■ AS 585 BF O

A500



Frame size:

- 1-gang 81 mm x 81 mm
- 2-gang 152 mm x 81 mm
- 3-gang 223 mm x 81 mm
- 4-gang 294 mm x 81 mm
- 5-gang 365 mm x 81 mm

Frames can be horizontally and vertically installed.

Material A 500:
Duroplastic

Protection level:
IP 20/IP 21
IP 44 in connection with sealing gasket

Colours:
white similar RAL 9010
aluminium lacquered

The A 500 switch range complies with the trend for a clear interior style.

Nothing disrupts the linear design:

Frames and covers form a unified and coherent unit.



JUNG



A 500
A plus



A 500 / A plus

■ With sealing gasket ref.-no. 551 WU and frame from range A 500 the protection level IP 44 is ensured.



suitable inserts:
501 U, 501-20 U,
502 U, 503 U,
506 U, 507 U,
531 U, 533 U,
533-2 U, 534 U,
502 TU, 506 TU,
507 TU, 506-20 U,
507-20 U

Description	Ref.-no.
1-gang rocker	
white	■ A 590 WW
aluminium	■ A 590 AL
illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19.	
The white rockers offer enough transparency to be illuminated.	
For aluminium rockers use "KO" version of rockers.	



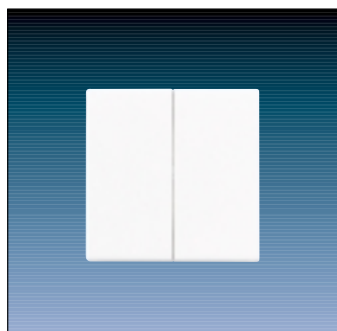
suitable inserts:
501 U, 501-20 U,
502 U, 503 U,
506 U, 507 U,
531 U, 533 U,
533-2 U, 534 U,
502 TU, 506 TU,
507 TU, 506-20 U,
507-20 U

1-gang rocker with symbol	
symbol „light“ white	■ A 590 L WW
aluminium	■ A 590 L AL
symbol „bell“ white	■ A 590 K WW
aluminium	■ A 590 K AL
symbol „door“ white	■ A 590 T WW
aluminium	■ A 590 T AL
illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19.	
The white rockers offer enough transparency to be illuminated.	
Aluminium rockers are NOT possible to be illuminated.	



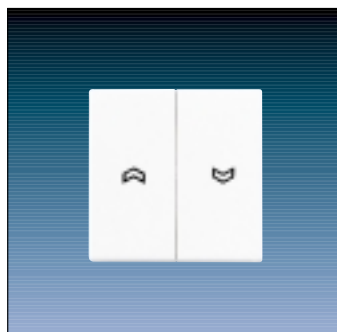
suitable inserts:
501-20 KOU,
502 KOU,
502-20 KOU,
503 KOU,
506 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

1-gang rocker with transparent lens	
white	■ A 590 KO5 WW
aluminium	■ A 590 KO5 AL



suitable inserts:
505 U, 509 U,
535 U, 539 U,
505 TU, 509 TU,
505-20 U,
509-20 U

2-gang rocker	
white	■ A 595 WW
aluminium	■ A 595 AL



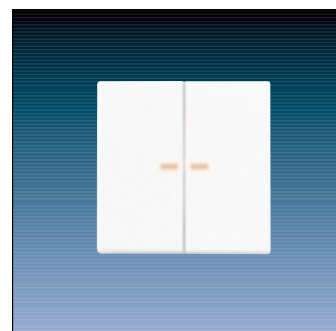
suitable inserts:
509 VU,
539 VU

2-gang rocker with symbols	
white	■ A 595 P WW
aluminium	■ A 595 P AL

All devices have to be completed with frames A 581.. – A 585.. or AP 581.. – AP 585.. !

Description	Ref.-no.
2-gang rocker with 2 transparent lenses	
white	A 595 KO 5 WW
aluminium	A 595 KO 5 AL

suitable inserts:
505 KOU 5,
505 KOVU 5



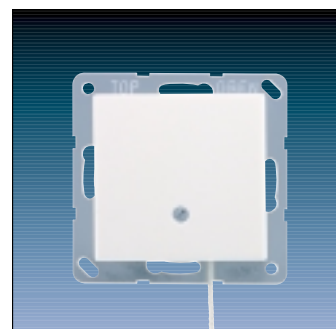
Center plate with knob	
white	A 541 WW
aluminium	A 541 AL

suitable inserts:
234.10, 234.20,
1015, 1030, 1060,
1120, 1120-20,
101-4, 101-4-20,
101-20, 101-32,
101-20 KO



Pull cord switch, 10 AX/250 V ~ with 50 mm pull cord	
white	A 506 NUZ WW
aluminium	A 506 NUZ AL

complete device
incl. insert



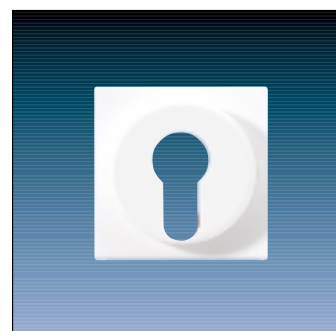
Center plate for key switch	
flat version	
white	A 525 PL WW
aluminium	A 525 PL AL

suitable inserts:
104.15, 134.15,
133-15, 106.15



Center plate for key switch	
white	A 528 PL WW
aluminium	A 528 PL AL
incl. two entry rosettes, one blank and one with printed arrows	

suitable inserts:
(IP 20)
104.28, 134.18,
134.28, 133.18,
106.28, 138.18
(IP 44)
CD 104.18 WU
CD 134.18 WU
CD 133.18 WU
CD 106.18 WU



A 500 / A plus

■ With sealing gasket ref.-no. 551 WU and frame from range A 500 the protection level IP 44 is ensured.



suitable inserts:
531 U, 533 U,
533-2 U, 534 U



standard key card

Description

Ref.-no.

Key card holder

When inserting the key card (being supplied by the door lock manufacturer) a contact will be given to the distribution board (relay). Depending on the installation/wiring all connected lights and other electric consumers will be supplied with energy. Individual control of the lights and ac/heater by JUNG rocker switches or dimmers. The key card has to be removed when leaving the room; the energy supply will be cut automatically. Illumination (orienting light) possible.

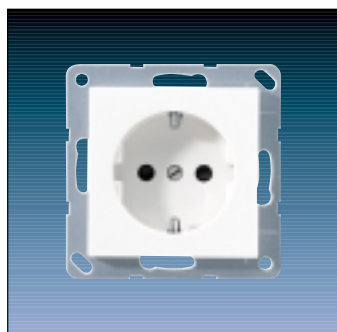
white

A 590 CARD WW

aluminium

A 590 CARD AL

Note: suitable for cards with min. length 80 mm.
width 45 – 54 mm, thickness 0,5 – 1 mm.



screwless
connection for
wires up to
2.5 mm²

SCHUKO-socket, 2-pole + earth

16 A-AC/10 A-DC/250 V, German system

white

A 520 WW

aluminium

A 520 AL

with child protection (shutter)

white

A 520 KI WW

aluminium

A 520 KI AL



screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth

16 A-AC/10 A-DC/250 V, German system

white

A 521 WW

aluminium

A 521 AL

with child protection (shutter)

white

A 521 KI WW

aluminium

A 521 KI AL



SCHUKO-socket, 2-pole + earth

16 A-AC/250 V, German system

with integrated surge voltage protection

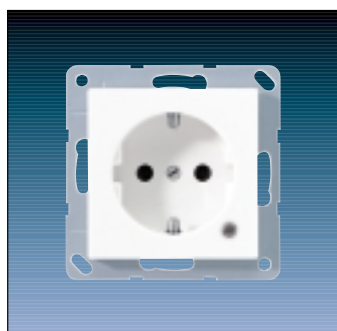
with child protection (shutter)

white

A 521 KIUF WW

aluminium

A 521 KIUF AL



screwless
connection for
wires up to
2.5 mm²

SCHUKO-socket, 2-pole + earth

with pilot light

16 A-AC/10 A-DC/250 V, German system

white

A 520 KO WW

aluminium

A 520 KO AL

All devices have to be completed with frames A 581.. – A 585.. or AP 581.. – AP 585.. !

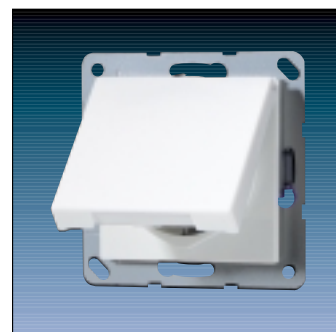
Description	Ref.-no.
SCHUKO-socket 45°, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system especially suitable for vertical combination of several outlets, screw fixing only	
white	A 520-45 WW
aluminium	A 520-45 AL

screwless
connection
for wires up to
2.5 mm²



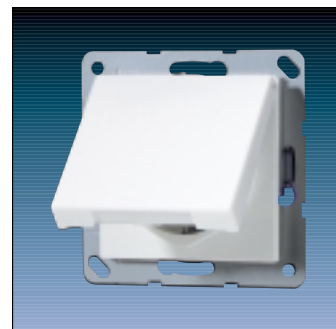
SCHUKO-socket, 2-pole + earth with hinged lid 16 A-AC/10 A-DC/250 V, German system	
white	A 520 KL WW
aluminium	A 520 KL AL
with child protection (shutter)	
white	A 520 KLKI WW
aluminium	A 520 KLKI AL

screwless
connection
for wires up to
2.5 mm²



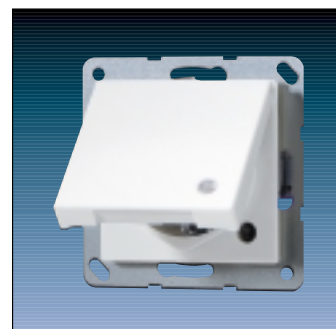
SCHUKO-socket, 2-pole + earth with hinged lid 16 A-AC/10 A-DC/250 V, German system	
white	A 521 KL WW
aluminium	A 521 KL AL

screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth with pilot light, with hinged lid 16 A-AC/10 A-DC/250 V, German system	
white	A 520 KLKO WW
aluminium	A 520 KLKO AL

screwless
connection
for wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V, French/Belgian system	
white	A 520 F WW
aluminium	A 520 F AL
with child protection (shutter)	
white	A 520 FKI WW
aluminium	A 520 FKI AL

screwless
connection for
wires up to
2.5 mm²



A 500 / A plus

All devices have to be completed with frames A 581.. – A 585.. or AP 581.. – AP 585.. !



screw terminals
for wires up to
2.5 mm²



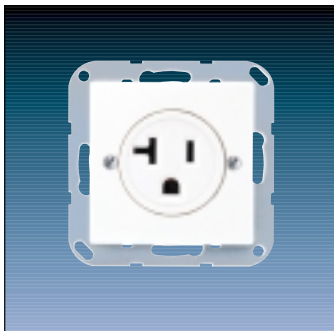
Description	Ref.-no.
Socket, 2-pole + male earth pin	
16 A-AC/10 A-DC/250 V, French/Belgian system	
white	A 521 F WW
aluminium	A 521 F AL
with child protection (shutter)	
white	A 521 FKI WW
aluminium	A 521 FKI AL



screw terminals for
wires up to
2.5 mm²



Socket, 2-pole + earth	
US-NEMA system 5 – 20 R	
15 A – 125 V	
white	A 521-15 WW
aluminium	A 521-15 AL



screw terminals for
wires up to
2.5 mm²



Socket, 2-pole + earth	
US-NEMA system 5 – 20 R	
20 A – 125 V	
white	A 521-20 WW
aluminium	A 521-20 AL



screw terminals
for wires up to
4 mm²



Socket, 2-pole + earth	
with child protection (shutter)	
13 A/250 V, British system	
acc. to B.S. 1363: 1995	
screw fixing into standard wall boxes with Ø 60 mm or single steel boxes with fixing centres 60.3 mm	
white	A 521 BS WW
aluminium	A 521 BS AL



screw terminals
for wires up to
4 mm²



Double-pole switched socket, 2-pole + earth	
with child protection (shutter) and pilot light (red rocker)	
13 A/250 V, British system, acc. to B.S. 1363: 1995	
screw fixing into standard wall boxes with Ø 60 mm or single steel boxes with fixing centres 60.3 mm	
white	A 172 KO WW
aluminium	A 172 KO AL
without pilot light	
white, white rocker	A 172 WW
aluminium, grey rocker	A 172 AL

■ With sealing gasket ref.-no. 551 WU and frame from range A 500 the protection level IP 44 is ensured.

Description	Ref.-no.
HNA socket, 2-pole + earth	
10 A-DC/250 V ~	
white	A 10 HNA WW
aluminium	A 10 HNA AL
Plug for HNA-socket	10 HNA ST

screw terminals



Potential compensation socket

e.g. for separate earthing of medical appliances in hospitals

with 2 one-pole male sockets acc. to DIN 42801

screw fixing only

white	A 565-2 WW
aluminium	A 565-2 AL

screw terminals

for wires up to
6 mm²



Electronic time delay switch

1000 VA, 230 V, + 6%/- 10 % / 50 cycles, 1 make contact

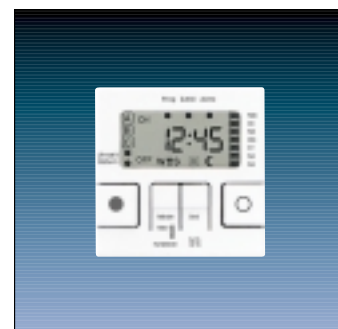
with astro mode, random generator ± 15 min.,

9 memory registers with 1 „on“ and „off“ time each

neutral protective line necessary

white	A 5201 T WW
aluminium	A 5201 T AL

complete device



Center plate with knob

for dimmer inserts (clip-on fixing)

white	■ A 540 WW
aluminium	■ A 540 AL

suitable inserts:
211 GDE, 266 GDE,
225 NVDE,
225 TDE,
254 UDIE1,
254 NIE1,
240-31, 244-110,
254 UDIE-110,
254 NIE-110,
243 EX, 244 EX,
244 HEX



Sealing gasket

for dimmer center plates ..540.. and ..540.20..

To obtain protection level IP 44 the sealing gasket has to be placed in the dimmer center plate.

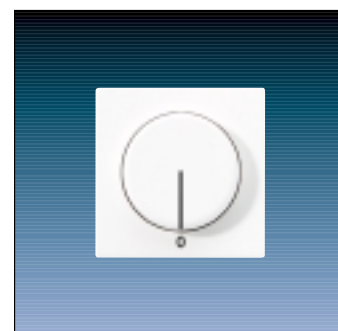
■ **40 D**

Center plate with knob

for speed regulator insert

white	■ A 540.20 WW
aluminium	■ A 540.20 AL

suitable inserts:
245.20



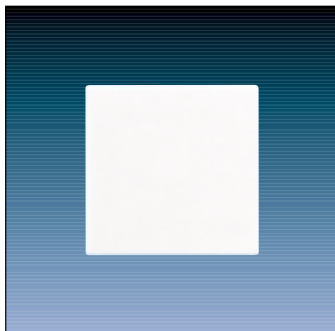
A 500 / A plus

All devices have to be completed with frames A 581.. – A 585.. or AP 581.. – AP 585.. !



suitable inserts:
1254 UDE,
1225 SDE,
1201 URE,
1202 URE,
1254 TSE,
1244 NVSE,
1240 STE,
1220 NE,
1201-1 URE

Description	Ref.-no.
Standard center plate for touch dimmer inserts or electronic switch inserts	
white	A 1561.07 WW
aluminium	A 1561.07 AL



suitable inserts:
1254 UDE,
1225 SDE,
1201 URE,
1202 URE,
1254 TSE,
1244 NVSE,
1240 STE,
1201-1 URE

Description	Ref.-no.
Radio center plate with radio-controlled receiver for touch dimmer inserts or electronic switch inserts	
white	A 1561.07 F WW
aluminium	A 1561.07 F AL



suitable inserts:
1201 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1240 STE,
1201-1 URE

Description	Ref.-no.
Universal center plate for touch dimmer inserts or electronic switch inserts with 4 optional functions	
white	A 1561.07 U WW
aluminium	A 1561.07 U AL
for more technical/functional details see page 69	



suitable inserts:
1201 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1223 NE,
1201-1 URE,
1240 STE, 1208 UI

Description	Ref.-no.
Automatic switch 180° lens type 1.10 m standard version	
white	A 1180 WW
aluminium	A 1180 AL
universal version	
white	A 1180-1 WW
aluminium	A 1180-1 AL



suitable inserts:
1201 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1223 NE,
1201-1 URE,
1240 STE, 1208 UI

Description	Ref.-no.
Automatic switch 180° lens type 2.20 m standard version	
white	A 1280 WW
aluminium	A 1280 AL
universal version	
white	A 1280-1 WW
aluminium	A 1280-1 AL

■ With sealing gasket ref.-no. 551 WU and frame from range A 500 the protection level IP 44 is ensured.

Description	Ref.-no.
Automatic switch 180° lens type 1.10 m IP 44 possible with sealing gasket standard version	
white	■ A 1180 WU WW
aluminium	■ A 1180 WU AL
universal version	
white	■ A 1180-1 WU WW
aluminium	■ A 1180-1 WU AL

suitable inserts:
1201 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1223 NE,
1201-1 URE,
1240 STE, 1208 UI



Automatic switch 180° lens type 2.20 m IP 44 possible with sealing gasket standard version	
white	■ A 1280 WU WW
aluminium	■ A 1280 WU AL
universal version	
white	■ A 1280-1 WU WW
aluminium	■ A 1280-1 WU AL

suitable inserts:
1201 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1223 NE,
1201-1 URE,
1240 STE, 1208 UI



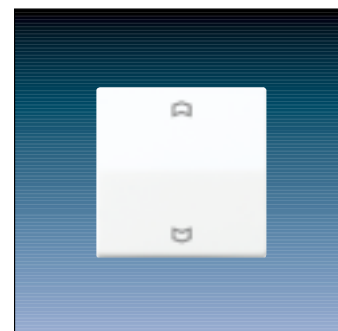
Center plate for motor control inserts with anti lock-out function	
white	A 5232 WW
aluminium	A 5232 AL
with anti lock-out function and terminal for sensors	
white	A 5232 S WW
aluminium	A 5232 S AL

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K



Center plate for motor control inserts with radio-controlled receiver	
white	A 5232 F WW
aluminium	A 5232 F AL
with radio-controlled receiver and terminal for sensors	
white	A 5232 FS WW
aluminium	A 5232 FS AL

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K



Center plate for motor control inserts with memory function	
white	A 5232 M WW
aluminium	A 5232 M AL
with memory function and terminal for sensors	
white	A 5232 MS WW
aluminium	A 5232 MS AL

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K



A 500 / A plus

All devices have to be completed with frames A 581.. – A 585.. or AP 581.. – AP 585.. !



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

Description	Ref.-no.
Center plate for motor control inserts with timer function "standard"	
white	A 5232 ST WW
aluminium	A 5232 ST AL



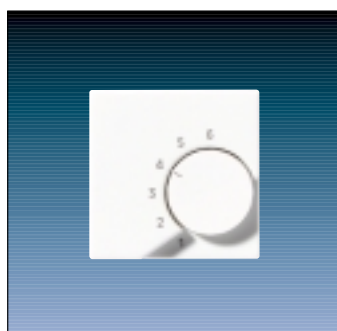
suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K

Center plate for motor control inserts with timer function "universal"	
white	A 5232 T3 WW
aluminium	A 5232 T3 AL
with timer function "universal" and terminal for sensors	
white	A 5232 TS3 WW
aluminium	A 5232 TS3 AL



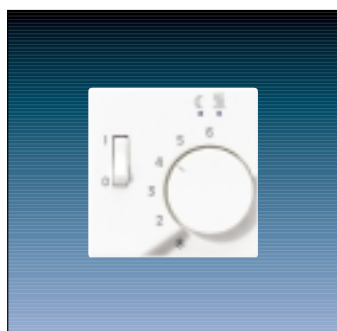
suitable inserts:
TR 231 U,
TR 241 U

Center plate for room thermostat insert	
white	A TR 231 PL WW
aluminium	A TR 231 PL AL



suitable inserts:
TR 236 U,
TR 246 U

Center plate for room thermostat insert	
white	A TR 236 PL WW
aluminium	A TR 236 PL AL



suitable inserts:
FTR 231 U

Center plate for floor thermostat insert	
white	A FTR 231 PL WW
aluminium	A FTR 231 PL AL
Special knob for thermostat center plates	
prevents unallowed manipulation of the thermostat setting	
white	MS TR 231 PL WW
aluminium	MS TR 231 PL AL

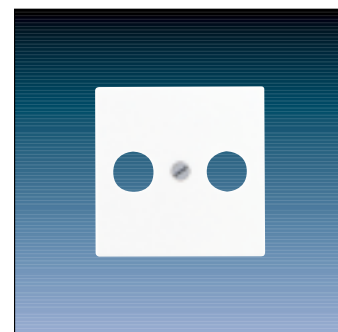
Description	Ref.-no.
Timer thermostat display	
white	A UT 238 D WW
aluminium	A UT 238 D AL

suitable inserts:
UT 238 E



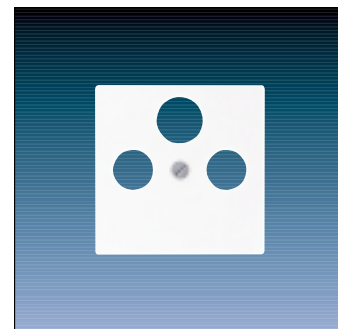
Center plate for TV-FM sockets according to DIN 45330	
white	A 561 PLTV WW
aluminium	A 561 PLTV AL

suitable inserts:
FS 1D, FS 12 D,
EDU 04 F,
GEDU 15

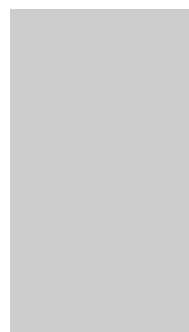


Center plate for TV-FM-SAT sockets	
white	A 561 PLSAT WW
aluminium	A 561 PLSAT AL

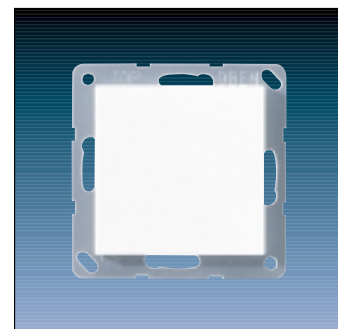
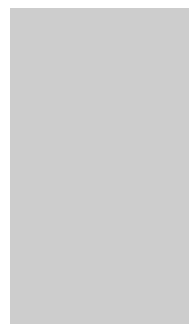
suitable inserts:
EDU 3902 F



Cable outlet with center plate and insert	
white	A 590 A WW
aluminium	A 590 A AL

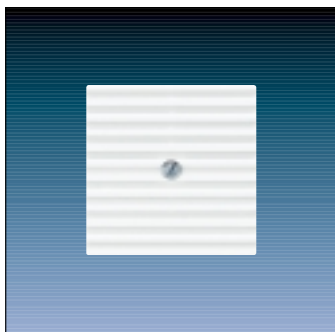


Blank center plate for snap-on fixing with supporting frame	
suitable for individual cuttings and drillings	
white	A 594-0 WW
aluminium	A 594-0 AL



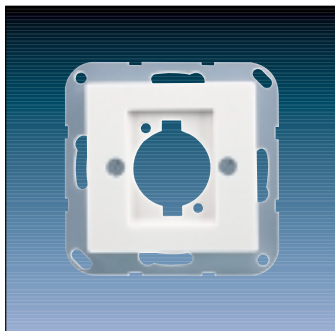
A 500 / A plus

All devices have to be completed with frames A 581.. – A 585.. or AP 581.. – AP 585.. !
 Printings + engravings possible on request.



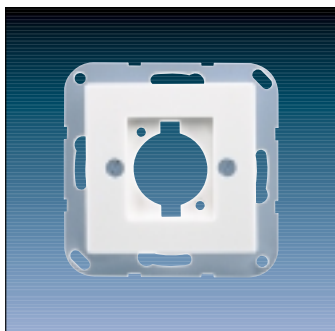
suitable inserts:
67 K

Description	Ref.-no.
Center plate for door bell 67 K	
white	A 567 WW
aluminium	A 567 AL



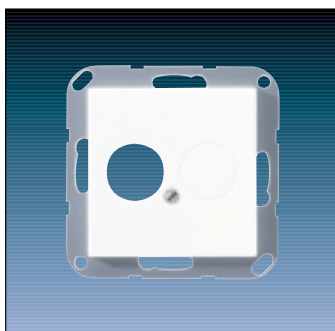
suitable inserts:
XLR-D

Center plate for XLR-sockets for make Binder, Cannon, Neutrik	
white	A 568 WW
aluminium	A 568 AL



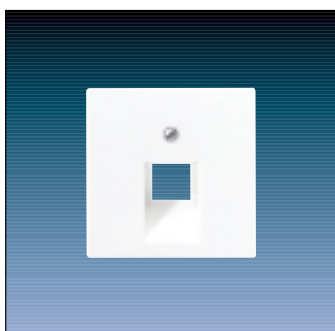
suitable inserts:
PB 4,
CLXR-D

Center plate for loudspeaker connector and chassis connector	
white	A 568-1 WW
aluminium	A 568-1 AL



suitable inserts:
L 2 S,
BNC 9.7
BNC 12.7

Center plate for 2 loudspeaker or BNC sockets	
white	A 562 WW
aluminium	A 562 AL



suitable inserts:
UAE 4 UPO,
UAE 8 UPO,
UAE 8 UPO K 5

Center plate for 1-gang modular jack sockets UAE...	
white	A 569-1 PLUA WW
aluminium	A 569-1 PLUA AL

Description	Ref.-no.
Center plate for 2-gang modular jack sockets UAE...	
white	A 569-2 PLUA WW
aluminium	A 569-2 PLUA AL

suitable inserts:
 UAE 2x8 UPO,
 UAE 8-8 UPO,
 UAE 8-8 UPO K 5
 UAE 8-8 UPOK5US,
 EDAT 8-8 UPO K 6



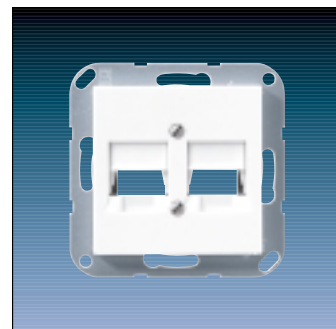
Center plate with shutter for modular jack sockets 6 WE / 8 WE center plate for screw fixing, shutter with spring for 1 socket	
white	A 569-1 NWE WW
aluminium	A 569-1 NWE AL

suitable inserts:
 JUNG: 6 WE/8 WE
 AMP:
 216 000-2, ..005-1,
 ..005-4, 000-1
 Radial:
 R 280 MOD 804
 R 280 MOD 805
 R 280 MOD 807
 Panduit:
 KJ 88., KJ 588...



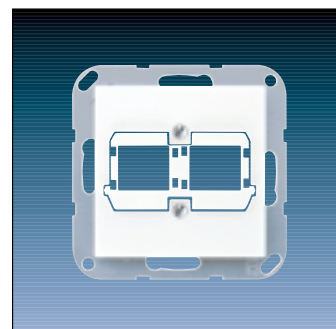
Center plate with shutter for modular jack sockets 6 WE / 8 WE center plate for screw fixing, shutter with spring for 2 socket	
white	A 569-2 NWE WW
aluminium	A 569-2 NWE AL

suitable inserts:
 JUNG: 6 WE/8 WE
 AMP:
 216 000-2, ..005-1,
 ..005-4, 000-1
 Radial:
 R 280 MOD 804
 R 280 MOD 805
 R 280 MOD 807
 Panduit:
 KJ 88., KJ 588...



Screw-on center plate with shutter for IBM-ACS, Reichle + DeMassari with supporting frame for screw fixing	
white	A 569-21 ACS WW
aluminium	A 569-21 ACS AL

suitable inserts:
 ACS sockets
 R 35251,
 R 35252,
 R 302377,
 R 302378



Screw-on center plate with shutter for 1-gang modular jack sockets with supporting frame for screw fixing and shutter with spring	
white	A 569-15 NWE WW
aluminium	A 569-15 NWE AL

suitable inserts:
 JUNG:
 8 VGWE
 Tyco Electronics
 AMP 110
 connect system:
 0-1116515-1
 0-1375117-1



All devices have to be completed with frames A 581.. – A 585.. or AP 581.. – AP 585.. !
 Printings + engravings possible on request,



suitable inserts:
 JUNG:
 8 VGWE
 Tyco Electronics
 AMP 110
 connect system:
 0-1116515-1
 0-1375117-1

Description

Ref.-no.

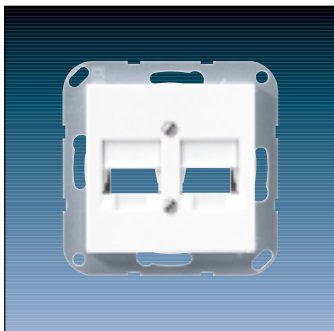
**Screw-on center plate with shutter
 for 2-gang modular jack sockets
 with supporting frame for screw fixing
 and shutter with spring**

white

A 569-25 NWE WW

aluminium

A 569-25 NWE AL



suitable inserts:
 Avaya (Lucent
 Technologies)
 AT&T series:
 M 1 BH
 MPS 100 series:
 (MPS 100 BH..)
 MGS 200 series:
 (MGS 200 BH..)

**Center plate with shutter
 for 2-gang modular jack sockets
 with supporting frame for screw fixing
 and shutter with spring**

white

A 569-2 NAT WW

aluminium

A 569-2 NAT AL



suitable inserts:
 Radiall:
 R280MOD813
 INFRA:
 7700 U/7700 D
 7700 E

**Center plates with shutter
 for 2-gang modular jack sockets
 with supporting frame for screw fixing
 and shutter with spring**

Center plate for INFRA+ / Radial

white

A 569-2 NINF WW

aluminium

A 569-2 NINF AL



suitable inserts:
 PANDUIT
 CJ588T, CDJD588T
 CJS588T, CJ5E88T
 CJD5E88T,
 CJS5E88T,
 CJ688TP,
 CJD688TP,
 CJD688P,
 OPTI-JACK (LWL)
 FJJG ..

Center plate for Panduit

white

A 569-2 NPAND WW

aluminium

A 569-2 NPAND AL



suitable inserts:
 ITT Canon,
 LAN Connect RJ45,
 shielded/unshielded,
 Cat. 5e = 808 MK2,
 Cat. 6 = 808 MK3

Center plate for ITT Canon

white

A 569-2 NITT WW

aluminium

A 569-2 NITT AL

■ With sealing gasket ref.-no. 551 WU and frame from range A 500 the protection level IP 44 is ensured.

Description	Ref.-no.
Center plate for Nexans (ALCATEL)	
white	A 569-2 NALCAT WW
aluminium	A 569-2 NALCAT AL

suitable inserts:
 EPSILON Twisted pair connector Kat 5 RJ45 shielded (E110)
 ACS-410.030,
 ACS 410.020 (semi shielded), ACS 410.010 (unshielded)



Center plate for LEXCOM	
white	A 569-2 NLEX WW
aluminium	A 569-2 NLEX AL

suitable inserts:
 LexCom Home 900MHZ (CATV) no. 306540001,
 LexCom 125 Kat 5e, unshielded, no. 306510005/306510006, shielded, no. 306510007/306510008, suitable inserts continued:
 LexCom 250 Kat 6, unshielded



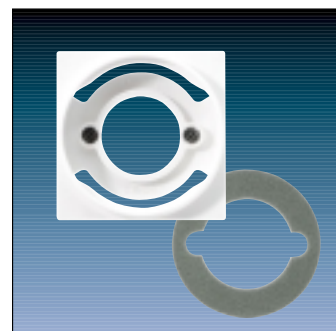
Center plate for stereo/mono loudspeaker socket	
white	A 569 PLT WW
aluminium	A 569 PLT AL

suitable inserts:
 SLA 2 WW,
 SLA 2 AN,
 MLA 1 WW,
 MLA 1 AN



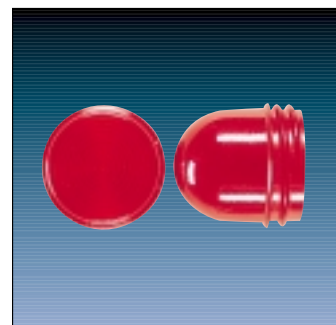
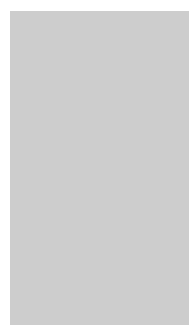
Center plate for pilot light inserts	
white	■ A 537 PL WW
aluminium	■ A 537 PL AL

suitable insert:
 938-10 U
 938-14 U



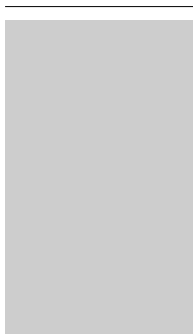
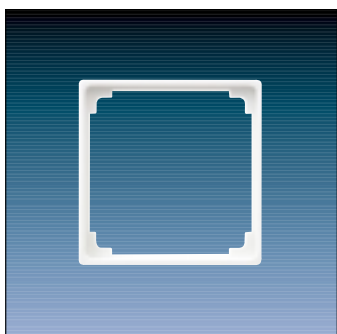
Sealing gasket for pilot light	37 D
To obtain protection level IP 44 the sealing gasket has to be placed into the pilot light center plate.	

Screw cap for center plate A 537.. flat, for lamps up to max. length of 35 mm	
clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08
high, for lamps up to max. length of 54 mm	
clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL

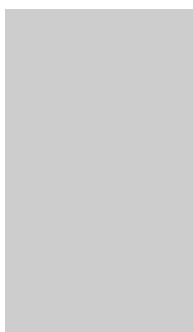
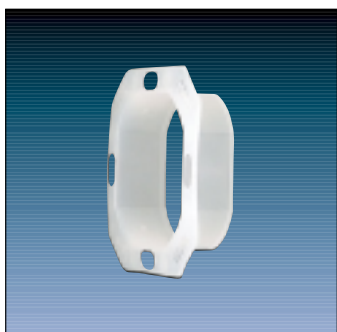


A 500

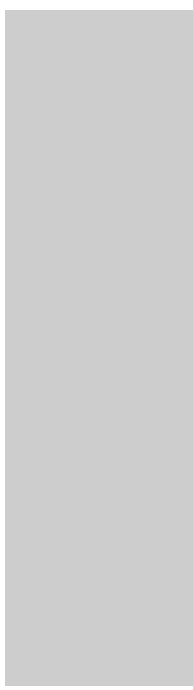
■ With sealing gasket ref.-no. 551 WU and frame from range A 500 the protection level IP 44 is ensured.



Description	Ref.-no.
Intermediate frame for installation of devices with center plates of 50 x 50 mm	
white	A 590 Z WW
aluminium	A 590 Z AL



Description	Ref.-no.
Sealing gasket for all flush mounted switches, push buttons, dimmer, sockets, venetian blind switch, automatic switches, time delay switches and devices with center plates 50 x 50 mm	■ 551 WU



Frames for horizontal and vertical installation			
white			
1-gang	81 x	81 mm	■ A 581 WW
2-gang	81 x	152 mm	■ A 582 WW
3-gang	81 x	223 mm	■ A 583 WW
4-gang	81 x	294 mm	■ A 584 WW
5-gang	81 x	365 mm	■ A 585 WW
aluminium			
1-gang	81 x	81 mm	■ A 581 AL
2-gang	81 x	152 mm	■ A 582 AL
3-gang	81 x	223 mm	■ A 583 AL
4-gang	81 x	294 mm	■ A 584 AL
5-gang	81 x	365 mm	■ A 585 AL



Description	Ref.-no.
Frames with inscription plate 17 x 54 mm for horizontal and vertical installation	
1-gang, 81 x 81 mm	
white	A 581 NA WW
aluminium	A 581 NA AL

Inscription sheet:
BB 20



Frames with inscription plate 17 x 54 mm and 13 x 54 mm for vertical installation	
2-gang, 81 x 152 mm	
white	A 582 NA WW
aluminium	A 582 NA AL

Inscription sheet:
BB 20



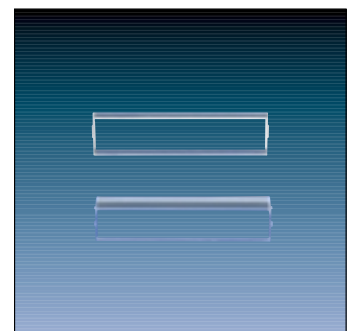
3-gang, 81 x 223 mm	
white	A 583 NA WW
aluminium	A 583 NA AL

Frames with inscription plate 17 x 54 mm for horizontal installation	
2-gang, 152 x 81 mm	
white	A 5820 NA WW
aluminium	A 5820 NA AL

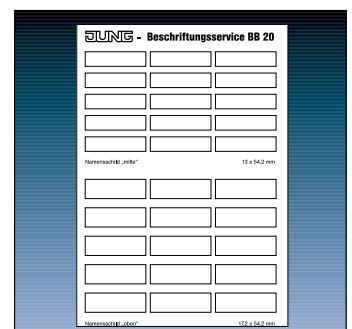
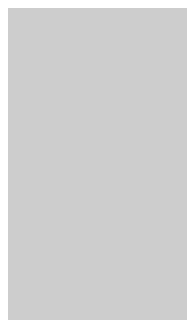
3-gang, 223 x 81 mm	
white	A 5830 NA WW
aluminium	A 5830 NA AL

Cover for inscription plate, transparent (spare part)	
17 x 54 mm	A 81 NA
13 x 54 mm	A 82 NA

Inscription sheet:
BB 20



Inscription sheet A 4	
white, self-adhesive	BB 20
15 stripes 17 x 54 mm, for A 81 NA	
15 stripes 13 x 54 mm, for A 82 NA	





suitable for all devices with center plate

Description	Ref.-No.
Surface cap with integrated non-flammable mounting plate	
1-gang	
85 x 85 x 46.1 mm	
ivory	AS 581 A W
white	AS 581 A WW
with inscription plate	
ivory	AS 581 ANA W
white	AS 581 ANA WW



suitable for all devices with center plate

Surface cap with integrated non-flammable mounting plate	
2-gang	
156 x 85 x 46.3 mm	
ivory	AS 582 A W
white	AS 582 A WW

Surface cap with integrated non-flammable mounting plate	
3-gang	
227 x 85 x 46.3 mm	
ivory	AS 583 A W
white	AS 583 A WW



Accessories for cables, pipes, trunkings

Inlet for cable and minitrunking	
ivory	11
white	11 WW

Inlet for trunking 15 x 15 mm	
ivory	12
white	12 WW



Inlet for pipes with outside Ø 16 mm	
ivory	13
white	13 WW

A plus

JUNG



A plus is a young design range adequate to the today's life-style. From shiny colours to noble elegant reaches the variety of frames which can be combined with center plates in white or aluminium.

Frame size:
1-gang 89 mm x 93 mm
2-gang 160 mm x 93 mm
3-gang 231 mm x 93 mm
4-gang 302 mm x 93 mm
5-gang 373 mm x 93 mm

Frames can be horizontally and vertically installed.

Protection level: IP 20

Colours:
chrome
aluminium
anthracite
blue



A plus

Suitable for devices of the range A 500

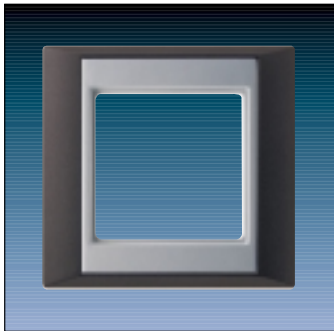


Description	Ref.-no.
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Frames for horizontal and vertical installation

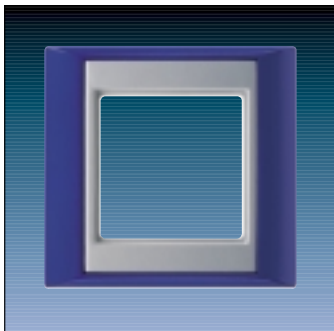
aluminium

1-gang 93 x 89 mm	AP 581 AL
2-gang 93 x 160 mm	AP 582 AL
3-gang 93 x 231 mm	AP 583 AL
4-gang 93 x 302 mm	AP 584 AL
5-gang 93 x 373 mm	AP 585 AL



anthracite-aluminium

1-gang 93 x 89 mm	AP 581 ANT AL
2-gang 93 x 160 mm	AP 582 ANT AL
3-gang 93 x 231 mm	AP 583 ANT AL
4-gang 93 x 302 mm	AP 584 ANT AL
5-gang 93 x 373 mm	AP 585 ANT AL



blue-aluminium

1-gang 93 x 89 mm	AP 581 BL AL
2-gang 93 x 160 mm	AP 582 BL AL
3-gang 93 x 231 mm	AP 583 BL AL
4-gang 93 x 302 mm	AP 584 BL AL
5-gang 93 x 373 mm	AP 585 BL AL



chrome-aluminium

1-gang 93 x 89 mm	AP 581 GCR AL
2-gang 93 x 160 mm	AP 582 GCR AL
3-gang 93 x 231 mm	AP 583 GCR AL
4-gang 93 x 302 mm	AP 584 GCR AL
5-gang 93 x 373 mm	AP 585 GCR AL

Description	Ref.-no.
-------------	----------

Frames for horizontal and vertical installation

aluminium-white

1-gang 93 x 89 mm	AP 581 AL WW
2-gang 93 x 160 mm	AP 582 AL WW
3-gang 93 x 231 mm	AP 583 AL WW
4-gang 93 x 302 mm	AP 584 AL WW
5-gang 93 x 373 mm	AP 585 AL WW

anthracite-white

1-gang 93 x 89 mm	AP 581 ANT WW
2-gang 93 x 160 mm	AP 582 ANT WW
3-gang 93 x 231 mm	AP 583 ANT WW
4-gang 93 x 302 mm	AP 584 ANT WW
5-gang 93 x 373 mm	AP 585 ANT WW

blue-white

1-gang 93 x 89 mm	AP 581 BL WW
2-gang 93 x 160 mm	AP 582 BL WW
3-gang 93 x 231 mm	AP 583 BL WW
4-gang 93 x 302 mm	AP 584 BL WW
5-gang 93 x 373 mm	AP 585 BL WW

chrome-white

1-gang 93 x 89 mm	AP 581 GCR WW
2-gang 93 x 160 mm	AP 582 GCR WW
3-gang 93 x 231 mm	AP 583 GCR WW
4-gang 93 x 302 mm	AP 584 GCR WW
5-gang 93 x 373 mm	AP 585 GCR WW

white

1-gang 93 x 89 mm	AP 581 BF WW
2-gang 93 x 160 mm	AP 582 BF WW
3-gang 93 x 231 mm	AP 583 BF WW



CD 500



Frame size:

- 1-gang 81 mm x 81 mm
- 2-gang 152 mm x 81 mm
- 3-gang 223 mm x 81 mm
- 4-gang 294 mm x 81 mm
- 5-gang 365 mm x 81 mm

Frames can be horizontally and vertically installed.

Material CD 500:
duroplastic

Protection level:

- IP 20/IP 21
- IP 44 in connection with sealing gasket

Colours:

- | | |
|------------|------------------|
| ivory | similar RAL 1013 |
| white | similar RAL 9010 |
| light grey | similar RAL 7035 |
| grey | similar RAL 7038 |
| red | similar RAL 3003 |
| brown | similar RAL 8022 |
| blue | similar RAL 5013 |
| black | similar RAL 9005 |

Metal versions:

- gold-bronze
- platinum



Ease of use and a high level of functionality in a contemporary design are the features of the JUNG CD 500 colour range.

The eight different colours and the two-tone anodised aluminium provide an emphasis. They correspond to the current RAL tones of door and window mountings.



CD 500 / CD plus

■ With sealing gasket ref.-no. 551 WU and frame CD 581.. – CD 585.. the protection level IP 44 is ensured.

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K.. !



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

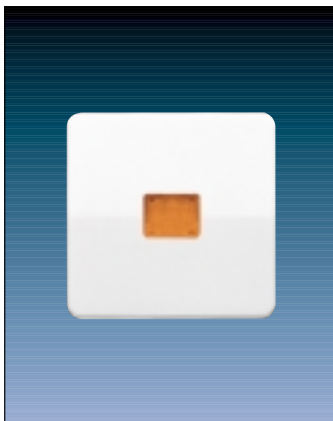
Description	Ref.-no.
1-gang rocker	
ivory*	■ CD 590
white*	■ CD 590 WW
blue	■ CD 590 BL
brown	■ CD 590 BR
grey	■ CD 590 GR
light grey*	■ CD 590 LG
red*	■ CD 590 RT
black	■ CD 590 SW
Metal versions	
gold-bronze	CD 590 GB
platinum	CD 590 PT



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U
inscription sheet:
BB 3.1 (9x58 mm)
BB 3 (7x57 mm)

1-gang rocker with inscription plate 9 x 58 mm	
ivory*	■ CD 590 NA
white*	■ CD 590 NA WW
blue	■ CD 590 NA BL
brown	■ CD 590 NA BR
grey	■ CD 590 NA GR
light grey*	■ CD 590 NA LG
red*	■ CD 590 NA RT
black	■ CD 590 NA SW
Metal versions (inscription plate 7 x 57 mm)	
gold-bronze	CD 590 NA GB
platinum	CD 590 NA PT

* illumination possible with lamps 90/95 (230 V), 96-- (low voltage), page 19, or 961248 LED.. (low voltage), page 19. The bright rockers (ivory, white, light grey, red) offer enough transparency to be illuminated. For dark colour and metal rockers use "KO" version (blue, brown, grey, black, gold-bronze, platinum) of rockers.



suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

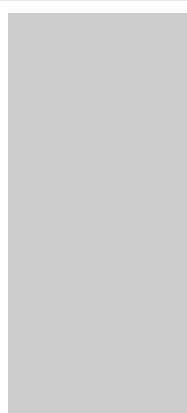
1-gang rocker with orange lens	
ivory	■ CD 590 KO
white	■ CD 590 KO WW
blue	■ CD 590 KO BL
brown	■ CD 590 KO BR
grey	■ CD 590 KO GR
light grey	■ CD 590 KO LG
red	■ CD 590 KO RT
black	■ CD 590 KO SW
Metal versions	
gold-bronze	CD 590 KO GB
platinum	CD 590 KO PT



suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU
inscription sheet:
BB 3.1 (9x58 mm)
BB 3 (7x57 mm)

1-gang rocker with orange lens and inscription plate 9 x 58 mm	
ivory	■ CD 590 NAKO
white	■ CD 590 NAKO WW
blue	■ CD 590 NAKO BL
brown	■ CD 590 NAKO BR
grey	■ CD 590 NAKO GR
light grey	■ CD 590 NAKO LG
red	■ CD 590 NAKO RT
black	■ CD 590 NAKO SW

Description	Ref.-no.
Symbols for rockers CD 590 KO + CD 590 NAKO	
ivory, symbol „light“	33 L
symbol „bell“	33 K
symbol „door“	33 T
STOP	33 STOP
white, symbol „light“	33 L WW
symbol „bell“	33 K WW
symbol „door“	33 T WW
STOP	33 STOP WW
green, neutral lens	33 GN
orange, neutral lens	33 O
red, neutral lens	33 NR
transparent lens	33 KLAR



1-gang rocker with transparent lens

ivory	■	CD 590 KO5
white	■	CD 590 KO5 WW
blue	■	CD 590 KO5 BL
brown	■	CD 590 KO5 BR
grey	■	CD 590 KO5 GR
light grey	■	CD 590 KO5 LG
red	■	CD 590 KO5 RT
black	■	CD 590 KO5 SW
Metal versions		
gold-bronze		CD 590 KO5 GB
platinum		CD 590 KO5 PT

suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU



1-gang rocker with transparent lens and inscription plate 9 x 58 mm

ivory	■	CD 590 NAKO5
white	■	CD 590 NAKO5 WW
blue	■	CD 590 NAKO5 BL
brown	■	CD 590 NAKO5 BR
grey	■	CD 590 NAKO5 GR
light grey	■	CD 590 NAKO5 LG
red	■	CD 590 NAKO5 RT
black	■	CD 590 NAKO5 SW
Metal versions (inscription plate 7 x 57 mm)		
gold-bronze		CD 590 NAKO5 GB
platinum		CD 590 NAKO5 PT

suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU
inscription sheet:
BB 3.1 (9x58 mm)
BB 3 (7x57 mm)



1-gang rocker with symbol „light“

ivory*	■	CD 590 L
white*	■	CD 590 L WW
blue	■	CD 590 L BL
brown	■	CD 590 L BR
grey	■	CD 590 L GR
light grey*	■	CD 590 L LG
red*	■	CD 590 L RT
black	■	CD 590 L SW
Metal versions		
gold-bronze		CD 590 L GB
platinum		CD 590 L PT

suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U



* illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. The bright rockers (ivory, white, light grey, red) offer enough transparency to be illuminated. For dark colour and metal rockers use "KO" version (blue, brown, grey, black, gold-bronze, platinum) of rockers.

CD 500 / CD plus

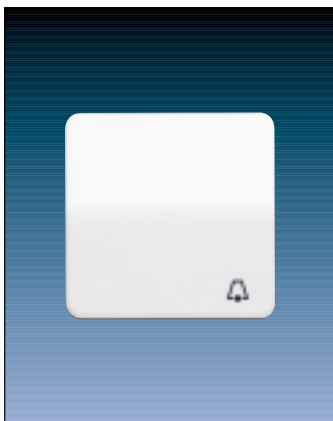
■ With sealing gasket ref.-no. 551 WU and frame CD 581.. – CD 585.. the protection level IP 44 is ensured.

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K.. !



suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

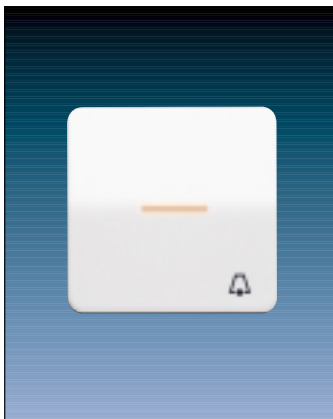
Description	Ref.-no.
1-gang rocker with symbol „light“ and transparent lens	
ivory	■ CD 590 KO5L
white	■ CD 590 KO5L WW
blue	■ CD 590 KO5L BL
brown	■ CD 590 KO5L BR
grey	■ CD 590 KO5L GR
light grey	■ CD 590 KO5L LG
red	■ CD 590 KO5L RT
black	■ CD 590 KO5L SW
Metal versions	
gold-bronze	CD 590 KO5L GB
platinum	CD 590 KO5L PT



suitable inserts:
531 U, 533 U,
533-2 U, 534 U

1-gang rocker with symbol „bell“	
ivory*	■ CD 590 K
white*	■ CD 590 K WW
blue	■ CD 590 K BL
brown	■ CD 590 K BR
grey	■ CD 590 K GR
light grey*	■ CD 590 K LG
red*	■ CD 590 K RT
black	■ CD 590 K SW
Metal versions	
gold-bronze	CD 590 K GB
platinum	CD 590 K PT

* illumination possible with lamps 90/95 (230 V), 96... (low voltage), page 19, or 961248 LED.. (low voltage), page 19. The bright rockers (ivory, white, light grey, red) offer enough transparency to be illuminated. For dark colour and metal rockers use "KO" version (blue, brown, grey, black, gold-bronze, platinum) of rockers.



suitable inserts:
531 U, 533 U,
533-2 U, 534 U

1-gang rocker with symbol „bell“ and transparent lens	
ivory	■ CD 590 KO5K
white	■ CD 590 KO5K WW
blue	■ CD 590 KO5K BL
brown	■ CD 590 KO5K BR
grey	■ CD 590 KO5K GR
light grey	■ CD 590 KO5K LG
red	■ CD 590 KO5K RT
black	■ CD 590 KO5K SW
Metal versions	
gold-bronze	CD 590 KO5K GB
platinum	CD 590 KO5K PT



suitable inserts:
531 U, 533 U,
533-2 U, 534 U

1-gang rocker with symbol „door“	
ivory*	■ CD 590 T
white*	■ CD 590 T WW
blue	■ CD 590 T BL
brown	■ CD 590 T BR
grey	■ CD 590 T GR
light grey*	■ CD 590 T LG
red*	■ CD 590 T RT
black	■ CD 590 T SW
Metal versions	
gold-bronze	CD 590 T GB
platinum	CD 590 T PT

* illumination possible with lamps 90/95 (230 V), 96... (low voltage), page 19, or 961248 LED.. (low voltage), page 19. The bright rockers (ivory, white, light grey, red) offer enough transparency to be illuminated. For dark colour and metal rockers use "KO" version (blue, brown, grey, black, gold-bronze, platinum) of rockers.

Description	Ref.-no.
1-gang rocker with symbol „door“ and transparent lens	
ivory	CD 590 KO5T
white	CD 590 KO5T WW
blue	CD 590 KO5T BL
brown	CD 590 KO5T BR
grey	CD 590 KO5T GR
light grey	CD 590 KO5T LG
red	CD 590 KO5T RT
black	CD 590 KO5T SW
Metal versions	
gold-bronze	CD 590 KO5T GB
platinum	CD 590 KO5T PT

suitable inserts:
531 U, 533 U,
533-2 U, 534 U



2-gang rocker	
ivory	CD 595
white	CD 595 WW
blue	CD 595 BL
brown	CD 595 BR
grey	CD 595 GR
light grey	CD 595 LG
red	CD 595 RT
black	CD 595 SW
Metal versions	
gold-bronze	CD 595 GB
platinum	CD 595 PT

suitable inserts:
505 U, 509 U,
535 U, 539 U,
505 TU, 509 TU,
505-20 U,
509-20 U



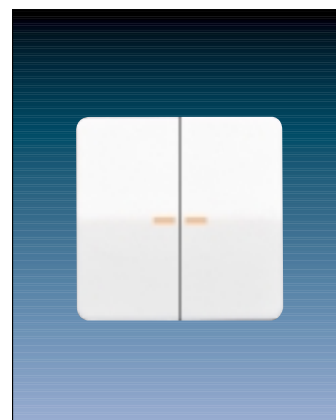
2-gang rocker with inscription plates 9 x 27 mm	
ivory	CD 595 NA
blue	CD 595 NA BL
brown	CD 595 NA BR
grey	CD 595 NA GR
light grey	CD 595 NA LG
red	CD 595 NA RT
black	CD 595 NA SW
white	CD 595 NA WW

suitable inserts:
505 U, 505-20 U,
505 TU,
509 U, 509-20 U,
509 TU,
531-4 U,
535 U,
539 U
inscription sheet:
BB 14 (9x27 mm)



2-gang rocker with 2 transparent lenses	
ivory	CD 595 KO5
white	CD 595 KO5 WW
blue	CD 595 KO5 BL
brown	CD 595 KO5 BR
grey	CD 595 KO5 GR
light grey	CD 595 KO5 LG
red	CD 595 KO5 RT
black	CD 595 KO5 SW
Metal versions	
gold-bronze	CD 595 KO5 GB
platinum	CD 595 KO5 PT

suitable inserts:
505 U 5,
505 KOU 5,
535 U 5



CD 500 / CD plus

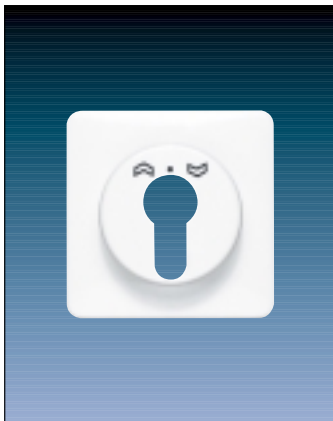
■ With sealing gasket ref.-no. 551 WU and frame CD 581.. – CD 585.. the protection level IP 44 is ensured.

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K.. !



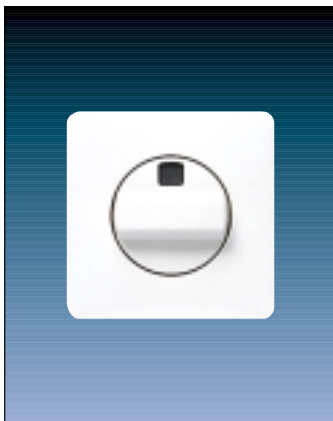
suitable inserts:
509 VU,
539 VU

Description	Ref.-no.
2-gang rocker with symbols	
ivory	■ CD 595 P
white	■ CD 595 P WW
blue	■ CD 595 P BL
brown	■ CD 595 P BR
grey	■ CD 595 P GR
light grey	■ CD 595 P LG
red	■ CD 595 P RT
black	■ CD 595 P SW
Metal versions	
gold-bronze	CD 595 P GB
platinum	CD 595 P PT



suitable inserts:
(IP20)
104.28, 134.18,
134.28, 133.18,
106.28, 138.18
(IP 44)
CD 104.18 WU
CD 134.18 WU
CD 133.18 WU
CD 106.18 WU

Center plate for key switch/push-button inserts	
ivory	■ 528
white	■ CD 528 WW
blue	■ CD 528 BL
brown	■ CD 528 BR
grey	■ CD 528 GR
light grey	■ CD 528 LG
red	■ CD 528 RT
black	■ CD 528 SW
Metal versions	
gold-bronze	CD 528 GB
platinum	CD 528 PT
incl. two key entry rosettes: one blank and one with grey printed arrows	



suitable inserts:
234.10,
234.20,
1015, 1030,
1060,
1120, 1120-20,
101-4,
101-4-20,
101-20,
101-20 KO,
101-32

Center plate with knob	
ivory	■ 541 Z
white	■ CD 541 WW
blue	■ CD 541 BL
brown	■ CD 541 BR
grey	■ CD 541 GR
light grey	■ CD 541 LG
red	■ CD 541 RT
black	■ CD 541 SW
gold-bronze	■ CD 541 GB
platinum	■ CD 541 PT
for switch insert 101-20 KO	
ivory	541 KOZ
white	CD 541 KO WW



complete device

Time switch	
with synchronised drive for 250 V ~/16 AX, screw fixing only	
ivory	CD 5024
white	CD 5024 WW
nominal voltage:	AC 230 V ~, 50 Hz
function:	simple programming by special riders, 24 h time setting knob, shortest switch on or off time 30 min.
selector switch:	auto / ON / OFF
neutral protective line necessary	

Description	Ref.-no.
Pull-cord switch 1-pole 1-gang/2-way, 10 AX/250 V screw fixing only (no frame necessary) center plate	
ivory	Z 506 NUZV
white	Z 506 NUZV WW

complete device,
incl. insert



1-gang rocker with glass plate for emergency and alarm purposes for switch- and push-button inserts	
blue (similar RAL 5015)	561 GL BL
yellow (similar RAL 1004)	561 GL GE
red (similar RAL 3000)	561 GL RT
Spare glass plate	60 GL
Spare foil	60 FO
Frame, 1-gang red (similar RAL 3000)	CD 581 GL RT

suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 531 U,
533 U, 533-2 U,
534 U, 502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU



Key Card Holder
When inserting the key card (being supplied by the door lock manufacturer) a contact will be given to the distribution board (relay). Depending on the installation/wiring all connected lights and other electric consumers will be supplied with energy. Individual control of the lights and ac/heater by JUNG rocker switches or dimmers. The key card has to be removed when leaving the room; the energy supply will be cut automatically. Illumination (orienting light) possible.

center plate	
ivory	590 CARD
white	CD 590 CARD WW
blue	CD 590 CARD BL
brown	CD 590 CARD BR
grey	CD 590 CARD GR
light grey	CD 590 CARD LG
red	CD 590 CARD RT
black	CD 590 CARD SW
Metal versions	
gold-bronze	CD 590 CARD GB
platinum	CD 590 CARD PT

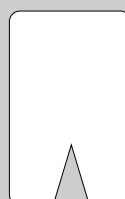
manipulation-safe version
special card necessary

ivory	591 CARD
white	CD 591 CARD WW

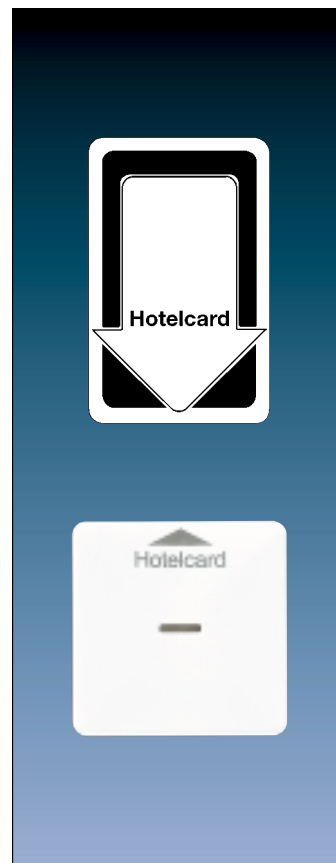
suitable inserts:
531 U,
533 U, 533-2 U,
534 U



standard key card



special opening for
591 CARD
more details avail-
able on request



Note: suitable for cards with min. length 80 mm.
width 45 - 54 mm, thickness 0.5 - 1 mm.

CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!
Printings + engravings possible on request.



screwless
connection
for wires up to
2.5 mm²

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
ivory	520 Z
white	CD 520 WW
orange	CD 520 O
blue	CD 520 BL
brown	CD 520 BR
green	CD 520 GN
grey	CD 520 GR
light grey	CD 520 LG
red	CD 520 RT
black	CD 520 SW
Metal versions	
gold-bronze	CD 520 GB
platinum	CD 520 PT



screwless
connection
for wires up to
2.5 mm²

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system, with child protection (shutter)	
ivory	520 ZKIBF
white	CD 520 KIBF WW
blue	CD 520 KIBF BL
brown	CD 520 KIBF BR
green	CD 520 KIBF GN
grey	CD 520 KIBF GR
light grey	CD 520 KIBF LG
red	CD 520 KIBF RT
black	CD 520 KIBF SW
Metal versions	
gold-bronze	CD 520 KI GB
platinum	CD 520 KI PT



screw terminals
for wires up to
2.5 mm²



Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
ivory	521 Z
white	CD 521 WW
orange	521 Z O
blue	CD 521 BL
brown	CD 521 BR
green	CD 521 GN
grey	CD 521 GR
light grey	CD 521 LG
red	CD 521 RT
black	CD 521 SW
Metal versions	
gold-bronze	CD 521 GB
platinum	CD 521 PT



screw terminals
for wires up to
2.5 mm²



Description	Ref.-no.
SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system, with child protection (shutter)	
ivory	521 ZKIBF
white	CD 521 KIBF WW
blue	CD 521 KIBF BL
brown	CD 521 KIBF BR
green	CD 521 KIBF GN
grey	CD 521 KIBF GR
light grey	CD 521 KIBF LG
red	CD 521 KIBF RT
black	CD 521 KIBF SW
Metal versions	
gold-bronze	CD 521 KI GB
platinum	CD 521 KI PT

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system, with inscription plate 6 x 37 mm	
ivory	520 ZNA
white	CD 520 NA WW
orange	CD 520 NA O
blue	CD 520 NA BL
brown	CD 520 NA BR
green	CD 520 NA GN
grey	CD 520 NA GR
light grey	CD 520 NA LG
red	CD 520 NA RT
black	CD 520 NA SW

screwless
connection
for wires up to
2.5 mm²

inscription sheet:
BB 1 (6x37 mm)



SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system, with inscription plate 6 x 37 mm with child protection (shutter)	
ivory	520 ZKINABF
white	CD 520 KINABF WW
blue	CD 520 KINABF BL
brown	CD 520 KINABF BR
grey	CD 520 KINABF GR
light grey	CD 520 KINABF LG
red	CD 520 KINABF RT
black	CD 520 KINABF SW

screwless
connection
for wires up to
2.5 mm²

inscription sheet:
BB 1 (6x37 mm)



SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system, with inscription plate 6 x 37 mm	
ivory	521 ZNA
white	CD 521 NA WW
orange	521 ZNA O
blue	CD 521 NA BL
brown	CD 521 NA BR
green	CD 521 NA GN
grey	CD 521 NA GR
light grey	CD 521 NA LG
red	CD 521 NA RT
black	CD 521 NA SW

screw terminals
for wires up to
2.5 mm²

inscription sheet:
BB 1 (6x37 mm)



SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system with inscription plate 6 x 37 mm and pilot light	
ivory	520 ZNAKO
white	CD 520 NAKO WW
orange	CD 520 NAKO O
green	CD 520 NAKO GN

screwless
connection
for wires up to
2.5 mm²

inscription sheet:
BB 1 (6x37 mm)



CD 500 / CD plus

■ With sealing gasket ref.-no. 551 WU and frame CD 581.. – CD 585.. the protection level IP 44 is ensured.

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!
Printings + engravings possible on request.



screw terminals
for wires up to
2.5 mm²

inscription sheet:
BB 1 (6x37 mm)



Description	Ref.-no.
SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system with integrated surge voltage protection and inscription plate 6 x 37 mm	
ivory	521 KIZNAUF
white	CD 521 KINAUF WW
orange	CD 521 KINAUF O
blue	CD 521 KINAUF BL
brown	CD 521 KINAUF BR
green	CD 521 KINAUF GN
grey	CD 521 KINAUF GR
light grey	CD 521 KINAUF LG
red	CD 521 KINAUF RT
black	CD 521 KINAUF SW



screwless
connection
for wires up to
2.5 mm²

SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system with break- and shockproof cover plate 100 x 100 mm and additional metal ring for dowel fixing single device, not suitable for combinations, no frame necessary	
ivory	120 BF
white	120 BF WW
with child protection (shutter)	
ivory	120 KIBF
white	120 KIBF WW



screwless
connection
for wires up to
2.5 mm²

SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system with hinged lid	
ivory	■ CD 520 WU
white	■ CD 520 WU WW
brown	■ CD 520 WU BR
grey	■ CD 520 WU GR
light grey	■ CD 520 WU LG
black	■ CD 520 WU SW
green	■ CD 520 WU GN
orange	■ CD 520 WU O



screwless
connection
for wires up to
2.5 mm²

SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system with hinged lid and child protection (shutter)	
ivory	■ CD 520 KIWI
white	■ CD 520 KIWI WW
brown	■ CD 520 KIWI BR
grey	■ CD 520 KIWI GR
light grey	■ CD 520 KIWI LG
black	■ CD 520 KIWI SW
green	■ CD 520 KIWI GN
orange	■ CD 520 KIWI O

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system with hinged lid and inscription plate 7 x 57 mm	
ivory	■ CD 520 NAWU
white	■ CD 520 NAWU WW
brown	■ CD 520 NAWU BR
grey	■ CD 520 NAWU GR
light grey	■ CD 520 NAWU LG
black	■ CD 520 NAWU SW
green	■ CD 520 NAWU GN
orange	■ CD 520 NAWU O

screwless
connection
for wires up to
2.5 mm²

inscription sheet:
BB 3 (7x57 mm)



SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system with hinged lid and pilot light	
ivory	■ CD 520 KOWU
white	■ CD 520 KOWU WW
brown	■ CD 520 KOWU BR
grey	■ CD 520 KOWU GR
light grey	■ CD 520 KOWU LG
black	■ CD 520 KOWU SW
green	■ CD 520 KOWU GN
orange	■ CD 520 KOWU O

screwless
connection
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth, 16 A-AC/10 A-DC/250 V, German system with hinged lid, pilot light and inscription plate 7 x 57 mm	
ivory	■ CD 520 NAKOWU
white	■ CD 520 NAKOWU WW
brown	■ CD 520 NAKOWU BR
grey	■ CD 520 NAKOWU GR
light grey	■ CD 520 NAKOWU LG
black	■ CD 520 NAKOWU SW
green	■ CD 520 NAKOWU GN
orange	■ CD 520 NAKOWU O

screwless
connection
for wires up to
2.5 mm²

inscription sheet:
BB 3 (7x57 mm)



SCHUKO-socket 45°, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system especially suitable for vertical combination of several outlets, screw fixing only (without claws)	
ivory	520-45
white	CD 520-45 WW

screwless
connection
for wires up to
2.5 mm²



CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!
 Printings + engravings possible on request.



screw terminals
for wires
up to 2.5 mm²

single device,
not suitable
for combination



Description	Ref.-no.
Switch + socket combinations for installation into single flush box Ø 60 mm 1-gang/2-way switch 10 A/250 V + Schuko-socket 16 A-AC/250 V (screw + claw fixing)	
ivory	5576 U
white	5576 U WW



screw terminals
for wires
up to 2.5 mm²

single device,
not suitable
for combination



2-gang/1-way switch 10 A/250 V + Schuko-socket 16 A-AC/250 V (screw fixing only)	
ivory	5575 EU
white	5575 EU WW



screw terminals
for wires
up to 2.5 mm²

single device,
not suitable for
combinations



2-gang SCHUKO-socket 16 A-AC/10 A-DC/250 V 2-pole + earth, German system for installation into single flush box Ø 60 mm screw + claw fixing	
ivory	5022 U
white	CD 5022 WW



screwless
connection
for wires up to
2.5 mm²

single device,
not suitable for
combinations

2-gang SCHUKO-socket 16 A-AC/10 A-DC/250 V 2-pole + earth, German system for installation into single flush box Ø 60 mm, screw + claw fixing	
ivory	5020 U
white	CD 5020 WW
with child protection (shutter)	
ivory	5020 KIU
white	CD 5020 KI WW
other colours available on request	

Description	Ref.-no.
Switch + socket combinations	
1-gang/2-way switch 10 A/250 V	
+ 2-pole socket 16 A-AC/250 V	
(screw fixing only)	
ivory	5546 EU
white	5546 EU WW

screw terminals
for wires
up to 2.5 mm²

single device,
not suitable
for combinations



2-gang/1-way switch 10 A/250 V	
+ 2-pole socket 16 A-AC/250 V	
ivory	5545 EU
white	5545 EU WW

screw terminals
for wires
up to 2.5 mm²

single device,
not suitable
for combinations



2-gang socket 16 A-AC/10 A-DC/250 V	
2-pole without earth	
for installation into single flush box Ø 60 mm	
(without claws)	
ivory	5010 U
white	CD 5010 WW
with child protection (shutter)	
ivory	5010 KIU
white	CD 5010 KI WW

screwless
connection
terminals for wires
up to 2.5 mm²

single device,
not suitable for
combinations



Socket, 2-pole without earth	
16 A-AC/10 A-DC/250 V, for round pins	
ivory	511 UZV
white	CD 511 WW
blue	CD 511 BL
brown	CD 511 BR
grey	CD 511 GR
light grey	CD 511 LG
red	CD 511 RT
black	CD 511 SW
Metal versions	
gold-bronze	CD 511 GB
platinum	CD 511 PT

screw terminals
for wires
up to 2.5 mm²



CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!
Printings + engravings possible on request.



screwless
connection for
wires up to
2.5 mm²

Description	Ref.-no.
Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V, French/Belgian system	
ivory	520 FUZ
white	CD 520 F WW
other colours available on request	



screw terminals
for wires
up to 2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V, French/Belgian system	
ivory	521 FUZ
white	CD 521 F WW
blue	CD 521 F BL
brown	CD 521 F BR
grey	CD 521 F GR
light grey	CD 521 F LG
red	CD 521 F RT
black	CD 521 F SW
Metal versions	
gold-bronze	CD 521 F GB
platinum	CD 521 F PT



screwless
connection for
wires up to
2.5 mm²

Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V, French/Belgian system with child protection (shutter)	
ivory	520 FKI
white	CD 520 FKI WW
other colours available on request	



screw terminals
for wires
up to 2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V, French/Belgian system with child protection	
ivory	521 FKI
white	CD 521 FKI WW
blue	CD 521 FKI BL
brown	CD 521 FKI BR
grey	CD 521 FKI GR
light grey	CD 521 FKI LG
red	CD 521 FKI RT
black	CD 521 FKI SW
Metal versions	
gold-bronze	CD 521 FKI GB
platinum	CD 521 FKI PT

Description	Ref.-no.
Socket, 2-pole without earth 10 A/250 V, 15 A/125 V Franco-American system for flat + round pins	
ivory	510 UZ
white	CD 510 WW
blue	CD 510 BL
brown	CD 510 BR
grey	CD 510 GR
light grey	CD 510 LG
red	CD 510 RT
black	CD 510 SW
Metal versions	
gold-bronze	CD 510 GB
platinum	CD 510 PT

screw terminals
for wires
up to 2.5 mm²



HNA-socket 2-pole + earth 10 A-AC/250 V	
ivory	10 HNAZ
white	CD 10 HNA WW
Plug for HNA-socket	10 HNAST

screw terminals



Socket, 2-pole + earth US-NEMA system 5 - 20 R with center plate (snap-on) 15 A - 125 V	
ivory	521-15 OSZ
white	CD 521-15 OSZ WW
20 A - 125 V	
ivory	521-20 OSZ
white	CD 521-20 OSZ WW
center plate for screw fixing available on request	

screw terminals
for wires
up to 2.5 mm²



Potential compensation socket e.g. for separate earthing of medical appliances in hospitals with 2 one-pole male sockets acc. to DIN 42801 screw fixing only	
ivory	565-2
white	CD 565-2 WW
blue	CD 565-2 BL
brown	CD 565-2 BR
grey	CD 565-2 GR
light grey	CD 565-2 LG
red	CD 565-2 RT
black	CD 565-2 SW

screw terminals
for wires up to
6 mm²



CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!



screw terminals
for wires
up to 4 mm²



Description

Ref.-no.

Socket, 2-pole + earth
13 A/250 V, British system, acc. to B.S. 1363: 1995
center plate with child protection (shutter)
screw fixing into standard wall boxes with Ø 60 mm
or single steel boxes with fixing centres 60.3 mm

ivory	521 BS
white	CD 521 BS WW
blue	CD 521 BS BL
brown	CD 521 BS BR
grey	CD 521 BS GR
light grey	CD 521 BS LG
red	CD 521 BS RT
black	CD 521 BS SW

Metal versions

gold-bronze	CD 521 BS GB
platinum	CD 521 BS PT



screw terminals
for wires
up to 4 mm²



Double-pole switched socket, 2-pole + earth
13 A/250 V, British system, acc. to B.S. 1363: 1995
center plate with child protection (shutter)
screw fixing into standard wall boxes with Ø 60 mm
or single steel boxes with fixing centres 60.3 mm
rocker with printing 0 + 1

ivory	CD 172
white	CD 172 WW
gold-bronze (rocker in bronze-beige)	CD 172 GB
platinum	CD 172 PT



screw terminals
for wires
up to 4 mm²



Double-pole switched socket, 2-pole + earth
13 A/250 V, British system, acc. to B.S. 1363: 1995
center plate with child protection (shutter) and pilot light (red rocker)
screw fixing into standard wall boxes with Ø 60 mm
or single steel boxes with fixing centres 60.3 mm

ivory	CD 172 KO
white	CD 172 KO WW
grey	CD 172 KO GR
light grey	CD 172 KO LG
red	CD 172 KO RT
black	CD 172 KO SW
Metal versions	
gold-bronze	CD 172 KO GB
platinum	CD 172 KO PT

Description	Ref.-no.
Electronic time delay switch 1000 VA, 230 V, 50 Hz with astro mode, random generator \pm 15 min., neutral protective line necessary	
ivory	CD 5201 T
white	CD 5201 T WW
blue	CD 5201 T BL
brown	CD 5201 T BR
grey	CD 5201 T GR
light grey	CD 5201 T LG
red	CD 5201 T RT
black	CD 5201 T SW
Metal versions	
gold-bronze	CD 5201 T GB
platinum	CD 5201 T PT

Electronic timer

The device is operated simply by pressing a button.
The previously set period elapses automatically or is stopped by pressing the button again.
A diode lights up for a functional test.

time delay 1 – 60 min.

white	CD 1060 ET WW
-------	---------------

incl. inscription plate + labels

for 5, 7.5, 10, 15, 20, 30, 45 + 60 min.

time delay 1 – 8 h

white	CD 10.480 ET WW
-------	-----------------

incl. inscription plate + labels

for 60, 120, 180, 240, 300, 360, 420 + 480 min.

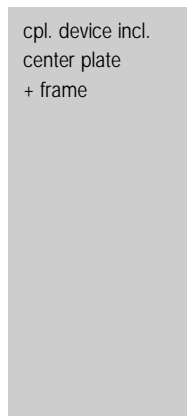
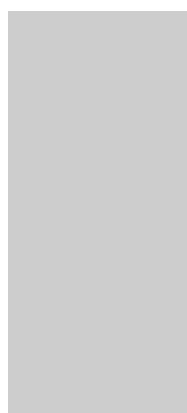
Standard center plate

for touch dimmer and electronic switch inserts

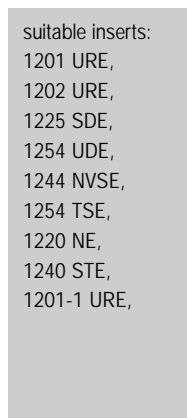
ivory	CD 1561.07
white	CD 1561.07 WW
blue	CD 1561.07 BL
brown	CD 1561.07 BR
grey	CD 1561.07 GR
light grey	CD 1561.07 LG
red	CD 1561.07 RT
black	CD 1561.07 SW
Metal versions	
gold-bronze	CD 1561.07 GB
platinum	CD 1561.07 PT

Radio center plate with radio-controlled receiver
for touch dimmer and electronic switch inserts

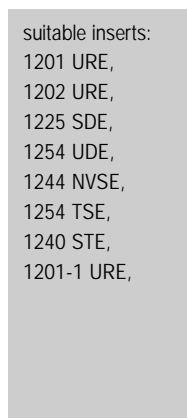
ivory	CD 1561.07 F
white	CD 1561.07 F WW
blue	CD 1561.07 F BL
brown	CD 1561.07 F BR
grey	CD 1561.07 F GR
light grey	CD 1561.07 F LG
red	CD 1561.07 F RT
black	CD 1561.07 F SW
Metal versions	
gold-bronze	CD 1561.07 F GB
platinum	CD 1561.07 F PT



cpl. device incl.
center plate
+ frame



suitable inserts:
1201 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1220 NE,
1240 STE,
1201-1 URE,



suitable inserts:
1201 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1240 STE,
1201-1 URE,



CD 500 / CD plus

■ With sealing gasket ref.-no. 551 WU and frame CD 581.. – CD 585.. the protection level IP 44 is ensured.

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K.. !



suitable inserts:
1201 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1240 STE,
1201-1 URE

Description	Ref.-no.
Universal center plate with four optional functions for touch dimmer inserts and electronic switch inserts	
ivory	CD 1561.07 U
white	CD 1561.07 U WW
blue	CD 1561.07 U BL
brown	CD 1561.07 U BR
grey	CD 1561.07 U GR
light grey	CD 1561.07 U LG
red	CD 1561.07 U RT
black	CD 1561.07 U SW
Metal versions	
gold-bronze	CD 1561.07 U GB
platinum	CD 1561.07 U PT

for more technical/functional details see page 69



suitable insert:
211GDE, 266 GDE,
225 NVDE,
225 TDE,
254 UDIE1,
254 NIE1,
240-10, 244-110,
254 UDIE-110,
254 NIE-110,
245.20, 211GDE,
243 EX, 244 EX,
244 HEX

Sealing gasket to
obtain IP 44: 40 D

Center plate with knob (for clip-on fixing)
for dimmer inserts

ivory	■	540 Z
white	■	CD 540 WW
blue	■	CD 540 BL
brown	■	CD 540 BR
grey	■	CD 540 GR
light grey	■	CD 540 LG
red	■	CD 540 RT
black	■	CD 540 SW
Metal versions		
gold-bronze		CD 540 GB
platinum		CD 540 PT

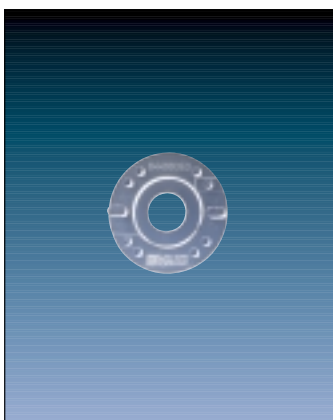


suitable insert:
245.20

Sealing gasket to
obtain IP 44: 40 D

Center plate with knob
for speed regulator insert

ivory	■	540.20 Z
white	■	CD 540.20 WW
blue	■	CD 540.20 BL
brown	■	CD 540.20 BR
grey	■	CD 540.20 GR
light grey	■	CD 540.20 LG
red	■	CD 540.20 RT
black	■	CD 540.20 SW
Metal versions		
gold-bronze		CD 540.20 GB
platinum		CD 540.20 PT



Sealing gasket 40 D

for center plates ..540.. and ..540.20..

To obtain protection level IP 44 the sealing gasket
has to be placed in the center plate.

Automatic switches are not suitable for alarm systems !

Description	Ref.-no.
Automatic switch 180° lens type 1.10 m standard version	
ivory	CD 1180
white	CD 1180 WW
blue	CD 1180 BL
brown	CD 1180 BR
grey	CD 1180 GR
light grey	CD 1180 LG
red	CD 1180 RT
black	CD 1180 SW
Metal versions	
gold-bronze (lacquered)	CD 1180 GB
platinum (lacquered)	CD 1180 PT

suitable inserts:

1201 URE,
1202 URE,
1225 SDE,
1244 NVSE,
1254 TSE,
1254 UDE,
1223 NE,
1240 STE,
1208 UI,
1201-1 URE



Automatic switch 180° lens type 1.10 m universal version	
ivory	CD 1180-1
white	CD 1180-1 WW
blue	CD 1180-1 BL
brown	CD 1180-1 BR
grey	CD 1180-1 GR
light grey	CD 1180-1 LG
red	CD 1180-1 RT
black	CD 1180-1 SW
Metal versions	
gold-bronze (lacquered)	CD 1180-1 GB
platinum (lacquered)	CD 1180-1 PT

suitable inserts:

1201 URE,
1202 URE,
1225 SDE,
1244 NVSE,
1254 TSE,
1254 UDE,
1223 NE,
1240 STE,
1208 UI,
1201-1 URE



Automatic switch 180° lens type 2.20 m standard version	
ivory	CD 1280
white	CD 1280 WW
blue	CD 1280 BL
brown	CD 1280 BR
grey	CD 1280 GR
light grey	CD 1280 LG
red	CD 1280 RT
black	CD 1280 SW
Metal versions	
gold-bronze (lacquered)	CD 1280 GB
platinum (lacquered)	CD 1280 PT

suitable inserts:

1201 URE,
1202 URE,
1225 SDE,
1244 NVSE,
1254 TSE,
1254 UDE,
1223 NE,
1240 STE,
1208 UI,
1201-1 URE



Automatic switch 180° lens type 2.20 m universal version	
ivory	CD 1280-1
white	CD 1280-1 WW
blue	CD 1280-1 BL
brown	CD 1280-1 BR
grey	CD 1280-1 GR
light grey	CD 1280-1 LG
red	CD 1280-1 RT
black	CD 1280-1 SW
Metal versions	
gold-bronze (lacquered)	CD 1280-1 GB
platinum (lacquered)	CD 1280-1 PT

suitable inserts:

1201 URE,
1202 URE,
1225 SDE,
1244 NVSE,
1254 TSE,
1254 UDE,
1223 NE,
1240 STE,
1208 UI,
1201-1 URE



CD 500 / CD plus

■ With sealing gasket ref.-no. 551 WU and frame CD 581.. – CD 585.. the protection level IP 44 is ensured.
 All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K.. !



Description	Ref.-no.
suitable inserts: 1201 URE, 1202 URE, 1225 SDE, 1244 NVSE, 1254 TSE, 1254 UDE, 1223 NE, 1240 STE, 1208 UI, 1201-1 URE	
Automatic switch 180° lens type 1.10 m standard version suitable only for indoor installation	
ivory	CD 1180 WU
white	CD 1180 WU WW
blue	CD 1180 WU BL
brown	CD 1180 WU BR
grey	CD 1180 WU GR
light grey	CD 1180 WU LG
red	CD 1180 WU RT
black	CD 1180 WU SW



suitable inserts: 1201 URE, 1202 URE, 1225 SDE, 1244 NVSE, 1254 TSE, 1254 UDE, 1223 NE, 1240 STE, 1208 UI, 1201-1 URE	
Automatic switch 180° lens type 1.10 m universal version suitable only for indoor installation	
ivory	CD 1180-1 WU
white	CD 1180-1 WU WW
blue	CD 1180-1 WU BL
brown	CD 1180-1 WU BR
grey	CD 1180-1 WU GR
light grey	CD 1180-1 WU LG
red	CD 1180-1 WU RT
black	CD 1180-1 WU SW



suitable inserts: 1201 URE, 1202 URE, 1225 SDE, 1244 NVSE, 1254 TSE, 1254 UDE, 1223 NE, 1240 STE, 1208 UI, 1201-1 URE	
Automatic switch 180° lens type 2.20 m standard version suitable for indoor and outdoor installation	
ivory	CD 1280 WU
white	CD 1280 WU WW
blue	CD 1280 WU BL
brown	CD 1280 WU BR
grey	CD 1280 WU GR
light grey	CD 1280 WU LG
red	CD 1280 WU RT
black	CD 1280 WU SW



suitable inserts: 1201 URE, 1202 URE, 1225 SDE, 1244 NVSE, 1254 TSE, 1254 UDE, 1223 NE, 1240 STE, 1208 UI, 1201-1 URE	
Automatic switch 180° lens type 2.20 m universal version suitable for indoor and outdoor installation	
ivory	CD 1280-1 WU
white	CD 1280-1 WU WW
blue	CD 1280-1 WU BL
brown	CD 1280-1 WU BR
grey	CD 1280-1 WU GR
light grey	CD 1280-1 WU LG
red	CD 1280-1 WU RT
black	CD 1280-1 WU SW

Description	Ref.-no.
Center plate for motor control inserts with anti lock-out function	
ivory	CD 5232
white	CD 5232 WW
blue	CD 5232 BL
brown	CD 5232 BR
grey	CD 5232 GR
light grey	CD 5232 LG
red	CD 5232 RT
black	CD 5232 SW
Metal versions	
bronze	CD 5232 GB
platinum	CD 5232 PT

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME



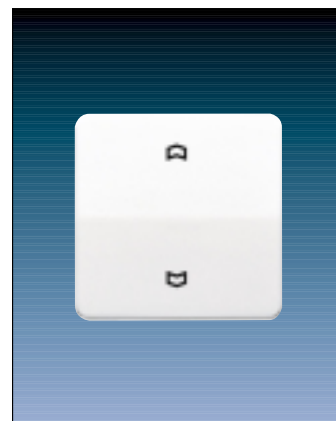
Center plate for motor control inserts with anti lock-out function and terminal for sensors	
ivory	CD 5232 S
white	CD 5232 S WW
blue	CD 5232 S BL
brown	CD 5232 S BR
grey	CD 5232 S GR
light grey	CD 5232 S LG
red	CD 5232 S RT
black	CD 5232 S SW
Metal versions	
bronze	CD 5232 S GB
platinum	CD 5232 S PT

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K



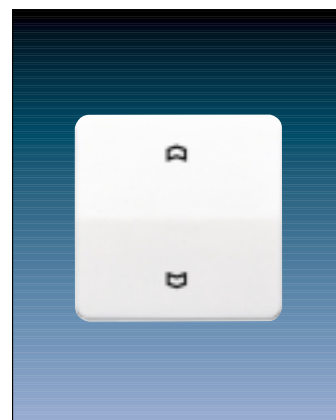
Center plate for motor control inserts with radio controlled receiver	
ivory	CD 5232 F
white	CD 5232 F WW
blue	CD 5232 F BL
brown	CD 5232 F BR
grey	CD 5232 F GR
light grey	CD 5232 F LG
red	CD 5232 F RT
black	CD 5232 F SW
Metal versions	
bronze	CD 5232 F GB
platinum	CD 5232 F PT

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME



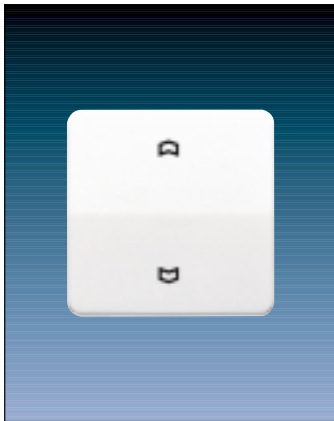
Center plate for motor control inserts with radio controlled receiver and terminal for sensors	
ivory	CD 5232 FS
white	CD 5232 FS WW
blue	CD 5232 FS BL
brown	CD 5232 FS GR
light grey	CD 5232 FS LG
red	CD 5232 FS RT
black	CD 5232 FS SW
Metal versions	
bronze	CD 5232 FS GB
platinum	CD 5232 FS PT

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K



CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

Description	Ref.-no.
Center plate for motor control inserts with memory function	
ivory	CD 5232 M
white	CD 5232 M WW
blue	CD 5232 M BL
brown	CD 5232 M BR
grey	CD 5232 M GR
light grey	CD 5232 M LG
red	CD 5232 M RT
black	CD 5232 M SW
Metal versions	
bronze	CD 5232 M GB
platinum	CD 5232 M PT



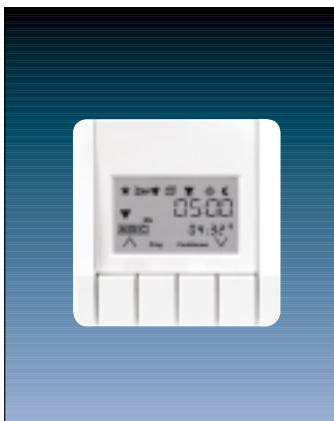
suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K

Description	Ref.-no.
Center plate for motor control inserts with memory function and terminal for sensors	
ivory	CD 5232 MS
white	CD 5232 MS WW
blue	CD 5232 MS BL
brown	CD 5232 MS BR
grey	CD 5232 MS GR
light grey	CD 5232 MS LG
red	CD 5232 MS RT
black	CD 5232 MS SW
Metal versions	
bronze	CD 5232 MS GB
platinum	CD 5232 MS PT



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

Description	Ref.-no.
Center plate for motor control inserts with timer function "standard"	
ivory	CD 5232 ST
white	CD 5232 ST WW
blue	CD 5232 ST BL
brown	CD 5232 ST BR
grey	CD 5232 ST GR
light grey	CD 5232 ST LG
red	CD 5232 ST RT
black	CD 5232 ST SW
Metal versions	
bronze	CD 5232 ST GB
platinum	CD 5232 ST PT



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

Description	Ref.-no.
Center plate for motor control inserts with timer function "universal"	
ivory	CD 5232 T3
white	CD 5232 T3 WW
blue	CD 5232 T3 BL
brown	CD 5232 T3 BR
grey	CD 5232 T3 GR
light grey	CD 5232 T3 LG
red	CD 5232 T3 RT
black	CD 5232 T3 SW
Metal versions (lacquered)	
bronze	CD 5232 T3 GB
platinum	CD 5232 T3 PT

Description	Ref.-no.
Center plate for motor control inserts with timer function "universal" and terminal for sensors	
ivory	CD 5232 TS3
white	CD 5232 TS3 WW
blue	CD 5232 TS3 BL
brown	CD 5232 TS3 BR
grey	CD 5232 TS3 GR
light grey	CD 5232 TS3 LG
red	CD 5232 TS3 RT
black	CD 5232 TS3 SW
Metal versions (lacquered)	
bronze	CD 5232 TS3 GB
platinum	CD 5232 TS3 PT

Awning control "Aero Tec 04"

ivory	AT 04
white	AT 04 WW

Required intermediate frame for awning control

ivory	CD AT 581 Z
white	CD AT 581 Z WW

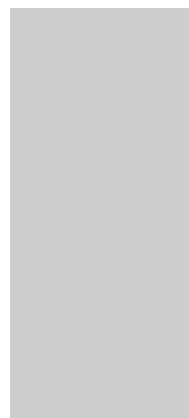
Center plate for room thermostat insert

ivory	CD TR 231 PL
white	CD TR 231 PL WW
blue	CD TR 231 PL BL
brown	CD TR 231 PL BR
grey	CD TR 231 PL GR
light grey	CD TR 231 PL LG
red	CD TR 231 PL RT
black	CD TR 231 PL SW
Metal versions	
gold-bronze	CD TR 231 PL GB
platinum	CD TR 231 PL PT

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD, LA 90
connector:
32 K



complete device



suitable inserts:
TR 231 U,
TR 241 U



CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!



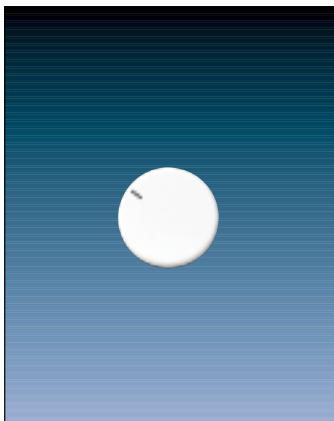
suitable insert:
TR 236 U,
TR 246 U

Description	Ref.-no.
Center plate for room thermostat insert	
ivory	CD TR 236 PL
white	CD TR 236 PL WW
blue	CD TR 236 PL BL
brown	CD TR 236 PL BR
grey	CD TR 236 PL GR
light grey	CD TR 236 PL LG
red	CD TR 236 PL RT
black	CD TR 236 PL SW
Metal versions	
gold-bronze	CD TR 236 PL GB
platinum	CD TR 236 PL PT



suitable insert:
FTR 231 U

Center plate for floor thermostat insert	
ivory	CD FTR 231 PL
white	CD FTR 231 PL WW
blue	CD FTR 231 PL BL
brown	CD FTR 231 PL BR
grey	CD FTR 231 PL GR
light grey	CD FTR 231 PL LG
red	CD FTR 231 PL RT
black	CD FTR 231 PL SW
Metal versions	
gold-bronze	CD FTR 231 PL GB
platinum	CD FTR 231 PL PT



Special knob
for center plates CD TR ... / CD FTR ...
prevents unallowed manipulation
of the thermostat settings

ivory	MS TR 231
white	MS TR 231 WW
blue	MS TR 231 BL
brown	MS TR 231 BR
grey	MS TR 231 GR
light grey	MS TR 231 LG
red	MS TR 231 RT
black	MS TR 231 SW
Metal versions	
gold-bronze/beige	MS TR 231 BB
platinum/grey	MS TR 231 PT



suitable insert:
UT 238 E

Timer thermostat display	
ivory	CD UT 238 D
white	CD UT 238 D WW
blue	CD UT 238 D BL
brown	CD UT 238 D BR
grey	CD UT 238 D GR
light grey	CD UT 238 D LG
red	CD UT 238 D RT
black	CD UT 238 D SW
Metal versions	
gold-bronze	CD UT 238 D GB
platinum	CD UT 238 D PT

Description	Ref.-no.
Center plate for 2 loudspeaker or BNC sockets (with supporting frame)	
ivory	562
white	CD 562 WW
blue	CD 562 BL
brown	CD 562 BR
grey	CD 562 GR
light grey	CD 562 LG
red	CD 562 RT
black	CD 562 SW
Metal versions	
gold-bronze	CD 562 GB
platinum	CD 562 PT

suitable inserts:
BNC 9.7,
BNC 12.7,
L 2 S



Center plate for loudspeaker connector and chassis connector (with supporting frame)	
ivory	568-1
white	CD 568-1 WW

suitable inserts:
PB 4, PS 4,
CLXR-D,
CXLR-S



Center plate for XLR-sockets for make Binder, Cannon, Neutrik (with supporting frame)	
ivory	568
white	CD 568 WW

suitable inserts:
XLR-D



Center plate for TV-FM sockets according to DIN 45330	
ivory	561 TV
white	CD 561 TV WW
Further colours on request.	

suitable inserts:
FS 1,
FS 12 D,
EDU 04 F,
GEDU 15



CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!



suitable inserts:
FS 1,
FS 12 D,
EDU 04 F,
GEDU 15,
EDU 3902 F

Description	Ref.-no.
Center plate for TV-FM-SAT sockets	
ivory	561 SAT
white	CD 561 SAT WW
blue	CD 561 SAT BL
brown	CD 561 SAT BR
grey	CD 561 SAT GR
light grey	CD 561 SAT LG
red	CD 561 SAT RT
black	CD 561 SAT SW
Metal versions	
gold-bronze	CD 561 SAT GB
platinum	CD 561 SAT PT



Cable outlet
with center plate and insert

ivory	590 A
white	CD 590 A WW
blue	CD 590 A BL
brown	CD 590 A BR
grey	CD 590 A GR
light grey	CD 590 A LG
red	CD 590 A RT
black	CD 590 A SW
Metal versions	
gold-bronze	CD 590 A GB
platinum	CD 590 A PT



inscription sheet:
BB 1 (6x37 mm)

Cable outlet
with center plate and insert
with inscription plate 6 x 37 mm

ivory	590 NA A
white	CD 590 NAA WW
blue	CD 590 NAA BL
brown	CD 590 NAA BR
grey	CD 590 NAA GR
light grey	CD 590 NAA LG
red	CD 590 NAA RT
black	CD 590 NAA SW

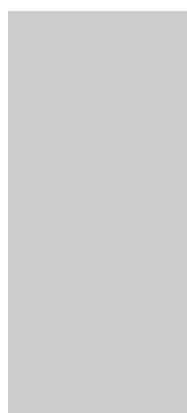


screw fixing only
(without claws)

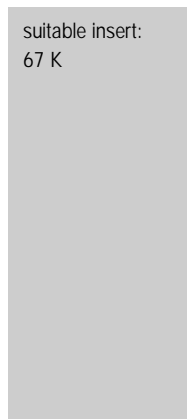
Blank center plate for screw fixing
with supporting frame

ivory	561 B
white	CD 561 B WW

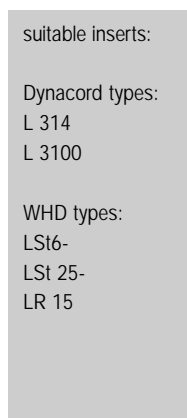
Description	Ref.-no.
Blank center plate for snap-on fixing with supporting frame suitable for individual cuttings and drillings	
ivory	594-0
white	CD 594-0 WW
blue	CD 594-0 BL
brown	CD 594-0 BR
grey	CD 594-0 GR
light grey	CD 594-0 LG
red	CD 594-0 RT
black	CD 594-0 SW
Metal versions	
gold-bronze	CD 594-0 GB
platinum	CD 594-0 PT



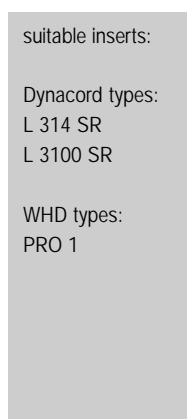
Center plate for bell insert	
ivory	567
white	CD 567 WW



Center plate for volume control unit (0 - 11)	
ivory	594-8
white	CD 594-8 WW

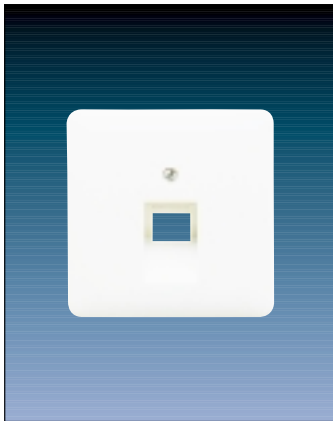


Center plate for volume control unit (0 - 5)	
ivory	594-9
white	CD 594-9 WW



CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!



UAE 4 UPO,
UAE 8 UPO,
UAE 8 UPO K5,
UAE 8 UPO K6,
UAE 8 UPO K5US

Description	Ref.-no.
Center plate for 1-gang modular jack sockets UAE...	
ivory	569-1 UA
white	CD 569-1 UA WW
blue	CD 569-1 UA BL
brown	CD 569-1 UA BR
grey	CD 569-1 UA GR
light grey	CD 569-1 UA LG
red	CD 569-1 UA RT
black	CD 569-1 UA SW
Metal versions	
gold-bronze	CD 569-1 UA GB
platinum	CD 569-1 UA PT



suitable inserts:
UAE 4 UPO,
UAE 8 UPO,
UAE 8 UPO K5,
UAE 8 UPO K6,
UAE 8 UPO K5US

inscription sheet:
BB 1 (6x37 mm)

Description	Ref.-no.
Center plate for 1-gang modular jack sockets UAE... with inscription plate 6 x 37 mm	
ivory	569-1 NAUA
white	CD 569-1 NAUA WW
blue	CD 569-1 NAUA BL
brown	CD 569-1 NAUA BR
grey	CD 569-1 NAUA GR
light grey	CD 569-1 NAUA LG
red	CD 569-1 NAUA RT
black	CD 569-1 NAUA SW
Metal versions	
gold-bronze	CD 569-1 NAUA GB
platinum	CD 569-1 NAUA PT



suitable inserts:
UAE 2x8 UPO,
UAE 8-8 UPO K5,
UAE 8-8 UPO K6
UAE 8-8 UPO
K5US

Description	Ref.-no.
Center plate for 2-gang modular jack sockets UAE...	
ivory	569-2 UA
white	CD 569-2 UA WW
blue	CD 569-2 UA BL
brown	CD 569-2 UA BR
grey	CD 569-2 UA GR
light grey	CD 569-2 UA LG
red	CD 569-2 UA RT
black	CD 569-2 UA SW
Metal versions	
gold-bronze	CD 569-2 UA GB
platinum	CD 569-2 UA PT



suitable inserts:
UAE 2x8 UPO,
UAE 8-8 UPO K5,
UAE 8-8 UPO K6
UAE 8-8 UPO
K5US

inscription sheet:
BB 1 (6x37 mm)

Description	Ref.-no.
Center plate for 2-gang modular jack sockets UAE... with inscription plate 6 x 37 mm	
ivory	569-2 NAUA
white	CD 569-2 NAUA WW
blue	CD 569-2 NAUA BL
brown	CD 569-2 NAUA BR
grey	CD 569-2 NAUA GR
light grey	CD 569-2 NAUA LG
red	CD 569-2 NAUA RT
black	CD 569-2 NAUA SW
Metal versions	
gold-bronze	CD 569-2 NAUA GB
platinum	CD 569-2 NAUA PT

Description		Ref.-no.
Center plate with shutter for modular jack sockets 6 WE / 8 WE with inscription plate 6 x 37 mm and supporting frame snap-on fixing, shutter without spring		
for 1 socket	ivory	569-1 WE
	white	CD 569-1 WE WW
for 2 sockets	ivory	569-2 WE
	white	CD 569-2 WE WW

suitable inserts:
6 WE/8 WE,
RADIAL:
R280 MOD 804,
R280 MOD 805,
R280 MOD 807
PANDUIT:
KJ88., KJ 588..

inscription sheet:
BB 1 (6x37 mm)



Center plate with shutter for modular jack sockets 6 WE / 8 WE with inscription plate 6 x 37 mm and supporting frame for screw fixing, shutter with spring		
for 1 socket	ivory	569-1 NWE
	white	CD 569-1 NWE WW
for 2 sockets	ivory	569-2 NWE
	white	CD 569-2 NWE WW

suitable inserts:
6 WE/8 WE,
RADIAL:
R280 MOD 804,
R280 MOD 805,
R280 MOD 807
PANDUIT:
KJ88., KJ 588..

inscription sheet:
BB 1 (6x37 mm)



Center plate with shutter for modular jack sockets with inscription plate 6 x 37 mm snap-on fixing, shutter without spring		
for 1 socket	ivory	569-1 FWE
	white	CD 569-1 FWE WW
for 2 sockets	ivory	569-2 FWE
	white	CD 569-2 FWE WW

suitable insert:
JUNG: 8 FWE
AMP: 216811-1

inscription sheet:
BB 1 (6x37 mm)



Center plate with shutter for modular jack socket 8 VGWE with inscription plate 6 x 37 mm snap-on fixing, shutter without spring		
for 1 socket	ivory	569-15 WE
	white	CD 569-15 WE WW
for 2 sockets	ivory	569-25 WE
	white	CD 569-25 WE WW

suitable insert:
8 VGWE
Tyco-Electronics
AMP 110 Connect
system:
0-1116515-1
0-1375177-1

inscription sheet:
BB 1 (6x37 mm)



CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!



suitable insert:
8 VGWE
Tyco-Electronics
AMP 110 Connect
system:
0-1116515-1
0-1375177-1

inscription sheet:
BB 1 (6x37 mm)

Description	Ref.-no.
Center plate with shutter for modular jack socket 8 VGWE with inscription plate 6 x 37 mm screw fixing, shutter with spring	
for 1 socket	ivory
	white
for 2 sockets	ivory
	white



suitable insert:
Avaya (Lucent
Technologies)
AT&T M1 series:
M1 BH
MPS 100 series:
(MPS 100 BH..)
MGS 200 series:
(MGS 200 BH..)

inscription sheet:
BB 1 (6x37 mm)

Center plate with shutter for modular jack sockets make AT & T with inscription plate 6 x 37 mm snap-on fixing, shutter without spring	
for 2 sockets	ivory
	white
screw fixing, shutter with spring	
for 2 sockets	ivory
	white



suitable inserts:
PANDUIT CJ588T,
CDJD588T,
CJS588T,
CJ5E88T,
CJD5E88T,
CJS5E88T,
CJ688TP,
CJD688TP,
CJD688P,
OPTI-JACK (LWL),
FJJG

inscription sheet:
BB 1 (6x37 mm)

Center plate with shutter for modular jack sockets make PANDUIT with inscription plate 6 x 37 mm snap-on fixing, shutter without spring	
for 2 sockets	ivory
	white



suitable inserts:
Radiall:
R280MOD813
INFRA:
7700 U/7700 D
7700 E

Center plate with shutter for modular jack sockets make INFRA+ / Radiall with inscription plate 6 x 37 mm screw fixing, shutter with spring	
ivory	569-2 NINF
white	CD 569-2 NINF WW

Description	Ref.-no.
Center plate with shutter for modular jack sockets make ITT Canon with inscription plate 6 x 37 mm screw fixing, shutter with spring	
ivory	569-2 NITT
white	CD 569-2 NITT WW

suitable inserts:
ITT Canon,
LAN Connect RJ45,
shielded/unshielded,
Cat. 5e = 808 MK2,
Cat. 6 = 808 MK3



Center plate with shutter for modular jack sockets with inscription plate 6 x 37 mm snap-on fixing, shutter without spring		
for 2 sockets	ivory	569-2 GFP
	white	CD 569-2 GFP WW

suitable inserts:
IBM/ACS
Reichle de Massari
INFRA +
11 K 9439
11 K 9586
11 K 9587 cat. 6
29 P 5118 cat. 6

inscription sheet:
BB 1 (6x37 mm)



Center plate with shutter for modular jack sockets with inscription plate 6 x 37 mm snap-on fixing, shutter without spring		
for 2 sockets	ivory	569-2 NW
	white	CD 569-2 NW WW

suitable inserts:
Nevada-Western
OMNI system
Thomas & Betts:
009-5-SH-747-C5
009-5-790F-C5W
IBM-ACS system:
59 G 1100
80 G 2541,
25 L 3666,
25 L 4023

inscription sheet:
BB 1 (6x37 mm)



Center plate for modular jack sockets with inscription plate 6 x 37 mm screw fixing		
for 2 sockets RJ 45	ivory	569-21 ACS
	white	CD 569-21 ACS WW
	grey	CD 569-21 ACS GR
	light grey	CD 569-21 ACS LG

suitable inserts:
R 35252,
R 35251,
R 302377,
R 302378,
R 925551 shielded
cat. 5e, R 925552
unshielded cat. 5e,
R 302375 shielded
cat. 6, R 302376
unshielded cat. 6

inscription sheet:
BB 1 (6x37 mm)



CD 500 / CD plus

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K..!



suitable inserts
for make
NORTEL (IBDN)

inscription sheet:
BB 1 (6x37 mm)

Description		Ref.-no.
Center plate with shutter for modular jack sockets with inscription plate 6 x 37 mm snap-on fixing, shutter without spring		
for 2 sockets	ivory	569-2 NT
	white	CD 569-2 NT WW
screw fixing, shutter with spring		
for 2 sockets	ivory	569-2 NNT
	white	CD 569-2 NNT WW



suitable insert:
Krone:
Compact RJ-K
no. 6536.1.200.20

inscription sheet:
BB 1 (6x37 mm)

Center plate for modular jack sockets with inscription plate 6 x 37 mm screw fixing		
for 2 sockets	ivory	569-2 KRN
	white	CD 569-2 KRN WW



suitable inserts:
Siemon:
CT range

inscription sheet:
BB 1 (6x37 mm)

Center plate for modular jack sockets with inscription plate 6 x 37 mm screw fixing		
for 2 sockets	ivory	569 SIE
	white	CD 569 SIE WW



suitable insert:
IBM: 8310574

inscription sheet:
BB 1 (6x37 mm)

Center plate with hinged lid with inscription plate 6 x 37 mm screw fixing		
	ivory	591 IBM
	white	CD 591 IBM WW

Description		Ref.-no.
Center plate for subminiature D-socket with supporting frame, screw fixing only (without claws)		
for 1 socket	ivory	594-1
	white	CD 594-1 WW
for 2 sockets	ivory	594-2
	white	CD 594-2 WW

suitable inserts:
D-SUB 9,
D-SUB 15,
D-SUB 25



Data-connection cap with adjustable outlet
(vertical, 15° or 30° inclined outlet)
with inscription plate 59 x 23 mm

ivory	554
white	CD 554 WW
grey	CD 554 GR

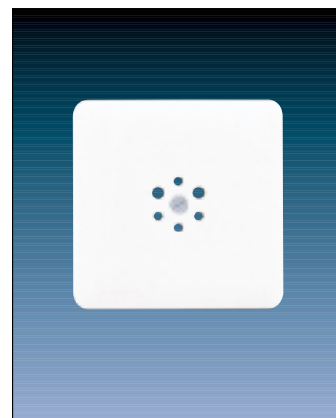
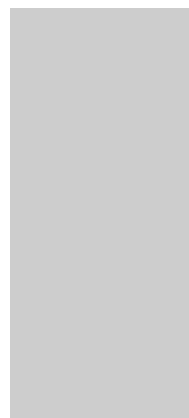
further colours on request
for suitable mounting plates see pages 26 – 29

inscription plate:
BB 5 (59x23 mm)



Center plate
for multi-pole sockets make Hirschmann

for 6-pole sockets	ivory	MEDU 6
	white	MEDU 6 WW
for 10-pole sockets	ivory	MEDU 10
	white	MEDU 10 WW
for 12-pole sockets	ivory	MEDU 12
	white	MEDU 12 WW
for 16-pole sockets	ivory	MEDU 16
	white	MEDU 16 WW
for 24-pole sockets	ivory	MEDU 24
	white	MEDU 24 WW



Center plate
for commanding appliance with Ø 22,5 mm
screw fixing only

ivory	564
white	CD 564 WW
yellow	564 GE

suitable inserts:
Moeller,
Rafi,
Schlegel,
Lumitas,
EAO,
Télémechanique



CD 500 / CD plus

■ With sealing gasket ref.-no. 551 WU and frame CD 581.. – CD 585.. the protection level IP 44 is ensured.

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K.. !



suitable inserts:
SLA 2 WW,
SLA 2 AN,
MLA 1 WW,
MLA 1 AN

Description	Ref.-no.
Center plate for stereo/mono loudspeaker socket	
ivory	569 T
white	CD 569 T WW
blue	CD 569 T BL
brown	CD 569 T BR
grey	CD 569 T GR
light grey	CD 569 T LG
red	CD 569 T RT
black	CD 569 T SW
Metal versions	
gold-bronze	CD 569 T GB
platinum	CD 569 T PT



suitable inserts:
SLA 2 WW,
SLA 2 AN,
MLA 1 WW,
MLA 1 AN

Description	Ref.-no.
Center plate for stereo/mono loudspeaker socket with inscription plate 6 x 37 mm	
ivory	569 TNA
white	CD 569 TNA WW
blue	CD 569 TNA BL
brown	CD 569 TNA BR
grey	CD 569 TNA GR
light grey	CD 569 TNA LG
red	CD 569 TNA RT
black	CD 569 TNA SW
Metal versions	
gold-bronze	CD 569 TNA GB
platinum	CD 569 TNA PT



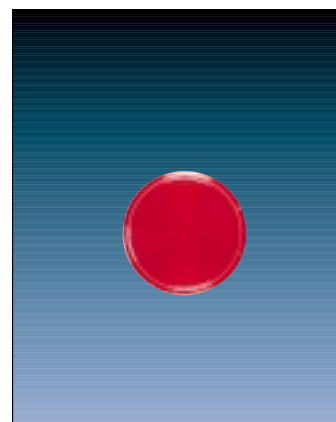
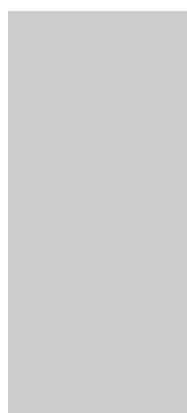
suitable inserts:
938-10 U,
938-14 U

Description	Ref.-no.
Center plate for pilot light insert	
ivory	■ 537
white	■ CD 537 WW
blue	■ CD 537 BL
brown	■ CD 537 BR
grey	■ CD 537 GR
light grey	■ CD 537 LG
red	■ CD 537 RT
black	■ CD 537 SW
Metal versions	
gold-bronze	■ CD 537 GB
platinum	■ CD 537 PT

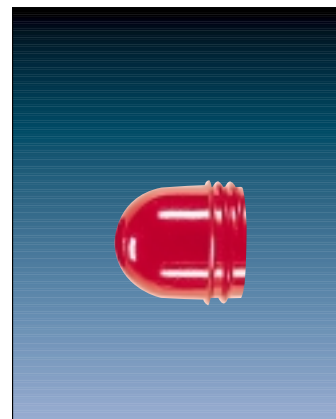
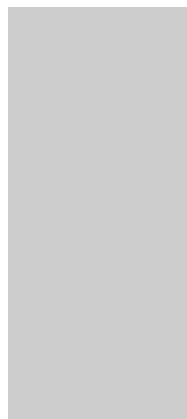


Description	Ref.-no.
Sealing gasket for pilot light	37 D
To obtain protection level IP 44 the sealing gasket has to be placed into the pilot light center plate.	

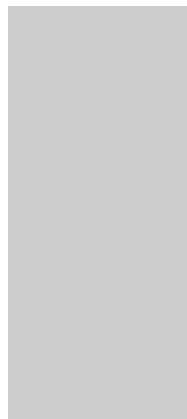
Description	Ref.-no.
Screw cap flat, for lamps up to max. length of 35 mm	
clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08



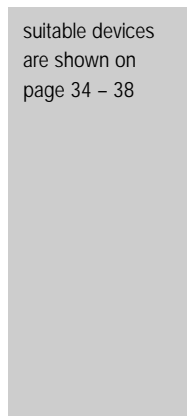
high, for lamps up to max. length of 54 mm	
clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL



Center plate with pilot light outlet including pilot light element 230 V with supporting frame, screw fixing only (without claws)	
ivory	594-0 KO
white	CD 594-0 KO WW



Center plate with hinged lid for devices with center plate 50 x 50 mm	
ivory	CD 590 KL
white	CD 590 KL WW
orange	CD 590 KL O
blue	CD 590 KL BL
brown	CD 590 KL BR
grey	CD 590 KL GR
light grey	CD 590 KL LG
red	CD 590 KL RT
black	CD 590 KL SW
Metal versions	
gold-bronze	CD 590 KL GB
platinum	CD 590 KL PT



suitable devices
are shown on
page 34 - 38



CD 500 / CD plus

■ With sealing gasket ref.-no. 551 WU and frame CD 581.. – CD 585.. the protection level IP 44 is ensured.

All devices have to be completed with frames CD 581.. – CD 585.. or CD 581 K.. – CD 583 K.. !



suitable devices
are shown on
page 34 – 38

inscription sheet:
BB 3 (7x57 mm)

Description	Ref.-no.
Center plate with hinged lid for devices with center plate 50 x 50 mm with inscription plate 7 x 57 mm breakproof	
ivory	■ CD 590 BFNAKL
white	■ CD 590 BFNAKL WW
orange	■ CD 590 BFNAKL O
blue	■ CD 590 BFNAKL BL
brown	■ CD 590 BFNAKL BR
grey	■ CD 590 BFNAKL GR
light grey	■ CD 590 BFNAKL LG
red	■ CD 590 BFNAKL RT
black	■ CD 590 BFNAKL SW



Sealing gasket
for all devices marked

551 WU

necessary to ensure
protection level IP 44



inscription sheet:
BB 5 (23x59 mm)

Center plate with convex hinged lid
with inscription plate 23 x 59 mm
for devices with center plate 50 x 50 mm

ivory	CD 554 KL
white	CD 554 KL WW
orange	CD 554 KL O
blue	CD 554 KL BL
brown	CD 554 KL BR
grey	CD 554 KL GR
light grey	CD 554 KL LG
red	CD 554 KL RT
black	CD 554 KL SW

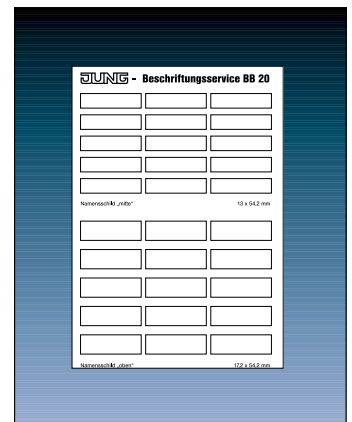
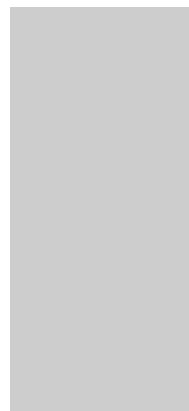
Center plate with convex hinged lid
with inscription plate 23 x 59 mm
for devices with center plate 50 x 50 mm
with safety lock
(24 different locks available)

inscription sheet:
BB 5 (23x59 mm)

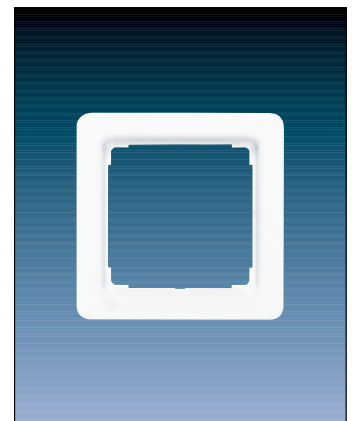
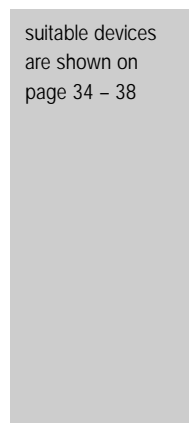
ivory	CD 554 SLKL
white	CD 554 SLKL WW
orange	CD 554 SLKL O
blue	CD 554 SLKL BL
brown	CD 554 SLKL BR
grey	CD 554 SLKL GR
light grey	CD 554 SLKL LG
red	CD 554 SLKL RT
black	CD 554 SLKL SW
Spare key	
1 piece	802 SL – 825 SL
Please indicate key no., e.g. 813 SL!	



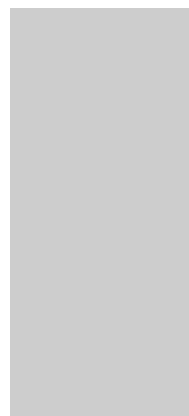
Description	Ref.-no.
Inscription sheet DIN A 4 for individual inscription white, 1 sheet each, not suitable for printers	
68 stripes 6 x 37 mm	BB 1
33 stripes 9 x 40 mm	BB 2
34 stripes 7 x 57 mm	BB 3
26 stripes 9 x 58 mm	BB 3.1
16 stripes 17 x 72 mm	BB 4
14 stripes 23 x 59 mm	BB 5
18 stripes 14 x 75.3 mm	BB 10
48 stripes 9 x 27 mm	BB 14
15 stripes 13 x 54 mm +	
15 stripes 17 x 54 mm	BB 20



Intermediate plate for installation of devices with center plate 50 x 50 mm	
ivory	590 Z
white	CD 590 Z WW

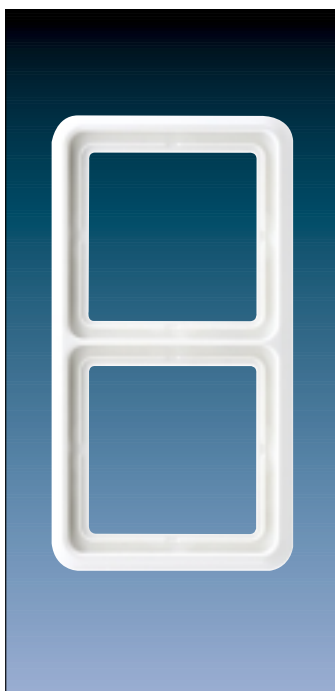


Extra small frame 75 x 75 mm 1-gang, ivory	CD 580 W
for all CD 500 devices other colours on request	



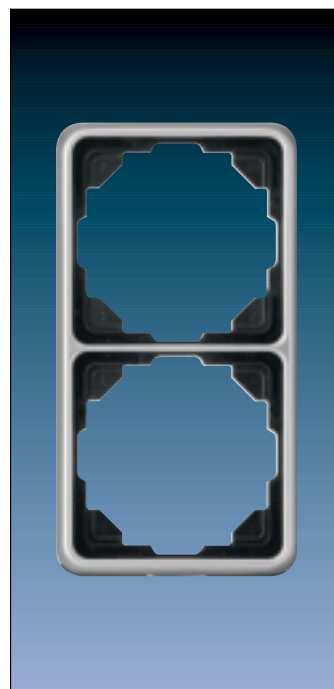
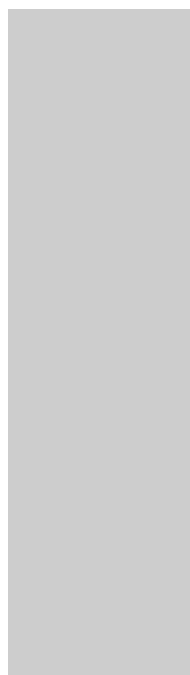
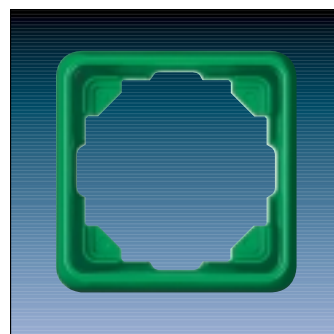
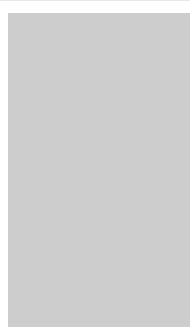
CD 500 / CD plus

■ With sealing gasket ref.-no. 551 WU the protection level IP 44 is ensured.



Description		Ref.-no.
Frames for vertical and horizontal installation		
ivory	1-gang, 81 x 81 mm	■ CD 581 W
	2-gang, 81 x 152 mm	■ CD 582 W
	3-gang, 81 x 223 mm	■ CD 583 W
	4-gang, 81 x 294 mm	■ CD 584 W
	5-gang, 81 x 365 mm	■ CD 585 W
white	1-gang, 81 x 81 mm	■ CD 581 WW
	2-gang, 81 x 152 mm	■ CD 582 WW
	3-gang, 81 x 223 mm	■ CD 583 WW
	4-gang, 81 x 294 mm	■ CD 584 WW
	5-gang, 81 x 365 mm	■ CD 585 WW
blue	1-gang, 81 x 81 mm	■ CD 581 BL
	2-gang, 81 x 152 mm	■ CD 582 BL
	3-gang, 81 x 223 mm	■ CD 583 BL
	4-gang, 81 x 294 mm	■ CD 584 BL
	5-gang, 81 x 365 mm	■ CD 585 BL
brown	1-gang, 81 x 81 mm	■ CD 581 BR
	2-gang, 81 x 152 mm	■ CD 582 BR
	3-gang, 81 x 223 mm	■ CD 583 BR
	4-gang, 81 x 294 mm	■ CD 584 BR
	5-gang, 81 x 365 mm	■ CD 585 BR
grey	1-gang, 81 x 81 mm	■ CD 581 GR
	2-gang, 81 x 152 mm	■ CD 582 GR
	3-gang, 81 x 223 mm	■ CD 583 GR
	4-gang, 81 x 294 mm	■ CD 584 GR
	5-gang, 81 x 365 mm	■ CD 585 GR
light grey	1-gang, 81 x 81 mm	■ CD 581 LG
	2-gang, 81 x 152 mm	■ CD 582 LG
	3-gang, 81 x 223 mm	■ CD 583 LG
	4-gang, 81 x 294 mm	■ CD 584 LG
	5-gang, 81 x 365 mm	■ CD 585 LG
red	1-gang, 81 x 81 mm	■ CD 581 RT
	2-gang, 81 x 152 mm	■ CD 582 RT
	3-gang, 81 x 223 mm	■ CD 583 RT
	4-gang, 81 x 294 mm	■ CD 584 RT
	5-gang, 81 x 365 mm	■ CD 585 RT

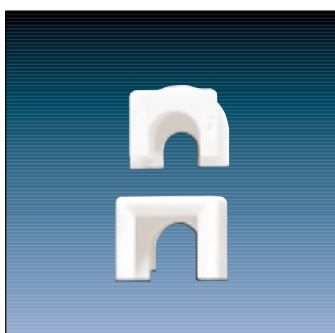
Description		Ref.-no.
green	1-gang, 81 x 81 mm	CD 581 GN
	2-gang, 81 x 152 mm	CD 582 GN
	3-gang, 81 x 223 mm	CD 583 GN
orange	1-gang, 81 x 81 mm	CD 581 O
	2-gang, 81 x 152 mm	CD 582 O
	3-gang, 81 x 223 mm	CD 583 O
black	1-gang, 81 x 81 mm	CD 581 SW
	2-gang, 81 x 152 mm	CD 582 SW
	3-gang, 81 x 223 mm	CD 583 SW
	4-gang, 81 x 294 mm	CD 584 SW
	5-gang, 81 x 365 mm	CD 585 SW
Metal version		
gold-bronze	1-gang, 81 x 81 mm	CD 581 GB
	2-gang, 81 x 152 mm	CD 582 GB
	3-gang, 81 x 223 mm	CD 583 GB
	4-gang, 81 x 294 mm	CD 584 GB
	5-gang, 81 x 365 mm	CD 585 GB
platinum	1-gang, 81 x 81 mm	CD 581 PT
	2-gang, 81 x 152 mm	CD 582 PT
	3-gang, 81 x 223 mm	CD 583 PT
	4-gang, 81 x 294 mm	CD 584 PT
	5-gang, 81 x 365 mm	CD 585 PT



The max. load of flush mounted dimmers is also valid for surface installation.
Only in case several dimmers are installed the max. load must be reduced by 20 %.



no additional frame necessary	Description	Ref.-no.
	Surface cap with integrated frame with non-flammable mounting plate and inlet ref.-no. 12	
	1-gang 81 x 81 x 47 mm	
	ivory	CD 581 A W
	white	CD 581 A WW
	brown	CD 581 A BR
	grey	CD 581 A GR
	2-gang 152 x 81 x 47 mm	
	ivory	CD 582 A W
	white	CD 582 A WW
	brown	CD 582 A BR
	grey	CD 582 A GR
	3-gang 223 x 81 x 47 mm	
	ivory	CD 583 A W
	white	CD 583 A WW
	brown	CD 583 A BR
	grey	CD 583 A GR



Accessories for cables, pipes, trunkings		
	<u>Inlet for cable and minitrunking</u>	
	ivory	11
	white	11 WW
	brown	11 BR
	grey	11 GR
	<u>Inlet for trunking 15 x 15 mm</u>	
	ivory	12
	white	12 WW
	brown	12 BR
	grey	12 GR



	<u>Inlet for pipes with outside Ø 16 mm</u>	
	ivory	13
	white	13 WW
	brown	13 BR
	grey	13 GR

Frames (breakproof)

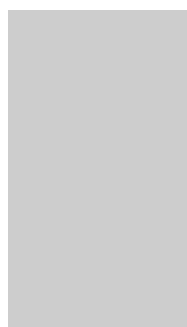
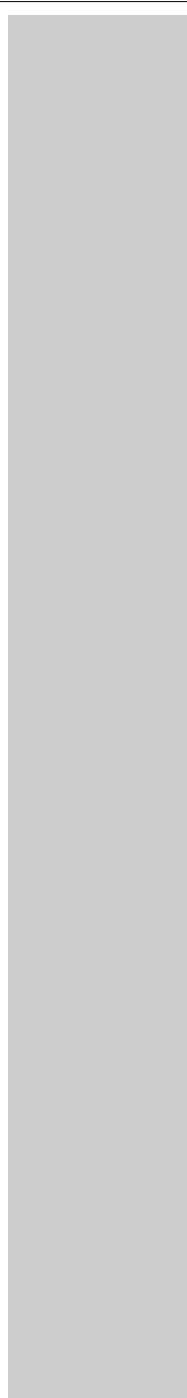
Especially suitable for installation in cable ducts (special radius of frame for closing square openings of cable ducts).

Description	Ref.-no.	
Frames for cable ducts for vertical and horizontal installation		
ivory	1-gang, 81 x 81 mm	CD 581 K W
	2-gang, 81 x 152 mm	CD 582 K W
	3-gang, 81 x 223 mm	CD 583 K W
white	1-gang, 81 x 81 mm	CD 581 K WW
	2-gang, 81 x 152 mm	CD 582 K WW
	3-gang, 81 x 223 mm	CD 583 K WW
orange	1-gang, 81 x 81 mm	CD 581 K O
	2-gang, 81 x 152 mm	CD 582 K O
	3-gang, 81 x 223 mm	CD 583 K O
blue	1-gang, 81 x 81 mm	CD 581 K BL
	2-gang, 81 x 152 mm	CD 582 K BL
	3-gang, 81 x 223 mm	CD 583 K BL
brown	1-gang, 81 x 81 mm	CD 581 K BR
	2-gang, 81 x 152 mm	CD 582 K BR
	3-gang, 81 x 223 mm	CD 583 K BR
green	1-gang, 81 x 81 mm	CD 581 K GN
	2-gang, 81 x 152 mm	CD 582 K GN
	3-gang, 81 x 223 mm	CD 583 K GN
grey	1-gang, 81 x 81 mm	CD 581 K GR
	2-gang, 81 x 152 mm	CD 582 K GR
	3-gang, 81 x 223 mm	CD 583 K GR
light grey	1-gang, 81 x 81 mm	CD 581 K LG
	2-gang, 81 x 152 mm	CD 582 K LG
	3-gang, 81 x 223 mm	CD 583 K LG
red	1-gang, 81 x 81 mm	CD 581 K RT
	2-gang, 81 x 152 mm	CD 582 K RT
	3-gang, 81 x 223 mm	CD 583 K RT
black	1-gang, 81 x 81 mm	CD 581 K SW
	2-gang, 81 x 152 mm	CD 582 K SW
	3-gang, 81 x 223 mm	CD 583 K SW

Available also with sealing gasket,
Ref.-no. CD 581 KD.. – CD 583 KD.., e.g. CD 581 KDWW
Please refer to index

Sealing gasket
for completion of the standard cover frame CD 581 K...
to prevent seeping in of fluids
between frame and cable duct

for 1-gang frames	CD 581 D
for 2-gang frames	
+ sockets CD 522../CD 523..	CD 582 D
for 3-gang frames	CD 583 D





screwless connection for wires up to 2.5 mm²

inscription sheet: BB 1 (6x37 mm)

Description	Ref.-no.
2-gang SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with supporting frame, for installation in cable duct boxes dimension: 80 x 151 mm	
ivory	CD 522 BF
white	CD 522 BF WW
orange	CD 522 BF O
blue	CD 522 BF BL
brown	CD 522 BF BR
green	CD 522 BF GN
grey	CD 522 BF GR
light grey	CD 522 BF LG
red	CD 522 BF RT
black	CD 522 BF SW

with 1 m cable and connector
for quick + safe wiring at each side,
with 2-gang box for van Geel (click-it/duct)

ivory	CD 522 BF WG-1
white	CD 522 BF WG-1 WW
for STAGO 3000 duct	
ivory	CD 522 BF WS3-1
white	CD 522 BF WS3-1 WW

3-gang SCHUKO-socket, 2-pole + earth
16 A-AC/10 A-DC/250 V, German system
with supporting frame, for installation in cable duct boxes
dimension: 80 x 151 mm

ivory	CD 523
white	CD 523 WW
orange	CD 523 O
green	CD 523 GN
red	CD 523 RT

3-gang SCHUKO-socket, 2-pole + earth
16 A-AC/10 A-DC/250 V, German system
with inscription plate 6 x 37 mm
with supporting frame, for installation in cable duct boxes
dimension: 80 x 151 mm

ivory	CD 523 NA
white	CD 523 NA WW
orange	CD 523 NA O
green	CD 523 NA GN
red	CD 523 NA RT



Exclusive or colourful

The design range CD plus offers the choice of variations. 3 frames and 14 different applications can be used in any combination. The complete switch or socket consists of covers of the existing CD 500, the selected application and a frame in white, light grey or black of the design range CD plus.

Frame size:

- 1-gang 84 mm x 84 mm
- 2-gang 155 mm x 84 mm
- 3-gang 226 mm x 84 mm
- 4-gang 297 mm x 84 mm
- 5-gang 368 mm x 84 mm

Frames can be horizontally and vertically installed.

Material:
Duroplastic

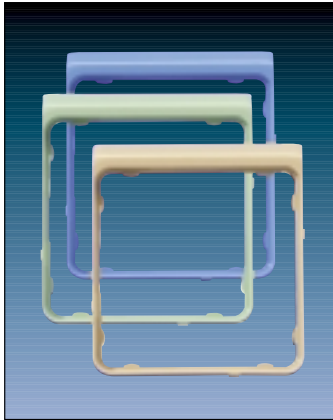
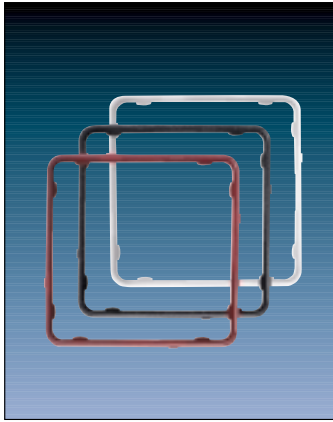
Colours frames:
white
light-grey
black

internal/external frames:

- light-grey
- yellow
- mint-green
- sand beige
- light-green
- light-blue
- stainless-steel
- granite
- metallic-green
- metallic-black
- metallic-blue
- metallic-red
- chrome
- gold



CD plus



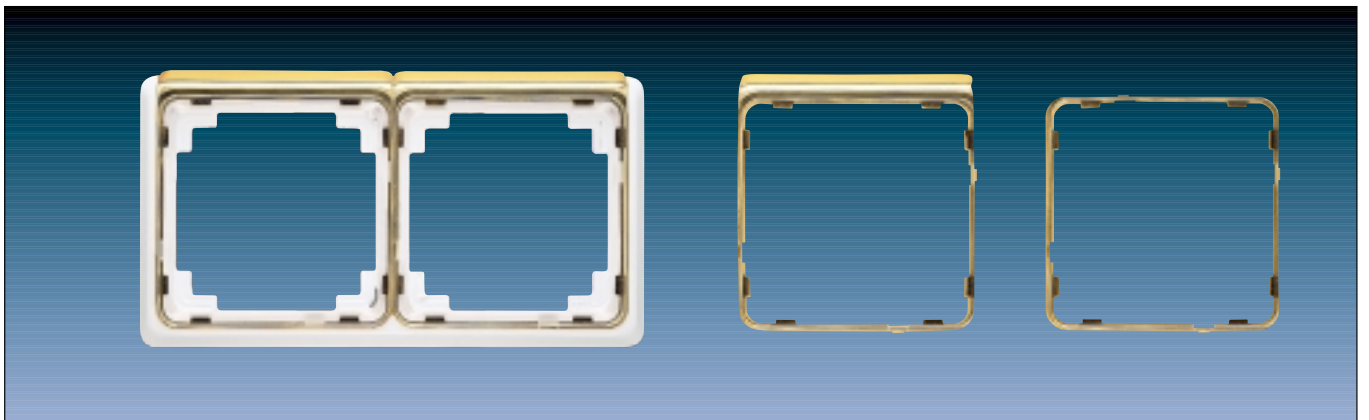
Description	Ref.-no.
-------------	----------

Internal colour frames

light-green	CDP 81 LGN
light-blue	CDP 81 LBL
light-grey	CDP 81 LG
yellow	CDP 81 GE
mint-green	CDP 81 MINT
sand beige	CDP 81 SE
metallic-black	CDP 81 SWM
metallic-blue	CDP 81 BLM
metallic-green	CDP 81 GNM
metallic-red	CDP 81 RTM
stainless steel	CDP 81 ES
granite	CDP 81 GT
gold	CDP 81 GGO
chrome	CDP 81 GCR

External colour frames

light-green	CDP 82 LGN
light-blue	CDP 82 LBL
light-grey	CDP 82 LG
yellow	CDP 82 GE
mint-green	CDP 82 MINT
sand beige	CDP 82 SE
metallic-black	CDP 82 SWM
metallic-blue	CDP 82 BLM
metallic-green	CDP 82 GNM
metallic-red	CDP 82 RTM
stainless steel	CDP 82 ES
granite	CDP 82 GT
gold	CDP 82 GGO
chrome	CDP 82 GCR



CD plus

Suitable for devices of the ranges CD 500 and CD universal

Description	Ref.-no.
-------------	----------

Frames
for horizontal and vertical installation

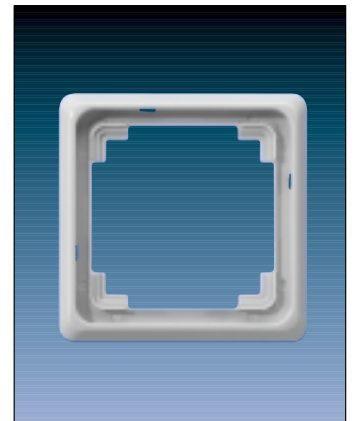
white

1-gang	84 x 84 mm	CDP 581 WW
2-gang	84 x 155 mm	CDP 582 WW
3-gang	84 x 226 mm	CDP 583 WW
4-gang	84 x 297 mm	CDP 584 WW
5-gang	84 x 368 mm	CDP 585 WW



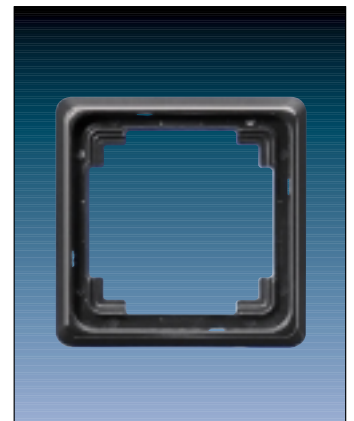
light-grey

1-gang	84 x 84 mm	CDP 581 LG
2-gang	84 x 155 mm	CDP 582 LG
3-gang	84 x 226 mm	CDP 583 LG
4-gang	84 x 297 mm	CDP 584 LG
5-gang	84 x 368 mm	CDP 585 LG



black

1-gang	84 x 84 mm	CDP 581 SW
2-gang	84 x 155 mm	CDP 582 SW
3-gang	84 x 226 mm	CDP 583 SW
4-gang	84 x 297 mm	CDP 584 SW
5-gang	84 x 368 mm	CDP 585 SW





Frame size:

- 1-gang 81 mm x 81 mm
- 2-gang 152 mm x 81 mm
- 3-gang 223 mm x 81 mm
- 4-gang 294 mm x 81 mm
- 5-gang 365 mm x 81 mm

Frames can be horizontally and vertically installed.

Material CD 500:
Thermoplastic

Colours:

- ivory similar RAL 1013
- white similar RAL 9010
- light grey similar RAL 7035
- grey similar RAL 7038
- brown similar RAL 8022
- black similar RAL 9005

Protection level:

- IP 20/IP 21
- IP 44 in connection with sealing gasket

CD universal is the flush-mounted range made of breakproof material in the successful CD 500 design.

The splash-proof IP 44 version is achieved with only one additional element – also ideal for retrofitting.



JUNG



CD universal breakproof

■ With sealing gasket ref.-no. 551 WU and frame from range CD 500 or CD universal the protection level IP 44 is ensured.



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

Description	Ref.-no.
1-gang rocker	
ivory*	■ CD 590 BF
white*	■ CD 590 BF WW
brown	■ CD 590 BF BR
grey	■ CD 590 BF GR
light grey*	■ CD 590 BF LG
black	■ CD 590 BF SW

* illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. The bright rockers (ivory, white, light grey) offer enough transparency to be illuminated. For dark colour rockers (brown, grey, black) use "KO" version of rockers.

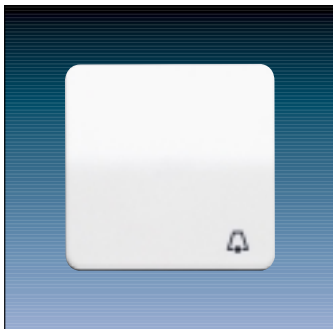


suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

1-gang rocker with symbol „light“

ivory	■ CD 590 BFL
white	■ CD 590 BFL WW

illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.



suitable inserts:
531 U, 533 U,
533-2 U, 534 U

1-gang rocker with symbol „bell“

ivory	■ CD 590 BFK
white	■ CD 590 BFK WW

illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.



suitable inserts:
531 U, 533 U,
533-2 U, 534 U

1-gang rocker with symbol „door“

ivory	■ CD 590 BFT
white	■ CD 590 BFT WW

illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U
inscription sheet:
BB 3 (7x57 mm)







1-gang rocker with inscription plate 7 x 57 mm

ivory	■ CD 590 NABF
white	■ CD 590 NABF WW
brown	■ CD 590 NABF BR
grey	■ CD 590 NABF GR
light grey	■ CD 590 NABF LG
black	■ CD 590 NABF SW

* illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. The bright rockers (ivory, white, light grey) offer enough transparency to be illuminated.

breakproof CD universal







All devices have to be completed with frames CD 581 WU.. – CD 585 WU.. for breakproof installation.

Description	Ref.-no.
1-gang rocker with lens (orange)	
ivory	 CD 590 KOBF
white	 CD 590 KOBF WW
brown	 CD 590 KOBF BR
grey	 CD 590 KOBF GR
light grey	 CD 590 KOBF LG
black	 CD 590 KOBF SW

Symbols for rockers CD 590 KO BF..
ref.-no. 33..., see page 191







suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU



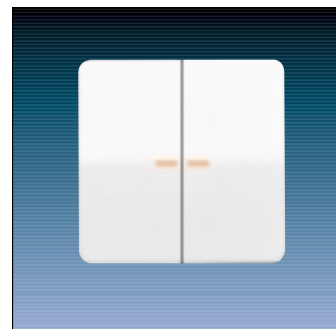
2-gang rocker	
ivory	 CD 595 BF
white	 CD 595 BF WW
brown	 CD 595 BF BR
grey	 CD 595 BF GR
light grey	 CD 595 BF LG
black	 CD 595 BF SW







suitable inserts:
505 U, 509 U,
535 U, 539 U,
505 TU, 509 TU,
505-20 U,
509-20 U



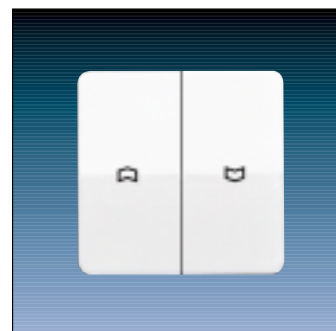
2-gang rocker with transparent lens	
ivory	 CD 595 KO 5 BF
white	 CD 595 KO 5 BF WW
brown	 CD 595 KO 5 BF BR
grey	 CD 595 KO 5 BF GR
light grey	 CD 595 KO 5 BF LG
black	 CD 595 KO 5 BF SW







suitable inserts:
505 U 5,
505 KOU 5,
535 U 5



2-gang rocker with symbols	
ivory	 CD 595 PBF
white	 CD 595 PBF WW
brown	 CD 595 PBF BR
grey	 CD 595 PBF GR
light grey	 CD 595 PBF LG
black	 CD 595 PBF SW

suitable inserts:
509 VU,
539 VU



Center plate with knob	
ivory	 CD 541 WU
white	 CD 541 WU WW
brown	 CD 541 WU BR
grey	 CD 541 WU GR
light grey	 CD 541 WU LG
black	 CD 541 WU SW

suitable inserts:
234.10, 234.20,
1015, 1030,
1060, 1120,
1120-20, 101-4,
101-4-20,
101-20,
101-20 KO,
101-32



CD universal breakproof

■ With sealing gasket ref.-no. 551 WU and frame from range CD 500 or CD universal the protection level IP 44 is ensured.



suitable inserts:
(IP20)
104.28, 134.18,
134.28, 133.18,
106.28, 138.18
(IP 44)
CD 104.18 WU
CD 134.18 WU
CD 133.18 WU
CD 106.18 WU

Description	Ref.-no.
Center plate for key switch / push-button inserts	
ivory	■ 528
white	■ CD 528 WW
brown	■ CD 528 BR
grey	■ CD 528 GR
light grey	■ CD 528 LG
black	■ CD 528 SW



screwless
connection
for wires up to
2.5 mm²

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
ivory	520 ZBF
white	CD 520 BF WW
brown	CD 520 BF BR
grey	CD 520 BF GR
light grey	CD 520 BF LG
black	CD 520 BF SW



screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
ivory	521 ZBF
white	CD 521 BF WW
brown	CD 521 BF BR
grey	CD 521 BF GR
light grey	CD 521 BF LG
black	CD 521 BF SW



screwless
connection
for wires up to
2.5 mm²

inscription sheet:
BB 1 (6x37 mm)

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with inscription plate 6 x 37 mm	
ivory	520 ZNABF
white	CD 520 NABF WW
brown	CD 520 NABF BR
grey	CD 520 NABF GR
light grey	CD 520 NABF LG
black	CD 520 NABF SW



screw terminals
for wires up to
2.5 mm²

inscription sheet:
BB 1 (6x37 mm)



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with inscription plate 6 x 37 mm	
ivory	521 ZNABF
white	CD 521 NABF WW
brown	CD 521 NABF BR
grey	CD 521 NABF GR
light grey	CD 521 NABF LG
black	CD 521 NABF SW

breakproof CD universal

All devices have to be completed with frames CD 581 WU.. – CD 585 WU.. for breakproof installation.

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection	
ivory	520 ZKIBF
white	CD 520 KIBF WW
brown	CD 520 KIBF BR
green	CD 520 KIBF GN
grey	CD 520 KIBF GR
light grey	CD 520 KIBF LG
black	CD 520 KIBF SW

screwless
connection
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection	
ivory	521 ZKIBF
white	CD 521 KIBF WW
brown	CD 521 KIBF BR
green	CD 521 KIBF GN
grey	CD 521 KIBF GR
light grey	CD 521 KIBF LG
black	CD 521 KIBF SW

screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection and inscription plate 6 x 37 mm	
ivory	520 ZKINABF
white	CD 520 KINABF WW
brown	CD 520 KINABF BR
grey	CD 520 KINABF GR
light grey	CD 520 KINABF LG
black	CD 520 KINABF SW

screwless
connection
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection and inscription plate 6 x 37 mm	
ivory	521 ZKINABF
white	CD 521 KINABF WW
brown	CD 521 KINABF BR
grey	CD 521 KINABF GR
light grey	CD 521 KINABF LG
black	CD 521 KINABF SW

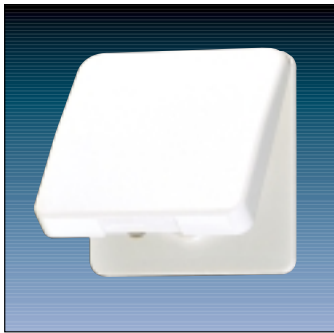
screw terminals
for wires up to
2.5 mm²

inscription sheet:
BB 1 (6x37 mm)



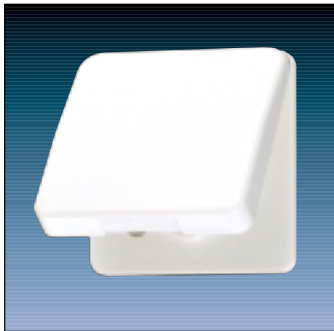
CD universal breakproof

■ With sealing gasket ref.-no. 551 WU and frame from range CD 500 or CD universal the protection level IP 44 is ensured.



screwless connection for wires up to 2.5 mm²

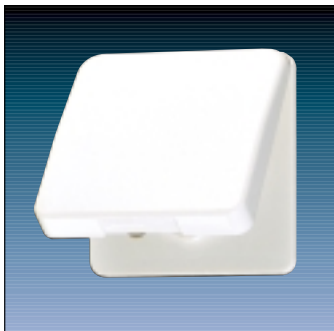
Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with hinged lid	
ivory	■ CD 520 WU
white	■ CD 520 WU WW
orange	■ CD 520 WU O
brown	■ CD 520 WU BR
green	■ CD 520 WU GN
grey	■ CD 520 WU GR
light grey	■ CD 520 WU LG
black	■ CD 520 WU SW



screw terminals for wires up to 2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with hinged lid	
ivory	■ CD 521 WU
white	■ CD 521 WU WW
orange	■ CD 521 WU O
brown	■ CD 521 WU BR
green	■ CD 521 WU GN
grey	■ CD 521 WU GR
light grey	■ CD 521 WU LG
black	■ CD 521 WU SW



screwless connection for wires up to 2.5 mm²

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection and hinged lid	
ivory	■ CD 520 KIWU
white	■ CD 520 KIWU WW
orange	■ CD 520 KIWU O
brown	■ CD 520 KIWU BR
green	■ CD 520 KIWU GN
grey	■ CD 520 KIWU GR
light grey	■ CD 520 KIWU LG
black	■ CD 520 KIWU SW



screw terminals for wires up to 2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection and hinged lid	
ivory	■ CD 521 KIWU
white	■ CD 521 KIWU WW
orange	■ CD 521 KIWU O
brown	■ CD 521 KIWU BR
green	■ CD 521 KIWU GN
grey	■ CD 521 KIWU GR
light grey	■ CD 521 KIWU LG
black	■ CD 521 KIWU SW

breakproof CD universal

All devices have to be completed with frames CD 581 WU.. – CD 585 WU.. for breakproof.

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with hinged lid and inscription plate 7 x 57 mm	
ivory	■ CD 520 NAWU
white	■ CD 520 NAWU WW
orange	■ CD 520 NAWU O
brown	■ CD 520 NAWU BR
green	■ CD 520 NAWU GN
grey	■ CD 520 NAWU GR
light grey	■ CD 520 NAWU LG
black	■ CD 520 NAWU SW

screwless
connection
for wires up to
2.5 mm²

inscription sheet:
BB 3 (7x57 mm)



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with hinged lid and inscription plate 7 x 57 mm	
ivory	■ CD 521 NAWU
white	■ CD 521 NAWU WW
orange	■ CD 521 NAWU O
brown	■ CD 521 NAWU BR
green	■ CD 521 NAWU GN
grey	■ CD 521 NAWU GR
light grey	■ CD 521 NAWU LG
black	■ CD 521 NAWU SW

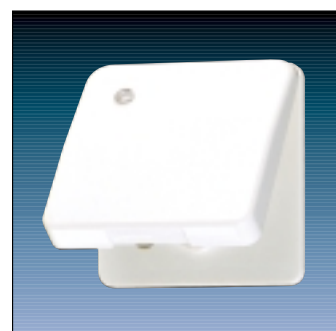
screw terminals
for wires up to
2.5 mm²

inscription sheet:
BB 3 (7x57 mm)



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with hinged lid and pilot light	
ivory	■ CD 520 KOWU
white	■ CD 520 KOWU WW
orange	■ CD 520 KOWU O
brown	■ CD 520 KOWU BR
green	■ CD 520 KOWU GN
grey	■ CD 520 KOWU GR
light grey	■ CD 520 KOWU LG
black	■ CD 520 KOWU SW

screwless
connection
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with hinged lid, pilot light and inscription plate 7 x 57 mm	
ivory	■ CD 520 NAKOWU
white	■ CD 520 NAKOWU WW
orange	■ CD 520 NAKOWU O
brown	■ CD 520 NAKOWU BR
green	■ CD 520 NAKOWU GN
grey	■ CD 520 NAKOWU GR
light grey	■ CD 520 NAKOWU LG
black	■ CD 520 NAKOWU SW

screwless
connection
for wires up to
2.5 mm²

inscription sheet:
BB 3 (7x57 mm)

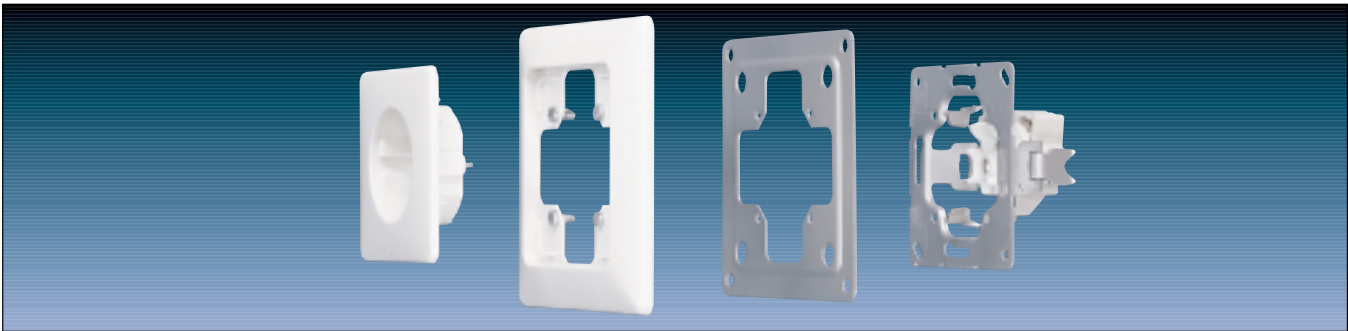


CD universal breakproof

■ With sealing gasket ref.-no. 551 WU and frame from range CD 500 or CD universal the protection level IP 44 is ensured.



screwless connection for wires up to 2.5 mm ²	Description	Ref.-no.
	SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with break- and shockproof cover plate 100 x 100 mm and additional metal ring for dowel fixing single device, not suitable for combinations, no frame necessary	
	ivory	120 BF
	white	120 BF WW
	with child protection (shutter)	
	ivory	120 KIBF
	white	120 KIBF WW



suitable insert: 211GDE, 266 GDE, 225 NVDE, 225 TDE, 254 UDIE, 254 NIE, 240-10, 244-110, 254 UDIE-110, 254 NIE-110, 245.20, 211GDE, 243 EX, 244 EX, 244 HEX	Description	Ref.-no.
	Center plate with knob for dimmer inserts (clip-on fixing)	
	ivory	■ 540 Z
	white	■ CD 540 WW
	brown	■ CD 540 BR
	grey	■ CD 540 GR
	light grey	■ CD 540 LG
	black	■ CD 540 SW



suitable insert: 245.20	Description	
	Center plate with knob for speed regulator	
	ivory	■ 540.20 Z
	white	■ CD 540.20 WW
	brown	■ CD 540.20 BR
	grey	■ CD 540.20 GR
	light grey	■ CD 540.20 LG
	black	■ CD 540.20 SW



	Description	40 D
	Sealing gasket for center plates ..540.. and ..540.20.. for dimmer and speed regulator inserts transparent	
	To obtain protection level IP 44 the sealing gasket has to be placed in the center plate.	

breakproof CD universal

All devices have to be completed with frames CD 581 WU.. – CD 585 WU.. for breakproof installation.

Description	Ref.-no.
Hinged lid for devices with center plate 50 x 50 mm	
ivory	CD 590 BFKL
white	CD 590 BFKL WW
orange	CD 590 BFKL O
brown	CD 590 BFKL BR
green	CD 590 BFKL GN
grey	CD 590 BFKL GR
light grey	CD 590 BFKL LG
black	CD 590 BFKL SW

suitable devices
are shown on
pages 34 – 36



Hinged lid for devices with center plate 50 x 50 mm with inscription plate 7 x 57 mm	
ivory	CD 590 BFNAKL
white	CD 590 BFNAKL WW
orange	CD 590 BFNAKL O
brown	CD 590 BFNAKL BR
green	CD 590 BFNAKL GN
grey	CD 590 BFNAKL GR
light grey	CD 590 BFNAKL LG
black	CD 590 BFNAKL SW

suitable devices
are shown on
pages 34 – 36

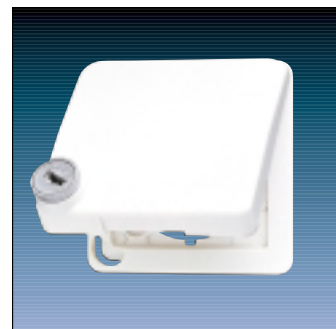
inscription sheet:
BB 3 (7x57 mm)



Hinged lid for devices with center plate 50 x 50 mm with safety lock (24 different locks)	
ivory	CD 590 BFSLKL
white	CD 590 BFSLKL WW
orange	CD 590 BFSLKL O
brown	CD 590 BFSLKL BR
green	CD 590 BFSLKL GN
grey	CD 590 BFSLKL GR
light grey	CD 590 BFSLKL LG
black	CD 590 BFSLKL SW

suitable devices
are shown on
pages 34 – 36

Spare keys:
802 SL – 825 SL
Please indicate
required key-no.



Hinged lid for devices with center plate 50 x 50 mm with inscription plate 6 x 37 mm and safety lock (24 different locks)	
ivory	CD 590 BFSLNAKL
white	CD 590 BFSLNAKL WW
orange	CD 590 BFSLNAKL O
brown	CD 590 BFSLNAKL BR
green	CD 590 BFSLNAKL GN
grey	CD 590 BFSLNAKL GR
light grey	CD 590 BFSLNAKL LG
black	CD 590 BFSLNAKL SW

suitable devices
are shown on
pages 34 – 36

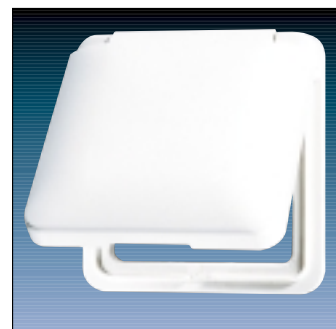
inscription sheet:
BB 1 (6x37 mm)

Spare keys:
802 SL – 825 SL
Please indicate
required key-no.



Hinged lid 82 x 85 mm for devices with center plate 67 x 67 mm (range CD 500..)	
ivory	581 KL
white	581 KL WW

no frame
necessary



CD universal breakproof

■ With sealing gasket ref.-no. 551 WU and frame from range CD 500 or CD universal the protection level IP 44 is ensured.



	Description	Ref.-no.
suitable inserts: 1201 URE, 1202 URE, 1225 SDE, 1244 NVSE, 1254 TSE, 1254 UDE, 1223 NE, 1240 STE, 1208 UI, 1201-1 URE	Automatic switch 180° lens type 1.10 m standard version suitable only for indoor installation	
	ivory	■ CD 1180 WU
	white	■ CD 1180 WU WW
	brown	■ CD 1180 WU BR
	grey	■ CD 1180 WU GR
	light grey	■ CD 1180 WU LG
	black	■ CD 1180 WU SW



suitable inserts: 1201 URE, 1202 URE, 1225 SDE, 1244 NVSE, 1254 TSE, 1254 UDE, 1223 NE, 1240 STE, 1208 UI, 1201-1 URE	Automatic switch 180° lens type 2.20 m standard version suitable for indoor and outdoor installation	
	ivory	■ CD 1280 WU
	white	■ CD 1280 WU WW
	brown	■ CD 1280 WU BR
	grey	■ CD 1280 WU GR
	light grey	■ CD 1280 WU LG
	black	■ CD 1280 WU SW



suitable inserts: 1201 URE, 1202 URE, 1225 SDE, 1244 NVSE, 1254 TSE, 1254 UDE, 1223 NE, 1240 STE, 1208 UI, 1201-1 URE	Automatic switch 180° lens type 1.10 m universal version suitable only for indoor installation	
	ivory	■ CD 1180-1 WU
	white	■ CD 1180-1 WU WW
	brown	■ CD 1180-1 WU BR
	grey	■ CD 1180-1 WU GR
	light grey	■ CD 1180-1 WU LG
	black	■ CD 1180-1 WU SW

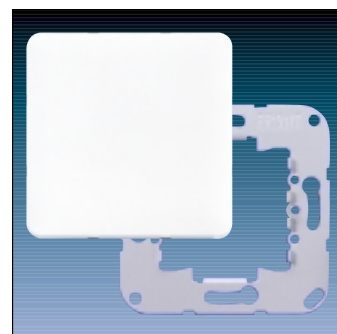
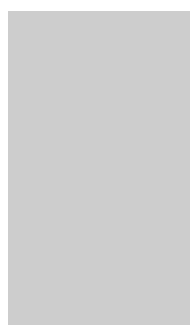


suitable inserts: 1201 URE, 1202 URE, 1225 SDE, 1244 NVSE, 1254 TSE, 1254 UDE, 1223 NE, 1240 STE, 1208 UI, 1201-1 URE	Automatic switch 180° lens type 2.20 m universal version suitable for indoor and outdoor installation	
	ivory	■ CD 1280-1 WU
	white	■ CD 1280-1 WU WW
	brown	■ CD 1280-1 WU BR
	grey	■ CD 1280-1 WU GR
	light grey	■ CD 1280-1 WU LG
	black	■ CD 1280-1 WU SW

breakproof CD universal

All devices have to be completed with frames CD 581 WU.. – CD 585 WU.. for breakproof installation.

Description	Ref.-no.
Blank center plate for snap-on fixing with supporting frame suitable for individual cuttings and drillings	
ivory	594-0
white	CD 594-0 WW
brown	CD 594-0 BR
grey	CD 594-0 GR
light grey	CD 594-0 LG
black	CD 594-0 SW



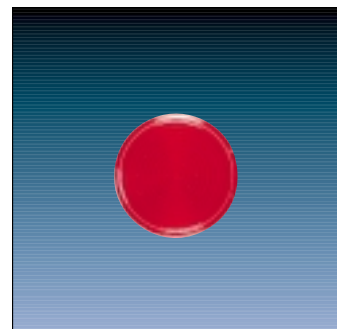
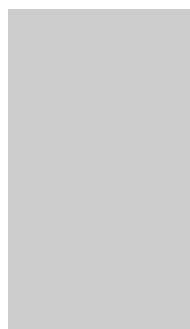
Center plate for pilot light insert	
ivory	537
white	CD 537 WW
brown	CD 537 BR
grey	CD 537 GR
light grey	CD 537 LG
black	CD 537 SW

suitable inserts:
938-10 U,
938-14 U

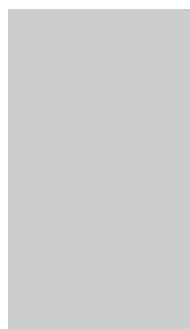


Sealing gasket for pilot light cover 537..	37 D
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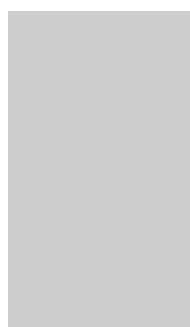
Screw cap flat, for lamps up to max. length of 35 mm	
clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08



high, for lamps up to max. length of 54 mm	
clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL

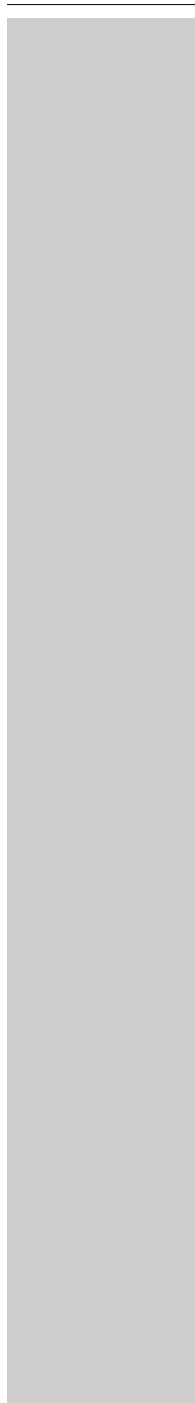


Sealing gasket	551 WU
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CD universal breakproof

■ With sealing gasket ref.-no. 551 WU the protection level IP 44 is ensured.



Description	Ref.-no.
Frames for vertical and horizontal installation	
ivory	
1-gang, 81 x 81 mm	■ CD 581 WU W
2-gang, 81 x 152 mm	■ CD 582 WU W
3-gang, 81 x 223 mm	■ CD 583 WU W
4-gang, 81 x 294 mm	■ CD 584 WU W
5-gang, 81 x 365 mm	■ CD 585 WU W
white	
1-gang, 81 x 81 mm	■ CD 581 WU WW
2-gang, 81 x 152 mm	■ CD 582 WU WW
3-gang, 81 x 223 mm	■ CD 583 WU WW
4-gang, 81 x 294 mm	■ CD 584 WU WW
5-gang, 81 x 365 mm	■ CD 585 WU WW
brown	
1-gang, 81 x 81 mm	■ CD 581 WU BR
2-gang, 81 x 152 mm	■ CD 582 WU BR
3-gang, 81 x 223 mm	■ CD 583 WU BR
4-gang, 81 x 294 mm	■ CD 584 WU BR
5-gang, 81 x 365 mm	■ CD 585 WU BR
grey	
1-gang, 81 x 81 mm	■ CD 581 WU GR
2-gang, 81 x 152 mm	■ CD 582 WU GR
3-gang, 81 x 223 mm	■ CD 583 WU GR
4-gang, 81 x 294 mm	■ CD 584 WU GR
5-gang, 81 x 365 mm	■ CD 585 WU GR
light grey	
1-gang, 81 x 81 mm	■ CD 581 WU LG
2-gang, 81 x 152 mm	■ CD 582 WU LG
3-gang, 81 x 223 mm	■ CD 583 WU LG
4-gang, 81 x 294 mm	■ CD 584 WU LG
5-gang, 81 x 365 mm	■ CD 585 WU LG













breakproof CD universal






Description	Ref.-no.
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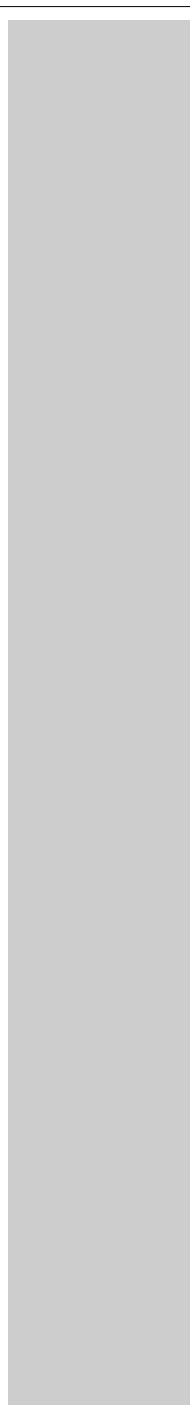
Frames

for vertical and horizontal installation

black	1-gang, 81 x 81 mm	 CD 581 WU SW
	2-gang, 81 x 152 mm	 CD 582 WU SW
	3-gang, 81 x 223 mm	 CD 583 WU SW
	4-gang, 81 x 294 mm	 CD 584 WU SW
	5-gang, 81 x 365 mm	 CD 585 WU SW

green	1-gang, 81 x 81 mm	 CD 581 WU GN
	2-gang, 81 x 152 mm	 CD 582 WU GN
	3-gang, 81 x 223 mm	 CD 583 WU GN
	4-gang, 81 x 294 mm	 CD 584 WU GN
	5-gang, 81 x 365 mm	 CD 585 WU GN

orange	1-gang, 81 x 81 mm	 CD 581 WU O
	2-gang, 81 x 152 mm	 CD 582 WU O
	3-gang, 81 x 223 mm	 CD 583 WU O
	4-gang, 81 x 294 mm	 CD 584 WU O
	5-gang, 81 x 365 mm	 CD 585 WU O



SL500



JUNG

Refined material and clean lines are the characteristics of the SL 500 design.

The consistent form is the result of a high level of quality combined with perfect technology.

Material:

Covers made of lacquered aluminium.
Frames made of acrylic glass embedded with lacquered or anodised aluminium.

Colours:

white
silver-black
gold-bronze



Frame size:

1-gang 85 mm x 85 mm
2-gang 156 mm x 85 mm
3-gang 227 mm x 85 mm
4-gang 298 mm x 85 mm
5-gang 369 mm x 85 mm
Different frames for vertical and horizontal installation.

Protection level:
IP 20/IP 21



All devices have to be completed with frames SL 581.. – SL 585 .. / SL 5820.. – SL 5850..!



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

Description	Ref.-no.
1-gang rocker	
white	SL 590 WW
black	SL 590 SW
bronze	SL 590 GB



suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

Description	Ref.-no.
1-gang rocker with transparent lens	
white	SL 590 KO WW
black	SL 590 KO SW
bronze	SL 590 KO GB
pilot light or orienting light shining in orange	



suitable inserts:
531 U, 533 U,
533-2 U, 534 U

Description	Ref.-no.
1-gang rocker with symbol „bell“	
white	SL 590 K WW
black	SL 590 K SW
bronze	SL 590 K GB



suitable inserts:
531 U, 533 U,
533-2 U, 534 U

Description	Ref.-no.
1-gang rocker with symbol „door“	
white	SL 590 T WW
black	SL 590 T SW
bronze	SL 590 T GB



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

Description	Ref.-no.
1-gang rocker with symbol „light“	
white	SL 590 L WW
black	SL 590 L SW
bronze	SL 590 L GB

Description	Ref.-no.
2-gang rocker	
white	SL 595 WW
black	SL 595 SW
bronze	SL 595 GB

suitable inserts:
505 U, 509 U,
535 U, 539 U,
505 TU, 509 TU,
505-20 U,
509-20 U



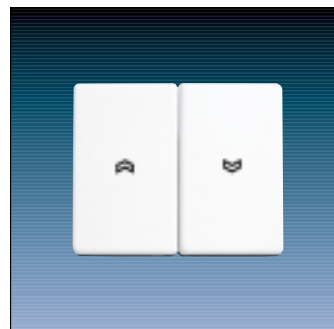
2-gang rocker with transparent lens	
white	SL 595 KO5 WW
black	SL 595 KO5 SW
bronze	SL 595 KO5 GB

suitable inserts:
505 KOU 5,
505 KOVU 5



2-gang rocker with symbols	
white	SL 595 P WW
black	SL 595 P SW
bronze	SL 595 P GB

suitable inserts:
509 VU,
539 VU



1-gang rocker with glass plate for emergency and alarm purposes for switch- and push-button inserts	
blue (RAL 5015)	561 GL BL
yellow (RAL 1004)	561 GL GE
red (RAL 3000)	561 GL RT
Spare glass plate	60 GL
Spare foil	60 FO

suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 531 U,
533 U, 533-2 U,
534 U, 502 KOU,
503 KOU, 506 KOU,
531 U, 533 U,
534 U, 501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU



Center plate with knob	
white	SL 541 WW
black	SL 541 SW
bronze	SL 541 GB

suitable inserts:
234.10, 234.20,
1015, 1120,
101-4, 101-4-20,
101-20, 101-32,
1030, 1060,
1120-20,
101-20 KO



SL 500

All devices have to be completed with frames SL 581.. – SL 585 .. / SL 5820.. – SL 5850..!



screwless
connection
for wires up to
2.5 mm²

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
white	SL 520 WW
black	SL 520 SW
bronze	SL 520 GB



screwless
connection
for wires up to
2.5 mm²

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection (shutter)	
white	SL 520 KI WW
black	SL 520 KI SW
bronze	SL 520 KI GB



screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
white	SL 521 WW
black	SL 521 SW
bronze	SL 521 GB



screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with child protection (shutter)	
white	SL 521 KI WW
black	SL 521 KI SW
bronze	SL 521 KI GB

Description	Ref.-no.
Socket, 2-pole without earth 10 A/250 V, 15 A/125 V, Franco-American system for flat + round pins	
white	SL 510 WW
black	SL 510 SW
bronze	SL 510 GB

screw terminals
for wires up to
2.5 mm²



Socket, 2-pole without earth 16 A-AC/10 A-DC/250 V, for round pins with child protection (shutter)	
white	SL 511 KI WW
black	SL 511 KI SW
bronze	SL 511 KI GB

screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V, French/Belgian system with child protection (shutter)	
white	SL 521 FKI WW
black	SL 521 FKI SW
bronze	SL 521 FKI GB

screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + earth with child protection (shutter) 13 A/250 V, British system acc. to B.S. 1363: 1995 screw fixing into standard wall boxes with Ø 60 mm or single steel boxes with fixing centres 60.3 mm	
white	SL 521 BS WW
black	SL 521 BS SW
bronze	SL 521 BS GB

screw terminals
for wires up to
2.5 mm²

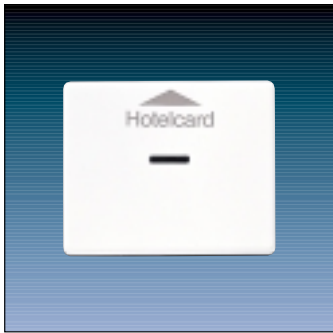


Double-pole switched socket, 2-pole + earth with child protection (shutter) and pilot light (red rocker) 13 A/250 V, British system, acc. to B.S. 1363: 1995 screw fixing into standard wall boxes with Ø 60 mm or single steel boxes with fixing centres 60.3 mm	
white	SL 172 KOWW
black	SL 172 KOSW
bronze	SL 172 KOGB
dtto., without pilot light	
white	SL 172 WW
black	SL 172 SW

screw terminals
for wires up to
2.5 mm²



All devices have to be completed with frames SL 581.. – SL 585 .. / SL 5820.. – SL 5850..!



suitable inserts:
531 U, 533 U,
533-2 U, 534 U



standard key card

Description

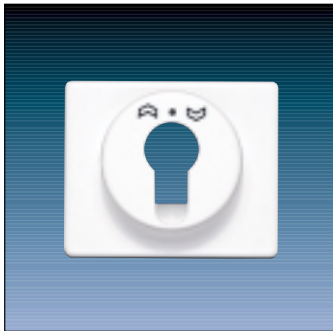
Ref.-no.

Key card holder

When inserting the key card (being supplied by the door lock manufacturer) a contact will be given to the distribution board (relay). Depending on the installation/wiring all connected lights and other electric consumers will be supplied with energy. Individual control of the lights and ac/heater by JUNG rocker switches or dimmers. The key card has to be removed when leaving the room; the energy supply will be cut automatically. Illumination (orienting light) possible.

white	SL 590 CARD WW
black	SL 590 CARD SW
bronze	SL 590 CARD GB

Note: suitable for cards with min. length 80 mm.
width 45 – 54 mm, thickness 0.5 – 1 mm.

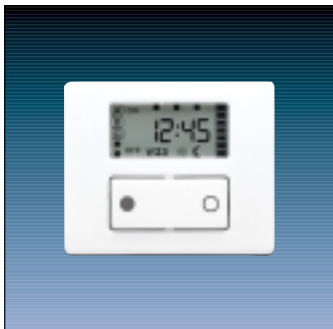


suitable inserts:
104.28,
134.18,
134.28,
133.18,
106.28,
138.18

Center plate for key switch/ push-button inserts

white	SL 528 WW
black	SL 528 SW
bronze	SL 528 GB

incl. two key entry rosettes:
one blank and one with grey printed arrows



complete device

Electronic time delay switch

1000 VA, 230 V, 50 Hz
with astro mode, random generator ± 15 min.,

white	SL 5201 T WW
black	SL 5201 T SW
bronze	SL 5201 T GB

neutral protective line necessary



suitable inserts:
211 GDE, 266 GDE,
225 NVDE,
225 TDE,
254 UDIE1,
254 NIE1,
240-31, 244-110,
254 UDIE-110,
254 NIE-110,
243 EX, 244 EX,
244 HEX

Center plate with knob for dimmer inserts (clip-on fixing)

white	SL 540 WW
black	SL 540 SW
bronze	SL 540 GB



suitable inserts:
245.20

Center plate with knob for speed regulator insert

white	SL 540.20 WW
black	SL 540.20 SW
bronze	SL 540.20 GB

Description	Ref.-no.
Standard center plate for touch dimmer inserts or electronic switch inserts	
white	SL 1561.07 WW
black	SL 1561.07 SW
bronze	SL 1561.07 GB

suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1220 NE,
1240 STE



Radio center plate with radio-controlled receiver for touch dimmer inserts or electronic switch inserts	
white	SL 1561.07 F WW
black	SL 1561.07 F SW
bronze	SL 1561.07 F GB

suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1240 STE



Universal center plate for touch dimmer inserts or electronic switch inserts with 4 optional functions	
white	SL 1561.07 U WW
black	SL 1561.07 U SW
bronze	SL 1561.07 U GB

for more technical/functional details see page 69

suitable inserts:
1201 URE,
1201-1 URE,
1225 SDE,
1240 STE,
1244 NVSE,
1254 UDE,
1254 TSE



Automatic switch 180° lens type 1.10 m standard version	
white	SL 1180 WW
black	SL 1180 SW
bronze	SL 1180 GB
universal version	
white	SL 1180-1 WW
black	SL 1180-1 SW
bronze	SL 1180-1 GB

suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1240 STE,
1254 UDE,
1254 TSE,
1244 NVSE,
1223 NE,
1208 UI

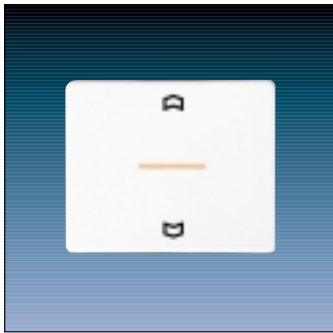


Automatic switch 180° lens type 2.20 m standard version	
white	SL 1280 WW
black	SL 1280 SW
bronze	SL 1280 GB
universal version	
white	SL 1280-1 WW
black	SL 1280-1 SW
bronze	SL 1280-1 GB

suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1240 STE,
1254 UDE,
1254 TSE,
1244 NVSE,
1223 NE,
1208 UI

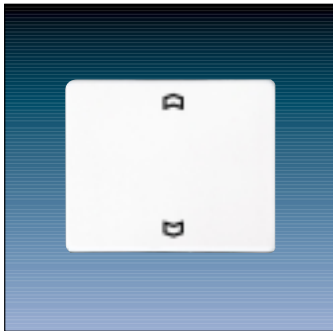


All devices have to be completed with frames SL 581.. – SL 585 ../ SL 5820.. – SL 5850..!



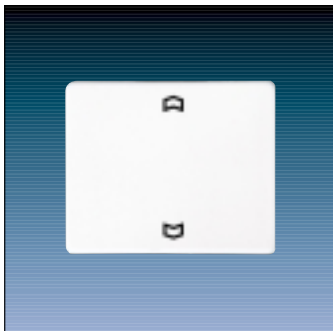
suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD,
LA 90
connector:
32 K

Description	Ref.-no.
Center plate for motor control inserts with anti lock-out function	
white	SL 5232 WW
black	SL 5232 SW
bronze	SL 5232 GB
with anti lock-out function and terminal for sensors	
white	SL 5232 S WW
black	SL 5232 S SW
bronze	SL 5232 S GB



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD,
LA 90
connector:
32 K

Center plate for motor control inserts with radio controlled receiver	
white	SL 5232 F WW
black	SL 5232 F SW
bronze	SL 5232 F GB
with radio controlled receiver and terminal for sensors	
white	SL 5232 FS WW
black	SL 5232 FS SW
bronze	SL 5232 FS GB



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD,
LA 90
connector:
32 K

Center plate for motor control inserts with memory function	
white	SL 5232 M WW
black	SL 5232 M SW
bronze	SL 5232 M GB
with memory function and terminal for sensors	
white	SL 5232 MS WW
black	SL 5232 MS SW
bronze	SL 5232 MS GB



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

Center plate for motor control inserts with timer function "standard"	
white	SL 5232 ST WW
black	SL 5232 ST SW
bronze	SL 5232 ST GB



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD,
LA 90
connector:
32 K

Center plate for motor control inserts with timer function "universal"	
white	SL 5232 T WW
black	SL 5232 T SW
bronze	SL 5232 T GB
with timer function "universal" and terminal for sensors	
white	SL 5232 TS WW
black	SL 5232 TS SW
bronze	SL 5232 TS GB

Description	Ref.-no.
Center plate for room thermostat insert	
white	SL TR 231 PL WW
black	SL TR 231 PL SW
bronze	SL TR 231 PL GB

suitable inserts:
TR 231 U,
TR 241 U



Center plate for room thermostat insert	
white	SL TR 236 PL WW
black	SL TR 236 PL SW
bronze	SL TR 236 PL GB

suitable insert:
TR 236 U,
TR 246 U

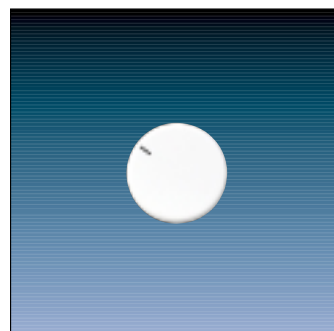
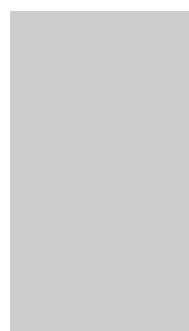


Center plate for floor thermostat insert	
white	SL FTR 231 PL WW
black	SL FTR 231 PL SW
bronze	SL FTR 231 PL GB

suitable insert:
FTR 231 U



Special knob for thermostat center plates prevents unallowed manipulation of the thermostat settings	
white	MS TR 231 WW
black	MS TR 231 SW
bronze/beige	MS TR 231 BB



Timer thermostat display	
white	SLUT 238 D WW
black	SLUT 238 D SW
bronze	SLUT 238 D GB

suitable inserts:
UT 238 E

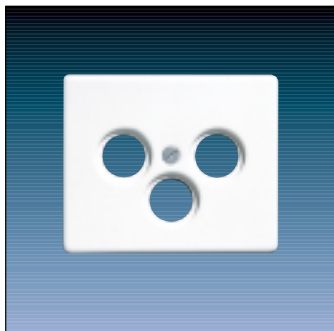


All devices have to be completed with frames SL 581.. – SL 585 .. / SL 5820.. – SL 5850..!



suitable inserts:
FS 1 D,
FS 12 D,
EDU 04 F,
GEDU 15

Description	Ref.-no.
Center plate for TV-FM sockets according to DIN 45330	
white	SL 561 TV WW
black	SL 561 TV SW
bronze	SL 561 TV GB



suitable inserts:
EDU 3902 F

Center plate for TV-FM-SAT sockets	
white	SL 561 SAT WW
black	SL 561 SAT SW
bronze	SL 561 SAT GB



Cable outlet with center plate and insert with supporting frame	
white	SL 590 A WW
black	SL 590 A SW
bronze	SL 590 A GB



Blank center plate for snap-on fixing	
white	SL 561 B WW
black	SL 561 B SW
bronze	SL 561 B GB
with supporting frame suitable for individual cuttings and drillings	



suitable inserts:
BNC 9.7,
BNC 12.7,
L 2 S

Center plate with supporting frame for 2 loudspeaker or BNC sockets	
white	SL 562 WW
black	SL 562 SW
bronze	SL 562 GB

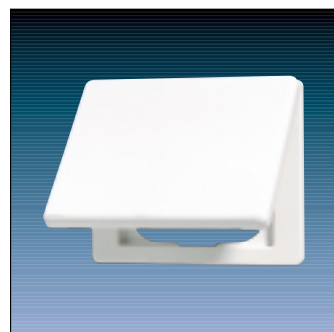
Description	Ref.-no.
Center plate for 1-gang modular jack sockets	
white	SL 569-1 UA WW
black	SL 569-1 UA SW
bronze	SL 569-1 UA GB
for 2-gang modular jack sockets	
white	SL 569-2 UA WW
black	SL 569-2 UA SW
bronze	SL 569-2 UA GB

inserts:
 UAE 4 UPO,
 UAE 8 UPO,
 UAE 8 UPO K5,
 UAE 8 UPO K6,
 UAE 8 UPO K5US



Hinged lid for devices with center plate 50 x 50 mm	
white	SL 590 KL WW
black	SL 590 KL SW
bronze	SL 590 KL GB

suitable devices
 are shown on
 pages 34 – 38



Center plate for stereo/mono loudspeaker socket	
white	SL 569 T WW
black	SL 569 T SW
bronze	SL 569 T GB

suitable inserts:
 SLA 2 WW,
 SLA 2 AN,
 MLA 1 WW,
 MLA 1 AN

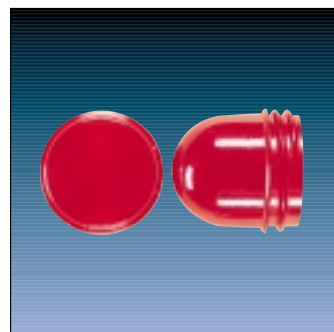


Center plate for pilot light inserts without cap	
white	SL 537 WW
black	SL 537 SW
bronze	SL 537 GB

suitable inserts:
 938-10 U,
 938-14 U



Screw cap for center plate SL 537.. flat, for lamps up to max. length of 35 mm	
clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08
high, for lamps up to max. length of 54 mm	
clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL





Description	Ref.-no.
-------------	----------

Frames
in acrylic glass, with coloured metal foil

for vertical installation

1-gang

white	85 x 85 mm	SL 581 WW
silver	85 x 85 mm	SL 581 SI
bronze	85 x 85 mm	SL 581 GB

2-gang

white	85 x 156 mm	SL 582 WW
silver	85 x 156 mm	SL 582 SI
bronze	85 x 156 mm	SL 582 GB

3-gang

white	85 x 227 mm	SL 583 WW
silver	85 x 227 mm	SL 583 SI
bronze	85 x 227 mm	SL 583 GB

4-gang

white	85 x 258 mm	SL 584 WW
silver	85 x 258 mm	SL 584 SI
bronze	85 x 258 mm	SL 584 GB

5-gang

white	85 x 370 mm	SL 585 WW
silver	85 x 370 mm	SL 585 SI
bronze	85 x 370 mm	SL 585 GB

Frames
for horizontal installation

2-gang

white	85 x 156 mm	SL 5820 WW
silver	85 x 156 mm	SL 5820 SI
bronze	85 x 156 mm	SL 5820 GB

3-gang

white	85 x 227 mm	SL 5830 WW
silver	85 x 227 mm	SL 5830 SI
bronze	85 x 227 mm	SL 5830 GB

4-gang

white	85 x 258 mm	SL 5840 WW
silver	85 x 258 mm	SL 5840 SI
bronze	85 x 258 mm	SL 5840 GB

5-gang

white	85 x 370 mm	SL 5850 WW
silver	85 x 370 mm	SL 5850 SI
bronze	85 x 370 mm	SL 5850 GB



The LS 990 switch range has already proven itself many times due to its high level of quality and clarity of form. Due to its versatile applications, the LS 990 range makes it possible to implement sophisticated architectural concepts.

Frame size:

1-gang 81 mm x 81 mm
 2-gang 152 mm x 81 mm
 3-gang 223 mm x 81 mm
 4-gang 294 mm x 81 mm
 5-gang 365 mm x 81 mm
 Frames can be horizontally and vertically installed.

Material LS 990:
 Duroplastic

Colours:

ivory similar RAL 1013
 white similar RAL 9010
 light grey similar RAL 7035

Protection level:

IP 20/IP 21
 IP 44 in connection with sealing gasket



LS 990 / LS plus

■ With sealing gasket ref.-no. 551 WU and frame from range LS 990 the protection level IP 44 is ensured.



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

Description	Ref.-no.
1-gang rocker	
ivory	■ LS 990
white	■ LS 990 WW
light grey	■ LS 990 LG

illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

1-gang rocker with symbol "bell"	
ivory	■ LS 990 K
white	■ LS 990 K WW
light grey	■ LS 990 K LG

illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

1-gang rocker with symbol "light"	
ivory	■ LS 990 L
white	■ LS 990 L WW
light grey	■ LS 990 L LG

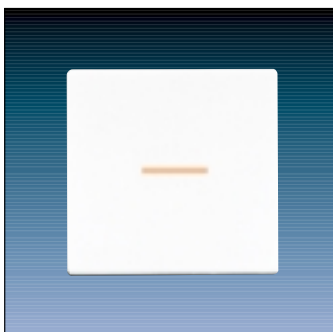
illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

1-gang rocker with symbol "door"	
ivory	■ LS 990 T
white	■ LS 990 T WW
light grey	■ LS 990 T LG

illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.



suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

1-gang rocker with transparent lens	
ivory	■ LS 990 KO5
white	■ LS 990 KO5 WW
light grey	■ LS 990 KO5 LG

additional printings on request
pilot light/orienting light shining in orange

All devices have to be completed with frames LS 981.. – LS 985.. or LSP 981.. – LSP 985.. !

Description	Ref.-no.
1-gang rocker with inscription plate 7 x 57 mm	
ivory	■ LS 990 NA
white	■ LS 990 NA WW
light grey	■ LS 990 NA LG
illumination possible with lamps 90/95 (230 V), 96-.. (low voltage), page 19, or 961248 LED.. (low voltage), page 19. Rockers offer enough transparency to be illuminated.	
Inscription sheet	
(34 stripes, 7 x 57 mm), ivory	BB 3

suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U



1-gang rocker, transparent for individual lettering or decorative inlets (e.g. wall paper)	LS 990 NAGL
--	-------------

suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U



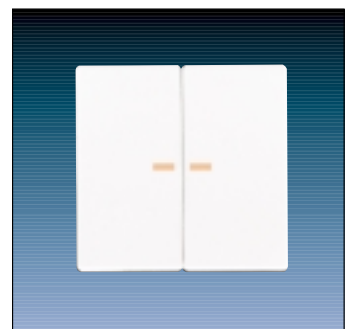
2-gang rocker	
ivory	■ LS 995
white	■ LS 995 WW
light grey	■ LS 995 LG

suitable inserts:
505 U, 509 U,
535 U, 539 U,
505 TU, 509 TU,
505-20 U,
509-20 U



2-gang rocker with transparent lens pilot/orienting light shining in orange	
ivory	LS 995 KO5
white	LS 995 KO5 WW
light grey	LS 995 KO5 LG

suitable inserts:
505 KOU 5,
505 KOVU 5

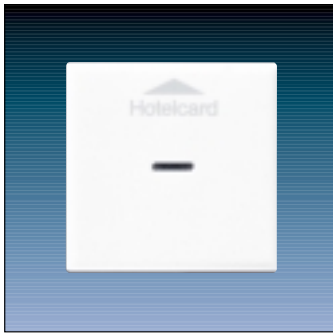


2-gang rocker with symbols	
ivory	■ LS 995 P
white	■ LS 995 P WW
light grey	■ LS 995 P LG

suitable inserts:
509 VU,
539 VU



■ With sealing gasket ref.-no. 551 WU and frame from range LS 990 the protection level IP 44 is ensured.



suitable inserts:
531 U, 533 U,
533-2 U, 534 U



standard key card

Description

Ref.-no.

Key card holder

When inserting the key card (being supplied by the door lock manufacturer) a contact will be given to the distribution board (relay). Depending on the installation/wiring all connected lights and other electric consumers will be supplied with energy. Individual control of the lights and ac/heater by JUNG rocker switches or dimmers. The key card has to be removed when leaving the room; the energy supply will be cut automatically. Illumination (orienting light) possible.

ivory	LS 590 CARD
-------	-------------

white	LS 590 CARD WW
-------	----------------

Note: suitable for cards with min. length 80 mm.
width 45 – 54 mm, thickness 0.5 – 1 mm.



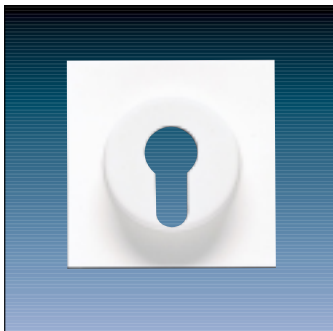
suitable insert:
104.15,
134.15,
133.15,
106.15

Center plate for key switch flat version

ivory	LS 925
-------	--------

white	LS 925 WW
-------	-----------

light grey	LS 925 LG
------------	-----------



suitable inserts:
104.28, 134.18,
134.28, 133.18,
106.28, 138.18,
CD 104.18 WU,
CD 134.18 WU,
CD 106.18 WU

Center plate for key switch

ivory	■ LS 928
-------	----------

white	■ LS 928 WW
-------	-------------

light grey	■ LS 928 LG
------------	-------------

incl. two key entry rosettes:
one blank and one with grey printed arrows



suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

1-gang rocker with glass-plate for emergency and alarm purposes for switch and push-button inserts

blue	(similar RAL 5015)	561 GL BL
------	--------------------	-----------

yellow	(similar RAL 1004)	561 GL GE
--------	--------------------	-----------

red	(similar RAL 3000)	561 GL RT
-----	--------------------	-----------

Spare glass plate		60 GL
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suitable inserts:
234.10, 234.20,
1015, 1030, 1060,
1120, 1120-20,
101-4, 101-4-20,
101-20,
101-20 KO,
101-32

Center plate with knob

ivory	■ LS 941
-------	----------

white	■ LS 941 WW
-------	-------------

light grey	■ LS 941 LG
------------	-------------

All devices have to be completed with frames LS 981.. – LS 985.. or LSP 981.. – LSP 985.. !

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
ivory	LS 520
white	LS 520 WW
light grey	LS 520 LG
orange	LS 520 O
green	LS 520 GN
with child protection (shutter)	
ivory	LS 520 KI
white	LS 520 KI WW
light grey	LS 520 KI LG

screwless
connection
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
ivory	LS 521
white	LS 521 WW
light grey	LS 521 LG
orange	LS 521 O
green	LS 521 GN

screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth with child protection (shutter) 16 A-AC/10 A-DC/250 V, German system	
ivory	LS 521 KI
white	LS 521 KI WW
light grey	LS 521 KI LG

screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system with inscription plate 7 x 57 mm	
ivory	LS 520 NA
white	LS 520 NA WW
light grey	LS 520 NA LG

screwless
connection
for wires up to
2.5 mm²

inscription sheet:
BB 3 (7x57 mm)



SCHUKO-socket, 2-pole + earth with inscription plate 7 x 57 mm 16 A-AC/10 A-DC/250 V, German system	
ivory	LS 521 NA
white	LS 521 NA WW
light grey	LS 521 NA LG

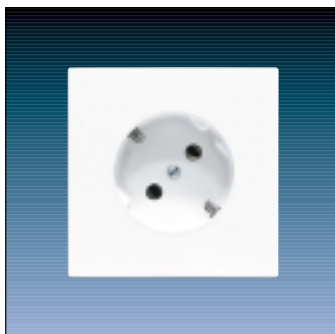
screw terminals
for wires up to
2.5 mm²

inscription sheet:
BB 3 (7x57 mm)



LS 990 / LS plus

All devices have to be completed with frames LS 981.. – LS 985.. or LSP 981.. – LSP 985.. !



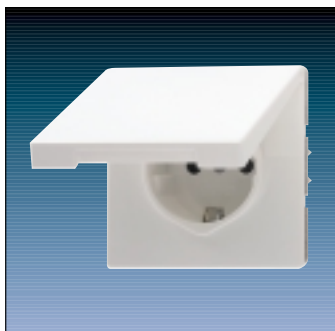
screwless
connection
for wires up to
2.5 mm²

Description	Ref.-no.
SCHUKO-socket 45°, 2-pole + earth 16 A-AC/10 A-DC/250 V, German system	
ivory	LS 520-45
white	LS 520-45 WW
light grey	LS 520-45 LG



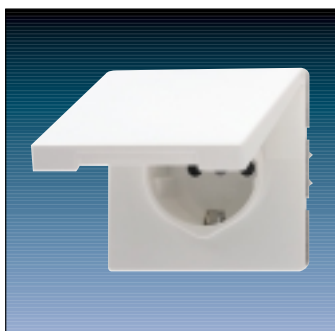
inscription sheet:
BB 3 (7x57 mm)

SCHUKO-Socket 2-pole + earth 16 A-AC/250 V, German system with integrated surge voltage protection with child protection (shutter) with inscription plate 7 x 57 mm	
ivory	LS 521 KINAUF
white	LS 521 KINAUF WW
light grey	LS 521 KINAUF LG
orange	LS 521 KINAUF O



screwless
connection
for wires up to
2.5 mm²

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with hinged lid	
ivory	LS 520 KL
white	LS 520 KL WW
light grey	LS 520 KL LG
with child protection (shutter)	
ivory	LS 520 KLKI
white	LS 520 KLKI WW
light grey	LS 520 KLKI LG



screw terminals for
wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with hinged lid	
ivory	LS 521 KL
white	LS 521 KL WW
light grey	LS 521 KL LG
with child protection (shutter)	
ivory	LS 521 KLKI
white	LS 521 KLKI WW
light grey	LS 521 KLKI LG



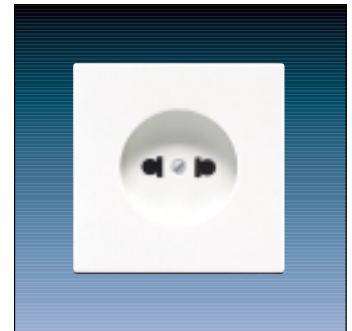
screwless
connection for
wires up to
2.5 mm²

Spare lamp:
93,
93-LED

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with pilot light and with hinged lid	
ivory	LS 520 KLKO
white	LS 520 KLKO WW

Description	Ref.-no.
Socket, 2-pole without earth 10 A/250 V, Franco-American system for flat + round pins	
ivory	LS 910
white	LS 910 WW

screw terminals
for wires up to
2.5 mm²



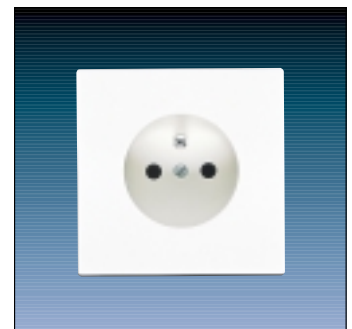
Socket, 2-pole without earth 16 A-AC/10 A-DC/250 V for round pins	
ivory	LS 911
white	LS 911 WW

screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V French/Belgian system	
ivory	LS 921 F
white	LS 921 F WW
with child protection (shutter)	
ivory	LS 921 FKI
white	LS 921 FKI WW
light grey	LS 921 FKI LG

screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + earth with child protection (shutter) 13 A/250 V, British system acc. to B.S. 1363:1995 screw fixing into standard wall boxes with Ø 60 mm or single steel boxes with fixing centres 60.3 mm	
ivory	LS 921 BS
white	LS 921 BS WW
colours black and light grey on request	

screw terminals
for wires up to
2.5 mm²



Double-pole switch socket, 2-pole + earth 13 A/250 V ~, British system, acc. to B.S. 1363: 1995 center plate with child protection (shutter) and pilot light (red rocker) screw fixing into standard wall boxes with Ø 60 mm single steel boxes with fixing centres 60.3 mm	
ivory	LS 172 KO
white	LS 172 KO WW
without pilot light	
ivory	LS 172
white	LS 172 WW

screw terminals
for wires up to
2.5 mm²



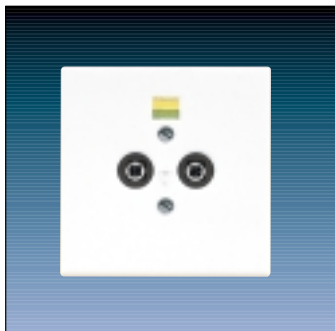
LS 990 / LS plus

■ With sealing gasket ref.-no. 551 WU and frame from range LS 990 the protection level IP 44 is ensured.



screw terminals
for wires up to
4 mm²

Description	Ref.-no.
Chinese socket combination, 10 A/250 V ~ with child protection (shutter) consisting of: 2-pole without earth for flat and rounded pins and 2-pole with earth	
white	LS 2521-5 CN WW



screw terminals
for wires up to
6 mm²

Potential compensation socket e.g. for separate earthing of medical appliances in hospitals with 2 one-pole male sockets acc. to DIN 42801 screw fixing only	
ivory	LS 965-2
white	LS 965-2 WW
light grey	LS 965-2 LG



Electronic time delay switch 1000 VA, 230 V, 50 Hz with astro mode, random generator ± 15 min., neutral protective line necessary	
ivory	LS 5201 T
white	LS 5201 T WW
light grey	LS 5201 T LG



suitable inserts:
211 GDE,
266 GDE,
225 NVDE,
225 TDE,
254 UDIE1,
254 NIE1,
240-31, 244-110,
254 UDIE-110,
254 NIE-110,
243 EX, 244 EX,
244 HEX

Center plate with knob for dimmer insert (clip-on fixing)	
ivory	■ LS 940
white	■ LS 940 WW
light grey	■ LS 940 LG



suitable insert:
249.10

Center plate with knob for speed regulator insert	
ivory	■ LS 940.20
white	■ LS 940.20 WW
light grey	■ LS 940.20 LG

Sealing gasket for dimmer and speed regulator inserts To obtain protection level IP 44 the sealing gasket has to be placed in the center plate.	40 D
--	------

All devices have to be completed with frames LS 981.. – LS 985.. or LSP 981.. – LSP 985.. !

Description	Ref.-no.
Standard center plate for touch dimmer and electronic switch inserts	
ivory	LS 1561.07
white	LS 1561.07 WW
light grey	LS 1561.07 LG

suitable inserts:
 1201 URE,
 1201-1 URE,
 1202 URE,
 1225 SDE,
 1254 UDE,
 1244 NVSE,
 1254 TSE,
 1220 NE,
 1240 STE



Radio center plate for touch dimmer inserts or electronic switch inserts	
ivory	LS 1561.07 F
white	LS 1561.07 F WW
light grey	LS 1561.07 F LG

suitable inserts:
 1201 URE,
 1201-1 URE,
 1202 URE,
 1225 SDE,
 1254 UDE,
 1244 NVSE,
 1254 TSE,
 1240 STE



Universal center plate for touch dimmer inserts or electronic switch inserts with 4 optional functions	
ivory	LS 1561.07 U
white	LS 1561.07 U WW
light grey	LS 1561.07 U LG

for more technical/functional details see page 69

suitable inserts:
 1201 URE,
 1201-1 URE,
 1225 SDE,
 1254 UDE,
 1244 NVSE,
 1254 TSE,
 1240 STE



Automatic switch 180° lens type 1.10 m standard version	
ivory	LS 1180
white	LS 1180 WW
light grey	LS 1180 LG
universal version	
ivory	LS 1180-1
white	LS 1180-1 WW
light grey	LS 1180-1 LG

suitable inserts:
 1201 URE,
 1201-1 URE,
 1202 URE,
 1225 SDE,
 1240 STE,
 1254 UDE,
 1254 TSE,
 1244 NVSE,
 1223 NE,
 1208 UI



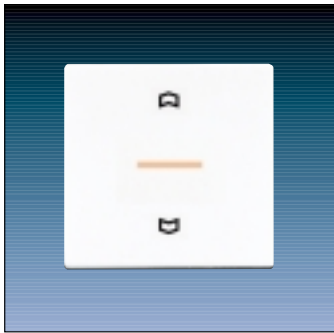
Automatic switch 180° lens type 2.20 m standard version	
ivory	LS 1280
white	LS 1280 WW
light grey	LS 1280 LG
universal version	
ivory	LS 1280-1
white	LS 1280-1 WW
light grey	LS 1280-1 LG

suitable inserts:
 1201 URE,
 1201-1 URE,
 1202 URE,
 1225 SDE,
 1240 STE,
 1254 UDE,
 1254 TSE,
 1244 NVSE,
 1223 NE,
 1208 UI



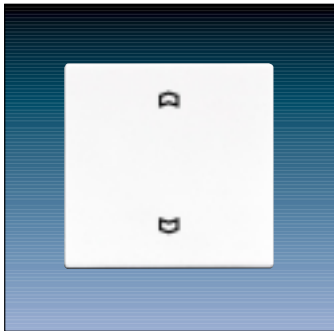
LS 990 / LS plus

All devices have to be completed with frames LS 981.. – LS 985.. or LSP 981.. – LSP 985.. !



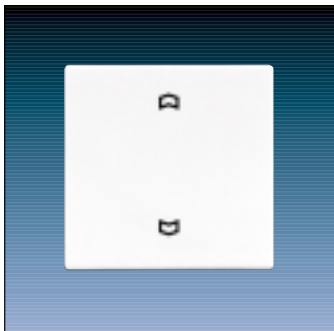
suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD,
LA 90
connector:
32 K

Description	Ref.-no.
Center plate for motor control inserts with anti lock-out function	
ivory	LS 5232
white	LS 5232 WW
light grey	LS 5232 LG
with anti lock-out function and terminal for sensors	
ivory	LS 5232 S
white	LS 5232 S WW
light grey	LS 5232 S LG



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD,
LA 90
connector:
32 K

Description	Ref.-no.
Center plate for motor control inserts with radio-controlled receiver	
ivory	LS 5232 F
white	LS 5232 F WW
light grey	LS 5232 F LG
with radio-controlled receiver and terminal for sensors	
ivory	LS 5232 FS
white	LS 5232 FS WW
light grey	LS 5232 FS LG



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD,
LA 90
connector:
32 K

Description	Ref.-no.
Center plate for motor control inserts with memory function	
ivory	LS 5232 M
white	LS 5232 M WW
light grey	LS 5232 M LG
with memory function and terminal for sensors	
ivory	LS 5232 MS
white	LS 5232 MS WW
light grey	LS 5232 MS LG



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

Description	Ref.-no.
Center plate for motor control inserts with timer function "standard"	
ivory	LS 5232 ST
white	LS 5232 ST WW
light grey	LS 5232 ST LG

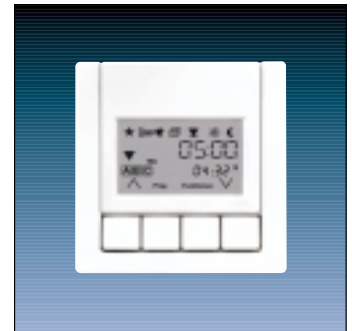


suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

Description	Ref.-no.
Center plate for motor control inserts with timer function "universal"	
ivory	LS 5232 T3
white	LS 5232 T3 WW
light grey	LS 5232 T3 LG

Description	Ref.-no.
Center plate for motor control inserts with timer function "universal" and terminal for sensors	
ivory	LS 5232 TS3
white	LS 5232 TS3 WW
light grey	LS 5232 TS3 LG

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME
sensors:
32 G, 32 SD,
LA 90
connector:
32 K



Center plate for floor thermostat insert	
ivory	LS FTR 231 PL
white	LS FTR 231 PL WW
light grey	LS FTR 231 PL LG

suitable insert:
FTR 231 U



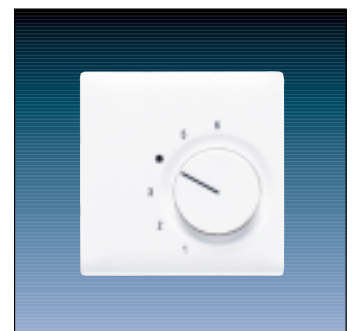
Center plate for room thermostat insert	
ivory	LS TR 231 PL
white	LS TR 231 PL WW
light grey	LS TR 231 PL LG

suitable inserts:
TR 231 U,
TR 241 U



Center plate for room thermostat insert	
ivory	LS TR 236 PL
white	LS TR 236 PL WW
light grey	LS TR 236 PL LG

suitable insert:
TR 236 U,
TR 246 U



Special knob for thermostat center plates prevents unallowed manipulation of the thermostat settings	
ivory	MS TR 231
white	MS TR 231 WW
light grey	MS TR 231 LG

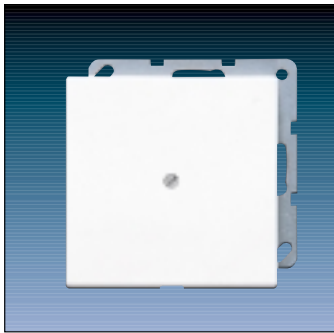
Timer thermostat display	
ivory	LS UT 238 D
white	LS UT 238 D WW
light grey	LS UT 238 D LG

suitable inserts:
UT 238 E

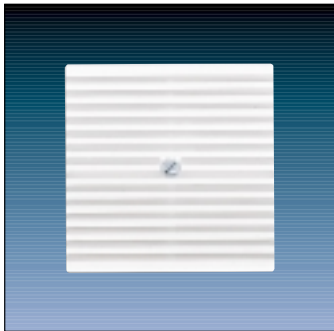


LS 990 / LS plus

All devices have to be completed with frames LS 981.... – LS 985... or LSP 981... – LSP 985... !



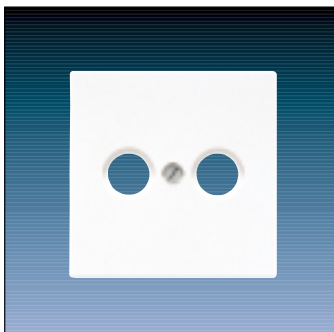
Description	Ref.-no.
Cable outlet with center plate and insert	
ivory	LS 990 A
light grey	LS 990 A LG
white	LS 990 A WW



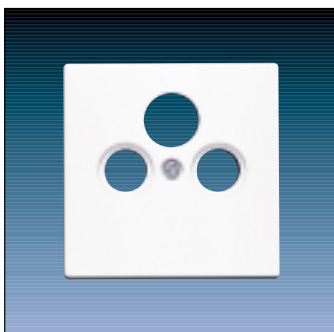
suitable insert: 67 K	Center plate for bell insert	
	ivory	LS 967
	white	LS 967 WW



suitable inserts: SLA 2 WW, SLA 2 AN, MLA 1 WW, MLA 1 AN	Center plate for stereo/mono loudspeaker socket	
	ivory	LS 969 T
	white	LS 969 T WW
	light grey	LS 969 T LG

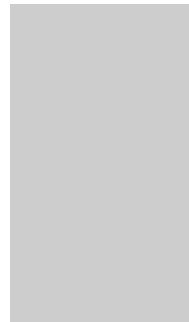


suitable inserts: FS 1 D, FS 12 D, EDU 04 F, GEDU 15	Center plate for TV-FM sockets according to DIN 45330	
	ivory	LS 990 TV
	white	LS 990 TV WW
	light grey	LS 990 TV LG



suitable insert: EDU 3902 F	Center plate for TV-FM-SAT sockets	
	ivory	LS 990 SAT
	white	LS 990 SAT WW
	light grey	LS 990 SAT LG

Description	Ref.-no.
Blank center plate with supporting frame suitable for individual cuttings and drillings for snap-on fixing	
ivory	LS 994 B
white	LS 994 B WW
light grey	LS 994 B LG



Center plate for 1-gang modular jack sockets	
ivory	LS 969-1 UA
white	LS 969-1 UA WW
light grey	LS 969-1 UA LG
with inscription plate 7 x 57 mm	
ivory	LS 969-1 NAUA
white	LS 969-1 NAUA WW
light grey	LS 969-1 NAUA LG

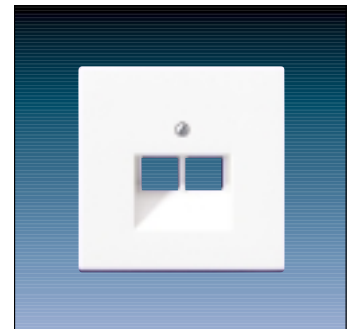
suitable inserts:
UAE 2x8 UPO,
UAE 8-8 UPO K5,
UAE 8-8 UPO K6,
UAE 8-8 UPO
K5US

inscription sheet:
BB 3 (7x57 mm)



Center plate for 2-gang modular jack sockets	
ivory	LS 969-2 UA
white	LS 969-2 UA WW
light grey	LS 969-2 UA LG
with inscription plate 7 x 57 mm	
ivory	LS 969-2 NAUA
white	LS 969-2 NAUA WW
light grey	LS 969-2 NAUA LG

suitable inserts:
UAE 2x8 UPO,
UAE 8-8 UPO K5,
UAE 8-8 UPO K6,
UAE 8-8 UPO
K5US



Center plate with hinged lid for IBM data plug with inscription plate 7,5 x 57 mm screw fixing only	
ivory	LS 990 IBM
white	LS 990 IBM WW

suitable insert:
IBM 8310574

inscription sheet:
BB 3 (7x57 mm)



Center plate with shutter for modular jack sockets screw fixing, shutter with spring	
ivory	LS 969-2 NWE
white	LS 969-2 NWE WW

suitable inserts:
6 WE/8 WE,
RADIAL:
R280 MOD 804,
R280 MOD 805,
R280 MOD 807
PANDUIT:
KJ88., KJ 588..

inscription sheet:
BB 1 (6x37 mm)



LS 990 / LS plus

All devices have to be completed with frames LS 981.... – LS 985... or LSP 981... – LSP 985... !



suitable insert:
JUNG: 8 FWE
AMP: 216811-1

Description	Ref.-no.
Center plate with shutter for modular jack sockets screw fixing, shutter with spring	
ivory	LS 969-2 NFW
white	LS 969-2 NFW WW



suitable insert:
8 VGWE
Tyco-Electronics
AMP 110 Connect
system:
0-1116515-1
0-1375177-1

inscription sheet:
BB 1 (6x37 mm)

Center plate with shutter for modular jack sockets screw fixing, shutter with spring	
ivory	LS 969-25 NWE
white	LS 969-25 NWE WW



suitable inserts:
Lucent
Electronics,
AT&T,
GigaSPEED

Center plate with shutter for modular jack sockets screw fixing, shutter with spring	
ivory	LS 969-2 NAT
white	LS 969-2 NAT WW



suitable inserts:
Radiall:
R280MOD813
INFRA:
7700 U/7700 D
7700 E

Center plate with shutter for modular jack make INFRA+ / Radiall screw fixing, shutter with spring	
ivory	LS 969-2 NINF
white	LS 969-2 NINF WW



suitable inserts:
Nevada-Western
OMNI system
Thomas & Betts:
009-5-SH-747-C5
009-5-790F-C5W
IBM-ACS system:
59 G 1100
80 G 2541,
25 L 3666,
25 L 4023

Center plate with shutter for modular jack sockets screw fixing, shutter with spring	
ivory	LS 969-2 NNW
white	LS 969-2 NNW WW

Description	Ref.-no.
Center plate for subminiature D-socket	
ivory	LS 994-1
white	LS 994-1 WW

suitable inserts:
D-SUB 9,
D-SUB 15,
D-SUB 25

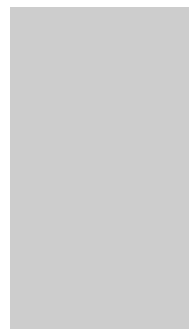


Center plate for 2 loudspeaker or BNC sockets	
ivory	LS 962
white	LS 962 WW
light grey	LS 962 LG

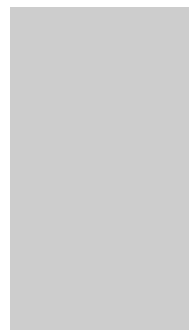
suitable inserts:
BNC 9.7,
BNC 12.7,
L 2 S



Center plate for devices with central nut Ø 19 mm (e.g. fuse holders acc. to DIN 41672/77 TWINAX-sockets or HF-connectors DIN 47284) with supporting frame, screw fixing	
ivory	LS 965



Center plate for commanding appliances with Ø 22.5 mm (e.g. make Moeller, Rafi, Schlegel, Lumitas)	
ivory	LS 964
white	LS 964 WW
yellow	LS 964 GE
screw fixing only	



Data-connection cap for vertical and 15° or 30° inclined outlet with inscription plate 59 x 23 mm	
ivory	TS 554
white	TS 554 WW
light grey	TS 554 LG
for suitable mounting plates see pages 26 – 29	

inscription sheet:
BB 5 (59x23 mm)



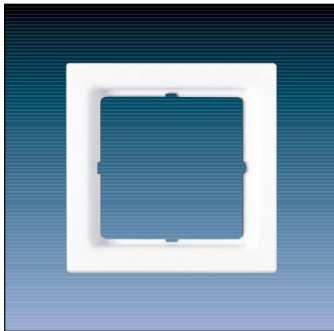
LS 990 / LS plus

■ With sealing gasket ref.-no. 551 WU and frame from range LS 990 the protection level IP 44 is ensured.



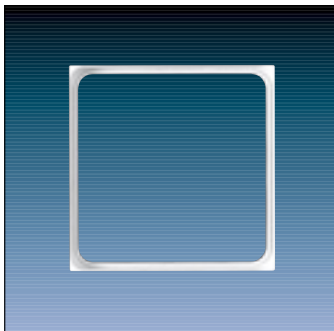
suitable devices
are shown on
pages 34 – 38

Description	Ref.-no.
Hinged lid for devices with center plate 50 x 50 mm	
ivory	■ LS 990 KL
white	■ LS 990 KL WW
light grey	■ LS 990 KL LG
orange	■ LS 990 KL O
green	■ LS 990 KL GN



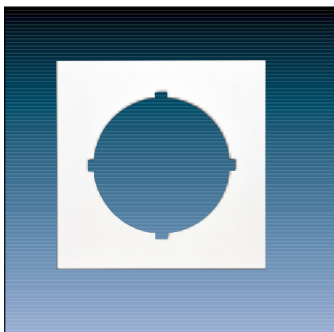
Intermediate frame
for installation of devices with center plate 50 x 50 mm
and all other makes with center plate 50 x 50 mm
according to DIN 49075

ivory	LS 961 Z
white	LS 961 Z WW
light grey	LS 961 Z LG



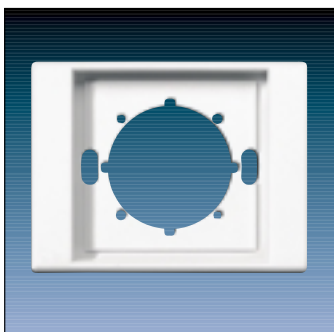
Intermediate frame
for installation of center plates CD 500 (67 x 67 mm)

ivory	LS 981 Z
white	LS 981 Z WW
grey	LS 981 Z LG



Intermediate frame
for center plates bigger than 50 x 50 mm

white	LS 990 Z
-------	----------

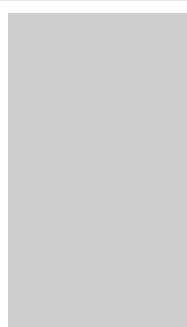


1-gang adapter frame incl. metal fixing plate
for rectangular Italian wall boxes
with fixing centers 83.5 mm

white	LS 1980 WW
-------	------------

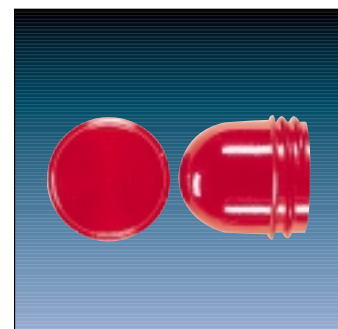
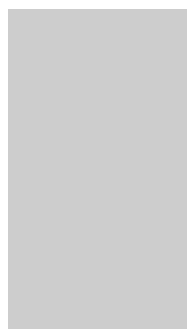
All devices have to be completed with frames LS 981.... – LS 985... or LSP 981... – LSP 985... !

Description	Ref.-no.
Center plate for pilot light insert	
ivory	■ LS 937
white	■ LS 937 WW
white	■ LS 937 LG

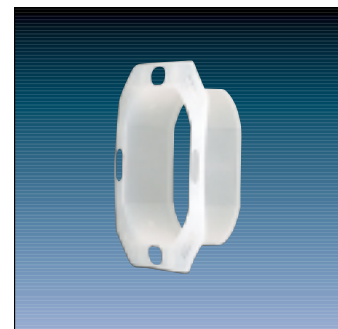
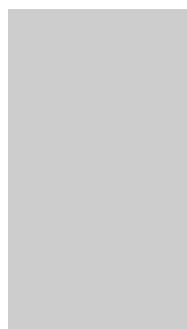


Sealing gasket	37 D
To obtain protection level IP 44 the sealing gasket has to be placed into the pilot light center plate.	

Screw cap for center plate LS 937.. flat, for lamps up to max. length of 35 mm	
clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08
high, for lamps up to max. length of 54 mm	
clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL



Sealing gasket	551 WU
for all flush mounted switches, push buttons, dimmer, sockets, venetian blind switch, automatic switches, time delay switches and devices with center plates 50 x 50 mm	

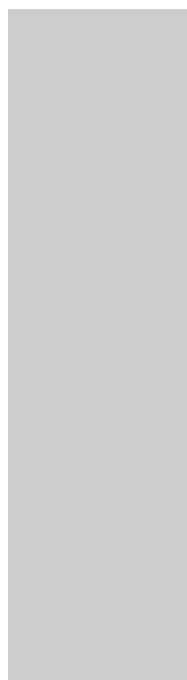


Frames
for horizontal and vertical installation

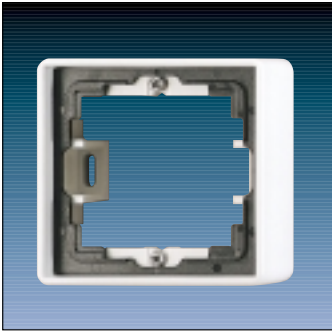
ivory	1-gang, 81 x 81 mm	■	LS 981 W
	2-gang, 81 x 152 mm	■	LS 982 W
	3-gang, 81 x 223 mm	■	LS 983 W
	4-gang, 81 x 294 mm	■	LS 984 W
	5-gang, 81 x 365 mm	■	LS 985 W

white	1-gang, 81 x 81 mm	■	LS 981 WW
	2-gang, 81 x 152 mm	■	LS 982 WW
	3-gang, 81 x 223 mm	■	LS 983 WW
	4-gang, 81 x 294 mm	■	LS 984 WW
	5-gang, 81 x 365 mm	■	LS 985 WW

light grey	1-gang, 81 x 81 mm	■	LS 981 LG
	2-gang, 81 x 152 mm	■	LS 982 LG
	3-gang, 81 x 223 mm	■	LS 983 LG
	4-gang, 81 x 294 mm	■	LS 984 LG
	5-gang, 81 x 365 mm	■	LS 985 LG



LS 990



Description	Ref.-no.
Surface cap for surface installation of switches, sockets and other devices of range LS 990 (max. depth of 32 mm) no frame necessary	
1-gang, 81 x 81 x 44 mm	
ivory	LS 981 A W
white	LS 981 A WW
light grey	LS 981 A LG

2-gang, 152 x 81 x 44 mm	
ivory	LS 982 A W
white	LS 982 A WW
light grey	LS 982 A LG

3-gang, 223 x 81 x 44 mm	
ivory	LS 983 AW
white	LS 983 A WW

The attached black mounting plate has to be used for all devices.

The capacity of dimmers is valid for surface installation, too.
Only in case 2 or more dimmers are installed in combination the capacity has to be reduced by 25 %.

Ground plate
non-flammable, according to VDE 0471, for surface caps
LS 981 A.. - LS 983 A.. + LS 9810 A..

1-gang	328-981
2-gang	328-982
3-gang	328-983

Accessories for cables, pipes, trunkings

Inlet for cable and minitrunking	
ivory	11
white	11 WW

Inlet for trunking 15 x 15 mm	
ivory	12
white	12 WW

Inlet for pipes with outside Ø 16 mm	
ivory	13
white	13 WW



Metallic shine in a decorative frame:
The rigid lines of the LS design find their ideal equivalent in the contemporary material of stainless steel which is persuasive due to its exclusive effect. Wherever this range is used, the ambience is enhanced and gains in attractiveness. Above all, if the surrounding area is characterised by clear style requirements, the high-quality switches create a remarkable highlight.

Frame size:

1-gang	81 mm x 81 mm
2-gang	152 mm x 81 mm
3-gang	223 mm x 81 mm
4-gang	294 mm x 81 mm
5-gang	365 mm x 81 mm

Frames can be horizontally and vertically installed.

Material/Colour:

Stainless Steel (1.4303 X4 CrNi 18-12)

Protection level:

IP 20/IP 21, IP 44 in connection with sealing gasket



Stainless Steel
Aluminium
Anthracite/Gold

LS-metallic design ranges



Frame size:

1-gang	81 mm x 81 mm
2-gang	152 mm x 81 mm
3-gang	223 mm x 81 mm
4-gang	294 mm x 81 mm
5-gang	365 mm x 81 mm

Frames can be horizontally and vertically installed.

Material/Colour:

Aluminium ALMg1

Gold (Aluminium vacuum-metallised)

Anthracite (Aluminium lacquered)

Protection level:

IP 20/IP 21

IP 44 in connection with sealing gasket

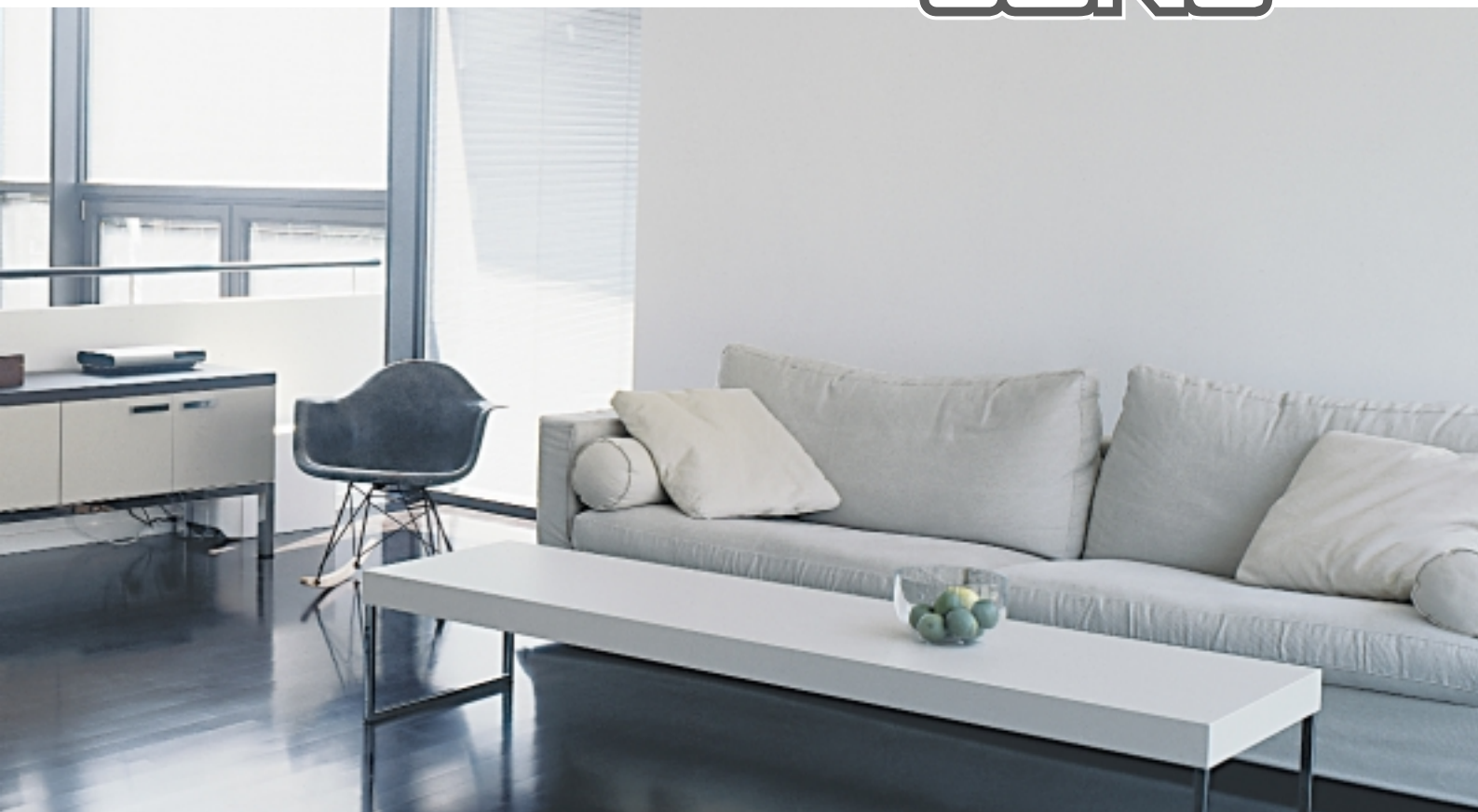
The form and material make these ranges the first choice.

With its straight lines, this design follows the trend as it defines functions both clearly and objectively.

The new aluminium versions with an anthracite or gold finish create a new and unique combination of colours and materials.



JUNG

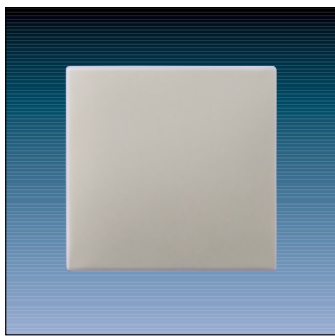


Aluminium
Gold
Anthracite



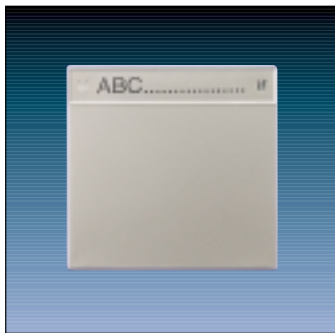
Stainless Steel / Aluminium / Anthracite / Gold

■ With sealing gasket ref.-no. 551 WU and frame from range Stainless Steel, Aluminium, Anthracite or Gold the protection level IP 44 is ensured.



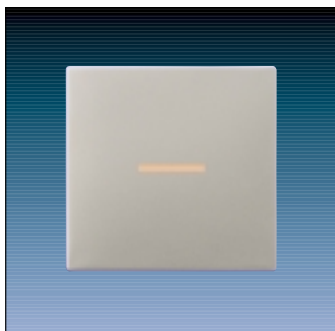
suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

Description	Ref.-no.
1-gang rocker	
stainless steel	■ ES 2990
aluminium	■ AL 2990
anthracite	■ AL 2990 AN
gold	■ AL 2990 GO



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U

Description	Ref.-no.
1-gang rocker with inscription plate 12 x 55 mm	
stainless steel	■ ES 2990 NA
aluminium	■ AL 2990 NA
anthracite	■ AL 2990 NA AN
gold	■ AL 2990 NA GO



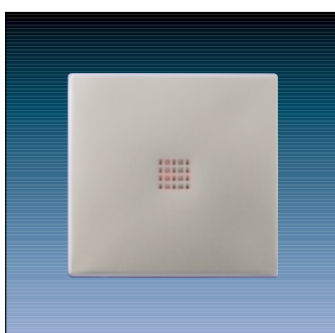
suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

Description	Ref.-no.
1-gang rocker with transparent lens	
stainless steel	■ ES 2990 KO5
aluminium	■ AL 2990 KO5
anthracite	■ AL 2990 KO5 AN
gold	■ AL 2990 KO5 GO



suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

Description	Ref.-no.
1-gang rocker with transparent lens and inscription plate 12 x 55 mm	
stainless steel	■ ES 2990 NA KO5
aluminium	■ AL 2990 NA KO5
anthracite	■ AL 2990 NA KO5 AN
gold	■ AL 2990 NA KO5 GO



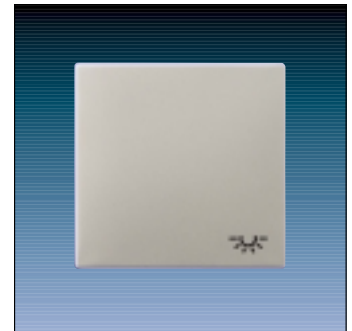
suitable inserts:
502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

Description	Ref.-no.
1-gang rocker with diffused red light outlet	
stainless steel	■ ES 2990 KO2
aluminium	■ AL 2990 KO2
anthracite	■ AL 2990 KO2 AN
gold	■ AL 2990 KO2 GO

Gold / Anthracite / Aluminium / Stainless Steel

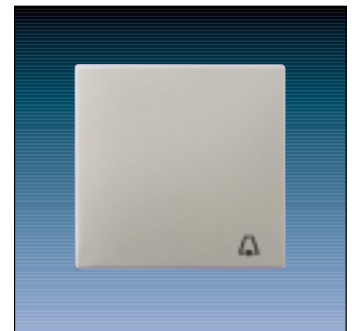
Description	Ref.-no.
1-gang rocker with symbol "light"	
stainless steel	■ ES 2990 L
aluminium	■ AL 2990 L
anthracite	■ AL 2990 L AN
gold	■ AL 2990 L GO

suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U



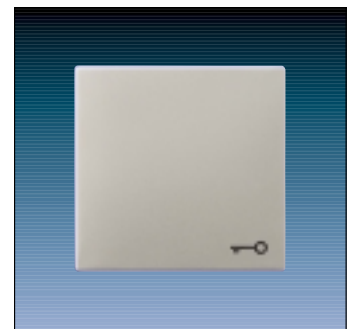
1-gang rocker with symbol "bell"	
stainless steel	■ ES 2990 K
aluminium	■ AL 2990 K
anthracite	■ AL 2990 K AN
gold	■ AL 2990 K GO

suitable inserts:
531 U,
533 U,
533-2 U,
534 U



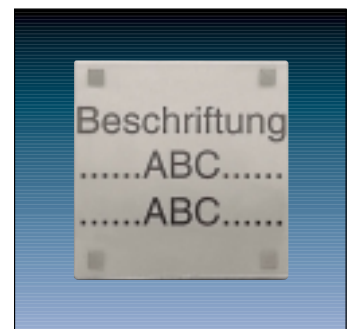
1-gang rocker with symbol "door"	
stainless steel	■ ES 2990 T
aluminium	■ AL 2990 T
anthracite	■ AL 2990 T AN
gold	■ AL 2990 T GO

suitable inserts:
531 U,
533 U,
533-2 U,
534 U



1-gang rocker with transparent cover 52 x 70 mm for individual lettering or decorative inlets	
stainless steel	■ ES 2990 NA1
aluminium	■ AL 2990 NA1
anthracite	■ AL 2990 NA1 AN
gold	■ AL 2990 NA1 GO

suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 502 TU,
506 TU, 507 TU,
531 U, 533 U,
533-2 U, 534 U,
501-20 U,
506-20 U,
507-20 U



Key card holder

When inserting the key card (being supplied by the door lock manufacturer) a contact will be given to the distribution board (relay).

Depending on the installation/wiring all connected lights and other electric consumers will be supplied with energy.

Individual control of the lights and ac/heater by JUNG rocker switches or dimmers. The key card has to be removed when leaving the room; the energy supply will be cut automatically. Illumination (orienting light) possible.

stainless steel	ES 2990 CARD
aluminium	AL 2990 CARD
anthracite	AL 2990 CARD AN
gold	AL 2990 CARD GO

Note: suitable for cards with min. length 80 mm.
width 45 - 54 mm, thickness 0.5 - 1 mm.

suitable inserts:
531 U, 533 U,
533-2 U, 534 U



Material: non-metal, lacquered



Stainless Steel / Aluminium / Anthracite / Gold

■ With sealing gasket ref.-no. 551 WU and frame from range Stainless Steel, Aluminium, Anthracite or Gold the protection level IP 44 is ensured.



suitable inserts:
505 U, 509 U,
535 U, 539 U,
505 TU, 509 TU,
505-20 U,
509-20 U

Description	Ref.-no.
2-gang rocker	
stainless steel	■ ES 2995
aluminium	■ AL 2995
anthracite	■ AL 2995 AN
gold	■ AL 2995 GO



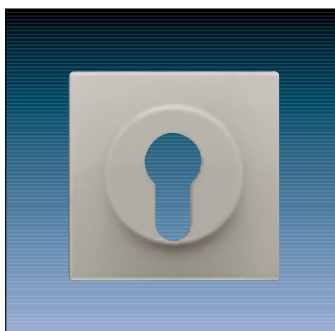
suitable inserts:
505 KOU 5,
505 KOVU 5

Description	Ref.-no.
2-gang rocker with transparent lens	
stainless steel	■ ES 2995 KO5
aluminium	■ AL 2995 KO5
anthracite	■ AL 2995 KO5 AN
gold	■ AL 2995 KO5 GO



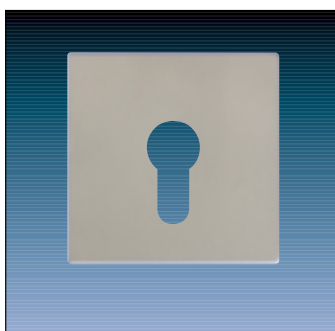
suitable inserts:
509 VU,
539 VU

Description	Ref.-no.
2-gang rocker with symbols	
stainless steel	■ ES 2995 P
aluminium	■ AL 2995 P
anthracite	■ AL 2995 P AN
gold	■ AL 2995 P GO



suitable inserts:
(IP20)
104.28, 134.18,
134.28, 133.18,
106.28, 138.18
(IP 44)
CD 104.18 WU
CD 134.18 WU
CD 133.18 WU
CD 106.18 WU

Description	Ref.-no.
Center plate for key switch incl. two entry rosettes, one blank and one with printed arrows	
stainless steel	■ ES 2928
aluminium	■ AL 2928
anthracite	■ AL 2928 AN
gold	■ AL 2928 GO



suitable inserts:
104.15,
134.15,
133-15,
106.15

Description	Ref.-no.
Center plate for key switch flat version	
stainless steel	ES 2925
aluminium	AL 2925
anthracite	AL 2925 AN
gold	AL 2925 GO

Gold / Anthracite / Aluminium / Stainless Steel

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system	
stainless steel	ES 2520
aluminium	AL 2520
anthracite	AL 2520 AN
gold	AL 2520 GO
with child protection (shutter)	
stainless steel	ES 2520 KI
aluminium	AL 2520 KI
anthracite	AL 2520 KI AN
gold	AL 2520 KI GO

screwless
connection for
wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system	
stainless steel	ES 2521
aluminium	AL 2521
anthracite	AL 2521 AN
gold	AL 2521 GO
with child protection (shutter)	
stainless steel	ES 2521 KI
aluminium	AL 2521 KI
anthracite	AL 2521 KI AN
gold	AL 2521 KI GO

screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with inscription plate 12 x 55 mm	
stainless steel	ES 2520 NA
aluminium	AL 2520 NA
anthracite	AL 2520 NA AN
gold	AL 2520 NA GO
with child protection (shutter)	
stainless steel	ES 2520 KINA
aluminium	AL 2520 KINA
anthracite	AL 2520 KINA AN
gold	AL 2520 KINA GO

screwless
connection for
wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with pilot light and inscription plate 12 x 55 mm	
stainless steel	ES 2520 NAKO
aluminium	AL 2520 NAKO
anthracite	AL 2520 NAKO AN
gold	AL 2520 NAKO GO

screw terminals
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with integrated surge voltage protection, child protection (shutter) and inscription plate 12 x 55 mm	
stainless steel	ES 2521 KINAUF
aluminium	AL 2521 KINAUF
anthracite	AL 2521 KINAUF AN
gold	AL 2521 KINAUF GO

screw terminals
for wires up to
2.5 mm²



Stainless Steel / Aluminium / Anthracite / Gold



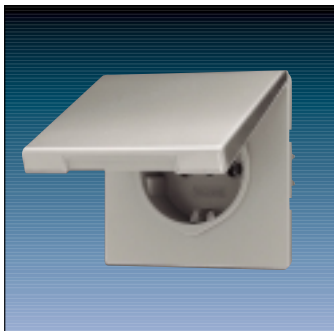
screwless connection for wires up to 2.5 mm²

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system especially suitable for vertical combination of several outlets	
stainless steel	ES 2520-45
aluminium	AL 2520-45
anthracite	AL 2520-45 AN
gold	AL 2520-45 GO



screwless connection for wires up to 2.5 mm²

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with hinged lid	
stainless steel	ES 2520 KL
aluminium	AL 2520 KL
anthracite	AL 2520 KL AN
gold	AL 2520 KL GO
with inscription plate 12 x 55 mm	
stainless steel	ES 2520 NAKL
aluminium	AL 2520 NAKL
anthracite	AL 2520 NAKL AN
gold	AL 2520 NAKL GO



screw terminals for wires up to 2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system with hinged lid	
stainless steel	ES 2521 KL
aluminium	AL 2521 KL
anthracite	AL 2521 KL AN
gold	AL 2521 KL GO



screwless connection for wires up to 2.5 mm²

material:
non-metal,
lacquered

2-gang SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system screw- and claw fixing into standard wall boxes with Ø 60 mm (no frame necessary)	
stainless steel	ES 5020 KI-L
aluminium	AL 5020 KI-L
anthracite	AL 5020 KI-L AN
gold	AL 5020 KI-L GO



screw terminals for wires up to 2.5 mm²

material:
non-metal,
lacquered



2-gang SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V ~, German system screw- and claw fixing into standard wall boxes with Ø 60 mm (no frame necessary)	
stainless steel	ES 5022 KI-L
aluminium	AL 5022 KI-L
anthracite	AL 5022 KI-L AN
gold	AL 5022 KI-L GO

Gold / Anthracite / Aluminium / Stainless Steel

Description	Ref.-no.
Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system	
stainless steel	ES 2520 F
aluminium	AL 2520 F
anthracite	AL 2520 F AN
gold	AL 2520 F GO
with child protection (shutter)	
stainless steel	ES 2520 FKI
aluminium	AL 2520 FKI
anthracite	AL 2520 FKI AN
gold	AL 2520 FKI GO

screwless
connection for
wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system	
stainless steel	ES 2521 F
aluminium	AL 2521 F
anthracite	AL 2521 F AN
gold	AL 2521 F GO
with child protection (shutter)	
stainless steel	ES 2521 FKI
aluminium	AL 2521 FKI
anthracite	AL 2521 FKI AN
gold	AL 2521 FKI GO

screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system with inscription plate 12 x 55 mm	
stainless steel	ES 2520 FKINA
aluminium	AL 2520 FKINA
anthracite	AL 2520 FKINA AN
gold	AL 2520 FKINA GO

screwless
connection for
wires up to
2.5 mm²



Socket, 2-pole + male earth pin 16 A-AC/10 A-DC/250 V ~, French/Belgian system with inscription plate 12 x 55 mm	
stainless steel	ES 2521 FKINA
aluminium	AL 2521 FKINA
anthracite	AL 2521 FKINA AN
gold	AL 2521 FKINA GO

screw terminals
for wires up to
2.5 mm²



Socket, 2-pole + earth 13 A/250 V ~, British system, acc. to B.S. 1363: 1995 center plate with child protection (shutter) screw fixing into standard wall boxes with Ø 60 mm single steel boxes with fixing centres 60.3 mm	
stainless steel	ES 2521 BS
aluminium	AL 2521 BS
anthracite	AL 2521 BS AN
gold	AL 2521 BS GO

screw terminals
for wires up to
2.5 mm²



Stainless Steel / Aluminium / Anthracite / Gold

■ With sealing gasket ref.-no. 551 WU and frame from range Stainless Steel, Aluminium, Anthracite or Gold the protection level IP 44 is ensured.



screw terminals
for wires up to
2.5 mm²



Description	Ref.-no.
Double-pole switched socket, 2-pole + earth 13 A/250 V ~, British system, acc. to B.S. 1363: 1995 center plate with child protection (shutter) screw fixing into standard wall boxes with Ø 60 mm single steel boxes with fixing centres 60.3 mm with grey standard rocker	
stainless steel	ES 2172
aluminium	AL 2172
anthracite	AL 2172 AN
gold	AL 2172 GO



screw terminals
for wires up to
2.5 mm²



Double-pole switched socket, 2-pole + earth 13 A/250 V ~, British system, acc. to B.S. 1363: 1995 center plate with child protection (shutter) screw fixing into standard wall boxes with Ø 60 mm single steel boxes with fixing centres 60.3 mm with red pilot light rocker	
stainless steel	ES 2172 KO
aluminium	AL 2172 KO
anthracite	AL 2172 KO AN
gold	AL 2172 KO GO



screw terminals
for wires up to
4 mm²



Chinese socket combination, 10 A/250 V ~ with child protection (shutter) consisting of: 2-pole without earth for flat and rounded pins and 2 pole with earth	
stainless steel	ES 2521-5 CN
aluminium	AL 2521-5 CN
anthracite	AL 2521-5 CN AN
gold	AL 2521-5 CN GO



suitable inserts:
234.10, 234.20,
1015, 1030, 1060,
1120, 1120-20,
101-4, 101-4-20,
101-20, 101-20
KO, 101-32

Center plate with knob	
stainless steel	■ ES 2941
aluminium	■ AL 2941
anthracite	■ AL 2941 AN
gold	■ AL 2941 GO



suitable inserts:
501 U, 502 U,
503 U, 506 U,
507 U, 531 U,
533 U, 533-2 U,
534 U, 502 KOU,
503 KOU,
506 KOU, 531 U,
533 U, 534 U,
501-20 KOU,
502-20 KOU,
506-20 KOU,
502 KOTU,
506 KOTU

1-gang rocker with glass plate for emergency and alarm purposes	
blue (similar RAL 5015)	561 GL BL
yellow (similar RAL 1004)	561 GL GE
red (similar RAL 3000)	561 GL RT
Spare glass plate	60 GL

Gold / Anthracite / Aluminium / Stainless Steel

Description	Ref.-no.
Center plate with knob for dimmer inserts (clip-on fixing)	
stainless steel	■ ES 2940
aluminium	■ AL 2940
anthracite	■ AL 2940 AN
gold	■ AL 2940 GO

suitable inserts:
211 GDE, 266 GDE,
225 NVDE,
225 TDE,
254 UDIE1,
254 NIE1,
240-31, 244-110,
254 UDIE-110,
254 NIE-110,
243 EX, 244 EX,
244 HEX



Center plate with knob for speed regulator inserts	
stainless steel	■ ES 2940.20
aluminium	■ AL 2940.20
anthracite	■ AL 2940.20 AN
gold	■ AL 2940.20 GO

suitable inserts:
245.20

Sealing gasket:
40 D
to obtain protec-
tion level IP 44



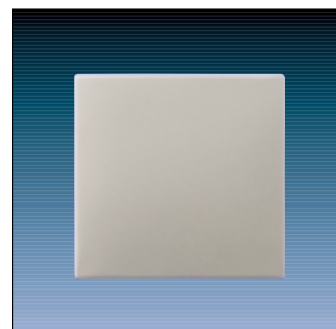
Electronic time delay switch 1000 VA, 230 V, 50 Hz with astro mode, random generator ± 15 min.,	
stainless steel	ES 5201 T
aluminium	AL 5201 T
anthracite	AL 5201 T AN
gold	AL 5201 T GO
neutral protective line necessary	

complete device



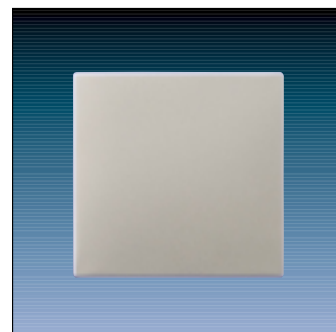
Standard center plate for touch dimmer inserts or electronic switch inserts	
stainless steel	ES 1561.07
aluminium	AL 1561.07
anthracite	AL 1561.07 AN
gold	AL 1561.07 GO

suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1220 NE,
1240 STE



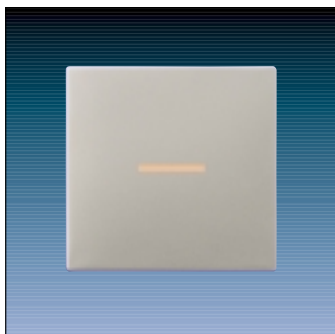
Radio center plate with radio-controlled receiver for touch dimmer inserts or electronic switch inserts	
stainless steel	ES 1561.07 F
aluminium	AL 1561.07 F
anthracite	AL 1561.07 F AN
gold	AL 1561.07 F GO

suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1240 STE



Stainless Steel / Aluminium / Anthracite / Gold

■ With sealing gasket ref.-no. 551 WU and frame from range Stainless Steel, Aluminium, Anthracite or Gold the protection level IP 44 is ensured.



suitable inserts:
1201 URE,
1201-1 URE,
1225 SDE,
1254 UDE,
1244 NVSE,
1254 TSE,
1240 STE

Description	Ref.-no.
Universal center plate for touch dimmer inserts or electronic switch inserts with 4 optional functions	
stainless steel	ES 1561.07 U
aluminium	AL 1561.07 U
anthracite	AL 1561.07 U AN
gold	AL 1561.07 U GO

for more technical/functional details see page 69



suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1240 STE,
1254 UDE,
1254 TSE,
1244 NVSE,
1223 NE,
1208 UI

Automatic switch 180°, lens type 1.10 m standard version	
stainless steel	ES 1180
aluminium	AL 1180
anthracite	AL 1180 AN
gold	AL 1180 GO
universal version	
stainless steel	ES 1180-1
aluminium	AL 1180-1
anthracite	AL 1180-1 AN
gold	AL 1180-1 GO



material:
non-metal,
lacquered

lens type 2.20 m standard version	
stainless steel	ES 1280
aluminium	AL 1280
anthracite	AL 1280 AN
gold	AL 1280 GO
universal version	
stainless steel	ES 1280-1
aluminium	AL 1280-1
anthracite	AL 1280-1 AN
gold	AL 1280-1 GO



suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1240 STE,
1254 UDE,
1254 TSE,
1244 NVSE,
1223 NE,
1208 UI

Automatic switch 180° lens type 1.10 m suitable only for indoor installation standard version	
stainless steel	■ ES 1180 WU
universal version	
stainless steel	■ ES 1180-1 WU



material:
non-metal,
lacquered

Automatic switch 180° lens type 2.20 m suitable for indoor and outdoor installation standard version	
stainless steel	■ ES 1280 WU
universal version	
stainless steel	■ ES 1280-1 WU

Gold / Anthracite / Aluminium / Stainless Steel

Description	Ref.-no.
Center plate for motor control inserts with anti lock-out function	
stainless steel	ES 5232
aluminium	AL 5232
anthracite	AL 5232 AN
gold	AL 5232 GO
with anti lock-out function and terminal for sensors	
stainless steel	ES 5232 S
aluminium	AL 5232 S
anthracite	AL 5232 S AN
gold	AL 5232 S GO

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

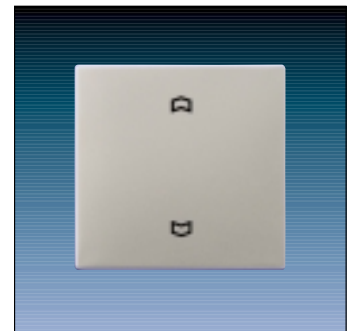
sensors: 32 G,
32 SD, LA 90
connector: 32 K



Center plate for motor control inserts with radio-controlled receiver	
stainless steel	ES 5232 F
aluminium	AL 5232 F
anthracite	AL 5232 F AN
gold	AL 5232 F GO
with radio-controlled receiver and terminal for sensors	
stainless steel	ES 5232 FS
aluminium	AL 5232 FS
anthracite	AL 5232 FS AN
gold	AL 5232 FS GO

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

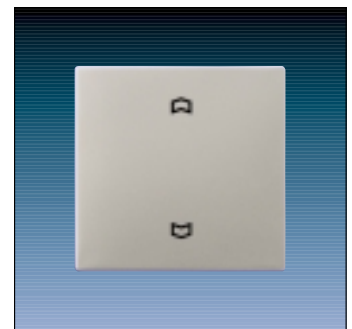
sensors: 32 G,
32 SD, LA 90
connector: 32 K



Center plate for motor control inserts with memory function	
stainless steel	ES 5232 M
aluminium	AL 5232 M
anthracite	AL 5232 M AN
gold	AL 5232 M GO
with memory function and terminal for sensors	
stainless steel	ES 5232 MS
aluminium	AL 5232 MS
anthracite	AL 5232 MS AN
gold	AL 5232 MS GO

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

sensors: 32 G,
32 SD, LA 90
connector: 32 K

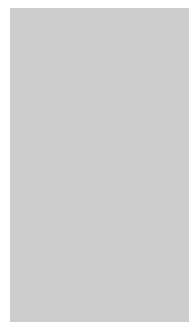


Center plate for motor control inserts with timer function "standard"	
stainless steel	ES 5232 ST
aluminium	AL 5232 ST
anthracite	AL 5232 ST AN
gold	AL 5232 ST GO

suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME



Center plate for motor control inserts with timer function "universal"	
stainless steel	ES 5232 T3
aluminium	AL 5232 T3
anthracite	AL 5232 T3 AN
gold	AL 5232 T3 GO



Stainless Steel / Aluminium / Anthracite / Gold



suitable inserts:
220 ME,
230 ME,
232 ME,
224 ME

sensors: 32 G,
32 SD, LA 90
connector: 32 K

Description	Ref.-no.
Center plate for motor control inserts with timer function "universal" and terminal for sensors	
stainless steel	ES 5232 TS3
aluminium	AL 5232 TS3
anthracite	AL 5232 TS3 AN
gold	AL 5232 TS3 GO



suitable inserts:
TR 231 U,
TR 241 U

Description	Ref.-no.
Center plate for room thermostat insert	
stainless steel	ES TR 231 PL
aluminium	AL TR 231 PL
anthracite	AL TR 231 PL AN
gold	AL TR 231 PL GO



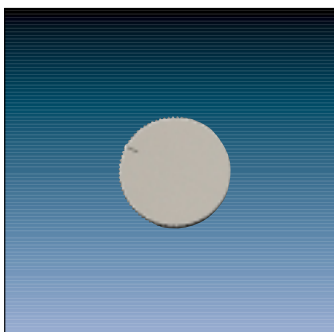
suitable inserts:
TR 236 U,
TR 246 U

Description	Ref.-no.
Center plate for room thermostat insert	
stainless steel	ES TR 236 PL
aluminium	AL TR 236 PL
anthracite	AL TR 236 PL AN
gold	AL TR 236 PL GO



suitable inserts:
FTR 231 U

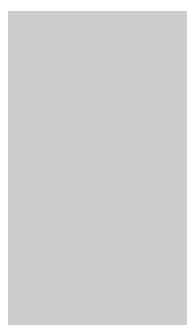
Description	Ref.-no.
Center plate for floor thermostat insert	
stainless steel	ES FTR 231 PL
aluminium	AL FTR 231 PL
anthracite	AL FTR 231 PL AN
gold	AL FTR 231 PL GO



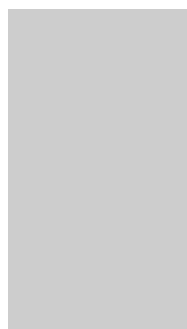
Description	Ref.-no.
Special knob for thermostat center plates prevents unallowed manipulation of the thermostat setting	
stainless steel	MS TR 231 ES
aluminium	MS TR 231 AL
anthracite	MS TR 231 AL AN

Gold / Anthracite / Aluminium / Stainless Steel

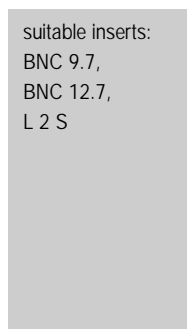
Description	Ref.-no.
Timer thermostat display	
stainless steel	ES UT 238 D
aluminium	AL UT 238 D
anthracite	AL UT 238 D AN
gold	AL UT 238 D GO



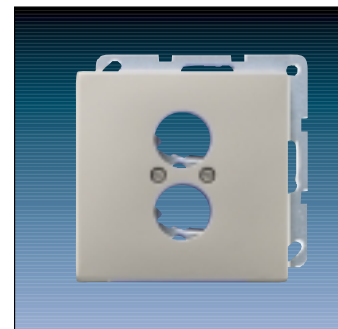
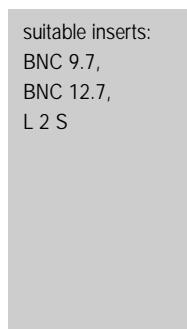
Cable outlet with center plate and insert	
stainless steel	ES 2990 A
aluminium	AL 2990 A
anthracite	AL 2990 A AN
gold	AL 2990 A GO



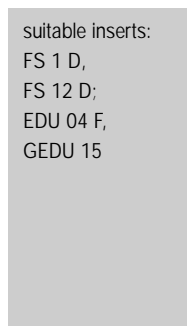
Center plate for 1 loudspeaker or BNC socket (with supporting frame)	
stainless steel	ES 2962-1
aluminium	AL 2962-1
anthracite	AL 2962-1 AN
gold	AL 2962-1 GO



Center plate for 2 loudspeaker or BNC sockets (with supporting frame)	
stainless steel	ES 2962-2
aluminium	AL 2962-2
anthracite	AL 2962-2 AN
gold	AL 2962-2 GO



Center plate for TV-FM socket according to DIN 45330	
stainless steel	ES 2990 TV
aluminium	AL 2990 TV
anthracite	AL 2990 TV AN
gold	AL 2990 TV GO



Stainless Steel / Aluminium / Anthracite / Gold



suitable inserts:
EDU 3902 F

Description	Ref.-no.
Center plate for TV-FM-SAT socket according to DIN 45330	
stainless steel	ES 2990 SAT
aluminium	AL 2990 SAT
anthracite	AL 2990 SAT AN
gold	AL 2990 SAT GO



suitable inserts:
UAE 4 UPO,
UAE 8 UPO,
UAE 8 UPO K5,
UAE 8 UPO K6,
UAE 8 UPO K5US

Center plate for 1-gang modular jack sockets UAE..	
stainless steel	ES 2969-1 UA
aluminium	AL 2969-1 UA
anthracite	AL 2969-1 UA AN
gold	AL 2969-1 UA GO



suitable inserts:
UAE 4 UPO,
UAE 8 UPO,
UAE 8 UPO K5,
UAE 8 UPO K6,
UAE 8 UPO K5US

Center plate for 1-gang modular jack sockets UAE.. with inscription plate 12 x 55 mm	
stainless steel	ES 2969-1 NAUA
aluminium	AL 2969-1 NAUA
anthracite	AL 2969-1 NAUA AN
gold	AL 2969-1 NAUA GO



suitable inserts:
UAE 2x8 UPO,
UAE 8-8 UPO K5,
UAE 8-8 UPO K6
UAE 8-8 UPO
K5US

Center plate for 2-gang modular jack sockets UAE..	
stainless steel	ES 2969-2 UA
aluminium	AL 2969-2 UA
anthracite	AL 2969-2 UA AN
gold	AL 2969-2 UA GO



suitable inserts:
UAE 2x8 UPO,
UAE 8-8 UPO K5,
UAE 8-8 UPO K6
UAE 8-8 UPO
K5US

Center plate for 2-gang modular jack sockets UAE.. with inscription plate 12 x 55 mm	
stainless steel	ES 2969-2 NAUA
aluminium	AL 2969-2 NAUA
anthracite	AL 2969-2 NAUA AN
gold	AL 2969-2 NAUA GO

Gold / Anthracite / Aluminium / Stainless Steel

Description	Ref.-no.
Center plate with shutter for modular jack sockets screw fixing, shutter with spring	
stainless steel	ES 2969-2 NWE
aluminium	AL 2969-2 NWE
anthracite	AL 2969-2 NWE AN

suitable inserts:
6 WE/8 WE,
RADIAL:
R280 MOD 804,
R280 MOD 805,
R280 MOD 807
PANDUIT:
KJ88., KJ 588..



Center plate with shutter for modular jack sockets screw fixing, shutter with spring	
stainless steel	ES 2969-25 NWE
aluminium	AL 2969-25 NWE
anthracite	AL 2969-25 NWE AN

suitable insert:
8 VGWE
Tyco-Electronics
AMP 110 Connect
system:
0-1116515-1
0-1375177-1



Center plate with shutter for modular jack sockets screw fixing, shutter with spring	
stainless steel	ES 2969-2 NAT
aluminium	AL 2969-2 NAT
anthracite	AL 2969-2 NAT AN

suitable inserts:
Lucent
Electronics,
AT&T,
GigaSPEED



Center plate with shutter for modular jack make INFRA+ / RADIALL screw fixing, shutter with spring	
stainless steel	ES 2969-2 NINF
anthracite	AL 2969-2 NINF AN

suitable inserts:
Radiall:
R280MOD813
INFRA:
7700 U/7700 D
7700 E



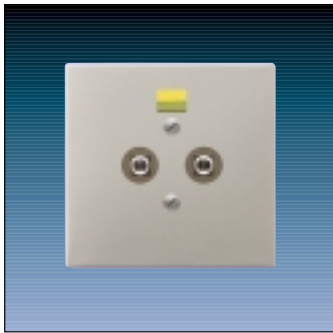
Data-connection cap with adjustable outlet (vertical, 15° or 30° inclined outlet) with inscription plate 59 x 23 mm	
stainless steel	ES 2554
aluminium	AL 2554
anthracite	AL 2554 AN
gold	AL 2554 GO
for suitable mounting plates see pages 26 – 30	

inscription sheet:
BB 5 (59x23 mm)



Stainless Steel / Aluminium / Anthracite / Gold

■ With sealing gasket ref.-no. 551 WU and frame from range Stainless Steel, Aluminium, Anthracite or Gold the protection level IP 44 is ensured.



screw terminals
for wires up to
2.5 mm²

Description	Ref.-no.
Potential compensation socket e.g. for separate earthing of medical appliances in hospitals with 2 one-pole male sockets acc. to DIN 42801 screw fixing only	
stainless steel	ES 2965-2
aluminium	AL 2965-2



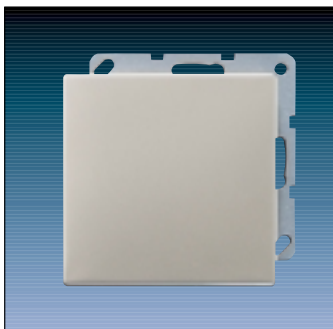
suitable inserts:
Moeller,
Rafi,
Schlegel,
Lumitas,
EAO,
Télémeccanique

Description	Ref.-no.
Center plate for commanding appliance with Ø 22.5 mm	
stainless steel	ES 2964
aluminium	AL 2964
anthracite	AL 2964 AN
gold	AL 2964 GO



suitable inserts:
SLA 2 WW,
SLA 2 AN,
MLA 1 WW,
MLA 1 AN

Description	Ref.-no.
Center plate for stereo/mono loudspeaker socket	
stainless steel	ES 2969 T
aluminium	AL 2969 T
anthracite	AL 2969 T AN
gold	AL 2969 T GO
with inscription plate 12 x 55 mm	
stainless steel	ES 2969 TNA
aluminium	AL 2969 TNA
anthracite	AL 2969 TNA AN
gold	AL 2969 TNA GO



Description	Ref.-no.
Blank center plate for snap-on fixing with supporting frame suitable for individual cuttings and drillings	
stainless steel	ES 2994 B
aluminium	AL 2994 B
anthracite	AL 2994 B AN
gold	AL 2994 B GO



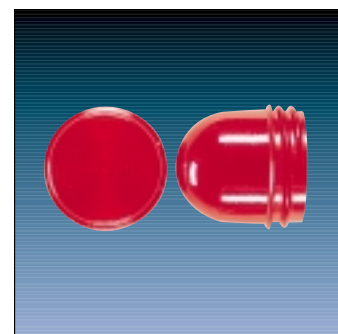
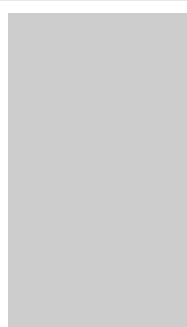
suitable inserts:
938-10 U,
938-14 U

Description	Ref.-no.
Center plate for pilot light insert	
aluminium	■ AL 2937
stainless steel	■ ES 2937
anthracite	■ AL 2937 AN
gold	■ AL 2937 GO

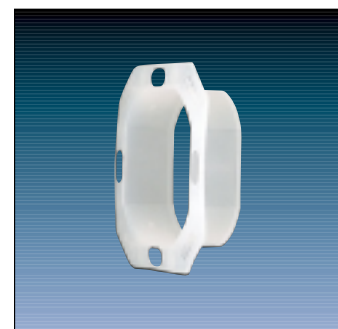
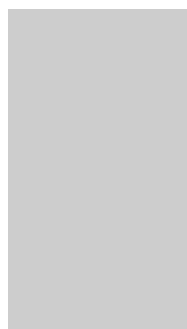
Description	Ref.-no.
Sealing gasket	37 D
to obtain protection level IP 44 the gasket has to be placed in to the pilot light center plate.	

Gold / Anthracite / Aluminium / Stainless Steel

Description	Ref.-no.
Screw cap flat, for lamps up to max. length of 35 mm	
clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08
high, for lamps up to max. length of 54 mm	
clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL

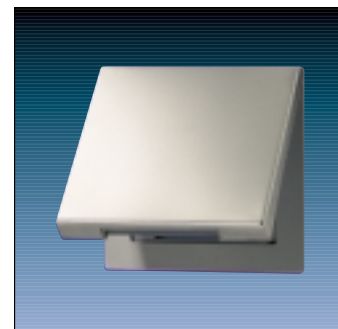


Description	Ref.-no.
Sealing gasket for all flush mounted switches, push buttons, dimmer, sockets, venetian blind switch, automatic switches, time delay switches and devices with center plates 50 x 50 mm	551 WU



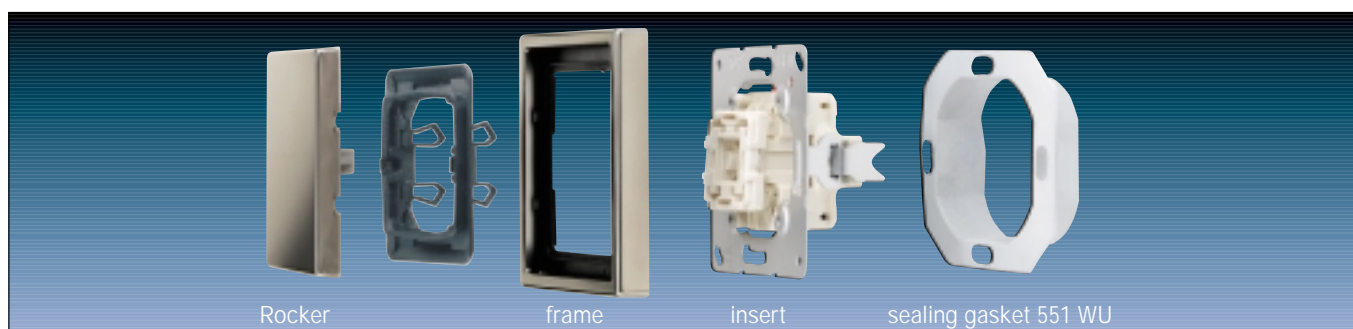
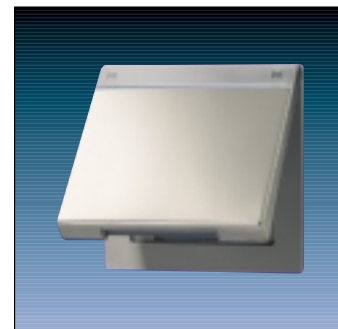
Hinged lid for devices with center plate 50 x 50 mm	
stainless steel	■ ES 2990 KL
aluminium	■ AL 2990 KL
anthracite	■ AL 2990 KL AN
gold	■ AL 2990 KL GO

suitable devices
are shown on
pages 34 – 38



Hinged lid for devices with center plate 50 x 50 mm with inscription plate 12 x 55 mm	
stainless steel	■ ES 2990 NAKL
aluminium	■ AL 2990 NAKL
anthracite	■ AL 2990 NAKL AN
gold	■ AL 2990 NAKL GO

suitable devices
are shown on
pages 34 – 38



Rocker

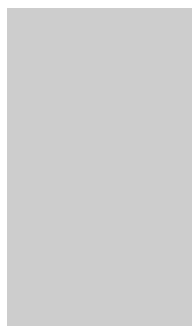
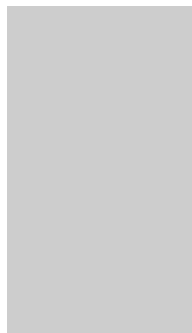
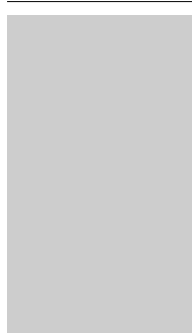
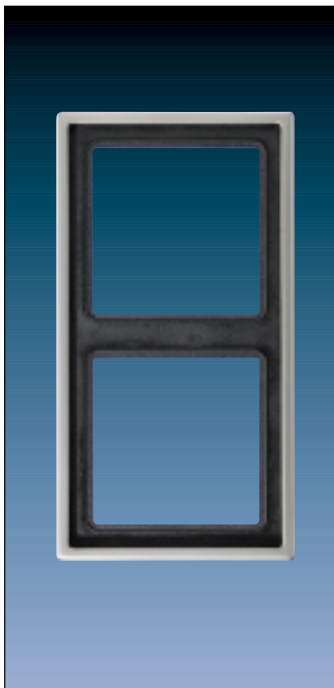
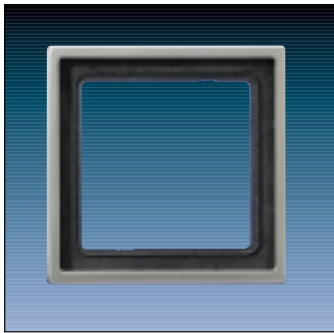
frame

insert

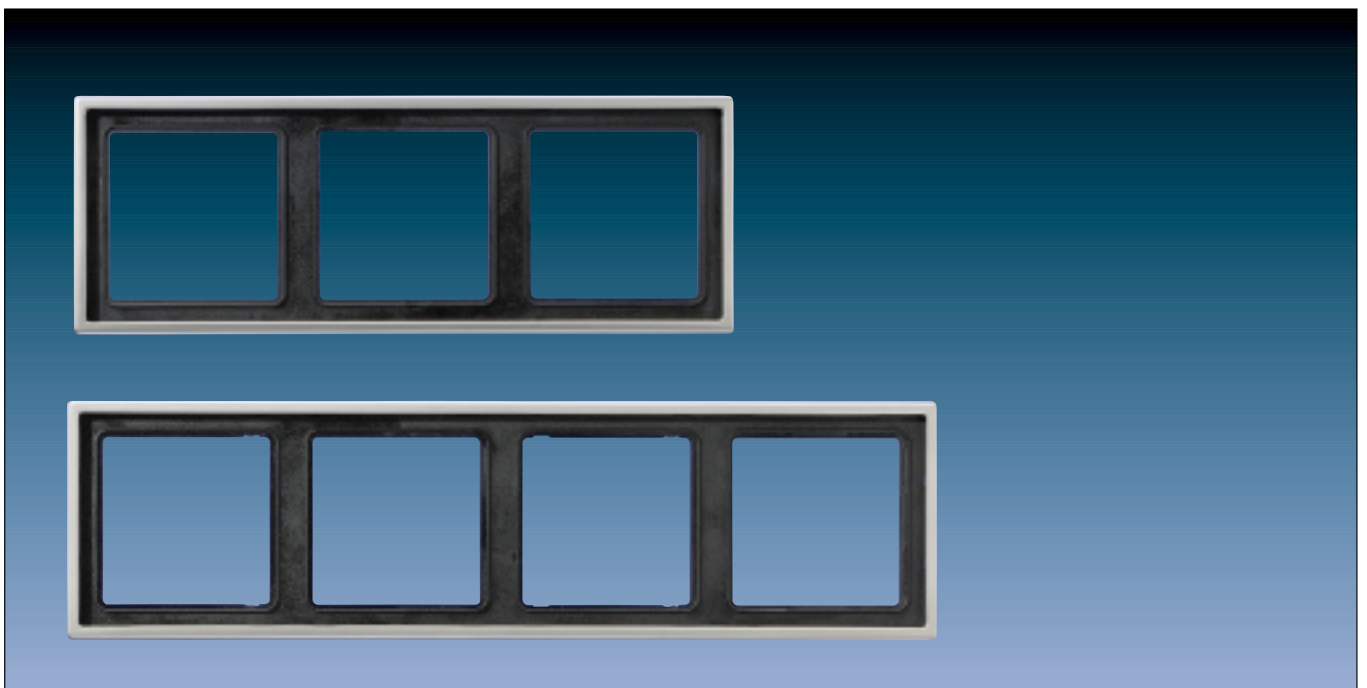
sealing gasket 551 WU

Stainless Steel / Aluminium / Anthracite / Gold

■ With sealing gasket ref.-no. 551 WU the protection level IP 44 is ensured.



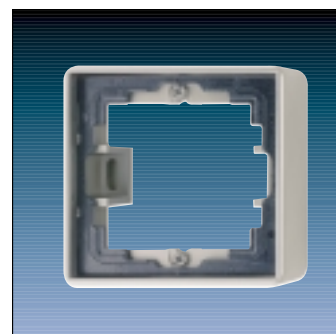
Description	Ref.-no.
Frames for horizontal and vertical installation	
stainless steel	
1-gang 81 x 81 mm	■ ES 2981
2-gang 81 x 152 mm	■ ES 2982
3-gang 81 x 223 mm	■ ES 2983
4-gang 81 x 294 mm	■ ES 2984
5-gang 81 x 365 mm	■ ES 2985
aluminium	
1-gang 81 x 81 mm	■ AL 2981
2-gang 81 x 152 mm	■ AL 2982
3-gang 81 x 223 mm	■ AL 2983
4-gang 81 x 294 mm	■ AL 2984
5-gang 81 x 365 mm	■ AL 2985
anthracite	
1-gang 81 x 81 mm	■ AL 2981 AN
2-gang 81 x 152 mm	■ AL 2982 AN
3-gang 81 x 223 mm	■ AL 2983 AN
4-gang 81 x 294 mm	■ AL 2984 AN
5-gang 81 x 365 mm	■ AL 2985 AN
gold	
1-gang 81 x 81 mm	■ AL 2981 GO
2-gang 81 x 152 mm	■ AL 2982 GO
3-gang 81 x 223 mm	■ AL 2983 GO
4-gang 81 x 294 mm	■ AL 2984 GO
5-gang 81 x 365 mm	■ AL 2985 GO



Anthracite / Aluminium / Stainless Steel

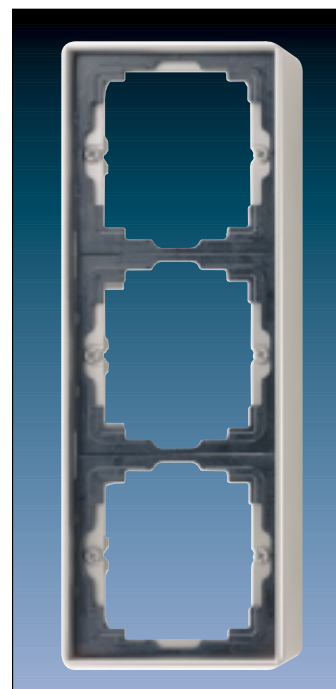
Description	Ref.-no.
Surface cap for surface installation of switches, sockets and other devices of range LS 990 (max. depth of 32 mm) no frame necessary Material: non-metal, lacquered	
1-gang, 81 x 81 x 44 mm	
stainless steel	ES 2981 A-L
aluminium	AL 2981 A-L
anthracite	AL 2981 A-L AN

Material:
non-metal,
lacquered



2-gang, 152 x 81 x 44 mm	
stainless steel	ES 2982 A-L
aluminium	AL 2982 A-L
anthracite	AL 2982 A-L AN

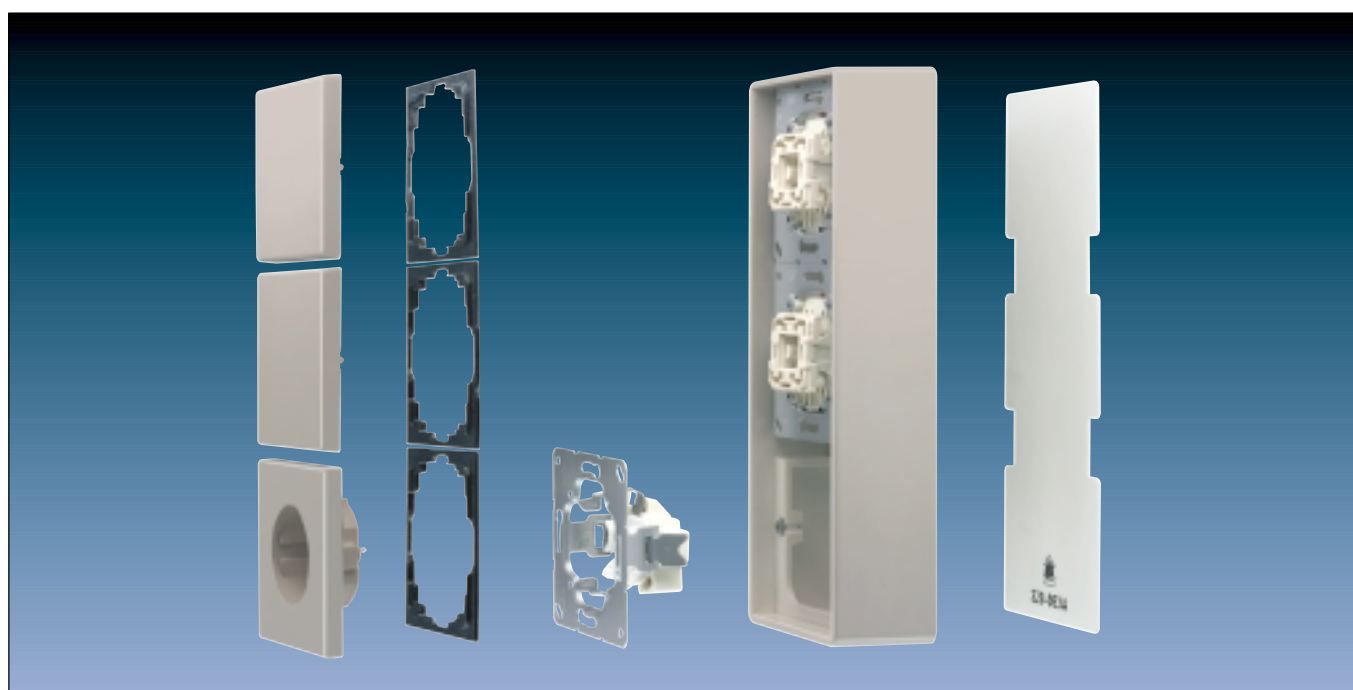
Material:
non-metal,
lacquered



3-gang, 223 x 81 x 44 mm	
stainless steel	ES 2983 A-L
aluminium	AL 2983 A-L
anthracite	AL 2983 A-L AN

The attached black mounting plate
has to be used for all devices.

Ground plate non-flamable, according to VDE 0471, for surface caps ..2981 A-L – ..2983 A-L	
1-gang	328-981
2-gang	328-982
3-gang	328-983



LS plus



Frame size:

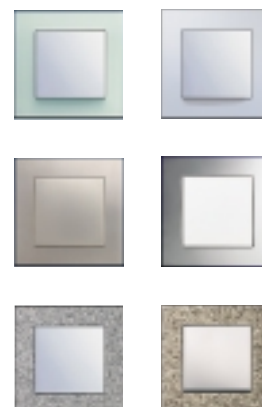
1-gang	115 mm x 115 mm
2-gang	186 mm x 115 mm
3-gang	257 mm x 115 mm
4-gang	328 mm x 115 mm
5-gang	399 mm x 115 mm

Frames can be horizontally and vertically installed.

Material:

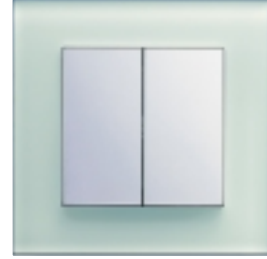
Glass
(safety glass, satined surface)
Aluminium
(ALMg Si 05, anodised)
Stainless Steel
(1.4303, glas-blasted)
Chrome
(ALMg Si 05, surface high
gloss chrome-plated)
Corian®
(surface high gloss polished)

Protection level:
IP 20/IP 21



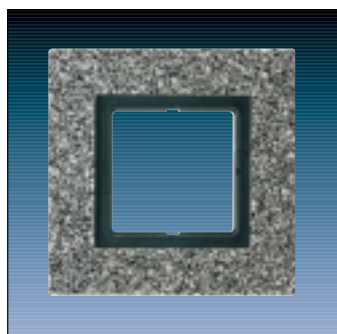
The LS plus design convincingly meets the requirement for a high degree of excellence. The frames stand out for a shapely design made of high quality materials.

Suitable are all inserts with an appropriate rocker or center plate of the design ranges LS 990, Stainless Steel, Aluminium, Anthracite and Gold.



LS plus

Suitable for devices of design ranges
LS 990, Aluminium, Stainless Steel, Anthracite and Gold.



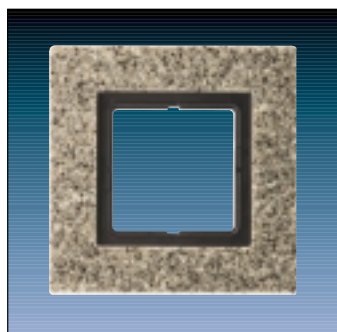
Description	Ref.-no.
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Frames
for horizontal and vertical installation

Corian® - The Colours of Corian® -

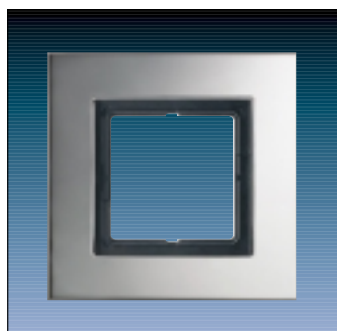
colour "Mont Blanc"

1-gang 115 x 115 mm	LSP 981 COR 1
2-gang 115 x 186 mm	LSP 982 COR 1
3-gang 115 x 257 mm	LSP 983 COR 1
4-gang 115 x 328 mm	LSP 984 COR 1
5-gang 115 x 399 mm	LSP 985 COR 1



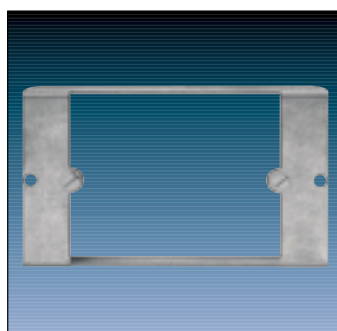
colour "Matterhorn"

1-gang 115 x 115 mm	LSP 981 COR 2
2-gang 115 x 186 mm	LSP 982 COR 2
3-gang 115 x 257 mm	LSP 983 COR 2
4-gang 115 x 328 mm	LSP 984 COR 2
5-gang 115 x 399 mm	LSP 985 COR 2



chrom

1-gang 115 x 115 mm	LSP 981 GCR
2-gang 115 x 186 mm	LSP 982 GCR
3-gang 115 x 257 mm	LSP 983 GCR
4-gang 115 x 328 mm	LSP 984 GCR
5-gang 115 x 399 mm	LSP 985 GCR



Metal adapter
for Italian
rectangular wall boxes

1980 APM



LS plus

Suitable for devices of design ranges
LS 990, Aluminium, Stainless Steel, Anthracite and Gold.

Description	Ref.-no.
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Frames
for horizontal and vertical installation

Glass
Single thickness safety glass according to DIN 1249
surface satin-coated
back surface lacquered in white

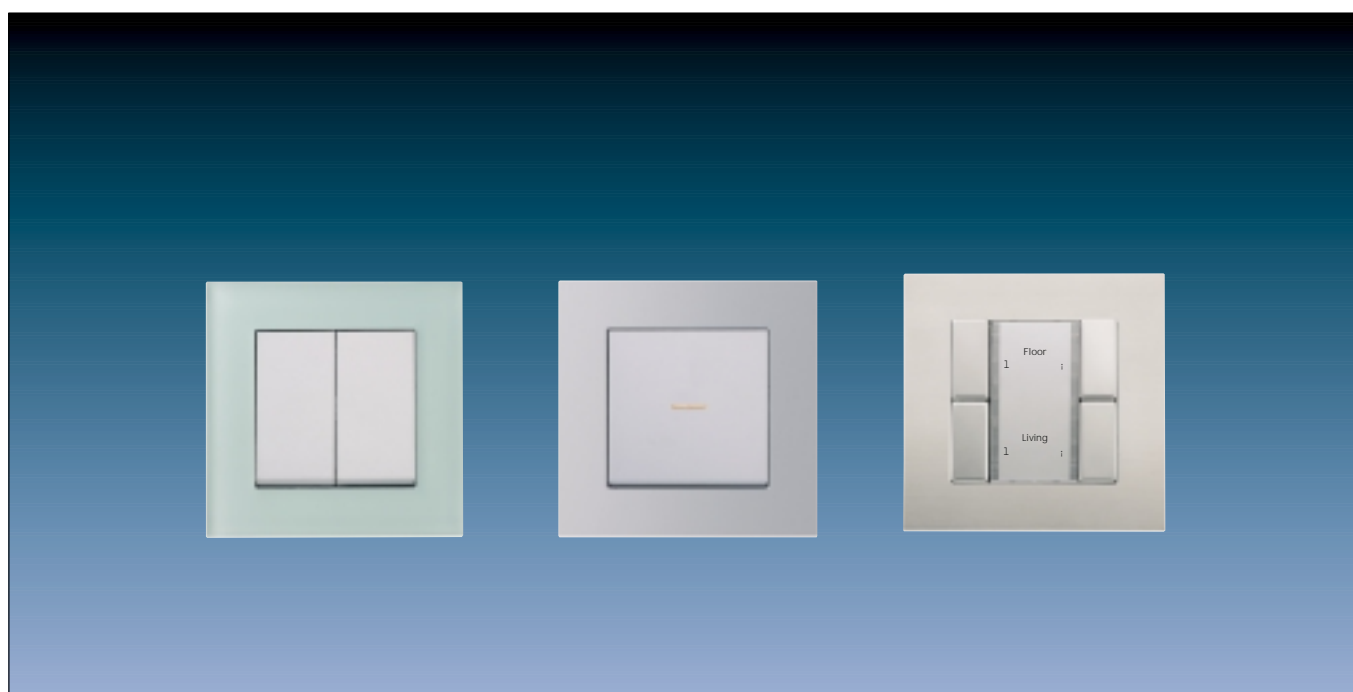
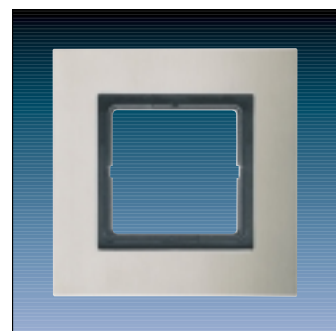
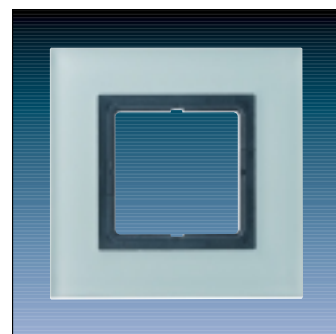
1-gang 115 x 115 mm	LSP 981 GLAS
2-gang 115 x 186 mm	LSP 982 GLAS
3-gang 115 x 257 mm	LSP 983 GLAS
4-gang 115 x 328 mm	LSP 984 GLAS
5-gang 115 x 399 mm	LSP 985 GLAS

Aluminium

1-gang 115 x 115 mm	LSP 981 AL
2-gang 115 x 186 mm	LSP 982 AL
3-gang 115 x 257 mm	LSP 983 AL
4-gang 115 x 328 mm	LSP 984 AL
5-gang 115 x 399 mm	LSP 985 AL

Stainless Steel

1-gang 115 x 115 mm	LSP 981 ES
2-gang 115 x 186 mm	LSP 982 ES
3-gang 115 x 257 mm	LSP 983 ES
4-gang 115 x 328 mm	LSP 984 ES
5-gang 115 x 399 mm	LSP 985 ES



FD-design



JUNG

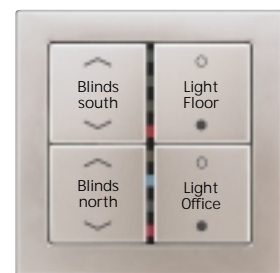


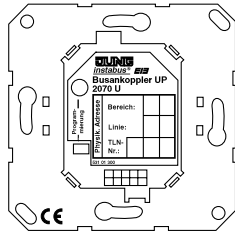
The new FLAT DESIGN combines an elegant linear design with high-quality materials such as aluminium or stainless steel.

A high degree of simplicity is produced by the extremely flat design – the elements evoke a discrete and charming effect when placed on the wall.

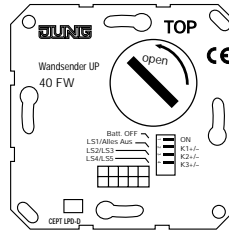
A high level of flexibility is guaranteed due to the practical, modular structure as well as the simple adaptation of the devices to changing requirements.

The FLAT DESIGN enables the control of KNX/EIB with its full functionality, Radio Management systems – particularly interesting for retrofitting – as well as the control of 24 V low voltage systems.

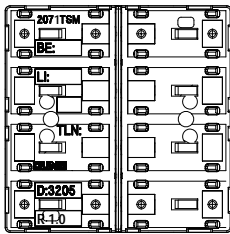
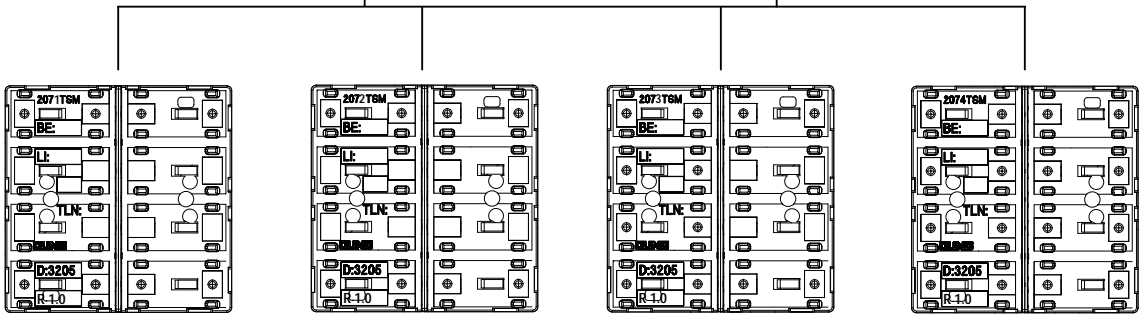




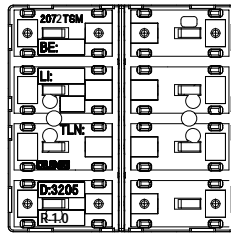
Bus coupling unit



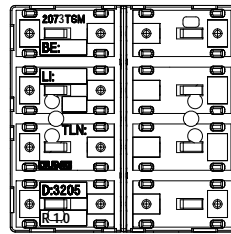
Flush-mounted radio transmitter



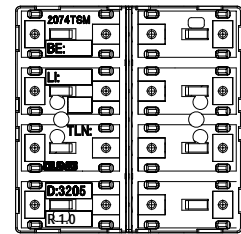
Standard push-button module 1-gang



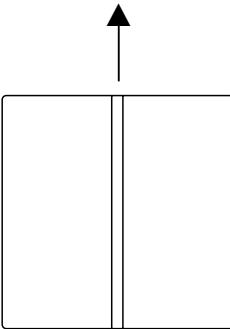
Standard push-button module 2-gang



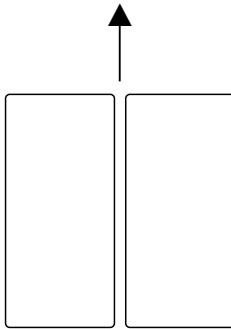
Standard push-button module 3-gang



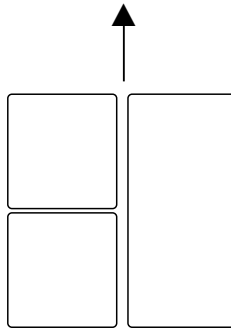
Standard push-button module 4-gang



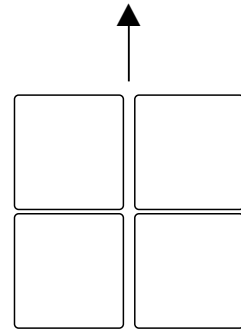
Cover for push-button module 1-gang



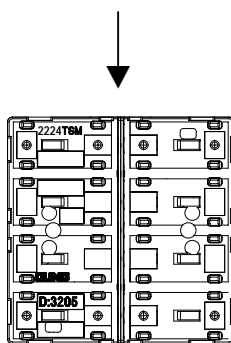
Cover for push-button module 2-gang



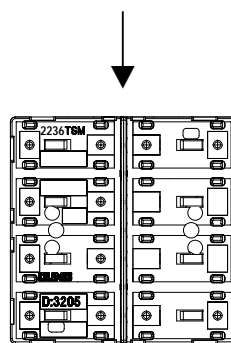
Cover for push-button module 3-gang



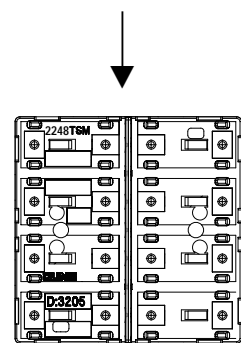
Cover for push-button module 4-gang



Push-button module 24 V AC/DC 4-gang



Push-button module 24 V AC/DC 6-gang



Push-button module 24 V AC/DC 8-gang



Frame size

1-gang 96 mm x 96 mm

2-gang 167 mm x 96 mm

3-gang 238 mm x 96 mm

Frames can be horizontally and vertically installed.

Frame height

6.3 mm

Edge radius

R 1.5

Colours

ivory similar RAL 1013

white similar RAL 9010

light grey similar RAL 7035

Material

FD Aluminium:

AlMg1, matt finished

Stainless Steel:

1.4303 X4 CrNi 18-12,
glass ball blasted

Anthracite:

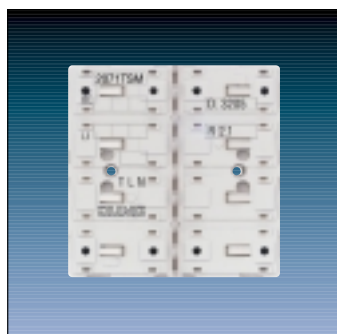
lacquered aluminium

FD 990:

Thermoplastic

Protection level

IP 20/IP 21



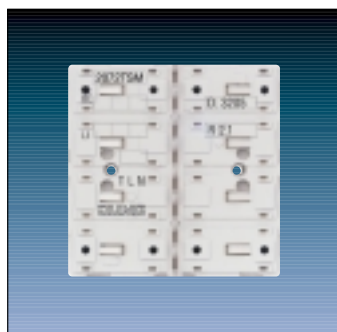
Description	Ref.-no.
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Standard push-button module

The device has to be extended with the desired cover for push-button module. It can be mounted onto the flush-mounted radio transmitter (Radio Management) or the bus coupling unit (KNX/EIB).

The standard push-button is available for 1-gang up to 4-gang modules. A push-button sensor cover is „divided“ into an upper and a lower half, each controlling a function such as switching, dimming, shutter, value transmitter, recalling and storing of light-scenes. Each cover is assigned to a red status LED. A blue operation LED can serve as an orientation light.

1-gang	2071 TSM
2-gang	2072 TSM
3-gang	2073 TSM
4-gang	2074 TSM



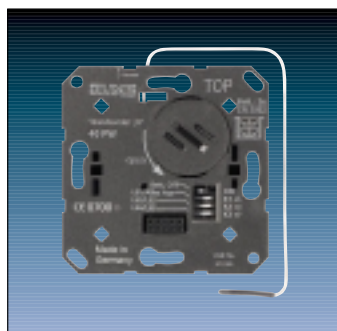
In connection with the KNX/EIB system, the functionality of this device depends on software. Detailed information on loadable software and attainable functionality as well as the software itself can be obtained from the manufacturer's product database. An updated version of the product database and the technical descriptions are available in the Internet at www.jung.de.



Bus coupling unit	2070 U
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with supporting frame.
ETS product family: System components

The bus coupling unit enables application modules to be connected to the KNX/EIB system.



Flush-mounted radio transmitter	40 FW
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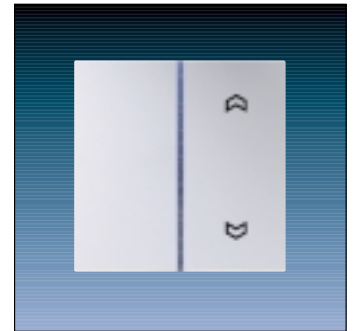
Installation into standard wall box or with surface cap.

The wall-mounted transmitter is operated in combination with standard push-button module (1-gang, 2-gang, 3-gang or 4-gang). After the standard push-button is pressed, the transmitter sends a radio telegram which is understood and evaluated by all the receivers of the Radio Management system. Possible modes: on/off, dimming, light scene, central off . The number of radio channels available depends on the used standard push-button.

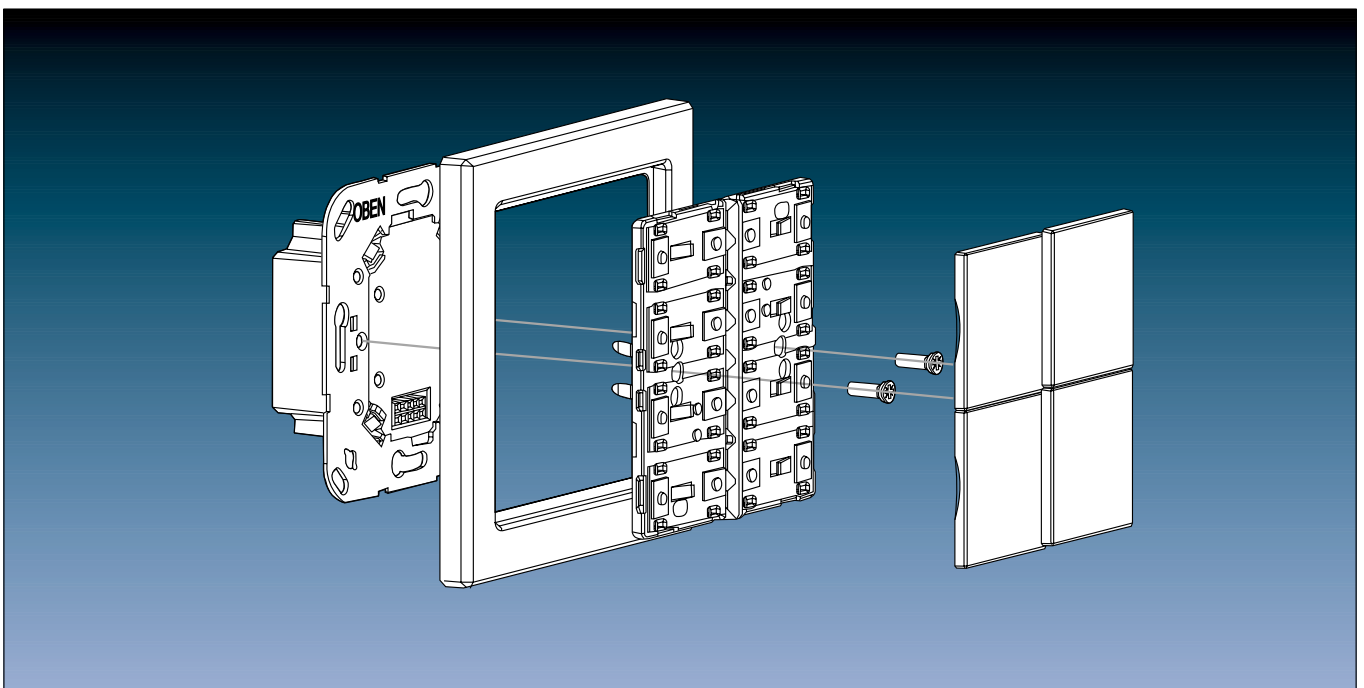
Description	Ref.-no.
Cover for push-button module to clip on standard push-button module 1-gang (2071 TSM)	
ivory	FD 901 TSA
white	FD 901 TSA WW
light grey	FD 901 TSA LG
Metal versions	
stainless steel	FDES 2901 TSA
aluminium	FDAL 2901 TSA
anthracite	FDAL 2901 TSA AN



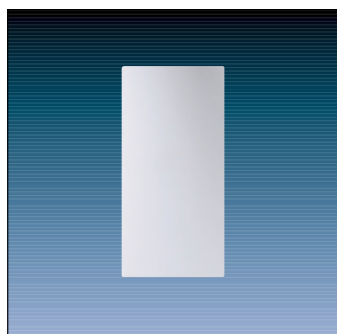
Cover for push-button module with symbols to clip on standard push-button module 1-gang (2071 TSM)	
ivory	FD 901 TSAP
white	FD 901 TSAP WW
light grey	FD 901 TSAP LG
Metal versions	
stainless steel	FDES 2901 TSAP
aluminium	FDAL 2901 TSAP
anthracite	FDAL 2901 TSAP AN



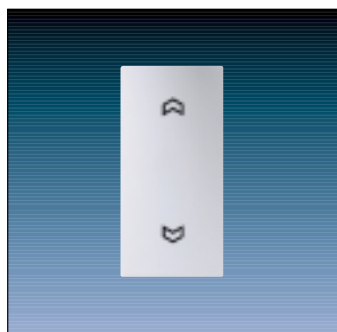
Cover for push-button module with inscription plate 68.5 x 68.5 mm to clip on standard push-button module 1-gang (2071 TSM)	
ivory	FD 901 TSANA
white	FD 901 TSANA WW
light grey	FD 901 TSANA LG
Metal versions	
stainless steel	FDES 2901 TSANA
aluminium	FDAL 2901 TSANA
anthracite	FDAL 2901 TSANA AN



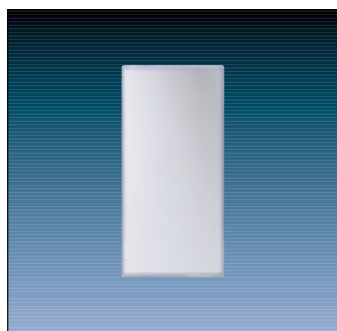
FD-Design



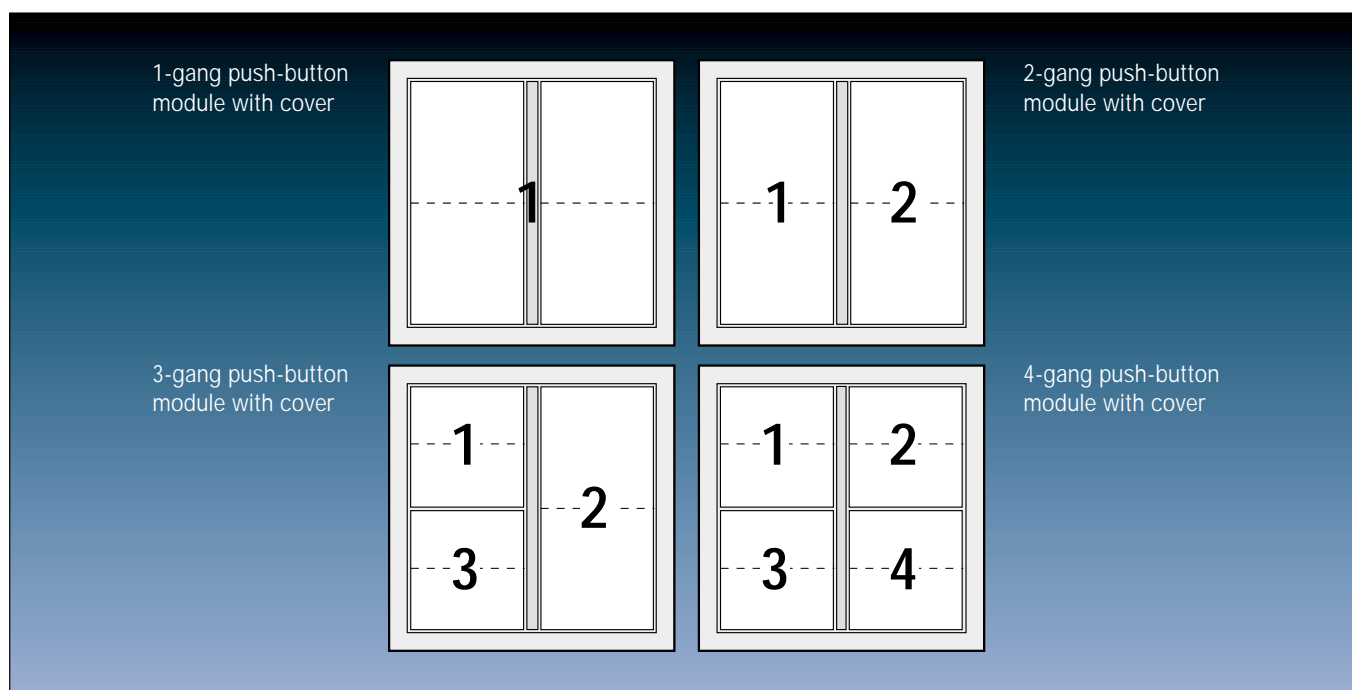
Description	Ref.-no.
Cover for push-button module to clip on: Standard push-button module, 2-gang or 3-gang (2072 TSM, 2073 TSM) Push-button module 24 V, 4-gang or 6-gang (2224 TSM, 2236 TSM)	
ivory	FD 902 TSA
white	FD 902 TSA WW
light grey	FD 902 TSA LG
Metal versions	
stainless steel	FDES 2902 TSA
aluminium	FDAL 2902 TSA
anthracite	FDAL 2902 TSA AN



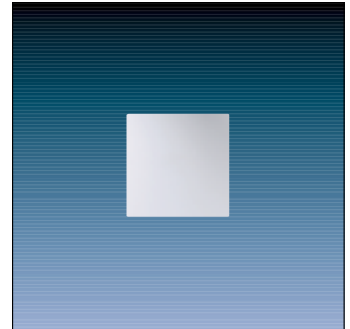
Cover for push-button module with symbols to clip on: Standard push-button module, 2-gang or 3-gang (2072 TSM, 2073 TSM) Push-button module 24 V, 4-gang or 6-gang (2224 TSM, 2236 TSM)	
ivory	FD 902 TSAP
white	FD 902 TSAP WW
light grey	FD 902 TSAP LG
Metal versions	
stainless steel	FDES 2902 TSAP
aluminium	FDAL 2902 TSAP
anthracite	FDAL 2902 TSAP AN



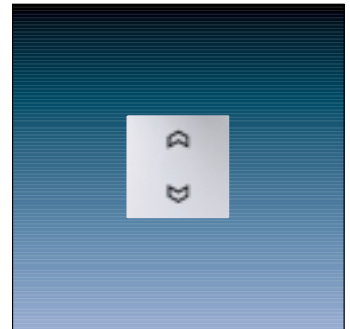
Cover for push-button module with inscription plate 32 x 68.5 mm to clip on: Standard push-button module, 2-gang or 3-gang (2072 TSM, 2073 TSM) Push-button module 24 V, 4-gang or 6-gang (2224 TSM, 2236 TSM)	
ivory	FD 902 TSANA
white	FD 902 TSANA WW
light grey	FD 902 TSANA LG
Metal versions	
stainless steel	FDES 2902 TSANA
aluminium	FDAL 2902 TSANA
anthracite	FDAL 2902 TSANA AN



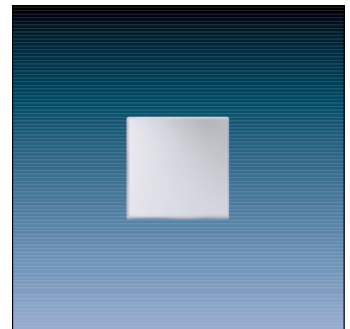
Description	Ref.-no.
Cover for push-button module to clip on: Standard push-button module, 3-gang or 4-gang (2073 TSM, 2074 TSM) Push-button module 24 V, 6-gang or 8-gang (2236 TSM, 2248 TSM)	
ivory	FD 904 TSA
white	FD 904 TSA WW
light grey	FD 904 TSA LG
Metal versions	
stainless steel	FDES 2904 TSA
aluminium	FDAL 2904 TSA
anthracite	FDAL 2904 TSA AN



Cover for push-button module with symbols to clip on: Standard push-button module, 3-gang or 4-gang (2073 TSM, 2074 TSM) Push-button module 24 V, 6-gang or 8-gang (2236 TSM, 2248 TSM)	
ivory	FD 904 TSAP
white	FD 904 TSAP WW
light grey	FD 904 TSAP LG
Metal versions	
stainless steel	FDES 2904 TSAP
aluminium	FDAL 2904 TSAP
anthracite	FDAL 2904 TSAP AN

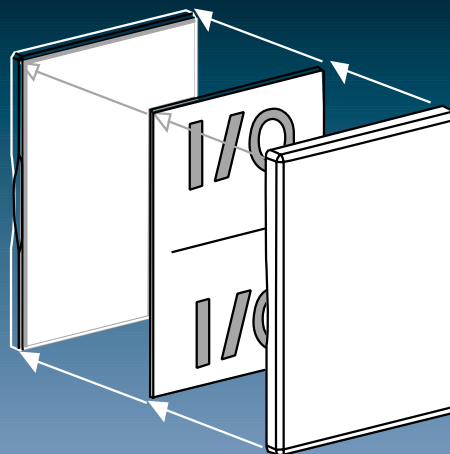


Cover for push-button module with inscription plate 32 x 33 mm to clip on: Standard push-button module, 3-gang or 4-gang (2073 TSM, 2074 TSM) Push-button module 24 V, 6-gang or 8-gang (2236 TSM, 2248 TSM)	
ivory	FD 904 TSANA
white	FD 904 TSANA WW
light grey	FD 904 TSANA LG
Metal versions	
stainless steel	FDES 2904 TSANA
aluminium	FDAL 2904 TSANA
anthracite	FDAL 2904 TSANA AN



Cover with inscription plate

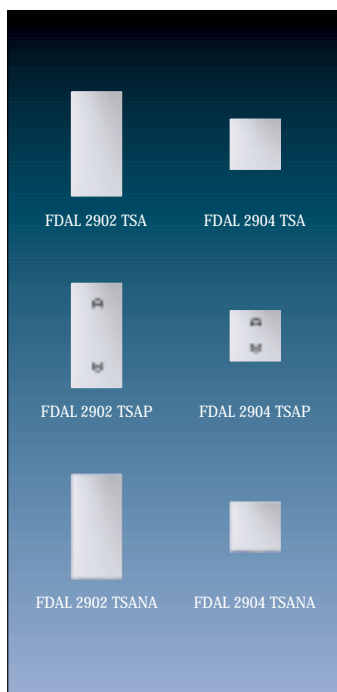
The covers with ref.no. FD. 90x TSA NA. can be equipped with labels. Commercial foil can be inscribed with the help of the JUNG labelling software and inserted as labels into the covers. The JUNG labelling software is available in the Internet under the following address: www.jung-label.de.





Description	Ref.-no.
Push-button module 24 V The device has to be extended with the desired cover for push-button module. The push-button module 24 V is intended for the connection to the 8-channel relay station, ref.no. RS 8 REG (for more details see page 56) or other control systems with control voltage of max. 24 V. The push-button is available for 2-gang up to 4-gang modules. Each module is equipped with two red LED for status indication purposes. Connection to the device is made at the back by means of a terminal block. The push-buttons are "divided" into an upper and a lower half and generally control two consumers.	
4-gang	2224 TSM
6-gang	2236 TSM
8-gang	2248 TSM

Technical data	
Rated voltage:	AC/DC 24 V SELV
Current load:	max. 20 mA per push-button
LED current:	approx. 1 mA per LED
Connection:	2 x terminal block 9-pole, 0.25 ... 0.8 mm ² single wire
Power consumption:	max. 0.2 W (all LEDs on)
Type of protection:	IP 20
Safety class	III
Ambient temperature:	-5° C ... +45° C
Storage temperature:	-25° C ... +70° C

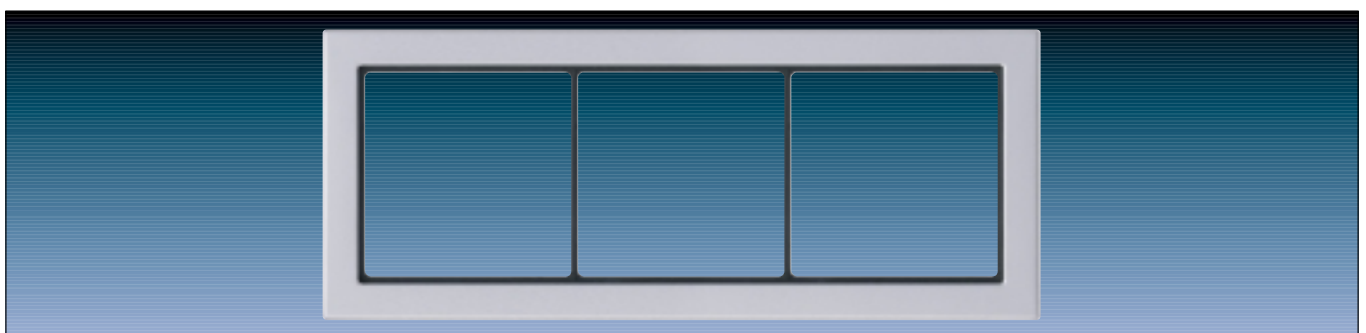


Covers for push-button module
to clip on push-button module 24 V

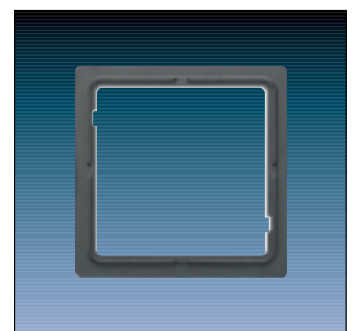
for 4-gang or 6-gang	
cover	FD .. 902 TSA ..
cover with symbols	FD .. 902 TSAP ..
cover with inscription plate	FD .. 902 TSANA ..
for 6-gang or 8-gang	
cover	FD .. 904 TSA ..
cover with symbols	FD .. 904 TSAP ..
cover with inscription plate	FD .. 904 TSANA ..

For more details see pages 312, 313

Description			Ref.-no.
Frames			
for vertical and horizontal installation			
ivory	1-gang	96 x 96 x 6.3 mm	FD 981 W
	2-gang	96 x 167 x 6.3 mm	FD 982 W
	3-gang	96 x 238 x 6.3 mm	FD 983 W
white	1-gang	96 x 96 x 6.3 mm	FD 981 WW
	2-gang	96 x 167 x 6.3 mm	FD 982 WW
	3-gang	96 x 238 x 6.3 mm	FD 983 WW
light grey	1-gang	96 x 96 x 6.3 mm	FD 981 LG
	2-gang	96 x 167 x 6.3 mm	FD 982 LG
	3-gang	96 x 238 x 6.3 mm	FD 983 LG
Metal versions			
aluminium	1-gang	96 x 96 x 6.3 mm	FDAL 2981
	2-gang	96 x 167 x 6.3 mm	FDAL 2982
	3-gang	96 x 238 x 6.3 mm	FDAL 2983
anthracite	1-gang	96 x 96 x 6.3 mm	FDAL 2981 AN
	2-gang	96 x 167 x 6.3 mm	FDAL 2982 AN
	3-gang	96 x 238 x 6.3 mm	FDAL 2983 AN
stainless steel	1-gang	96 x 96 x 6.3 mm	FDES 2981
	2-gang	96 x 167 x 6.3 mm	FDES 2982
	3-gang	96 x 238 x 6.3 mm	FDES 2983



Intermediate frame		FD 981 Z
for the installation of SCHUKO sockets, data/TV sockets and rotary dimmer of the design ranges LS 990, Stainless Steel, Aluminium and Anthracite.		





Description	Ref.-no.
-------------	----------

Key card holder

When inserting the key card (being supplied by the door lock manufacturer) a contact will be given to the distribution board (relay). Depending on the installation/wiring all connected lights and other electric consumers will be supplied with energy. Individual control of the lights and ac/heater by JUNG rocker switches or dimmers. The key card has to be removed when leaving the room; the energy supply will be cut automatically. Illumination (orienting light) possible.

for ranges AS 500, A 500 + A plus

ivory	A 590 CARD
white	A 590 CARD WW
aluminium	A 590 CARD AL

for ranges CD 500 + CD plus

ivory	590 CARD
white	CD 590 CARD WW
blue	CD 590 CARD BL
brown	CD 590 CARD BR
grey	CD 590 CARD GR
light grey	CD 590 CARD LG
red	CD 590 CARD RT
black	CD 590 CARD SW
Metal versions	
gold-bronze	CD 590 CARD GB
platinum	CD 590 CARD PT

dtto., manipulation-safe

ivory	591 CARD
white	CD 591 CARD WW

for ranges LS 990 + LS plus

ivory	LS 590 CARD
white	LS 590 CARD WW
dtto., manipulation-safe	
ivory	LS 591 CARD
white	LS 591 CARD WW

for ranges Stainless Steel, Aluminium, Anthracite + Gold

stainless steel (lacquered)	ES 2990 CARD
aluminium (lacquered)	AL 2990 CARD
anthracite (lacquered)	AL 2990 CARD AN
gold (lacquered)	AL 2990 CARD GO

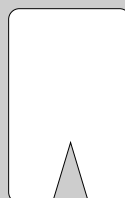
for range SL 500

white	SL 590 CARD WW
black	SL 590 CARD SW
bronze	SL 590 CARD GB

suitable inserts:
531 U, 533 U,
534 U, 533-2 U



standard key card



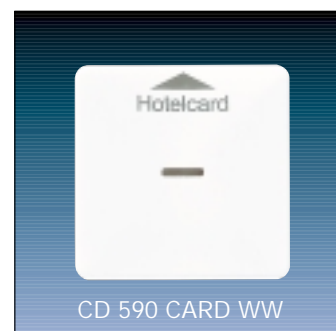
special opening for
manipulation-safe
card type

Note: The key card holder is suitable for cards with min. length 80 mm, width of 45 - 54 mm and a thickness of 0.5 - 1 mm.

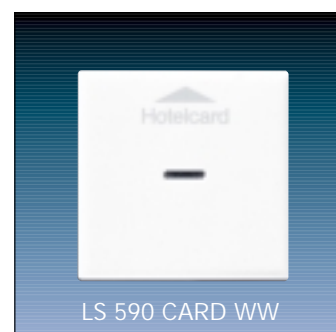
other colours
and versions with
individual printings
on request



A 590 CARD WW



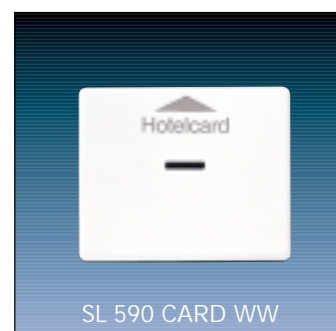
CD 590 CARD WW



LS 590 CARD WW



ES 590 CARD



SL 590 CARD WW

Hotel Installations



suitable inserts:
505 KOU 5,
505 KOVU 5

Description
2-gang rocker with transparent lens
for 2-gang switch insert with indicator light
pilot/orienting light shining in orange

Ref.-no.

for range AS 500

ivory	AS 591-5 KO5
white	AS 591-5 KO5 WW

antibacterial version

ivory	ABAS 591-5 KO5
white	ABAS 591-5 KO5 WW

for ranges A 500 + A plus

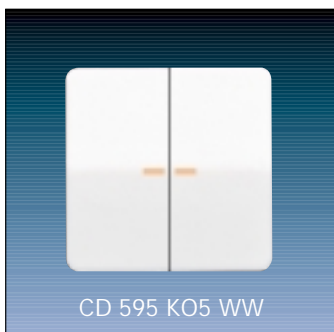
white	A 595 KO5 WW
aluminium	A 595 KO5 AL

for ranges CD 500 + CD plus

ivory	CD 595 KO5
white	CD 595 KO5 WW
blue	CD 595 KO5 BL
brown	CD 595 KO5 BR
grey	CD 595 KO5 GR
light grey	CD 595 KO5 LG
red	CD 595 KO5 RT
black	CD 595 KO5 SW
gold-bronze	CD 595 KO5 GB
platinum	CD 595 KO5 PT

for range LS 990 + LS plus

ivory	LS 995 KO5
white	LS 995 KO5 WW
light grey	LS 995 KO5 LG



suitable inserts:
505 KOU 5,
505 KOVU 5



suitable inserts:
505 KOU 5,
505 KOVU 5



suitable inserts:
505 KOU 5,
505 KOVU 5

for ranges Stainless Steel, Aluminium, Anthracite, Gold + LS plus

stainless steel	ES 2995 KO5
aluminium	AL 2995 KO5
anthracite	AL 2995 KO5 AN
gold	AL 2995 KO5 GO



suitable inserts:
505 KOU 5,
505 KOVU 5

for range SL 500

white	SL 595 KO5 WW
black	SL 595 KO5 SW
bronze	SL 595 KO5 GB

Description	Ref.-no.
2-gang rocker with 1 red and 1 green lens and symbols „Do not disturb“ and „Make up room“	
for range AS 500	
ivory	AS 591-5 KO5-641
white	AS 591-5 KO5 WW-641

for ranges CD 500 + CD plus	
ivory	CD 595 KO5-641
white	CD 595 KO5 WW-641

for ranges Stainless Steel, Aluminium, Gold + LS plus	
stainless steel	ES 2995 KO5-641
aluminium	AL 2995 KO5-641
gold	AL 2995 KO5-641 GO

for ranges LS 990 + LS plus	
ivory	LS 995 KO5-641
white	LS 995 KO5 WW-641

1-gang indicator light, 230 V
equipped with 1 red lamp (round lens)
and symbol „Do not disturb“

for ranges CD 500 + CD plus	
white	CD 594-1 KO1WWDND

for ranges LS 990 + LS plus	
white	LS 994-1 KO1WWDND

2-gang indicator light 230 V
equipped with 1 red and 1 green lamp (round lenses)
to be controlled with 2-gang switch insert with indicator light 505 KOU/505 KOVU 5
red lamp with symbol: Do not disturb
green lamp with symbol: Make up room

for ranges CD 500 + CD plus	
ivory	594-2 KO1
white	CD 594-2 KO1 WW

for ranges AS 500, A 500 + A plus	
white	A 594-2 KO1 WW
aluminium	A 594-2 KO1 AL

equipped with 1 red and 1 green lamp (square lenses)

for ranges Stainless Steel, Aluminium, Anthracite, Gold + LS plus	
stainless steel	ES 2994-2 KO9-L
aluminium	AL 2994-2 KO9-L
anhracite	AL 2994-2 KO9-L AN
gold	AL 2994-2 KO9-L GO

for ranges LS 990 + LS plus	
ivory	LS 994-2 KO9
white	LS 994-2 KO9 WW

other colours on request

suitable inserts:
505 KOU,
505 KOVU 5

other colours
and/or different
symbols available
on request



suitable inserts:
505 KOU,
505 KOVU 5



other colours
and symbols
on request



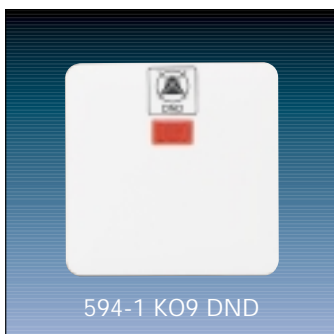
other colours
and symbols
on request



other colours
and symbols
on request



Hotel Installations



Description

Ref.-no.

1-gang indicator light, 230 V
equipped with 1 red lamp (square lens)
and symbol „Do not disturb“

for ranges CD 500 + CD plus
ivory

594-1 KO9 DND



dtto., with bell push

for ranges CD 500 + CD plus
ivory

594-1 KO9 DND KT



2-gang indicator light, 230 V
equipped with 1 red and 1 green lamp (square lens),
symbols „Do not disturb“ and „Make up room“
and bell push

for range AS 500, A 500 + A plus

white

A 594-2 KO9 KT WW

aluminium

A 594-2 KO9 KT AL



for ranges CD 500 + CD plus

ivory

594-2 KO9 KT

white

CD 594-2 KO9 KT WW

gold-bronze (lacquered)

CD 594-2 KO9 KT GB

other ranges/colours on request

Examples of completely mounted devices

Description	Ref.-no.	
Rotary dimmers for incandescent, 230 V halogen, low voltage halogen and fluorescent lamps (1 - 10 V)		
Center plates with knob for ranges		
AS 500, A 500 + A plus	A (ABA) 540..	pages 148/175
CD 500 + CD plus	CD 540..	page 208
LS 990 + LS plus	LS 920..	page 270
for range Stainless Steel	ES 2940	page 291
Aluminium, Anthracite + Gold	AL 2940..	page 291

suitable inserts:
211 GDE,
266 GDE,
225 NVDE,
225 TDE,
254 UDIE, 254 NIE,
240-31, 244-110,
254 UDIE-110,
254 NIE-110,
243 EX, 244 EX,
244 HEX



TV-FM and TV-FM-SAT sockets

Center plates for ranges		
AS 500, A 500 + A plus	A 561 PLTV../PLSAT..	pages 153/179
CD 500 + CD plus	CD 590 TV../SAT..	page 216
LS 990 + LS plus	LS 990 TV../SAT..	page 274
Stainless Steel	ES 2990 TV/SAT	page 295
Aluminium, Anthracite + Gold	AL 2990 TV../SAT..	page 295

suitable inserts:
EDU 3902 F,
FS1 D, EDU 04 F,
FS 12 D, GEDU 15



1- and 2-gang modular jack sockets (RJ12, RJ45) (telephone, computer, fax, data)

Center plates for ranges		
AS 500, A 500 + A plus	A 569..	pages 154/181
CD 500 + CD plus	CD 569..	page 218
LS 990 + LS plus	LS 969..	page 275
Stainless Steel	ES 2969	page 296
Aluminium, Anthracite + Gold	AL 2969..	page 296

suitable inserts:
UAE 2x8 UPO,
UAE 8-8 UPO K5,
UAE 8-8 UPO K6,
UAE 8-8 UPO
K5US,
UAE 4 UPO,
UAE 8 UPO



Automatic switch 180° for staircases, floors, corridors

Center plates for ranges		
AS 500, A 500 + A plus	A 1180..	pages 149/176
CD 500 + CD plus	CD 1180..	page 209
LS 990 + LS plus	LS 1180..	page 271
Stainless Steel	ES 1180	page 292
Aluminium, Anthracite + Gold	AL 1180..	page 292

suitable inserts:
1201 URE,
1201-1 URE,
1202 URE,
1225 SDE,
1240 STE,
1254 UDE,
1254 TSE,
1244 NVSE,
1223 NE,
1208 UI



LED orientation and information signalling

Center plates for ranges		
LS 990	LS 539.. LED..	page 130
Stainless Steel	ES 2539 LED..	page 130
Aluminium, Anthracite + Gold	AL 2539.. LED..	page 130

suitable inserts:
SV 539 LED



Separate leaflet available for LED technology

Hotel Installations Shaver socket outlet



Description	Ref.-no.
Electric shaver safety socket outlet including wall-box, isolation transformer, overload protection relay	
capacity: 20 VA	
primary voltage: 230 V	
second. voltage: switchable for 230 V + 110 V	
ivory	GRTU 24
white	GRTU 24 WW
suitable for European, British or American flat + round pin plugs	
dimension: wall box h 98 mm/w 72 mm/d 47 mm	
front plate: h 111 mm/w 80 mm	



Front plate for GRTU 24	
stainless steel (lacquered)	GRTU 24 ES PL
aluminium (lacquered)	GRTU 24 AL PL
anthracite (lacquered)	GRTU 24 AL AN PL
gold-bronze (lacquered)	GRTU 24 GB PL



Electric shaver socket outlet with child protection (shutter)	
acc. to BS EN 61558	
2 outlets, 115 V and 230 V	
overload and temperature protection	
capacity: 20 VA	
dimensions: 146 x 85 x 39 mm	
terminal sizes 3.5 mm accept cable sizes from 1 - 2.5 mm	
white	SHSO 115-230 WW
stainless steel (lacquered)	SHSO 115-230 ES-L
aluminium (lacquered)	SHSO 115-230 AL-L
anthracite (lacquered)	SHSO 115-230 AN-L
gold-bronze (lacquered)	SHSO 115-230 GB-L



Wall box for shaver socket SHSO 115-230 WW	
dimensions: 70 x 130 x 48 mm	
metal	WB 115-230



Surface cap for shaver socket SHSO 115-230 WW	
dimensions: 85 x 145 x 52 mm	
white	SC 115-230 WW

WG800

JUNG



The features of the WG 800 range for professional installation:

- Breakproof thermoplastic material
- Weather- and UV-proof
- Illumination possible
- Inscrutable
- Protection level IP 44

Dimensions:
75 x 75 x 56 mm

Combination:
Switch/socket
75 x 150 x 56 mm

Material:
Thermoplastic

Colours:
housing – grey
(similar RAL 7035)
rocker – anthracite
(similar RAL 7016)

Protection level:
IP 44

Temperature range:
-15° C ... +80° C



WG 800
WG 600
AP 600

Housing with 2 cable inlets, dimension 75 x 75 x 56 mm
Screwless connection for wires up to 2.5 mm²



Description	Ref.-no.
1-gang rocker switch 10 AX/250 V	
2-pole/1-way	802 W
1-pole/2-way	806 W
intermediate	807 W

1-gang rocker switch 10 AX/250 V with screw terminals	
3-pole/1-way (16 A/400 V)	803 W

illumination possible with lamps ref.-no. 90 or 95 (230 V), ref.-no. 96-.. (low voltage)

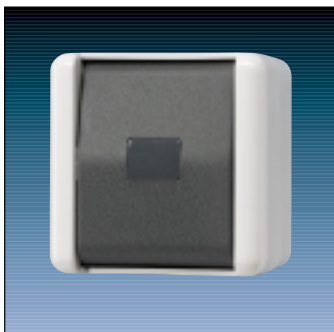


1-gang rocker switch 10 AX/250 V with inscription plate 22 x 48 mm	
1-pole/2-way	806 NAW



1-gang rocker switch with indicator light 10 AX/250 V	
with element ref.-no. 90 and red lens	
2-pole/1-way	802 KOW
1-pole/2-way	806 KOW

with screw terminals, 16 AX/400 V	
with element ref.-no. 98 and red lens	
3-pole/1-way	803 KOW



1-gang push-button 10 AX/250 V	
(with neutral lens)	
1-pole/1-way make contact	831 W
1-pole/2-way make + break contact	833 W
1-pole/1-way make contact for reverter communication (with red lens)	834 W

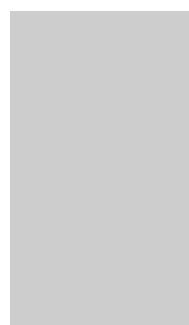
1-gang push-button 10 AX/250 V with screw terminals	
2-pole/2-way (break + make) contact	833-2 W
illumination possible with lamps ref.-no. 90 or 95 (230 V), ref.-no. 96-.. (low voltage)	



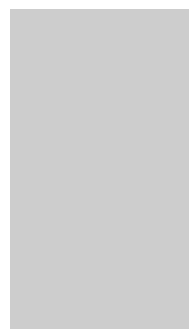
suitable devices:
802 KOW,
803 KOW,
806 KOW,
831 W, 833 W,
833-2 W, 834 W

Symbols for switches with indicator light and push-buttons		
anthracite	symbol „light“	33 ANL
anthracite	symbol „bell“	33 ANK
anthracite	symbol „door“	33 ANT
anthracite	neutral	33 ANN
anthracite	symbol STOP	33 ANSTOP
green	neutral	33 GN
transparent		33 KLAR
red	neutral	33 NR

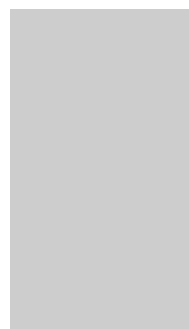
Description	Ref.-no.
2-gang rocker switch 10 AX/250 V	
1-pole/1-way, screwless connection	805 W
1-pole/2-way, screw terminals	809 W



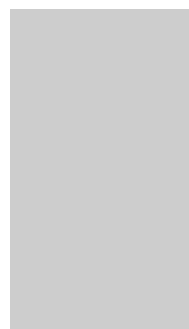
2-gang rocker switch 10 AX/250 V each rocker with inscription plate 22 x 22 mm	
1-pole/1-way, screwless connection	805 NAW
1-pole/2-way, screw terminals	809 NAW



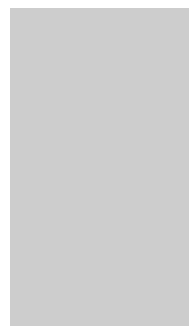
2-gang/1-way push-button 10 AX/250 V	
2 make contacts, screwless connection	835 W
1-pole, screw terminals	839 W



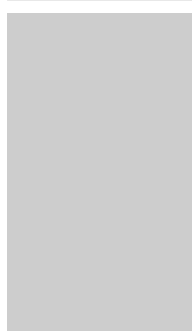
2-gang/1-way push-button 10 AX/250 V each rocker with inscription plate 22 x 22 mm	
2 make contacts	835 NAW



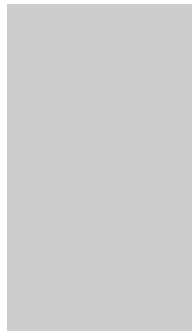
2-gang/2-way push-button 10 AX/250 V each rocker with inscription plate 22 x 22 mm with screw terminals	
1-pole	839 NAW



Rocker with inscription plate for 1-gang rocker switches + push-buttons, with inscription plate 22 x 48 mm	800 NA
for 2-gang rocker switches + push-buttons, with inscription plate 22 x 22 mm	805 NA



Description	Ref.-no.
Venetian blind switch/push-button 10 AX/250 V mechanical locking to avoid double-sided switching	
1-pole switch	809 VW
1-pole push-button	839 VW

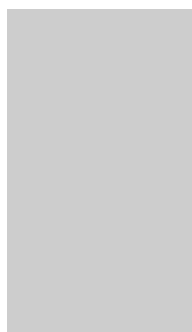


Rotary venetian blind switch/push-button 10 A/250 V with inscription plate 9 x 50 mm	
1-pole	834.10 W
2-pole	834.20 W
will be supplied as switch, to be converted into push button by means of the attached locking piece	

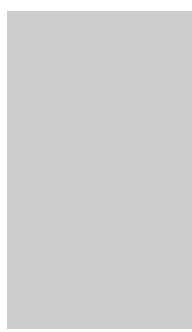


aluminium housing
colour of housing: metallic silver
colour of cover: metallic anthracite

Key switch / push-button 10 AX/250 V for profile cylinder dimension 90 x 75 x 65 mm 1 inlet PG16, front cover removable delivery without cylinder and locking plate	
2-pole switch for venetian blinds	804.28 G
1-pole/2-way push-button	833.18 G
2-pole push-button for venetian blinds	834.28 G
16 AX/250 V	
2-pole/2-way switch	806.28 G

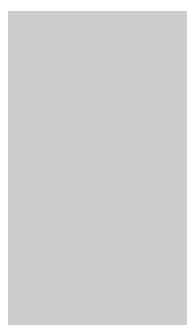


Locking plate for above key switches + push-buttons	18 V
removal of key switch/push-button front cover is only possible when profile cylinder is in unlocked position	

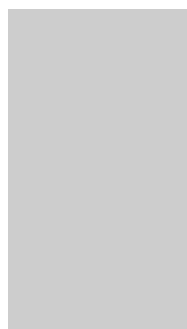


Metal cover 125 x 100 mm for flush installation of above key switches + push-buttons	
aluminium colour	
with symbols ▲▼	4.28 WUG
without symbols	6.28 WUG
grey colour	

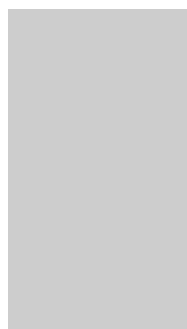
Description	Ref.-no.
Key switch/push-button for profile cylinder	
10 A/250 V, with inscription plate 9 x 50 mm	
delivery without cylinder (see below)	
1-pole switch for venetian blinds	804.18 W
1-pole/2-way switch	806.18 W
1-pole push-button (2-way)	833.18 W
1-pole push-button for venetian blinds	834.18 W
integrated locking plate, removal of front plate only possible when profile cylinder is in corresponding position	



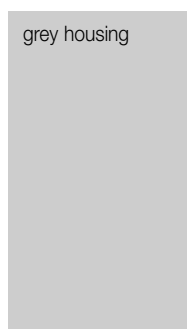
Locking (profile cylinder)	
for key switch/push-button inserts	
including 3 keys	
different locks	28
equal locks	28 G



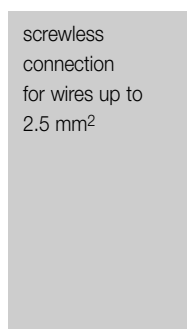
Cover with glass-plate	
(for emergency and alarm purposes)	
with red rocker and red lens	
for all waterprotected 1-gang rocker switches and push-buttons of WG 800	
blue (similar RAL 5015)	860 WGL BL
yellow (similar RAL 1004)	860 WGL GE
red (similar RAL 3000)	860 WGL RT
Spare glass plate (64 x 53 mm)	60 GL



Pull cord switch 10 A/250 V	
for wall- and ceiling installation, cord length approx. 50 mm	
1-pole/2-way	806 ZW



Pull cord push-button 10 A/250 V	
for wall- and ceiling installation, cord length approx. 50 mm	
without neutral terminal, not to be illuminated	
1-pole/2-way make + break contact	833 ZW



SCHUKO-socket, 2-pole + earth	
16 A-AC/10 A-DC/250 V	
German system	
anthracite cover	820 W
with child protection	820 KIW
with child protection and inscription plate 22 x 48 mm	820 KINAW



screwless connection for wires up to 2.5 mm²

Description	Ref.-no.
SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V with inscription plate 22 x 48 mm German system	
anthracite cover	820 NAW
green cover	820 GNAW
orange cover	820 ONAW



screwless connection for wires up to 2.5 mm²

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V with pilot light German system	
anthracite cover	820 KOW
with inscription plate 22 x 48 mm	
anthracite cover	820 KONAW
green cover	820 KOGNAW
orange cover	820 KOONAW



screwless connection for wires up to 2.5 mm²

Spare key:
802 SL – 825 SL

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V with safety lock + inscription plate 22 x 48 mm German system	
anthracite cover	820 NAWSL
24 different locks available	



screw terminals
grey housing
anthracite cover

SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V German system with integrated surge voltage protection	821 UFW
The lamps integrated in the outlet cover signal: Red (+ acoustic signal): „Thermal disconnection device has been triggered“ (acoustic signal stops as soon as plug has been removed). Green: „Line voltage applied“. dimension: 75 x 90 x 56 mm	
Technical data:	
nominal voltage U_N :	230 V AC, +6 % / -10 %
nominal current I_N :	16 A
max. leak current (8/20) μ S:	4,5 kA (1x)
nominal leak current (8/20) μ S:	1,5 kA
cutoff-impulse L-N:	$\leq 1,2$ kV (1 kV/ μ S)
L-PE, N-PE:	≤ 1 kV (1 kV/ μ S)
ambient temperature:	-20° C up to + 40° C

Description	Ref.-no.
2-gang combination, for vertical installation SCHUKO-socket 16 A + 2-way switch 10 A/250 V	876 W
with inscription plate 22 x 48 mm	876 NAW
2-gang combination, for vertical installation SCHUKO-socket 16 A + push-button 10 A/250 V	871 W
2-gang combination, for vertical installation SCHUKO-socket 16 A + 1-gang switch with indicator light 10 A/250 V	876 KOW
2-gang combination, for vertical installation SCHUKO-socket 16 A + 2-gang switch 10 A/250 V	875 W
2-gang SCHUKO-socket combination, 16 A/250 V for vertical installation with 2 safety locks, 4 keys + inscription plate 22 x 48 mm	
2 inlets, for vertical installation	822 NAWSL
4 inlets, for horizontal installation	8220 NAWSL

screw terminals
for wires up to
2.5 mm²

Spare key:
802 SL -- 825 SL





screwless connection for wires up to 2.5 mm²

Description	Ref.-no.
2-gang SCHUKO-socket 16 A-AC/10 A-DC/250 V 2-pole + earth, German system pre-wired	
2 inlets, for vertical installation	822 W
4 inlets, for horizontal installation, with two single covers	8220 W
with one double-cover	8220-1 W

screw terminals for wires up to 2.5 mm²



2-gang socket outlet 16 A-AC/10 A-DC/250 V 2-pole with male earth pin French/Belgian system 4 inlets, for horizontal installation with two single covers	8220 FW
--	----------------



screwless connection for wires up to 2.5 mm²

2-gang SCHUKO-socket 16 A-AC/10 A-DC/250 V 2-pole + earth, German system with inscription plates 22 x 48 mm pre-wired	
2 inlets, for vertical installation with two single covers	822 NAW
4 inlets, for horizontal installation, with two single covers	8220 NAW

screwless connection for wires up to 2.5 mm²

3-gang SCHUKO-socket 16 A-AC/10 A-DC/250 V 2-pole + earth, German system pre-wired	
5 inlets, for horizontal installation	8230 W
with inscription plates 22 x 48 mm single covers	8230 NAW

Socket outlets may be replaced by switches, push-buttons, pilot lights or socket outlets with safety lock.



Description	Ref.-no.
Socket outlet 16 A-AC/10 A-DC/250 V	
2-pole with male earth pin	
French/Belgian system	821 FW

with child protection (shutter)	821 FKIW
--	-----------------

screw terminals
for wires up to
2.5 mm²



US-NEMA socket outlet 5-20 R	
2-pole + earth, 125 V	
15 A	821-15 USW
20 A	821-20 USW

screw terminals
for wires up to
2.5 mm²



Socket outlet, 2-pole + earth	
with child protection (shutter)	
13 A/250 V, British system	
acc. to B.S. 1363:1995	821 BSW

screw terminals
for wires up to
2.5 mm²



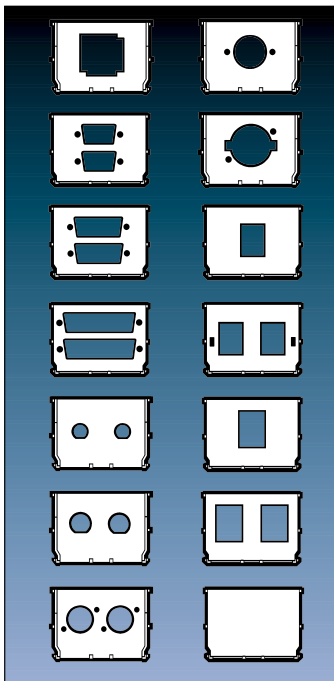
Socket outlet 16 A-AC/10 A-DC/250 V	
2-pole with earth	
with child protection (shutter)	
Danish system	820 DKKIW

screw terminals
for wires up to
2.5 mm²





Description	Ref.-no.
Data-connection cap for vertical outlet with inscription plate 21 x 59 mm without mounting plate (see below) dimension: 75 x 86 x 58 mm	854 W



Mounting plates for Data connection cap	
	54 IBM
	54-2 D 9
	54-2 D 15
	54-2 D 25
	54-2 BNC 9.7
	54-2 BNC 12.7
	54-2 DIO 22.5
	54 XLR S
	54 XLR D
	54-1 WE
	54-2 WE
	54-15 WE
	54-25 WE
	54

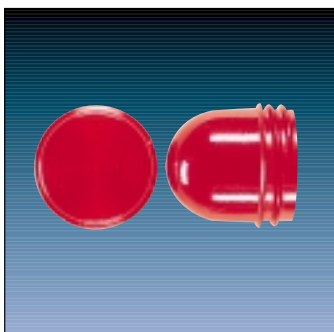
for detailed information see pages 26 – 30



Lamp:
E 14-3 W

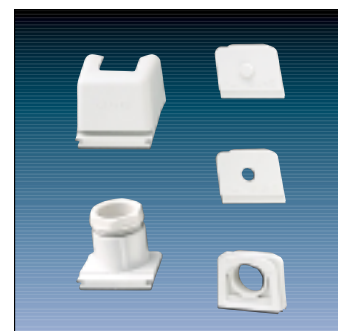
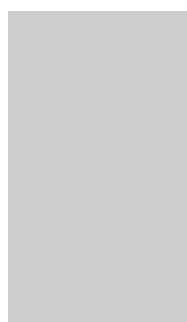
LED lamp:
E 14-230 LED RT,
E 14-230 LED GE,
E 14-230 LED GN

Pilot light (without cap) for screw caps 37.. (shown below)	
thread E 10	837-10 W
thread E 14	837-14 W



Screw cap for 837-10 W / 837-14 W flat, for lamps up to max. length of 35 mm	
clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08
high, for lamps up to max. length of 54 mm	
clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL

Description	Ref.-no.
Accessories	
for waterprotected devices WG 800 and special devices	
connecting pipe	892
inlet with PG 16 thread + screw (to be discontinued)	893-1
inlet with thread + screw M 20 x 1,5	893-2
inlet with two openings	894
inlet with one opening	891
closed inlet	890
inlet for trunking 15 x 15 mm	895



Automatic Switch	
neutral conductor necessary	
lens type 1.10 m	
suitable only for indoor use	W 8180

Spare fuse:
6.3 AT



lens type 2.20 m	
suitable for indoor and outdoor use	W 8280

Time delay switch 16 A/250 V	
2-pole/1-way	
15 min.	8015 W
120 min.	8012 W
accuracy ± 15 %	

complete device
colour: grey



other versions such as 60 min., 240 min. on request

Junction box	
with 2 inlets	800 AW


complete device
colour: grey



Performance guaranteed only with JUNG TRONIC transformers.




complete device
colour: grey

Description	Ref.-no.
TRONIC-dimmer with 2-way push switch for low voltage halogen lamps controlled by TRONIC transformers and 230 V incandescent + halogen lamps short circuit protected, with screwless connection and soft latching function, 20 – 400 W/VA  transformers, shown on pages 53 + 54 suitable amplifiers ULZ 1255 REG/247 EB	824 T DW



complete device
colour: grey

Spare fuse:
3.15 AT

Dimmer with 2-way push switch for low voltage halogen lamps controlled by conventional (inductive) transformers and 230 V incandescent + halogen lamps with screwless connection and soft latching function, 20 – 375 W/VA  suitable amplifiers ULZ 1255 REG/246 EB	823 NV DW
---	------------------




complete device
colour: grey

Spare fuse:
2.15 AT

Dimmer with 2-way push switch for 230 V incandescent + halogen lamps with screwless connection and soft latching function, 60 – 450 W  suitable amplifiers ULZ 1255 REG/246 EB	864 G DW
--	-----------------



complete device
colour: grey

Speed regulator 25 – 400 VA with push on/off switch for devices with motoric drive nominal range 0.1 – 1.6 A dimension: 75 x 90 x 56 mm 	844.20 W
---	-----------------

VVG 600

JUNG



The waterproof devices of the surface mounted range are solid and easy to install. The distinctive mark is the flat and compact design with extensive rockers for a handy operation.

Dimensions:
Single device (LxHxW)
70 x 68 x 47 mm

Combinations
Switch/socket
70 x 140 x 47 mm

Material:
Duroplastic

Colour:
grey – similar RAL 7035

Protection level: IP 44





screwless connection for wires up to 2.5 mm²

Description	Ref.-no.
1-gang rocker switch 10 AX/250 V	
1-pole/1-way	601 W
2-pole/1-way	602 W
1-pole/2-way	606 W
intermediate	607 W



screw terminals for wires up to 2.5 mm²

1-gang rocker switch 16 AX/400 V special size 70 x 90 x 45 mm	
3-pole/1-way	603 W



screwless connection for wires up to 2.5 mm²

inscription sheet: BB 4 (17x72 mm)

1-gang rocker switch 10 AX/250 V with inscription plate 17 x 72 mm	
1-pole/2-way	606 NAW



screwless connection for wires up to 2.5 mm²

1-gang rocker switch with indicator light and red lens 10 AX/250 V neutral conductor required	
delivery with lamp 230 V (ref.-no. 90)	
2-pole/1-way	602 KOW
1-pole/2-way	606 KOW

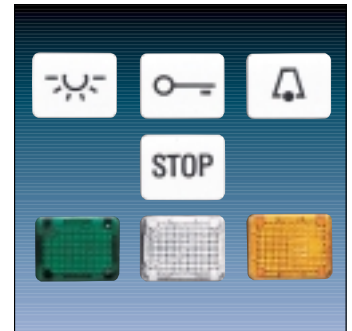


screwless connection for wires up to 2.5 mm²

1-gang push-button 10 AX/250 V (without symbol)	
1-pole/1-way, make contact	631 W
1-pole/2-way, make + break contact	633 W
1-pole, make contact for revertive communication (to be used for pilot light)	634 W
2-pole/2-way, make + break contact	633-2 W

Description	Ref.-no.
Symbols	
ivory, symbol „light“	33 L
symbol „bell“	33 K
symbol „door“	33 T
STOP	33 STOP
white, STOP	33 STOP WW
green, neutral lens	33 GN
orange, neutral lens	33 O
red, neutral lens	33 NR
transparent lens	33 KLAR

necessary for:
631 W,
634 W
suitable for:
602 KOW,
606 KOW



2-gang rocker switch 10 AX/250 V

1-pole/1-way	605 W
--------------	--------------

screwless
connection
for wires up to
2.5 mm²



2-gang push-button 10 AX/250 V

1-pole/2-way with assorted symbols	639 W
---------------------------------------	--------------

screw terminals
for wires up to
2.5 mm²



Venetian blind switch/push-button 10 A/250 V

1-pole switch	609 VW
1-pole push-button	639 VW

screw terminals
for wires up to
2.5 mm²

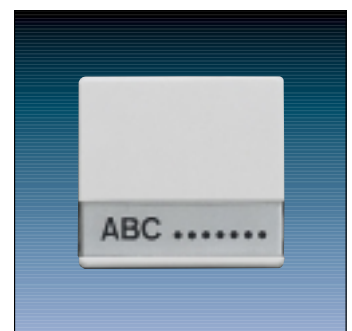


1-gang rocker with inscription plate 17 x 72 mm

for 1-gang switches and push-buttons	600 NA
--------------------------------------	---------------

suitable for:
601 W, 602 W,
603 W, 606 W,
607 W,
631 W – 634 W

inscription sheet:
BB 4 (17x72 mm)

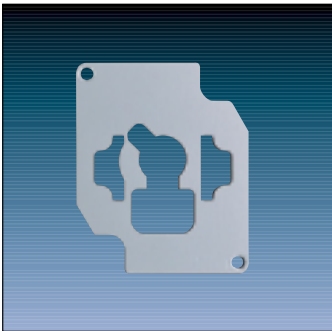




colour of housing:
metallic silver
colour of cover:
metallic anthracite

Material:
aluminium

Description	Ref.-no.
Key switch / push-button 10 AX/250 V for profile cylinder	
dimension 90 x 75 x 65 mm	
1 inlet PG16, front cover removable	
delivery without cylinder and locking plate	
2-pole switch for venetian blinds	804.28 G
1-pole/2-way push-button	833.18 G
2-pole push-button for venetian blinds	834.28 G
16 AX/250 V	
2-pole/2-way switch	806.28 G



Description	Ref.-no.
Locking plate	18 V
for above key switches + push-buttons	
removal of key switch/push-button front cover is only possible when profile cylinder is in unlocked position	



Description	Ref.-no.
Metal cover 125 x 100 mm	
for flush installation of above key switches + push-buttons	
aluminium colour	
with symbols ▲▼	4.28 WUG
without symbols	6.28 WUG
grey colour	

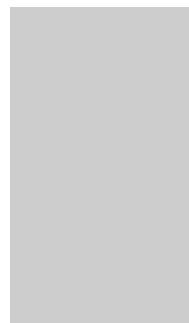


Description	Ref.-no.
Locking (profile cylinder)	
for key switch/push-button inserts	
including 3 keys	
different locks	28
equal locks	28 G
Extra key	28 GSL



Description	Ref.-no.
Pull cord switch 10 A/250 V	606 ZW
1-pole/2-way	

Description	Ref.-no.
Junction box with 2 inlets	600 AW



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V with break-proof hinged lid German system height 55 mm	620 WX
--	---------------

screwless connection
for wires up to
2.5 mm²



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V with break-proof hinged lid German system height 47 mm	621 W
--	--------------

screw terminals
for wires up to
2.5 mm²




SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V German system, with break-proof hinged lid + inscription plate 17 x 72 mm	620 NAW
--	----------------

screwless connection
for wires up to
2.5 mm²


inscription sheet:
BB 4 (17x72 mm)



SCHUKO-socket, 2-pole + earth 16 A-AC/10 A-DC/250 V German system, with break-proof hinged lid + inscription plate 17 x 72 mm	621 NAW
--	----------------

screw terminals
for wires up to
2.5 mm²

inscription sheet:
BB 4 (17x72 mm)






screwless connection for wires up to 2.5 mm²

Spare key: 802 – 825 SL

Description

**SCHUKO-socket, 2-pole + earth
16 A-AC/10 A-DC/250 V
German system, with break-proof hinged lid
and safety lock** (incl. 2 keys)
(24 different locks available)

Ref.-no.

620 WSL



screw terminals for wires up to 2.5 mm²

Spare key: 802 – 825 SL



**SCHUKO-socket, 2-pole + earth
16 A-AC/10 A-DC/250 V
German system, with break-proof hinged lid
and safety lock** (incl. 2 keys)
with screw connection terminals
(24 different locks available)

621 WSL



screw terminals for wires up to 2.5 mm²



**Socket outlet 16 A-AC/10 A-DC/250 V
2-pole with male earth pin
French/Belgian system
with break-proof hinged lid**

621 FW

with child protection (shutter)
height: 59 mm

621 FKI



screw terminals for wires up to 2.5 mm²



**Socket outlet 16 A-AC/10 A-DC/250 V
2-pole, without earth
with break-proof hinged lid**
height: 59 mm

611 W

Description	Ref.-no.
2-gang combination, for vertical installation	
SCHUKO-socket 16 A	
+ 2-way switch 10 A/250 V	676 W

with inscription plate 17 x 72 mm	676 NAW
--	----------------

switch and socket can be replaced by other switches, push-buttons and pilot lights of range WG 600

2-gang SCHUKO-socket 2-pole + earth	
16 A-AC/10 A-DC/250 V, German system	
pre-wired, with break-proof hinged lid	
for vertical installation	622 W
for horizontal installation	622 WW

with inscription plate 17 x 72 mm	
for vertical installation	622 NAW
for horizontal installation	622 NAWW

3-gang SCHUKO-socket 16 A-AC/10 A-DC/250 V	
2-pole + earth, German system	
pre-wired, with break-proof hinged lid	
for horizontal installation	623 W

with inscription plate 17 x 72 mm	623 NAW
--	----------------

screw terminals
for wires up to
2.5 mm²



inscription sheet:
BB 4 (17x72 mm)

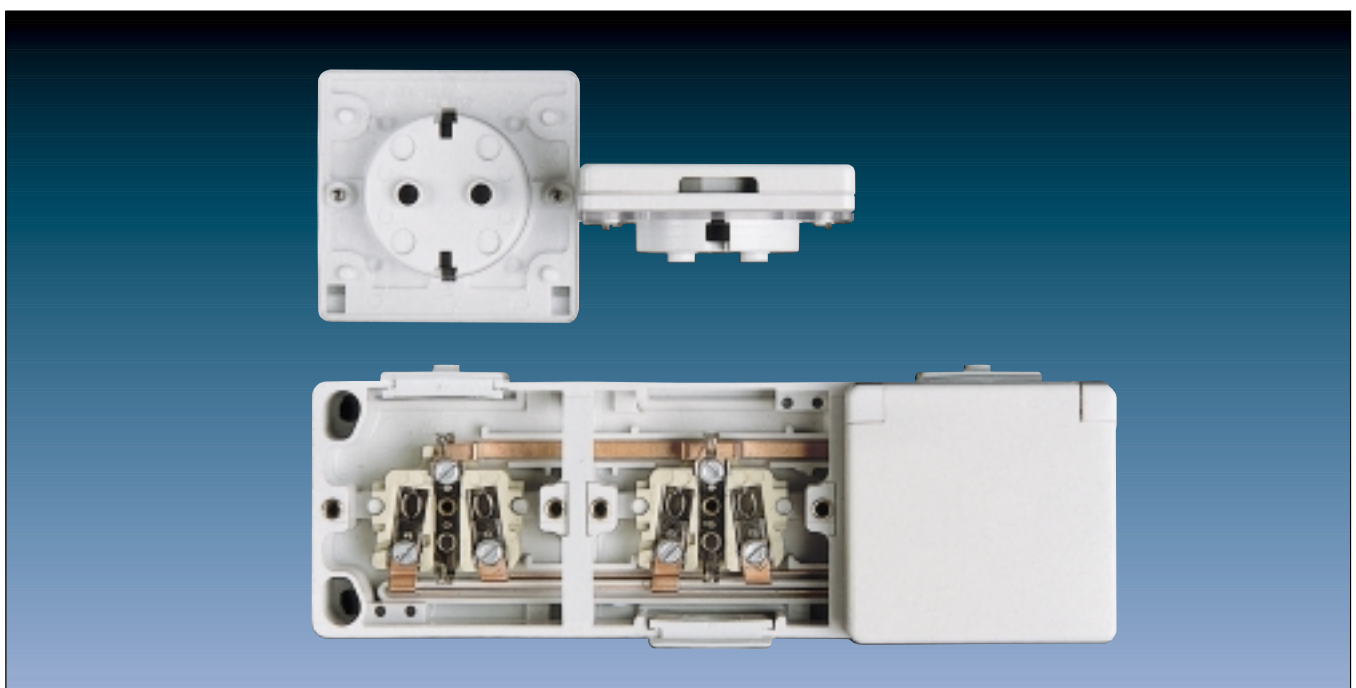
screw terminals
for wires up to
2.5 mm²



inscription sheet:
BB 4 (17x72 mm)

screw terminals
for wires up to
2.5 mm²

inscription sheet:
BB 4 (17x72 mm)

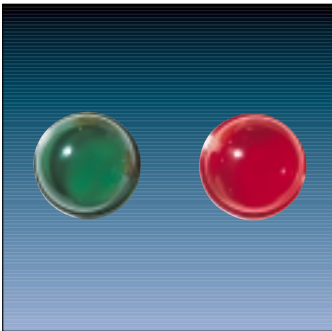




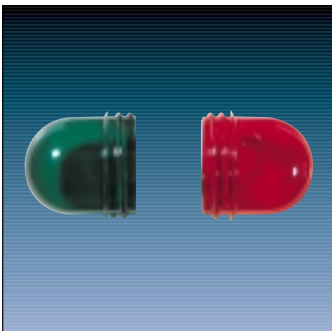
Lamp:
E 14-3 W

LED lamp:
E 14-230 LED RT,
E 14-230 LED GE,
E 14-230 LED GN

Description	Ref.-no.
Pilot light (without cap) for screw caps 37.. (shown below)	
thread E 10	637-10 W
thread E 14	637-14 W



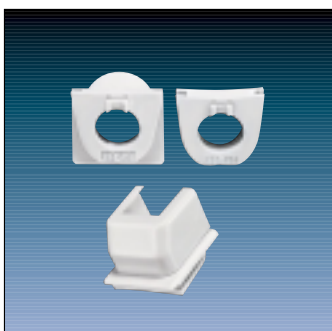
Screw cap for 637-10 W / 637-14 W flat, for lamps up to max. length of 35 mm	
clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08



high, for lamps up to max. length of 54 mm	
clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL



Cover with glass-plate (for emergency and alarm purposes) for all waterprotected switches and push-buttons except 603 W		
blue	(similar RAL 5015)	661 WGL BL
yellow	(similar RAL 1004)	661 WGL GE
red	(similar RAL 3000)	661 WGL R
spare glass plate		61 GL

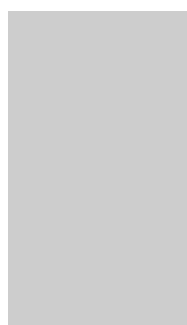


Accessories for waterprotected devices WG 600	
PVC-connecting pipe	192
PVC-inlet with thread + screw M 20 x 1,5	193-2
PVC-inlet with one opening	190-353
closed PVC-inlet	190-354
PVC -inlet for trunking 15 x 15 mm	195

Performance guaranteed only with JUNG TRONIC transformers.

Dimension: 75 x 90 x 56 mm

Description	Ref.-no.
TRONIC-dimmer with 2-way push switch for low voltage halogen lamps controlled by TRONIC transformers and 230 V incandescent + halogen lamps short circuit protected, with screwless connection and soft latching function, 20 – 400 W/VA transformers, shown on pages 53 + 54 suitable amplifiers ULZ 1255 REG/247 EB	824 T DW



Dimmer with 2-way push switch for low voltage halogen lamps controlled by conventional (inductive) transformers and 230 V incandescent + halogen lamps with screwless connection and soft latching function, 20 – 375 W/VA suitable amplifiers ULZ 1255 REG/246 EB	823 NV DW
--	------------------



Spare fuse:
3.15 AT



Dimmer with 2-way push switch for 230 V incandescent + halogen lamps with screwless connection and soft latching function, 60 – 450 W suitable amplifiers ULZ 1255 REG/246 EB	864 G DW
---	-----------------



Spare fuse:
2.15 AT

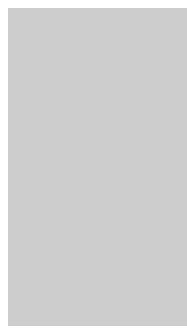


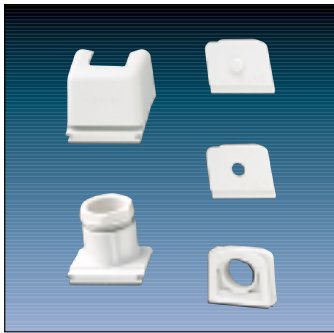
Time delay switch 16 A/250 V 2-pole/1-way 15 min. 8015 W 120 min. 8012 W accuracy ± 15 % other versions such as 60 min., 240 min. on request	
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Spare fuse:
2.5 AT



Speed regulator 25 – 400 VA with push on/off switch for devices with motoric drive nominal range 0.1 – 1.6 A dimension: 75 x 90 x 56 mm	844.20 W
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Description	Ref.-no.
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Accessories

for waterproofed devices

connecting pipe	892
-----------------	------------

inlet with PG 16 thread + screw (to be discontinued)	893-1
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inlet with thread + screw M 20 x 1,5	893-2
--------------------------------------	--------------

inlet with two openings	894
-------------------------	------------

inlet with one opening	891
------------------------	------------

closed inlet	890
--------------	------------

inlet for trunking 15 x 15 mm	895
-------------------------------	------------



**1-gang rocker switch 10 AX/250 V
with 1 inlet PG 16**

1-pole/2way	606 W-1
-------------	----------------



1-gang rocker switch with pilot light 10 AX/250 V

delivery with lamp 230 V

with 1 inlet PG 16

1-pole/2way	606 KOW-1
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1-gang push-button

without symbol

with 1 inlet PG 16

1-pole/1-way make contact	631 W-1
---------------------------	----------------



suitable screw
caps: 37 ...

Pilot light for lamp E 14

with 1 inlet PG 16

637 W-1

LED lamp:
E 14-230 LED RT,
E 14-230 LED GE,
E 14-230 LED GN

AP 600

JUNG



The standard surface range

Dimensions:
Single device (LxHxW)
61 mm x 61 mm x 47 mm
Combination
Switch/socket
61 mm x 116 mm x 47 mm

Material:
Duroplastic

Colours:
ivory similar RAL 1013
white similar RAL 9010

Protection level: IP 20



AP 600

Dimension: 61 x 61 x 74 mm
Protection: IP 21



orienting light possible with lamps 90, 95, 96-12..

Description	Ref.-no.
1-gang rocker switch 10 AX/250 V	
2-pole/1-way	
ivory	602 A
white	602 A WW
1-pole/2-way	
ivory	606 A
white	606 A WW
intermediate	
ivory	607 A
white	607 A WW



inscription sheet: BB 2 (9x40 mm)

1-gang rocker switch 10 AX/250 V with inscription plate 9 x 40 mm	
1-pole/2-way	
ivory	606 ANA
white	606 ANA WW



1-gang rocker switch 10 AX/250 V with indicator light + orange lens	
2-pole/1-way , delivery with element ref.-no. 90	
ivory	602 KOA
white	602 KOA WW
1-pole/2-way	
ivory	606 KOA
white	606 KOA WW



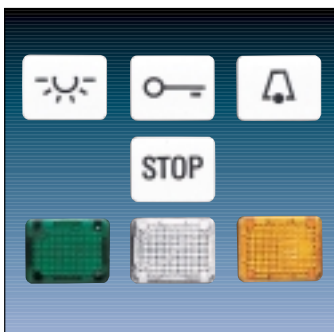
orienting light possible with lamps 90, 95, 96-12..

Push-button 10 AX/250 V	
delivery without symbol (see below)	
1-pole/1-way make contact	
ivory	631 A
white	631 A WW
1-pole make contact with 2 separate indication contacts for revertive communication	
ivory	634 A
white	634 A WW
1-pole/2-way	
ivory	633 A
white	633 A WW

to be changed into pullcord push-button with pullcord insert no. 34, shown on page 20

Symbols		
ivory	symbol light	33 L
	symbol bell	33 K
	symbol door	33 T
	STOP	33 STOP
white	symbol light	33 L WW
	symbol bell	33 K WW
	symbol door	33 T WW
	STOP	33 STOP WW
green	neutral	33 GN
red	neutral	33 NR
transparent		33 KLAR
orange	neutral	33 O

necessary for 631 A.. 634 A.. 633 A..



Description	Ref.-no.
Rocker with inscription plate 9 x 40 mm for 1-gang switches and push-buttons	
ivory	60 NA
white	60 NA WW

inscription sheet:
BB 2 (9x40 mm)



2-gang rocker switch 10 AX/250 V 1-pole / 1-way	
ivory	605 A
white	605 A WW

screwless
connection
for wires up to
2.5 mm²



Venetian blind switch / push-button 10 A/250 V with interlocked contacts to avoid double-sided switching 1-pole switch	
ivory	609 VA
white	609 VA WW

screw terminals
for wires up to
2.5 mm²



1-pole push-button	
ivory	639 VA
white	639 VA WW



SCHUKO-socket 2-pole + earth 16 A-AC/10 A-DC/250 V, German system height 47 mm	
ivory	620 A
white	620 A WW

screwless
connection
for wires up to
2.5 mm²



with child protection (shutter)	
ivory	620 KIA
white	620 KIA WW



screw terminals
for wires up to
2.5 mm²



Description	Ref.-no.
2-gang combination for vertical installation	
SCHUKO-socket 16 A-AC/10 A-DC/250 V	
+ 1-gang/2-way switch 10 A/250 V	
ivory	676 A
white	676 A WW

SCHUKO-socket 16 A-AC/10 A-DC/250 V	
+ 2-gang/1-way switch 10 A/250 V	
ivory	675 A



screw terminals
for wires up to
2.5 mm²



3-gang combination	
for vertical installation	
2-gang SCHUKO-socket 16 A-AC/10 A-DC/250 V	
+ 1-gang/2-way switch 10 A/250 V	
ivory	626 A



inscription sheet:
BB 5 (59x23 mm)

Data-connection cap	
for vertical and 15° or 30° inclined outlet	
30° outlet suitable for vertical combination of several caps, with inscription plate 59 x 23 mm, without mounting plate	
ivory	654 A
white	654 A WW
for suitable mounting plates see pages 26 – 30	

Description	Ref.-no.
2-gang SCHUKO-socket 2-pole + earth 16 A-AC/10 A-DC/250 V, German system dimension: 61 x 102 x 47 mm	
ivory	6020 A
white	6020 A WW
with child protection (shutter)	
ivory	6020 KIA
white	6020 KIA WW
with screw terminals, without child protection	
ivory	6022 A

screwless
connection
for wires up to
2.5 mm²

screw terminals



Socket 2-pole without earth 16 A-AC/10 A-DC/250 V height 47 mm	
ivory	611 A

screw terminals
for wires up to
2.5 mm²



2-gang socket 2-pole without earth 16 A-AC/10 A-DC/250 V	
ivory	6010 A
with child protection (shutter)	
ivory	6010 KIA

screwless
connection
for wires up to
2.5 mm²



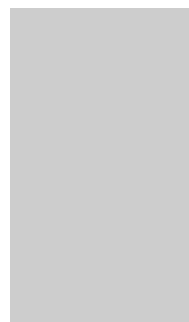
2-gang combination for vertical installation 2-pole socket 16 A-AC/10 A-DC/250 V + 1-gang/2-way switch 10 A/250 V	
ivory	646 A

screw terminals
for wires up to
2.5 mm²



2-pole socket 16 A-AC/10 A-DC/250 V + 2-gang/1-way switch 10 A/250 V	
ivory	645 A

Pull cord switch 10 AX/250 V 1-gang/2-way	
ivory	606 ZA
white	606 ZA WW



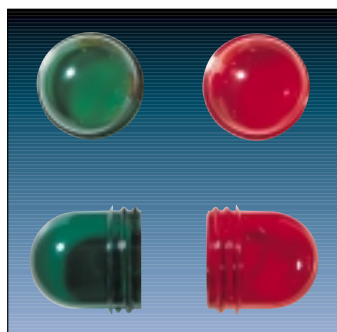
AP 600



Lamp:
E 14-3 W

LED lamp:
E 14-230 LED RT,
E 14-230 LED GE,
E 14-230 LED GN

Description	Ref.-no.
Pilot light without cap (max. charge 5 W, 230 V) thread E 10	
ivory	637-10 A
white	637-10 A WW
thread E 14	
ivory	637-14 A
white	637-14 A WW



Screw cap
for 637-10 A../637-14 A..
flat, for lamps up to max. length of 35 mm

clear	37.02
red	37.05
green	37.06
yellow	37.07
blue	37.08

high, for lamps up to max. length of 54 mm

clear	37
red	37 R
green	37 G
yellow	37 GE
blue	37 BL



Mounting plate

non-flammable, according to VDE 0471
for installation of surface devices on flammable ground

for single devices	328
for 2-gang sockets 6020..	328-622
for 2-gang combinations range AP 600	328-676
for 3-gang combination 626 A..	328-626



Inlet for cable or minitrunking

ivory	11
white	11 WW

Inlet for trunking 15 x 15 mm

ivory	12
white	12 WW

Inlets for pipes with Ø 16 mm

ivory	13
white	13 WW

Surface range extra flat

Description	Ref.-no.
1-gang rocker switch 10 AX/250 V 1-pole/2-way	
ivory	306 A

2-gang rocker switch 10 AX/250 V	
ivory	305 A

1-gang push-button 10 AX/250 V delivery without symbol	
1-pole/1-way make contact	
ivory	331 A
1-pole/2-way	
ivory	333 A

- to be completed with symbols 33...
- to be changed into pullcord push-button with pullcord insert no. 34 (page 20)

SCHUKO-socket 2-pole + earth 16 A-AC/10 A-DC/250 V, German system height 39 mm	
ivory	321 A
white	321 A WW

Symbols		
ivory	symbol light	33 L
	symbol bell	33 K
	symbol door	33 T
	STOP	33 STOP
white	symbol light	33 L WW
	symbol bell	33 K WW
	symbol door	33 T WW
	STOP	33 STOP WW
green	neutral	33 GN
red	neutral	33 NR
transparent		33 KLAR
orange	neutral	33 O

Pull cord switch 16 A/250 V with pilot light 2-pole/1-way	
ivory	102 KOZW

suitable for wall + ceiling installation

flat version,
61 x 61 x 16.5 mm



flat version,
61 x 61 x 16.5 mm



screw terminals
for wires up to
2.5 mm²



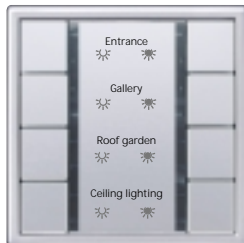
necessary for
331 A, 333 A



103 x 83
x 33.5 mm







KNX/EIB
The intelligent building management system

System benefits:

- Flexible planning and simple installation
- Reduction of the 230 V cable lengths
- Energy savings
- Quick adaption and high level of flexibility in the event of changes in the application
- Easily extendable
- Capable of intercommunication
- No control unit required

KNX/EIB

Design ranges AS 500, A 500 and A plus

	Ref.-no.
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Bus coupling unit 2070 U
with supporting frame
ETS product family: System component



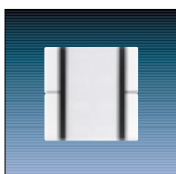
Standard push-button sensor, 1-gang
ETS product family: Push-button
ivory A 2071 NABS
white A 2071 NABS WW
aluminium A 2071 NABS AL



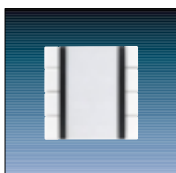
Universal push-button sensor, 1-gang
ETS product family: Push-button
ivory A 2091 NABS
white A 2091 NABS WW
aluminium A 2091 NABS AL



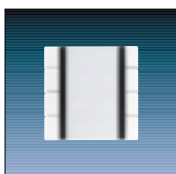
Standard push-button sensor, 2-gang
ETS product family: Push-button
ivory A 2072 NABS
white A 2072 NABS WW
aluminium A 2072 NABS AL



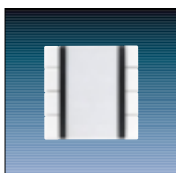
Universal push-button sensor, 2-gang
ETS product family: Push-button
ivory A 2092 NABS
white A 2092 NABS WW
aluminium A 2092 NABS AL



Standard push-button sensor, 4-gang
ETS product family: Push-button
ivory A 2074 NABS
white A 2074 NABS WW
aluminium A 2074 NABS AL



Universal push-button sensor, 4-gang
ETS product family: Push-button
ivory A 2094 NABS
white A 2094 NABS WW
aluminium A 2094 NABS AL



Light mood push-button sensor, 8-gang
ETS product family: Push-button
ivory A 2094 LZ
white A 2094 LZ WW
aluminium A 2094 LZ AL



PIR observer 180°, standard
ETS product family: Physical sensor
1.1 m height of mounting
ivory A 3180
white A 3180 WW
aluminium A 3180 AL



PIR observer 180°, standard
ETS product family: Physical sensor
2.2 m height of mounting
ivory A 3280
white A 3280 WW
aluminium A 3280 AL

KNX/EIB

Design ranges AS 500, A 500 and A plus

	Ref.-no.
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PIR observer 180°, universal
ETS product family: Physical sensor
1.1m height of mounting
ivory A 3180-1 A
white A 3180-1 A WW
aluminium A 3180-1 A AL



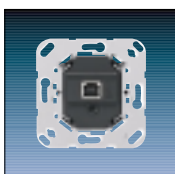
PIR observer 180°, universal
ETS product family: Physical sensor
2.2 m height of mounting
ivory A 3280-1 A
white A 3280-1 A WW
aluminium A 3280-1 A AL



LCD info display
ETS product family: Display
ivory A 2041
white A 2041 WW
aluminium A 2041 AL



Room temperature sensor
ETS product family: Physical sensor
ivory A 2177
white A 2177 WW
aluminium A 2177 AL



USB data interface 2130 USB
ETS product family: Communication
The USB data interface enables the coupling of a PC for the addressing, programming and diagnosis of KNX/EIB components.



Center plate
for USB data interface
ivory A 569 PLT
white A 569 PLT WW
aluminium A 569 PLT AL



Bluetooth-Gateway
Including bus coupling unit (2070 U)
ivory ABG 2041
white ABG 2041 WW
aluminium ABG 2041 AL



1-gang push-button BCU
ETS product family: Push-button
switch position 2071.01 LED
neutral position 2071.02 LED






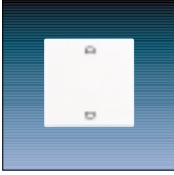


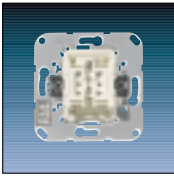



1-gang rocker (AS 500)
for 1-gang push-button BCU
ivory AS 591
white AS 591 WW



1-gang rocker with symbols (AS 500)
for 1-gang push-button BCU
ivory AS 591 P
white AS 591 P WW










KNX/EIB

Design ranges AS 500, A 500 and A plus

	Ref.-no.
	1-gang rocker with transparent lens (AS 500) for 1-gang push-button BCU ivory white AS 591 KO5 AS 591 KO5 WW
	1-gang rocker with transparent lens and symbols (AS 500) for 1-gang push-button BCU ivory white AS 591 KO5P AS 591 KO5P WW
	1-gang rocker (A 500, A plus) for 1-gang push-button BCU white aluminium A 590 WW A 590 AL
	1-gang rocker with symbols (A 500, A plus) for 1-gang push-button BCU white aluminium A 590 P WW A 590 P AL
	1-gang rocker with transparent lens (A 500, A plus) for 1-gang push-button BCU white aluminium A 590 KO5 WW A 590 KO5 AL
	1-gang rocker with transparent lens and symbols (A 500, A plus) for 1-gang push-button BCU white aluminium A 590 KO5P WW A 590 KO5P AL
	2-gang push-button BCU ETS product family: Push-button switch position neutral position 2072.01 LED 2072.02 LED
	2-gang rocker (AS 500) for 2-gang push-button BCU ivory white AS 591-5 AS 591-5 WW
	2-gang rocker with symbols (AS 500) for 2-gang push-button BCU ivory white AS 591-5 MP AS 591-5 MP WW
	2-gang rocker with symbols (AS 500) for 2-gang push-button BCU ivory white AS 591-5 P AS 591-5 P WW

KNX/EIB

Design ranges AS 500, A 500 and A plus

	Ref.-no.
	2-gang rocker with transparent lens (AS 500) for 2-gang push-button BCU ivory white AS 591-5 KO5 AS 591-5 KO5 WW
	2-gang rocker with transparent lens and symbols (AS 500) for 2-gang push-button BCU ivory white AS 591-5 KO5MP AS 591-5 KO5MP WW
	2-gang rocker with transparent lens and symbols (AS 500) for 2-gang push-button BCU ivory white AS 591-5 KO5P AS 591-5 KO5P WW
	2-gang rocker (A 500, A plus) for 2-gang push-button BCU white aluminium A 595 WW A 595 AL
	2-gang rocker with symbols (A 500, A plus) for 2-gang push-button BCU white aluminium A 595 MP WW A 595 MP AL
	2-gang rocker with symbols (A 500, A plus) for 2-gang push-button BCU white aluminium A 595 P WW A 595 P AL
	2-gang rocker with transparent lens (A 500, A plus) for 2-gang push-button BCU white aluminium A 595 KO5 WW A 595 KO5 AL
	2-gang rocker with transparent lens and symbols (A 500, A plus) for 2-gang push-button BCU white aluminium A 595 KO5MP WW A 595 KO5MP AL
	2-gang rocker with transparent lens and symbols (A 500, A plus) for 2-gang push-button BCU white aluminium A 595 KO5P WW A 595 KO5P AL

	Ref.-no.
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Bus coupling unit 2070 U
with supporting frame
ETS product family: System component



Standard push-button sensor, 1-gang
ETS product family: Push-button
ivory 2071 NABS
white CD 2071 NABS WW
blue CD 2071 NABS BL
brown CD 2071 NABS BR
grey CD 2071 NABS GR
light grey CD 2071 NABS LG
black CD 2071 NABS SW



Universal push-button sensor, 1-gang
ETS product family: Push-button
ivory 2091 NABS
white CD 2091 NABS WW
blue CD 2091 NABS BL
brown CD 2091 NABS BR
grey CD 2091 NABS GR
light grey CD 2091 NABS LG
black CD 2091 NABS SW



Standard push-button sensor, 2-gang
ETS product family: Push-button
ivory 2072 NABS
white CD 2072 NABS WW
blue CD 2072 NABS BL
brown CD 2072 NABS BR
grey CD 2072 NABS GR
light grey CD 2072 NABS LG
black CD 2072 NABS SW



Universal push-button sensor, 2-gang
ETS product family: Push-button
ivory 2092 NABS
white CD 2092 NABS WW
blue CD 2092 NABS BL
brown CD 2092 NABS BR
grey CD 2092 NABS GR
light grey CD 2092 NABS LG
black CD 2092 NABS SW



Standard push-button sensor, 4-gang
ETS product family: Push-button
ivory 2074 NABS
white CD 2074 NABS WW
blue CD 2074 NABS BL
brown CD 2074 NABS BR
grey CD 2074 NABS GR
light grey CD 2074 NABS LG
black CD 2074 NABS SW



Universal push-button sensor, 4-gang
ETS product family: Push-button
ivory 2094 NABS
white CD 2094 NABS WW
blue CD 2094 NABS BL
brown CD 2094 NABS BR
grey CD 2094 NABS GR
light grey CD 2094 NABS LG
black CD 2094 NABS SW



	Ref.-no.
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Universal radio-controlled push-button, 4-gang
ETS product family: Push-button
ivory 2094 F
white CD 2094 F WW
blue CD 2094 F BL
brown CD 2094 F BR
grey CD 2094 F GR
light grey CD 2094 F LG
black CD 2094 F SW



Light mood push-button sensor, 8-gang
ETS product family: Push-button
ivory 2094 LZ
white CD 2094 LZ WW
blue CD 2094 LZ BL
brown CD 2094 LZ BR
grey CD 2094 LZ GR
light grey CD 2094 LZ LG
black CD 2094 LZ SW



PIR observer 180°, standard
ETS product family: Physical sensor
1.1 m height of mounting
ivory 3180
white CD 3180 WW
blue CD 3180 BL
brown CD 3180 BR
grey CD 3180 GR
light grey CD 3180 LG
black CD 3180 SW



PIR observer 180°, standard
ETS product family: Physical sensor
2.2 m height of mounting
ivory 3280
white CD 3280 WW
blue CD 3280 BL
brown CD 3280 BR
grey CD 3280 GR
light grey CD 3280 LG
black CD 3280 SW



PIR observer 180°, universal
ETS product family: Physical sensor
1.1 m height of mounting
ivory 3180-1 A
white CD 3180-1 A WW
blue CD 3180-1 A BL
brown CD 3180-1 A BR
grey CD 3180-1 A GR
light grey CD 3180-1 A LG
black CD 3180-1 A SW



PIR observer 180°, universal
ETS product family: Physical sensor
2.2 m height of mounting
ivory 3280-1 A
white CD 3280-1 A WW
blue CD 3280-1 A BL
brown CD 3280-1 A BR
grey CD 3280-1 A GR
light grey CD 3280-1 A LG
black CD 3280-1 A SW



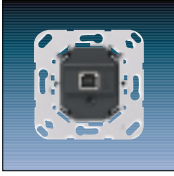







LCD info display
ETS product family: Display
ivory 2041
white CD 2041 WW
blue CD 2041 BL
brown CD 2041 BR
grey CD 2041 GR
light grey CD 2041 LG
black CD 2041 SW








KNX/EIB

Design ranges CD 500 and CD plus

	Ref.-no.
	<p>Room temperature sensor ETS product family: Physical sensor</p> <p>ivory 2177 white CD 2177 WW blue CD 2177 BL brown CD 2177 BR grey CD 2177 GR light grey CD 2177 LG black CD 2177 SW</p>
	<p>Data interface ETS product family: Communication</p> <p>ivory 2130 white CD 2130 WW</p>
	<p>USB data interface 2130 USB ETS product family: Communication The USB data interface enables the coupling of a PC for the addressing, programming and diagnosis of KNX/EIB components.</p>
	<p>Center plate for USB data interface</p> <p>ivory 569 T white CD 569 T WW blue CD 569 T BL brown CD 569 T BR grey CD 569 T GR light grey CD 569 T LG red CD 569 T RT black CD 569 T SW gold-bronze CD 569 T GB platinum CD 569 T PT</p>
	<p>Center plate for USB data interface with inscription plate</p> <p>ivory 569 TNA white CD 569 TNA WW blue CD 569 TNA BL brown CD 569 TNA BR grey CD 569 TNA GR light grey CD 569 TNA LG red CD 569 TNA RT black CD 569 TNA SW</p>
	<p>Bluetooth-Gateway including bus coupling unit (2070 U)</p> <p>ivory BG 2041 white CD BG 2041 WW blue CD BG 2041 BL brown CD BG 2041 BR grey CD BG 2041 GR light grey CD BG 2041 LG black CD BG 2041 SW</p>
	<p>1-gang push-button BCU ETS product family: Push-button</p> <p>switch position 2071.01 LED neutral position 2071.02 LED</p>
	<p>2-gang push-button BCU ETS product family: Push-button</p> <p>switch position 2072.01 LED neutral position 2072.02 LED</p>

KNX/EIB

Design ranges CD 500 and CD plus

	Ref.-no.
	<p>1-gang rocker for 1-gang push-button BCU</p> <p>ivory CD 590 white CD 590 WW blue CD 590 BL brown CD 590 BR grey CD 590 GR light grey CD 590 LG black CD 590 SW gold-bronze CD 590 GB platinum CD 590 PT</p>
	<p>1-gang rocker with symbols for 1-gang push-button BCU</p> <p>ivory CD 590 P white CD 590 P WW blue CD 590 P BL brown CD 590 P BR grey CD 590 P GR light grey CD 590 P LG black CD 590 P SW gold-bronze CD 590 P GB platinum CD 590 P PT</p>
	<p>1-gang rocker with inscription plate for 1-gang push-button BCU</p> <p>ivory CD 590 NA white CD 590 NA WW blue CD 590 NA BL brown CD 590 NA BR grey CD 590 NA GR light grey CD 590 NA LG black CD 590 NA SW gold-bronze CD 590 NA GB platinum CD 590 NA PT</p>
	<p>1-gang rocker with transparent lens for 1-gang push-button BCU</p> <p>ivory CD 590 KO5 white CD 590 KO5 WW blue CD 590 KO5 BL brown CD 590 KO5 BR grey CD 590 KO5 GR light grey CD 590 KO5 LG black CD 590 KO5 SW gold-bronze CD 590 KO5 GB platinum CD 590 KO5 PT</p>
	<p>1-gang rocker with transparent lens and symbols for 1-gang push-button BCU</p> <p>ivory CD 590 KO5 P white CD 590 KO5 P WW blue CD 590 KO5 P BL brown CD 590 KO5 P BR grey CD 590 KO5 P GR light grey CD 590 KO5 P LG black CD 590 KO5 P SW gold-bronze CD 590 KO5 P GB platinum CD 590 KO5 P PT</p>

KNX/EIB

Design ranges CD 500 and CD plus

	Ref.-no.
--	----------



1-gang rocker with transparent lens and inscription plate
for 1-gang push-button BCU

ivory
white
blue
brown
grey
light grey
black
gold-bronze
platinum

CD 590 NAK05
CD 590 NAK05 WW
CD 590 NAK05 BL
CD 590 NAK05 BR
CD 590 NAK05 GR
CD 590 NAK05 LG
CD 590 NAK05 SW
CD 590 NAK05 GB
CD 590 NAK05 PT



2-gang rocker
for 2-gang push-button BCU

ivory
white
blue
brown
grey
light grey
black
gold-bronze
platinum

CD 595
CD 595 WW
CD 595 BL
CD 595 BR
CD 595 GR
CD 595 LG
CD 595 SW
CD 595 GB
CD 595 PT



2-gang rocker with symbols
for 2-gang push-button BCU

ivory
white
blue
brown
grey
light grey
black
gold-bronze
platinum

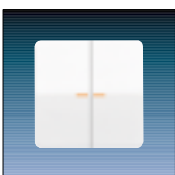
CD 595 MP
CD 595 MP WW
CD 595 MP BL
CD 595 MP BR
CD 595 MP GR
CD 595 MP LG
CD 595 MP SW
CD 595 MP GB
CD 595 MP PT



2-gang rocker with symbols
for 2-gang push-button BCU

ivory
white
blue
brown
grey
light grey
black
gold-bronze
platinum

CD 595 P
CD 595 P WW
CD 595 P BL
CD 595 P BR
CD 595 P GR
CD 595 P LG
CD 595 P SW
CD 595 P GB
CD 595 P PT



2-gang rocker with transparent lens
for 2-gang push-button BCU

ivory
white
blue
brown
grey
light grey
black
gold-bronze
platinum

CD 595 K05
CD 595 K05 WW
CD 595 K05 BL
CD 595 K05 BR
CD 595 K05 GR
CD 595 K05 LG
CD 595 K05 SW
CD 595 K05 GB
CD 595 K05 PT



KNX/EIB

Design ranges CD 500 and CD plus

	Ref.-no.
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2-gang rocker with transparent lens and symbols
for 2-gang push-button BCU

ivory
white
blue
brown
grey
light grey
black
gold-bronze
platinum

CD 595 K05 MP
CD 595 K05 MP WW
CD 595 K05 MP BL
CD 595 K05 MP BR
CD 595 K05 MP GR
CD 595 K05 MP LG
CD 595 K05 MP SW
CD 595 K05 MP GB
CD 595 K05 MP PT



2-gang rocker with transparent lens and symbols
for 2-gang push-button BCU

ivory
white
blue
brown
grey
light grey
black
gold-bronze
platinum

CD 595 K05 P
CD 595 K05 P WW
CD 595 K05 P BL
CD 595 K05 P BR
CD 595 K05 P GR
CD 595 K05 P LG
CD 595 K05 P SW
CD 595 K05 P GB
CD 595 K05 P PT



KNX/EIB

Design range SL 500

	Ref.-no.
--	----------



1-gang push-button BCU
ETS product family: Push-button
switch position
neutral position

2071.01 LED
2071.02 LED



2-gang push-button BCU
ETS product family: Push-button
switch position
neutral position

2072.01 LED
2072.02 LED



1-gang rocker
for 1-gang push-button BCU
black
white
bronze

SL 590 SW
SL 590 WW
SL 590 GB



1-gang rocker with transparent lens
for 1-gang push-button BCU
black
white
bronze

SL 590 KO SW
SL 590 KO WW
SL 590 KO GB

KNX/EIB

Design range SL 500

Ref.-no.



2-gang rocker
for 2-gang push-button BCU
black
white
bronze

SL 595 SW
SL 595 WW
SL 595 GB



2-gang rocker with symbols
for 2-gang push-button BCU
black
white
bronze

SL 595 P SW
SL 595 P WW
SL 595 P GB



2-gang rocker with transparent lens
for 2-gang push-button BCU
black
white
bronze

SL 595 KO5 SW
SL 595 KO5 WW
SL 595 KO5 GB



2-gang rocker with symbols and transparent lens
for 2-gang push-button BCU
black
white
bronze

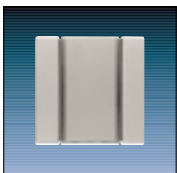
SL 595 KO5 P SW
SL 595 KO5 P WW
SL 595 KO5 P GB

KNX/EIB LS 990, LS plus, Stainless Steel, Aluminium, Anthracite and Gold

Ref.-no.

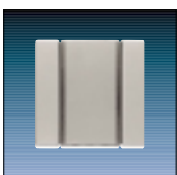


Bus coupling unit 2070 U
with supporting frame
ETS product family: System component



Standard push-button sensor, 1-gang
ETS product family: Push-button
ivory
white
light grey
Metal versions

LS 2071 NABS
LS 2071 NABS WW
LS 2071 NABS LG



stainless steel
aluminium
anthracite
gold

ES 2071 NABS
AL 2071 NABS
AL 2071 NABS AN
AL 2071 NABS GO



Universal push-button sensor, 1-gang
ETS product family: Push-button
ivory
white
light grey
Metal versions

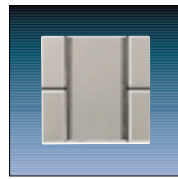
LS 2091 NABS
LS 2091 NABS WW
LS 2091 NABS LG

stainless steel
aluminium
anthracite
gold

ES 2091 NABS
AL 2091 NABS
AL 2091 NABS AN
AL 2091 NABS GO

KNX/EIB LS 990, LS plus, Stainless Steel, Aluminium, Anthracite and Gold

Ref.-no.



Standard push-button sensor, 2-gang
ETS product family: Push-button
ivory
white
light grey
Metal versions

LS 2072 NABS
LS 2072 NABS WW
LS 2072 NABS LG

stainless steel
aluminium
anthracite
gold

ES 2072 NABS
AL 2072 NABS
AL 2072 NABS AN
AL 2072 NABS GO



Universal push-button sensor, 2-gang
ETS product family: Push-button
ivory
white
light grey
Metal versions

LS 2092 NABS
LS 2092 NABS WW
LS 2092 NABS LG

stainless steel
aluminium
anthracite
gold

ES 2092 NABS
AL 2092 NABS
AL 2092 NABS AN
AL 2092 NABS GO



Standard push-button sensor, 4-gang
ETS product family: Push-button
ivory
white
light grey
Metal versions

LS 2074 NABS
LS 2074 NABS WW
LS 2074 NABS LG

stainless steel
aluminium
anthracite
gold

ES 2074 NABS
AL 2074 NABS
AL 2074 NABS AN
AL 2074 NABS GO



Universal push-button sensor, 4-gang
ETS product family: Push-button
ivory
white
light grey
Metal versions

LS 2094 NABS
LS 2094 NABS WW
LS 2094 NABS LG

stainless steel
aluminium
anthracite
gold

ES 2094 NABS
AL 2094 NABS
AL 2094 NABS AN
AL 2094 NABS GO



Universal radio-controlled push-button, 4-gang
ETS product family: Push-button
ivory
white
light grey
Metal versions

LS 2094 F
LS 2094 F WW
LS 2094 F LG

stainless steel
aluminium
anthracite
gold

ES 2094 F
AL 2094 F
AL 2094 F AN
AL 2094 F GO



Light mood push-button sensor, 8-gang
ETS product family: Push-button
ivory
white
light grey
Metal versions

LS 2094 LZ NABS
LS 2094 LZ NABS WW
LS 2094 LZ NABS LG

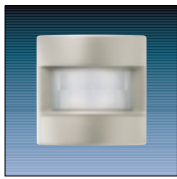
stainless steel
aluminium
anthracite
gold

ES 2094 LZ NABS
AL 2094 LZ NABS
AL 2094 LZ NABS AN
AL 2094 LZ NABS GO



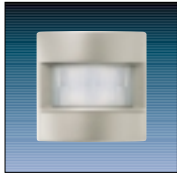
KNX/EIB LS 990, LS plus, Stainless Steel,
Aluminium, Anthracite and Gold

Ref.-no.



PIR observer 180°, standard
ETS product family: Physical sensor
1.1 m height of mounting
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

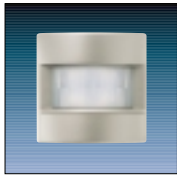
LS 3180
LS 3180 WW
LS 3180 LG



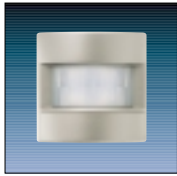
ES 3180
AL 3180
AL 3180 AN
AL 3180 GO

PIR observer 180°, standard
ETS product family: Physical sensor
2.2 m height of mounting
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 3280
LS 3280 WW
LS 3280 LG

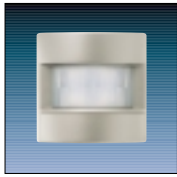


ES 3280
AL 3280
AL 3280 AN
AL 3280 GO

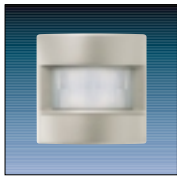


PIR observer 180°, universal
ETS product family: Physical sensor
1.1 m height of mounting
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 3180-1 A
LS 3180-1 A WW
LS 3180-1 A LG



ES 3180-1 A
AL 3180-1 A
AL 3180-1 A AN
AL 3180-1 A GO



PIR observer 180°, universal
ETS product family: Physical sensor
2.2 m height of mounting
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 3280-1 A
LS 3280-1 A WW
LS 3280-1 A LG

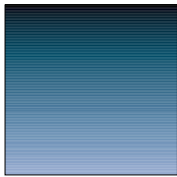


ES 3280-1 A
AL 3280-1 A
AL 3280-1 A AN
AL 3280-1 A GO



LCD info display
ETS product family: Display
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 2041
LS 2041 WW
LS 2041 LG



ES 2041
AL 2041
AL 2041AN
AL 2041GO



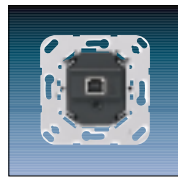
Room temperature sensor
ETS product family: Physical sensor
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 2177
LS 2177 WW
LS 2177 LG

ES 2177
AL 2177
AL 2177 AN
AL 2177 GO

KNX/EIB LS 990, LS plus, Stainless Steel,
Aluminium, Anthracite and Gold

Ref.-no.

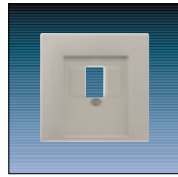


USB data interface 2130 USB
ETS product family: Communication
The USB data interface enables the coupling of a PC for the addressing, programming and diagnosis of KNX/EIB components.



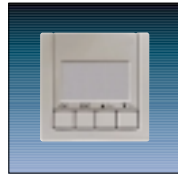
Center plate for USB data interface
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 969 T
LS 969 T WW
LS 969 T LG



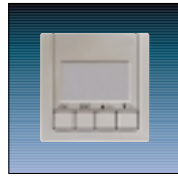
Center plate for USB data interface with inscription plate
stainless steel
aluminium
anthracite
Gold

ES 2969 T NA
AL 2969 T NA
AL 2969 T NA AN
AL 2969 T NA GO



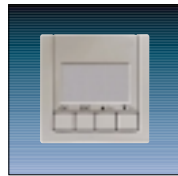
Bluetooth-Gateway including bus coupling unit (2070 U)
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LSBG 2041
LSBG 2041 WW
LSBG 2041 LG



Room controller display, 3-gang
ETS product family: Heating, ventilation, A/C
Ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

RCDLS 2021
RCDLS 2021 WW
RCDLS 2021 LG



Room controller display, 3-gang
ETS product family: Heating, ventilation, A/C
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

RCDES 2021
RCDAL 2021
RCDAL 2021 AN
RCDAL 2021 GO



Room controller display, 4-gang
ETS product family: Heating, ventilation, A/C
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

RCDLS 2022
RCDLS 2022 WW
RCDLS 2022 LG



Room controller display, 4-gang
ETS product family: Heating, ventilation, A/C
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

RCDES 2022
RCDAL 2022
RCDAL 2022 AN
RCDAL 2022 GO

KNX/EIB LS 990, LS plus, Stainless Steel, Aluminium, Anthracite and Gold

Ref.-no.



Room controller display, 5-gang
ETS product family: Heating, ventilation, A/C
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

RCDLS 2023
RCDLS 2023 WW
RCDLS 2023 LG

RCDLS 2023
RCDAL 2023
RCDAL 2023 AN
RCDAL 2023 GO



Room controller display, 6-gang
ETS product family: Heating, ventilation, A/C
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

RCDLS 2024
RCDLS 2024 WW
RCDLS 2024 LG

RCDLS 2024
RCDAL 2024
RCDAL 2024 AN
RCDAL 2024 GO



Room controller display, 8-gang
ETS product family: Heating, ventilation, A/C
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

RCDLS 2044
RCDLS 2044 WW
RCDLS 2044 LG

RCDLS 2044
RCDAL 2044
RCDAL 2044 AN
RCDAL 2044 GO



1-gang push-button BCU
ETS product family: Push-button
switch position
neutral position

2071.01 LED
2071.02 LED



2-gang push-button BCU
ETS product family: Push-button
switch position
neutral position

2072.01 LED
2072.02 LED



1-gang rocker
for 1-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 990
LS 990 WW
LS 990 LG

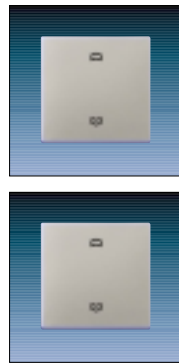


1-gang rocker
for 2-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

ES 2990
AL 2990
AL 2990 AN
AL 2990 GO

KNX/EIB LS 990, LS plus, Stainless Steel, Aluminium, Anthracite and Gold

Ref.-no.



1-gang rocker with symbols
for 1-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 990 P
LS 990 P WW
LS 990 P LG

ES 2990 P
AL 2990 P
AL 2990 P AN
AL 2990 P GO



1-gang rocker with inscription plate
for 1-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 990 NA
LS 990 NA WW
LS 990 NA LG

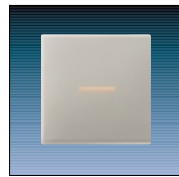
ES 2990 NA
AL 2990 NA
AL 2990 NA AN
AL 2990 NA GO



1-gang rocker with transparent lens
for 1-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 990 KO5
LS 990 KO5 WW
LS 990 KO5 LG

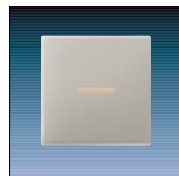
ES 2990 KO5
AL 2990 KO5
AL 2990 KO5 AN
AL 2990 KO5 GO



1-gang rocker with symbols and transparent lens
for 1-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 990 KO5 P
LS 990 KO5 P WW
LS 990 KO5 P LG

ES 2990 KO5 P
AL 2990 KO5 P
AL 2990 KO5 P AN
AL 2990 KO5 P GO



2-gang rocker
for 2-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 995
LS 995 WW
LS 995 LG

ES 2995
AL 2995
AL 2995 AN
AL 2995 GO



2-gang rocker
for 2-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 995
LS 995 WW
LS 995 LG

ES 2995
AL 2995
AL 2995 AN
AL 2995 GO



2-gang rocker
for 2-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 995
LS 995 WW
LS 995 LG

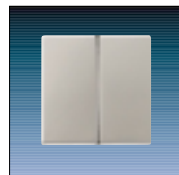
ES 2995
AL 2995
AL 2995 AN
AL 2995 GO



2-gang rocker
for 2-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 995
LS 995 WW
LS 995 LG

ES 2995
AL 2995
AL 2995 AN
AL 2995 GO



2-gang rocker
for 2-gang push-button BCU
ivory
white
light grey
Metal versions
stainless steel
aluminium
anthracite
gold

LS 995
LS 995 WW
LS 995 LG

ES 2995
AL 2995
AL 2995 AN
AL 2995 GO

KNX/EIB LS 990, LS plus, Stainless Steel, Aluminium, Anthracite and Gold

Ref.-no.



2-gang rocker with symbols
for 2-gang push-button BCU
ivory
white
light grey

LS 995 MP
LS 995 MP WW
LS 995 MP LG

Metal versions
stainless steel
aluminium
anthracite
gold

ES 2995 MP
AL 2995 MP
AL 2995 MP AN
AL 2995 MP GO



2-gang rocker with symbols
for 2-gang push-button BCU
ivory
white
light grey

LS 995 P
LS 995 P WW
LS 995 P LG

Metal versions
stainless steel
aluminium
anthracite
gold

ES 2995 P
AL 2995 P
AL 2995 P AN
AL 2995 P GO



2-gang rocker with transparent lens
for 2-gang push-button BCU
ivory
white
light grey

LS 995 KO5
LS 995 KO5 WW
LS 995 KO5 LG

Metal versions
stainless steel
aluminium
anthracite
gold

ES 2995 KO5
AL 2995 KO5
AL 2995 KO5 AN
AL 2995 KO5 GO



2-gang rocker with symbols and transparent lens
for 2-gang push-button BCU
ivory
white
light grey

LS 995 KO5MP
LS 995 KO5MP WW
LS 995 KO5MP LG

Metal versions
stainless steel
aluminium
anthracite
gold

ES 2995 KO5MP
AL 2995 KO5MP
AL 2995 KO5MP AN
AL 2995 KO5MP GO



2-gang rocker with symbols and transparent lens
for 2-gang push-button BCU
ivory
white
light grey

LS 995 KO5P
LS 995 KO5P WW
LS 995 KO5P LG

Metal versions
stainless steel
aluminium
anthracite
gold

ES 2995 KO5 P
AL 2995 KO5 P
AL 2995 KO5 P AN
AL 2995 KO5 P GO



KNX/EIB WG 800

Ref.-no.



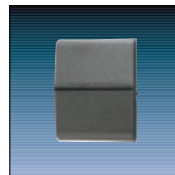
1-gang push-button BCU
ETS product family: Push-button
switch position
neutral position

8071.01 LED W
8071.02 LED W



2-gang push-button BCU
ETS product family: Push-button
switch position
neutral position

8072.01 LED W
8072.02 LED W



1-gang rocker
for 1-gang push-button BCU

800 NT



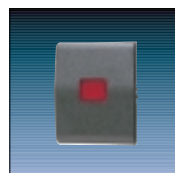
1-gang rocker with symbols
for 1-gang push-button BCU

800 P



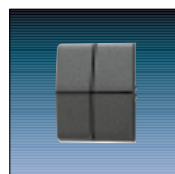
1-gang rocker with inscription plate
for 1-gang push-button BCU

800 NA



1-gang rocker with red transparent lens
for 1-gang push-button BCU

800 KO



2-gang rocker
for 2-gang push-button BCU

805 NT



2-gang rocker with symbols
for 2-gang push-button BCU

805 P






2-gang rocker with symbols
for 2-gang push-button BCU

805 MP




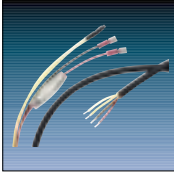


KNX/EIB

Presence detector

Ref.-no.	
	<p>Presence detector for BCU 2070 U ETS product family: Physical sensors standard universal</p> <p>3360 3360-1</p>
	<p>Surface cap</p> <p>PM-KAPPE</p>
	<p>Bus coupling unit 2070 U ETS product family: System devices</p>

KNX/EIB

System devices






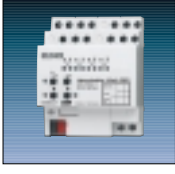
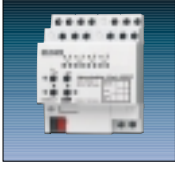
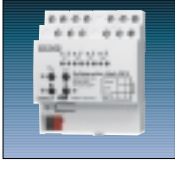


Ref.-no.	
	<p>Power supply 640 mA 2002 REG ETS product family: System components 7 DIN rail units</p>
	<p>Power supply 320 mA 2005 REG ETS product family: System components 4 DIN rail units</p>
	<p>Uninterruptible power supply 640 mA USV 640 MA ETS product family: System components 8 DIN rail units</p>
	<p>Basic cable set KSB 4 2 wires with fuse</p>
	<p>Extended cable set KSE 2 4 wires with fuse and temperature sensor</p>
	<p>Lead gel accumulator BGA 12 AH 12 V DC, 12 Ah</p>

KNX/EIB

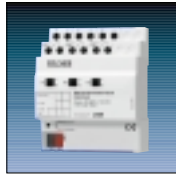









System Devices / Actuators

Ref.-no.	
	<p>Data interface 2131 REG ETS product family: Communication 3 DIN rail units</p>
	<p>USB data interface 2130 USB REG ETS product family: Communication 2 DIN rail units</p>
	<p>Line coupler 2141 REG ETS product family: System components 2 DIN rail units</p>
	<p>Logic module 2145 REGX ETS product family: Controller 2 DIN rail units</p>
	<p>Switch actuator 2132.16 REG 2-gang, 16 A ETS product family: Output 4 DIN rail units</p>
	<p>Switch actuator 2134.16 REG 4-gang, 16 A ETS product family: Output 4 DIN rail units</p>
	<p>Switch actuator 2134.16 CREG 4-gang, 16 A, C-load ETS product family: Output 4 DIN rail units</p>
	<p>Switch actuator 2136.6 REG 6-gang, 6 A ETS product family: Output 4 DIN rail units</p>
	<p>Switch actuator 2138.10 REG 8-gang, 6/16 A ETS product family: Output 4 DIN rail units</p>
	<p>Switch actuator 2138.16 CREG 8-gang, 16 A, C-load ETS product family: Output 8 DIN rail units</p>











KNX/EIB Actuators

	Ref.-no.	
	Heating actuator 6-gang, 0.05 A ETS product family: Output 4 DIN rail units	2136 REG HZ
	Switch/Shutter actuator 16-gang, 10 A ETS product family: Output 8 DIN rail units	2116.10 REG
	Analog actuator 4-gang ETS product family: Output 4 DIN rail units	2204.01 REGA
	Analog actuator module 4-gang Extension module for analog actuator 4 DIN rail units	2204.01 REGAM
	Blinds actuator, 6A 2-gang ETS product family: Output 4 DIN rail units	2202 REG
	Blinds actuator 4-gang, 6 A with manual operation and status LED ETS product family: Shutter 4 DIN rail units	2204 REG H
	Blinds actuator 4-gang, 24 V DC, 6 A with manual operation and status LED ETS product family: Shutter 4 DIN rail units	2224 REG H
	Shutter actuator 4-gang, 6 A with manual operation and status LED ETS product family: Shutter 4 DIN rail units	2204 REG HR
	Universal dimming actuator 1-gang Capacity: 500 W ETS product family: Illumination 4 DIN rail units	3601 REG
	Universal dimming actuator 2-gang Capacity: 2 x 300 W ETS product family: Illumination 4 DIN rail units	3602 REG

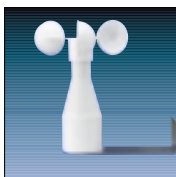
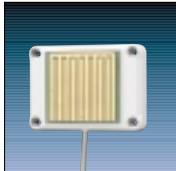


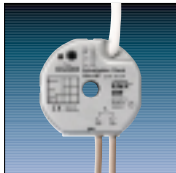
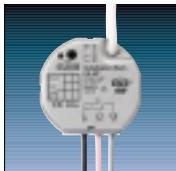
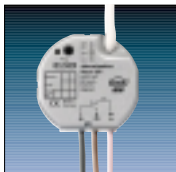
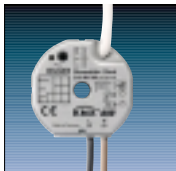


KNX/EIB Actuators / Timer switch

	Ref.-no.	
	Control unit 1 - 10 V 3-gang, 16 A ETS product family: Illumination 4 DIN rail units	2193 REG
	Control unit 1 - 10 V 2-gang ETS product family: Illumination 4 DIN rail units	2092 REGX
	Light sensor For control unit 2092 REGX (no KNX/EIB device)	2092 LFX
	DALI Gateway The device enables up to 64 DALI actuators (electronic ballasts with DALI interface) to be operated. They can be switched and dimmed in up to 16 channels. It is possible to assign an actuator to one channel. Up to 64 actuators can be assigned to a channel. ETS product family: Illumination	2097 EBX
	Timer switch 4-channel, yearly time switching ETS product family: Timer switch 6 DIN rail units	2154 REG
	Timer switch 16-channel, yearly time switching ETS product family: Timer switch (comes with OBELISK memory card) 6 DIN rail units	2156 REG
	DCF receiver receiver module for the DCF 77 radio signal	2154 DCF
	OBELISK software set for data transmission between PC and time switch	2154 PC
	OBELISK memory card for data transmission between PC and 2154 REG	2154 EEPROM
	Timer switch 2-channel for daily or weekly time switching ETS product family: Timer switch 2 DIN rail units	2152 REG











KNX/EIB Binary inputs

	Ref.-no.
	Brightness sensor 2095 EB The device consists of a decoder and a receiver for constant light control ETS product family: Physical sensor
	Brightness sensor 2160 REG including light sensor LA 90 ETS product family: Physical sensor 2 DIN rail units
	Binary input 2114 REG 4-gang, 230 V ETS product family: Input 2 DIN rail units
	Binary input 2118 REG 8-gang, 230 V ETS product family: Input 4 DIN rail units
	Binary input 2126 REG 6-gang, 24 V ETS product family: Input 2 DIN rail units
	Weather station 2224 REG W 4-gang ETS product family: Input 4 DIN rail units
	Analog input 2214 REG A 4-gang ETS product family: Input 4 DIN rail units
	Analog input extension 2214 REGAM To extend weather station or analog input 4 DIN rail units
	Power supply WSSV 10 24 V AC to supply weather station or analog input 4 DIN rail units
	Combi sensor WS 10 KS
	Combi sensor with DCF receiver WS 10 KS DCF (no KNX/EIB device) detects wind speed, dawn, brightness in 3 directions and rainfall







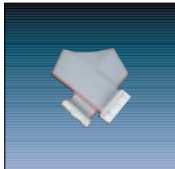




KNX/EIB Binary inputs / Actuators FM

	Ref.-no.
	Wind sensor WS 10 W (no KNX/EIB device)
	Rain sensor WS 10 R (no KNX/EIB device)
	Brightness sensor WS 10 H (no KNX/EIB device)
	Dawn sensor WS 10 D (no KNX/EIB device)
	Temperature sensor WS 10 T (no KNX/EIB device)
	Flush mounted switch actuator 2131.16 UP 1-gang, 16 A with 2-gang universal binary input ETS product family: Output
	Flush mounted switch actuator 2132.6 UP 2-gang, 6 A with 2-gang universal binary input ETS product family: Output
	Flush mounted shutter actuator 2231 UP 1-gang, 6 A, 230 V with 2-gang universal binary input ETS product family: Shutter
	Flush mounted dimming actuator 3210 UP 1-gang Capacity: 50 – 220 W/VA with satellite input ETS product family: Illumination
	Valve drive 2176 SV for continuous regulation ETS product family: Heating, AC, ventilation

KNX/EIB Communication / Accessories

	Ref.-no.
	<p>Push-button interface 2-gang 2076-2 T 4-gang 2076-4 T ETS product family: Binary input Flush mounted device</p>
	<p>IP Control unit IPZ 1000 REG Interface between an Ethernet and the KNX/EIB ETS product family: Communication 8 DIN rail units</p>
	<p>Telecommunication interface 2600 AP wall mounted ETS product family: Communication</p>
	<p>Infrared converter including special BCU ivory A 2800 IR white A 2800 IR WW The IR converter • receives IR signals from standard IR remote controls and operates lighting, heating and other equipment in accordance with the commands received • transmits IR signals to TV, audio or other remote- controlled equipment in the room ETS product family: Communication</p>
	<p>Intermediate frame for A 2800 IR for the design range LS 990, Stainless Steel, Aluminium, Anthracite and LS plus ivory LS 961 Z5 white LS 961 Z5 WW stainless steel ES 2961 Z5-L aluminium AL 2961 Z5-L anthracite AL 2961 Z5-L AN</p>
	<p>Data rail 2030.214 Self adhesive ETS product family: System accessories</p>
	<p>Data rail cover 2040.240 ETS product family: System accessories</p>
	<p>Bus connection block 2050 RT SW ETS product family: System accessories</p>
	<p>Connection cover 2050 K For REG components ETS product family: System accessories</p>
	<p>Facility pilot (English version) for the visualisation of the bus system. Planer version FAP-PLANER-GB Version for 50 data points FAP50-GB Version for 300 data points FAP300-GB Full version FAPVOLL-GB</p>

KNX/EIB Synoptics

	Ref.-no.
	<p>Flush mounted panel box Equipped with integrated power supply, electronic system and BCU. for 2 panels 2422 U for 3 panels 2423 U for 4 panels 2424 U</p>
	<p>Surface mounted panel box Equipped with integrated power supply, electronic system and BCU. for 2 panels 2422 A for 3 panels 2423 A for 4 panels 2424 A</p>
	<p>Signal panel L 40 2405 to monitor the actual operating states of KNX/EIB systems.</p>
	<p>Blank plate 2415</p>
	<p>Operator panel TL 15 2410 to monitor or to have direct influence on the actual operating states of KNX/EIB systems.</p>
	<p>Electronic control module 2430 REG 8 DIN rail units</p>
	<p>Power supply, 5 V 2447 REG For signal/operator panel 8 DIN rail units</p>
	<p>Ribbon cable, 20-poles for the connection of control units and panels 2450.300 2450.500</p>
	<p>LCD mini panel MT 701 to display and control KNX/EIB functions from a central position.</p>
	<p>Frame for mini panel white R 24 WW black R 24 SW stainless steel (lacquered) R 24 ES aluminium (lacquered) R 24 AL</p>
	<p>Flush mounted recessed box EBG 24 For LCD mini panel 212 x 124 x 75 mm</p>

















Contents



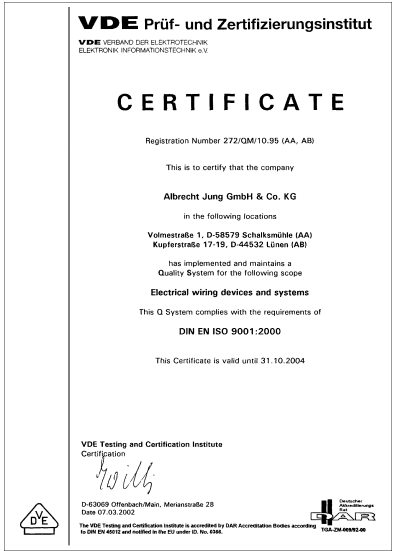


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Testmarks and symbols

JUNG switch inserts comply with VDE 0632 part 1/A2 (EN 60669-1).
 JUNG socket outlets comply with VDE 0620 (IEC 884-1).

Testmarks	
	Testmark Germany
	ENEC European Norms Electrical Certification.
	Testmark Netherland
	Testmark Austria
	Testmark Norway
	Testmark France
	Testmark Sweden
	Testmark Belgium
	Testmark Poland
	Testmark Finland
	Testmark Switzerland
	Testmark Russia
	Testmark Czech Republic
	Testmark Lithuania
	Testmark Denmark
	Testmark China

	SCHUKO-sockets Regarding VDE 0620 the terminals can be used as connections to other devices
	CE = Communautés Européennes All JUNG-items which apply to the CE-regulations are marked with the CE-symbol as well on the product and on the package.
IP-International Protection	
IP	(International protection) Describes the protection mode of a device against ingress of foreign objects and humidity to DIN 40050, IEC 60529.
IP 21	Protection against impurity greater than 50 mm diameter, touching with fingers and vertical falling splash water.
IP 44	Protection against touching of live parts, with wires or the like, greater than 1 mm diameter and splash water from all directions.
IP 55	Protection against damaging dust desposits and against a jet of water from a nozzle directed against the housing from any direction towards the housing.
IP 65	Protection against dust deposits and powerful jets of water from any direction.
JUNG has always set the standard for high-quality products. Of course we are certified according to the international standard DIN EN ISO 9001 since 1995.	
 <p>VDE Prüf- und Zertifizierungsinstitut <small>VDE VERBAND DER ELEKTROTECHNIK ELEKTRONIK- INFORMATIKTECHNIK G.V.</small></p> <p>CERTIFICATE</p> <p>Registration Number 272/QM/10.95 (AA, AB)</p> <p>This is to certify that the company Albrecht Jung GmbH & Co. KG in the following locations Volmestraße 1, D-58579 Schalksmühle (AA) Kupferstraße 17-19, D-44532 Lünen (AB) has implemented and maintains a Quality System for the following scope Electrical wiring devices and systems This Q System complies with the requirements of DIN EN ISO 9001:2000</p> <p>This Certificate is valid until 31.10.2004</p> <p>VDE Testing and Certification Institute Certification <i>Willy</i> D-42699 Solingen, Merianstraße 25 Date 07/03/2002</p> <p>The VDE Testing and Certification Institute is accredited by DIN Accreditation Bodies according to DIN EN ISO 9001 and tested in the EU under ID. No. 0366.</p>  	

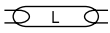
Symbols

AC/~
DC/=

alternating current
direct current
X = fluorescent lamp rated current



Incandescent lamp



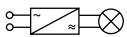
Fluorescent lamp



Low voltage halogen lamp



High voltage halogen lamp



TRONIC transformer



Conventional (inductive) transformer



Safety converter
(TRONIC transformer)



Suitable for direct mounting
on normal flammable surfaces



Symbol for temperature protected converter

AC-1

Ohmic load
 $\cos \varphi > 0.8$

AC-3

Inductive load
 $\cos \varphi < 0.8$



Symbol for dimmer and electronic switch
refers to DIN EN 60669-1/A2
and VDE 0632 part 1/A2

μ

Symbol for switch devices with relay with micro contacts
refers to DIN EN 60669-1/A2 and
VDE 0632 part 1/A2



Symbol for independent converter

The four letters „R“, „L“, „C“, $\text{\textcircled{M}}$ or their combinations designate the dimmers by indicating their preferred load:



R = ohmic
L = inductive
C = capacitive



R = ohmic
L = inductive



R = ohmic
C = capacitive



R = ohmic

Make sure that no L- and C-loads are mixed even when a dimmer shows several symbols, it cannot handle a mixed L/C installation!



$\text{\textcircled{M}}$ = motor

RAL

Department for quality assurance
and identification (e.g. for colours)

Insulation



Insulation type I
Devices with basic insulation and earth contact.



Insulation type II
Devices with additional or strengthened insulation added to the basic insulation.



Insulation type III
Devices for connection with SELF
(up to AC 50 V or DC 120 V).

Associations



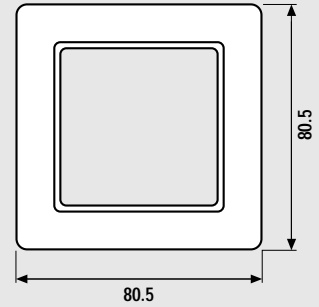
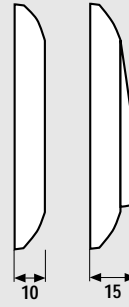
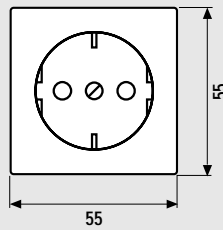
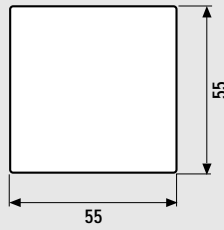
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registered trademark



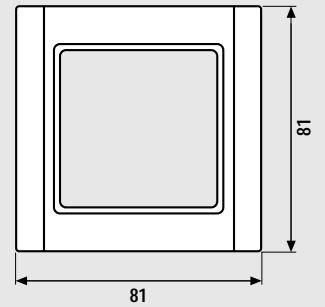
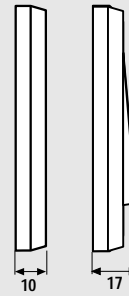
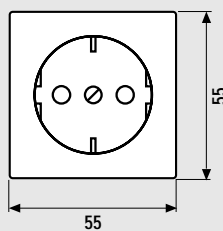
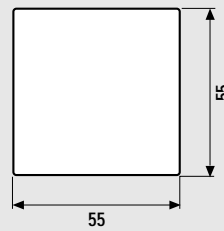
Konnex Association

Dimensions

AS 500
 AS 500 anti-bacterial
 AS universal



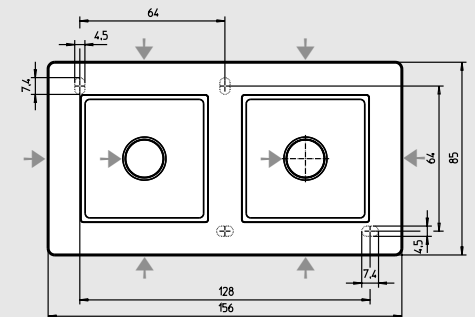
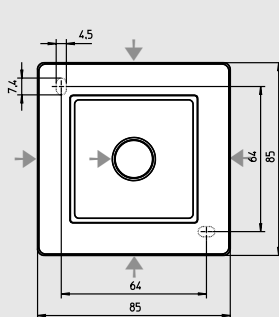
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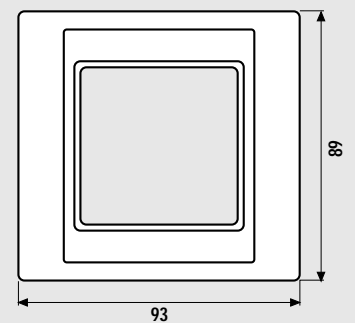
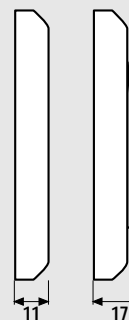
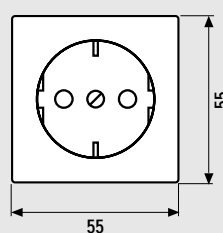
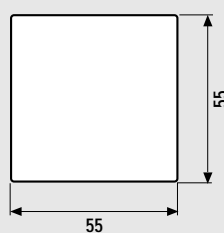
Surface caps for the design ranges

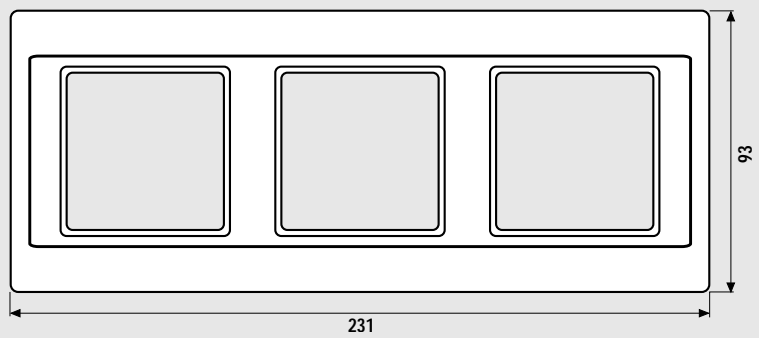
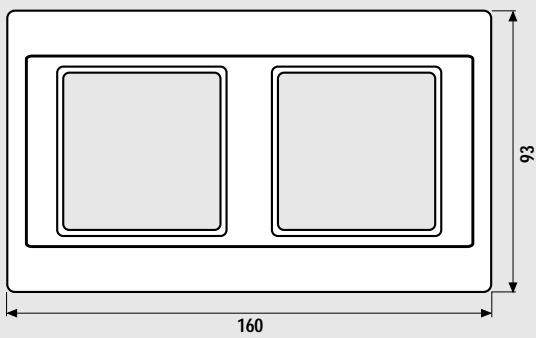
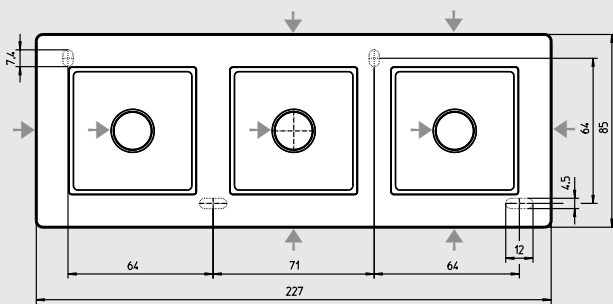
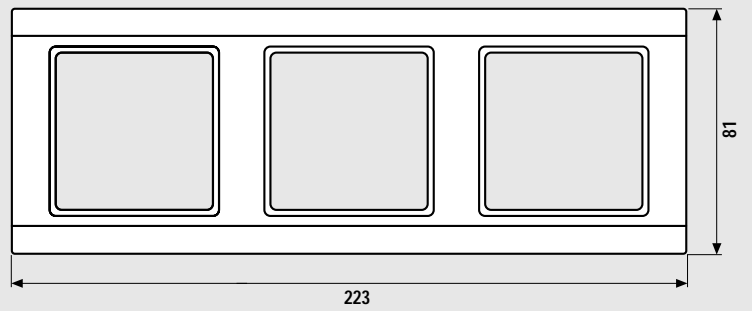
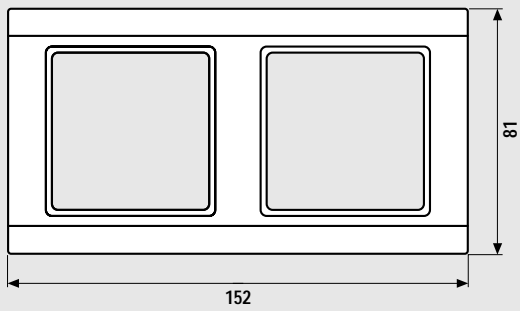
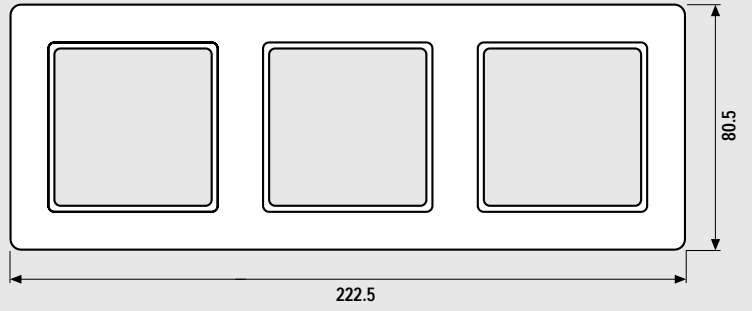
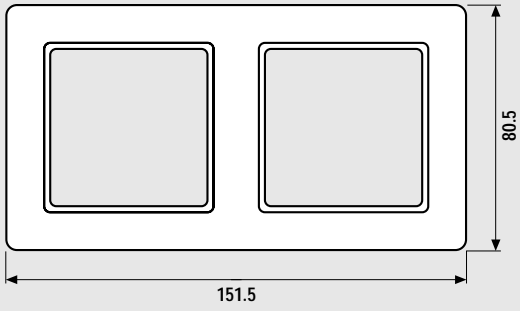
AS 500
 AS 500 anti-bacterial
 A 500

→ cable entry

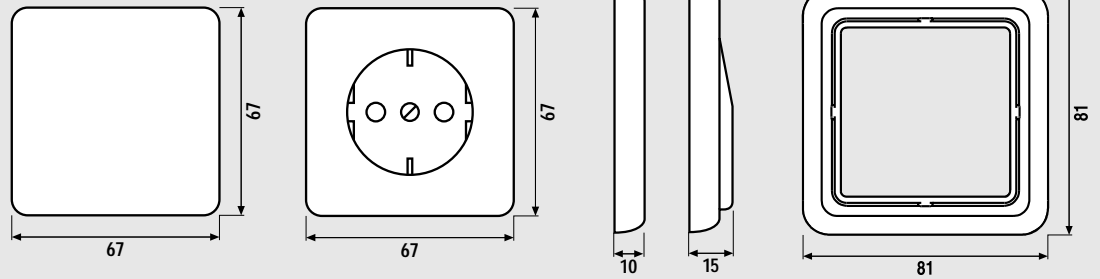


A plus

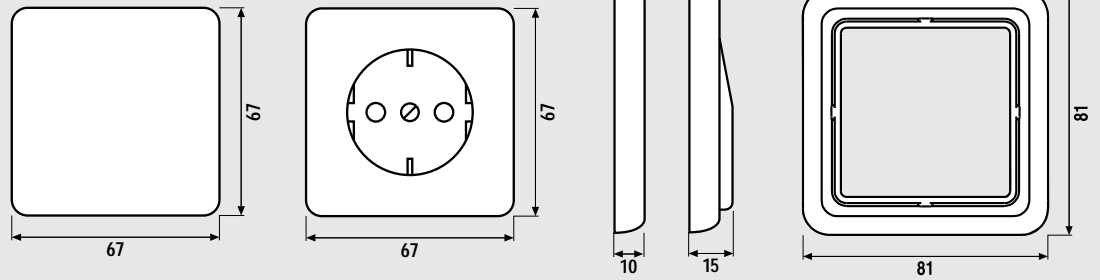




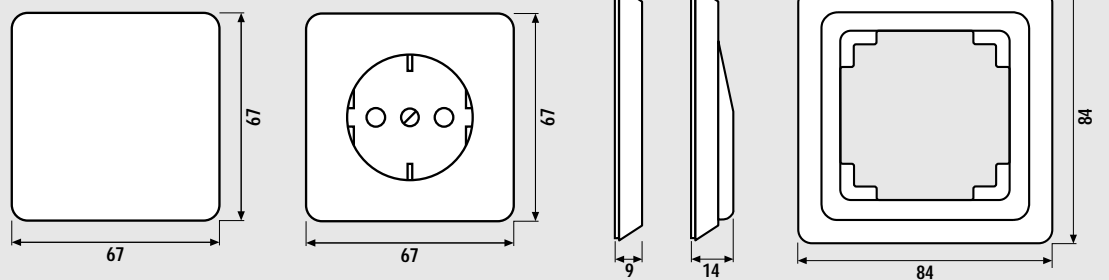
CD 500



CD universal

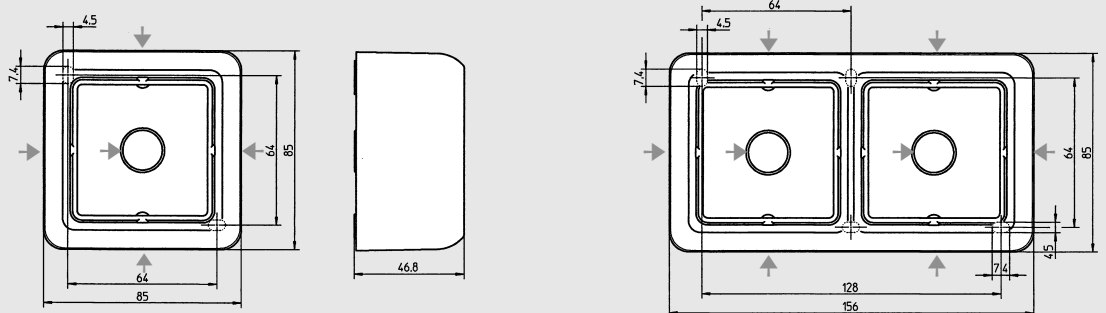


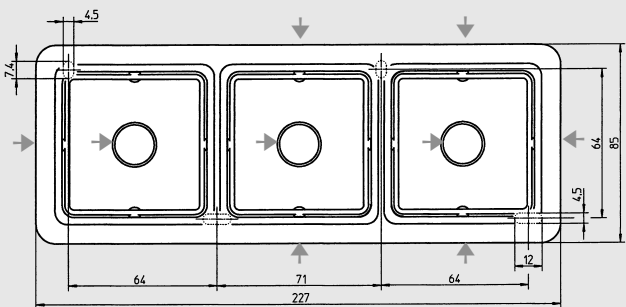
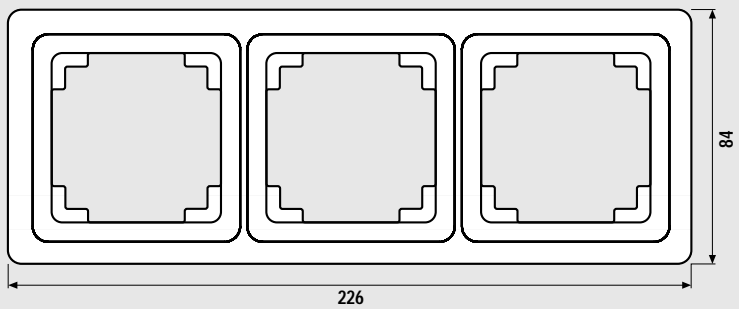
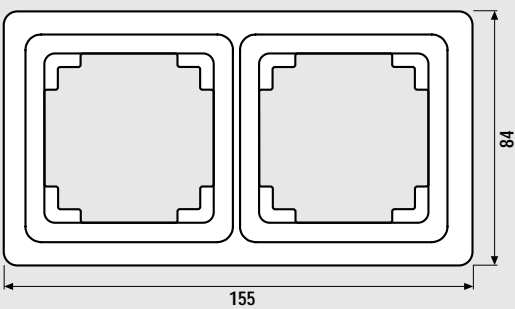
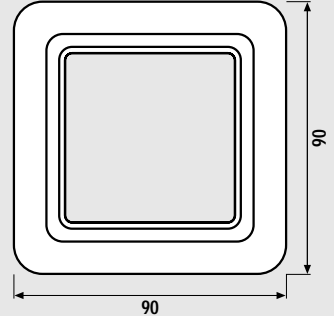
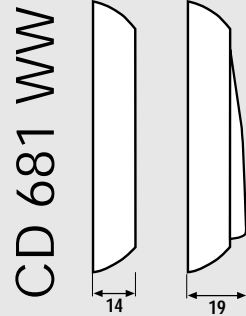
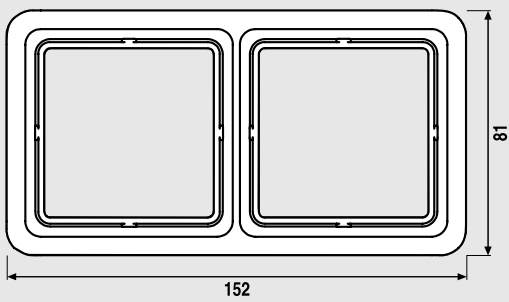
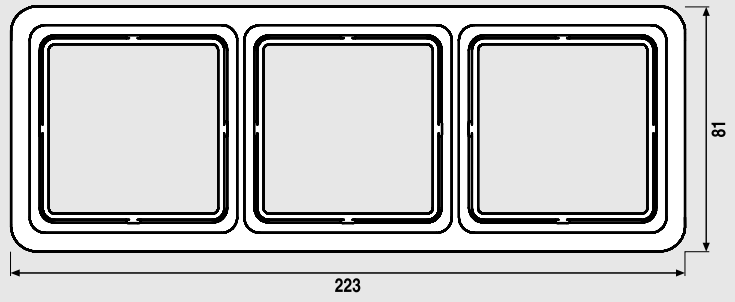
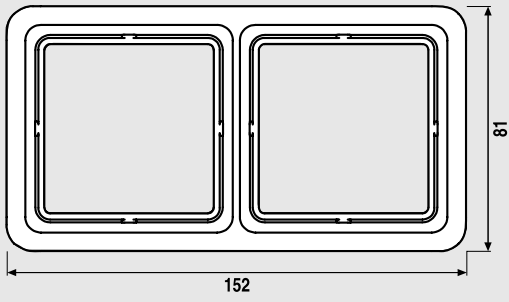
CD plus



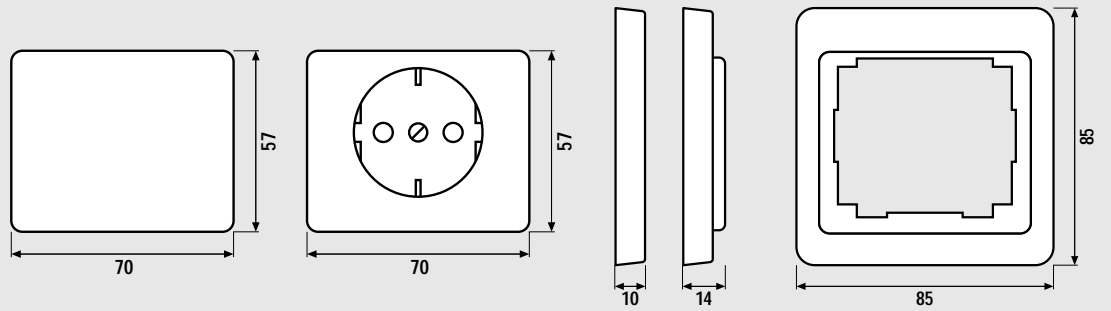
Surface caps for the design ranges CD 500

→ cable entry

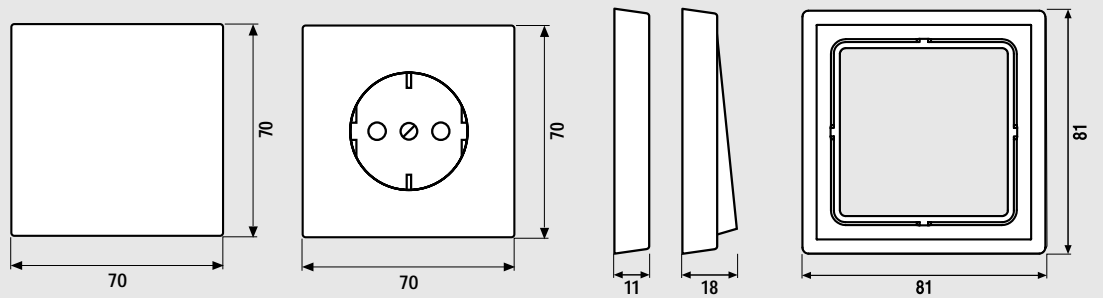




SL 500



LS 990 Stainless Steel Aluminium Anthracite Gold



Surface caps

for the design ranges

LS 990

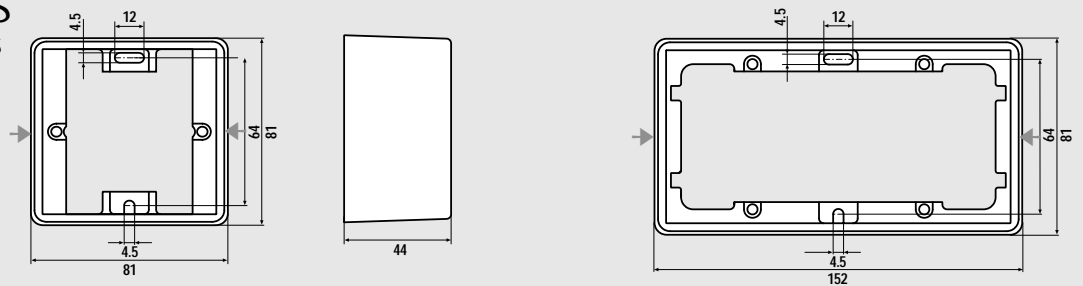
Stainless Steel

Aluminium

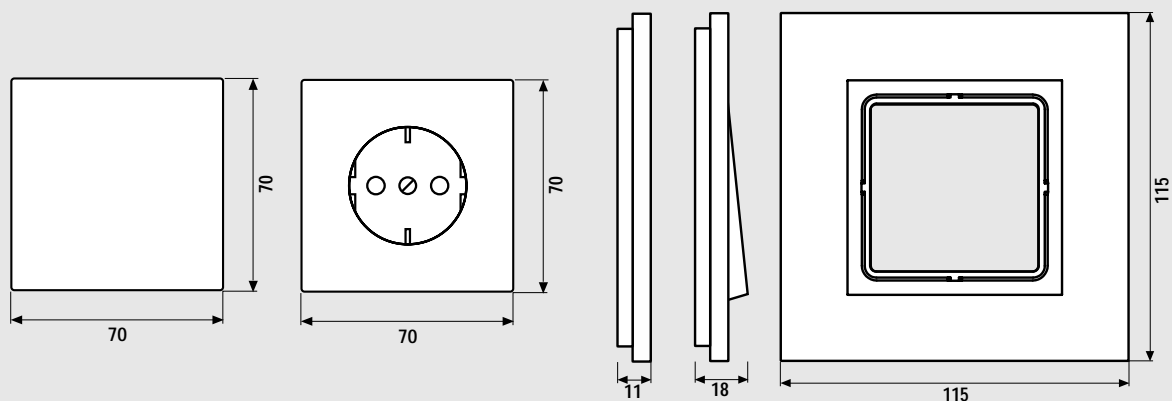
Anthracite

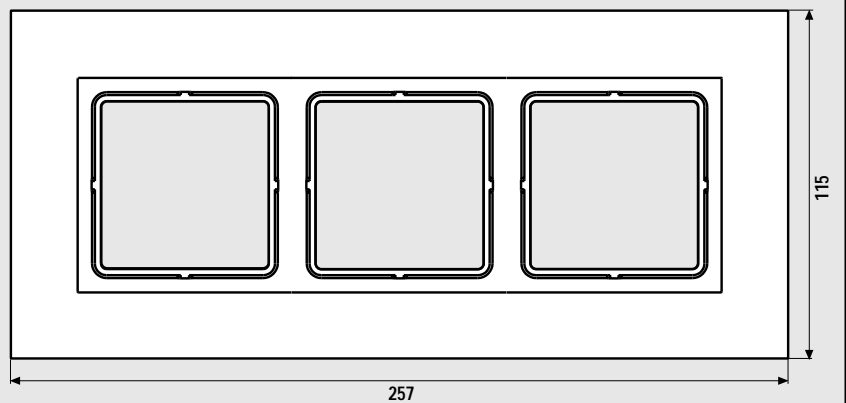
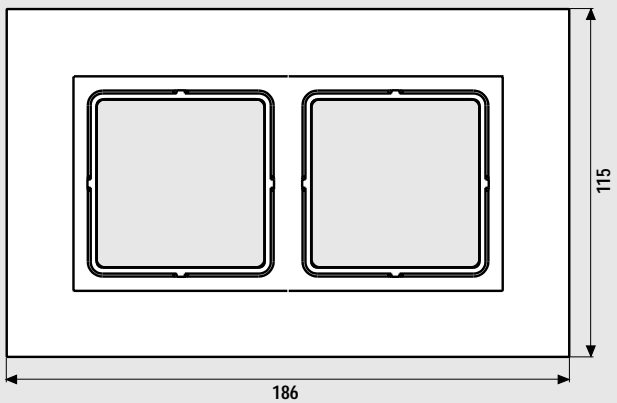
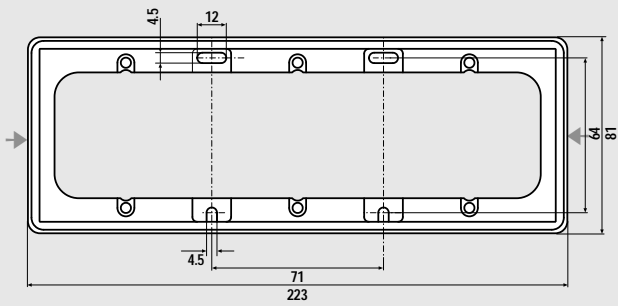
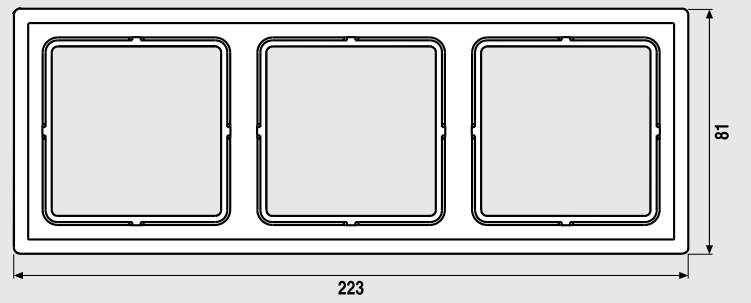
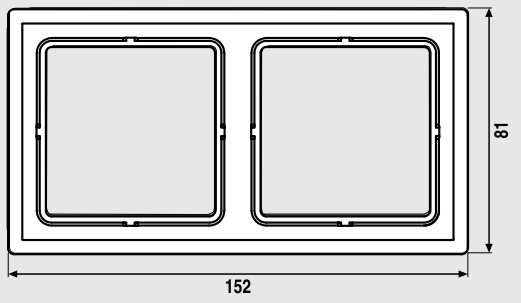
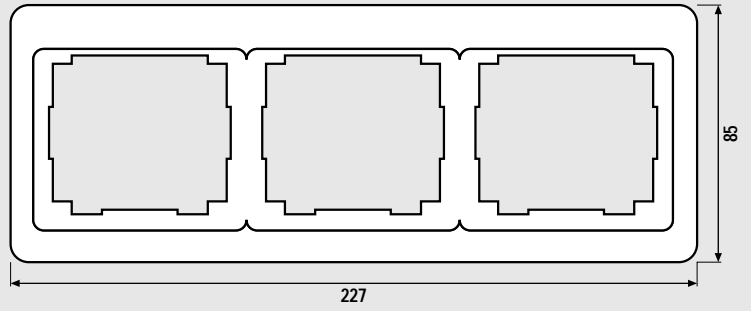
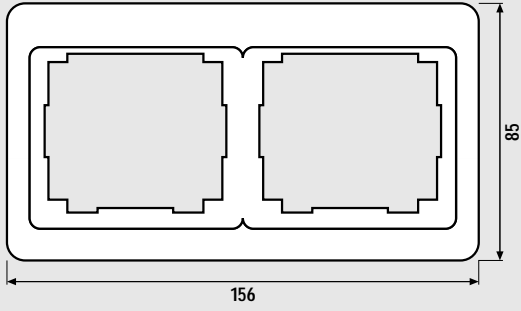
Gold

→ cable entry

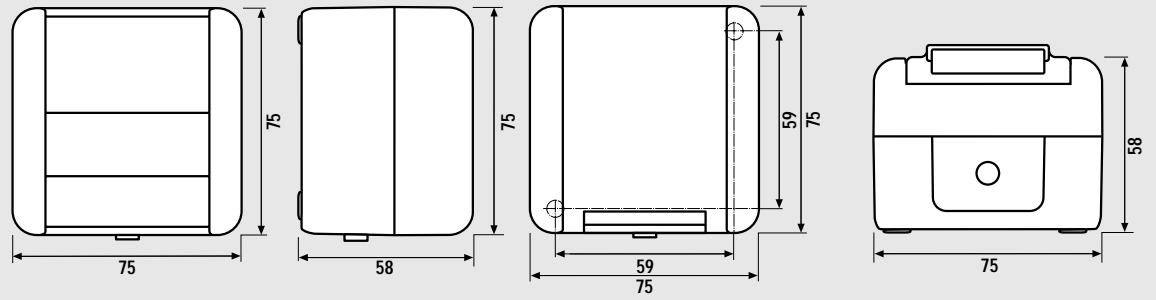


LS plus

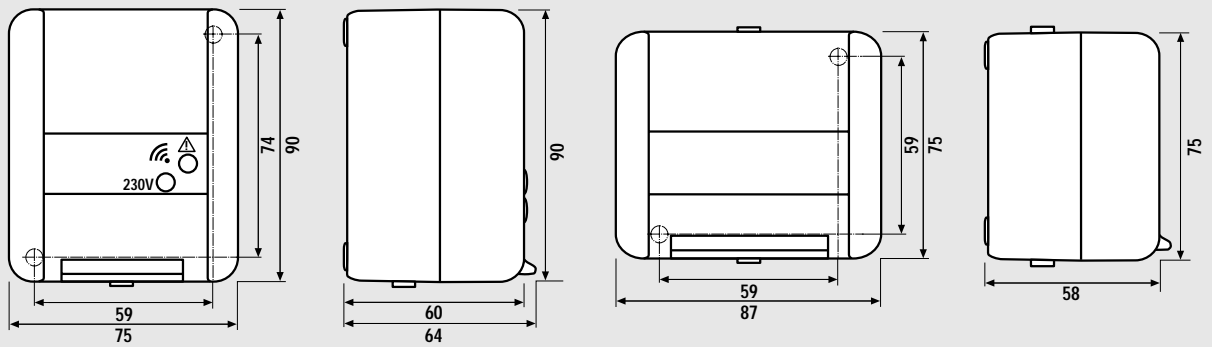




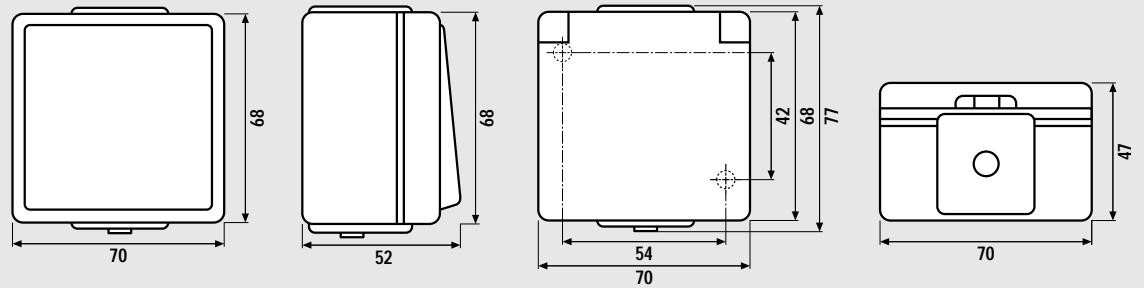
WG 800



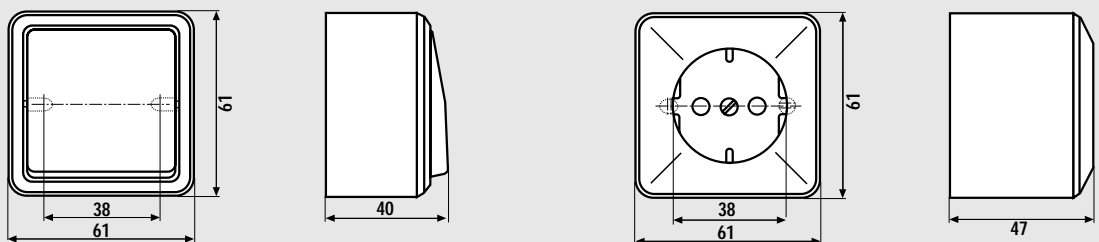
WG 800

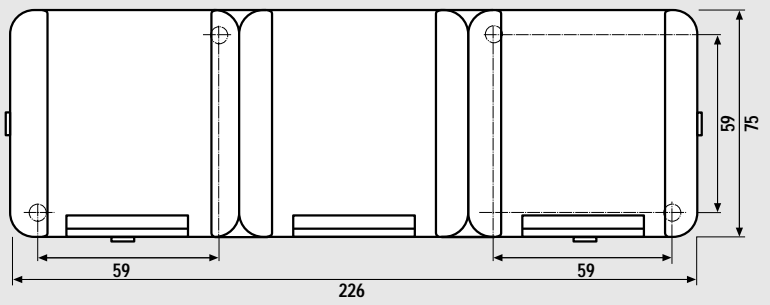
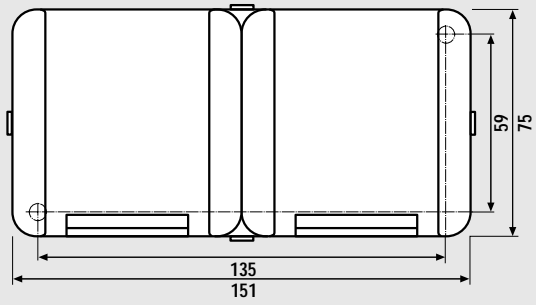


WG 600

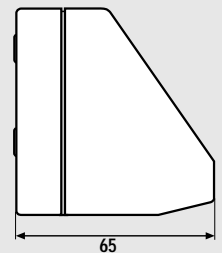
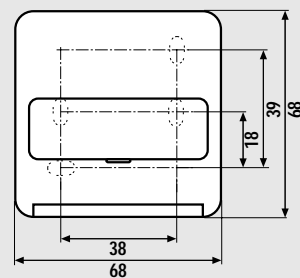
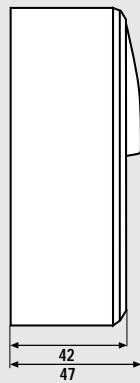
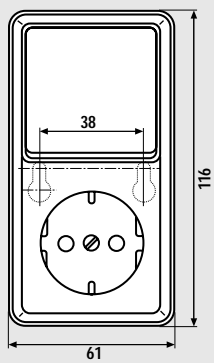
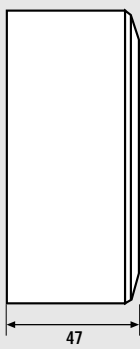
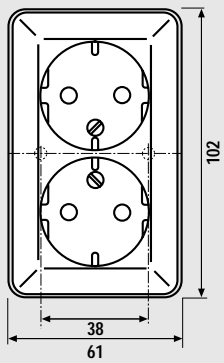
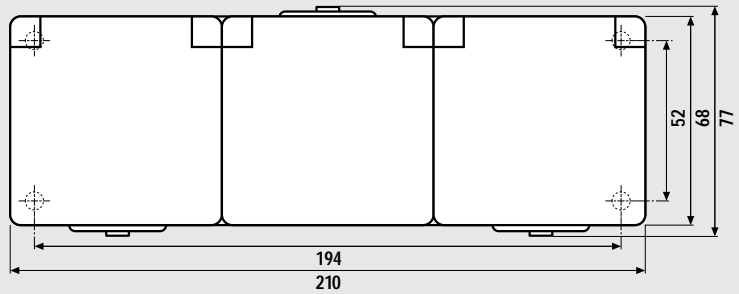
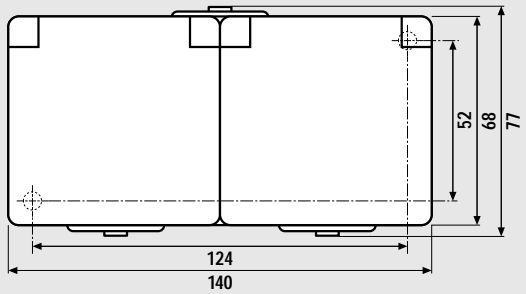
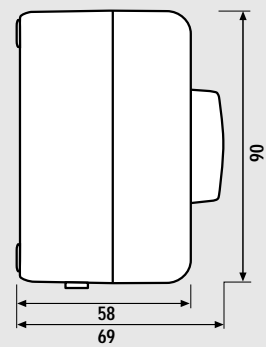
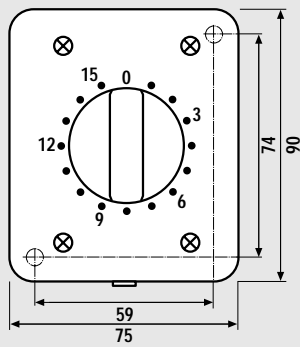
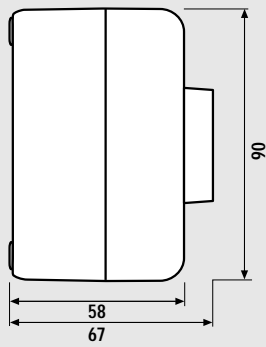
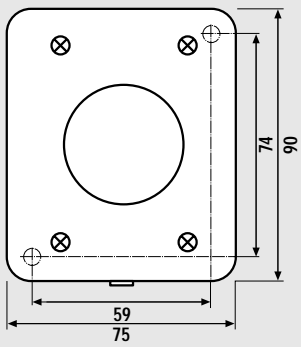


AP 600

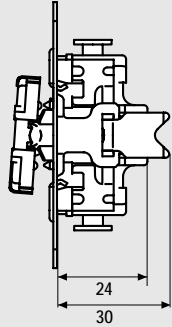
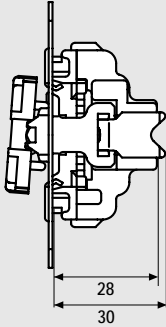
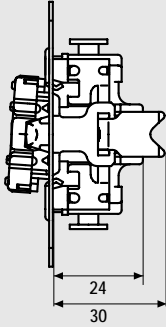
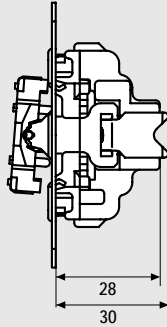
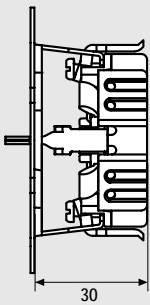


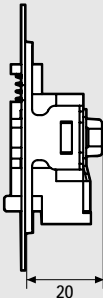
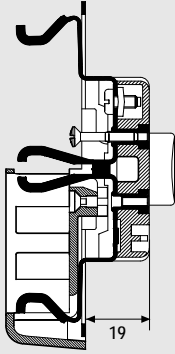
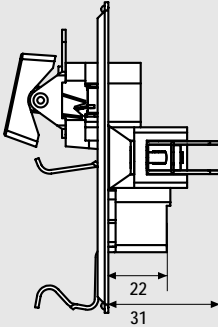
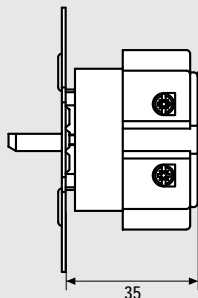
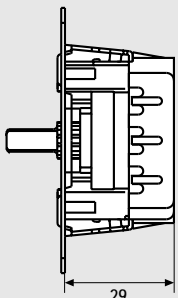


WG 600 / WG 800



Dimensions

Ref.-No.	501 U 502 U 506 U 507 U 502 KOU 506 KOU 531 U 533 U 534 U	503 U 503 KOU 501-20 U 506-20 U 507-20 U 501-20 KOU 502-20 KOU 506-20 KOU 533-2 U	505 U 505 U 5 535 U 535 U 5 505 KOU 5 509 VU 539 VU	509 U 505-20 KOU 505-20 U 509-20 U 539 U	Insert for: 5520 LS 520 5520 KI LS 520 KI 520 Z AL/ES 2520 520 ZKIBF AL/ES 2520 KI CD 520 WU AL/ES 2520 KL CD 520 KIWU SL 520 A 520 SL 520 KI A 520 KI TC 520 KI A 520 KL CD 120 A 520 KL KI CD 120 KI
Dimensions					
AS 500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CD 500 / CD plus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A 500 / A plus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LS 990 / LS plus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ES / Alu / An / GO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SL 500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ref.-No.	Insert for: 521 BS CD 521 BS A 521 BS AL 2521 BS ES 2521 BS SL 521 BS	Insert for: 5022 U 5020 U 5020 KI	Insert for: 5576 U	101-32	Insert for: 504.10 504.20
Dimensions					
AS 500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CD 500 / CD plus	<input type="checkbox"/>	CD 500 only	CD 500 only	<input type="checkbox"/>	<input type="checkbox"/>
A 500 / A plus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LS 990 / LS plus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ES / Alu / An / GO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SL 500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

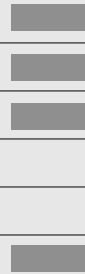
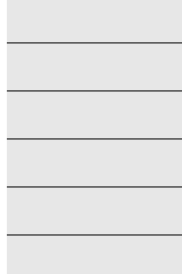
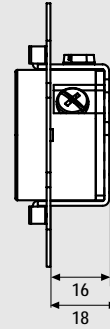
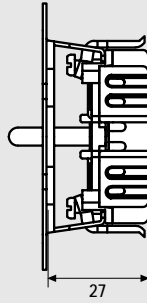
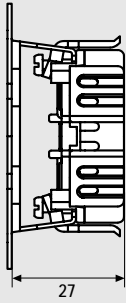
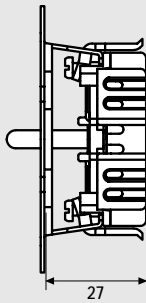
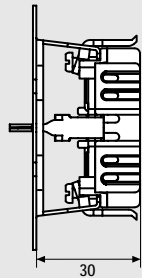
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 5521 KI SL 521
 521 Z SL 521 KI
 521 ZKIBF CD 121
 A 521 CD 121 KI
 A 521 KI
 LS 521
 LS 521 KI
 AL/ES 2521

Insert for:
 520 ZNAKO
 CD 520 KOWU
 A 520 KO
 A 520 KLKO
 AL/ES 2520 NAKO
 SL 520 KO
 LS 520 NAKO

Insert for:
 511 UZV
 511 KIUZV
 LS 911
 SL 511 KI
 CD 111

Insert for:
 5521 F LS 921 F
 5521 FKI LS 921 FKI
 521 F-1 AL/ES 2521 F
 121 FKI AL/ES 2521 FKI
 521 FUZ SL 521 FKI
 521 FKI
 A 521 F
 A 521 FKI

Insert for:
 121-15
 121-20
 521-15 Z
 521-20 Z
 521-150 SZ
 521-200 SZ
 A 521-15...
 A 521-20...



104.28
 134.18
 134.28
 133.18
 106.28
 138.18

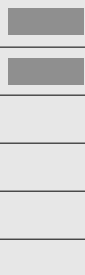
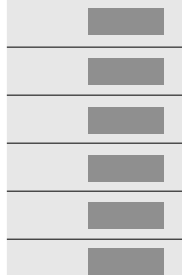
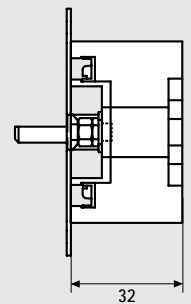
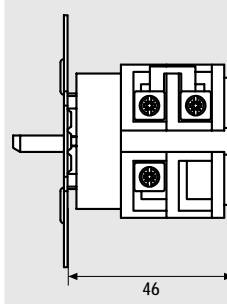
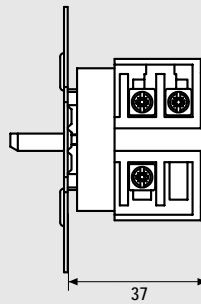
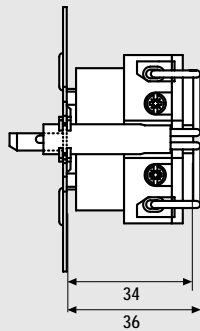
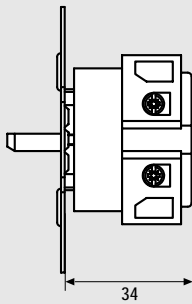
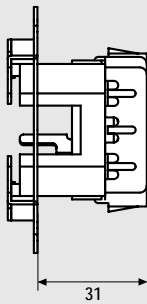
101-20

101-20 KO

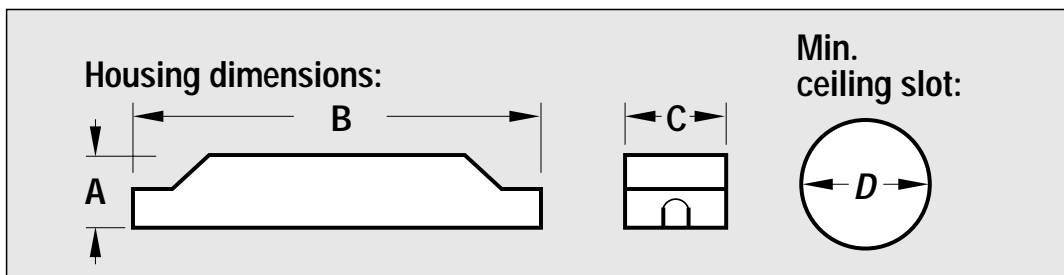
101-4

101-4-20

1015
 1030
 1060
 1120
 1120-20

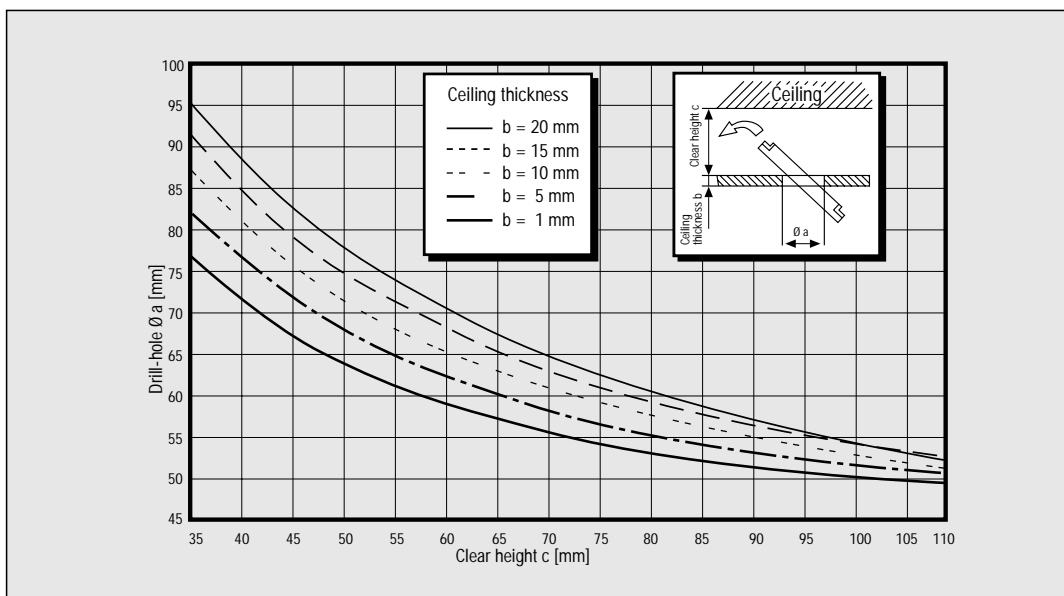


Dimensions of
TRONIC built-in devices

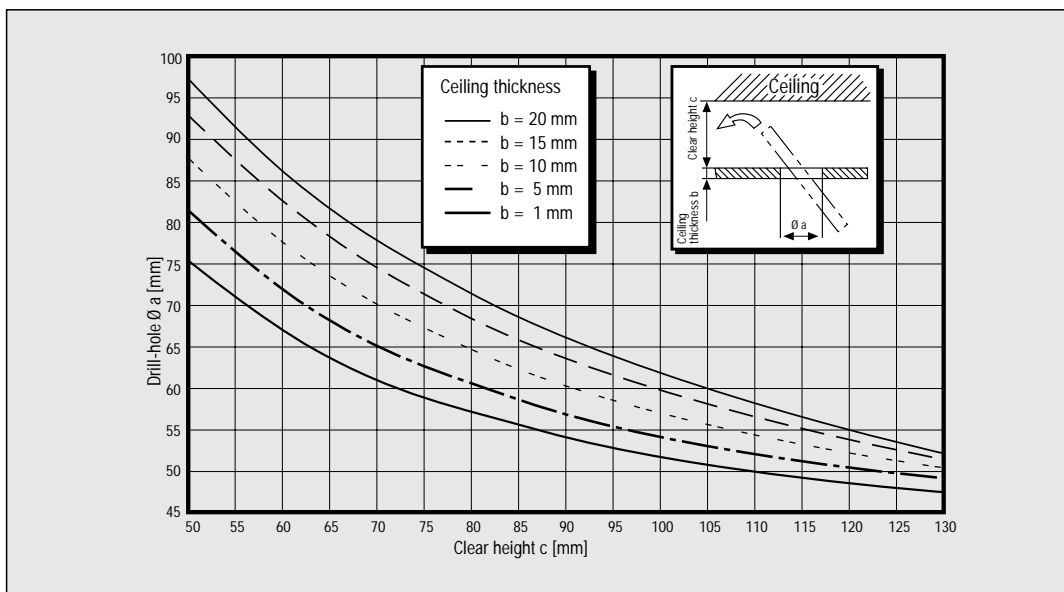


Produkt	A	B	C	D
SNT 40	18	73	35.5	40
SNT 105 F	18	175	42	54
SNT 70 Q	28	49	48	53
SNT 70 F	17.5	152	43.5	47
SNT 105-35	18	165	42	47
SNT 150	42	176	38	54
SNT 200	46	212	48.5	63
247.07 EB	46	212	48.5	63
246 EB	46	212	48.5	63
247 EB	46	212	48.5	63

Calculation of ceiling slots
for TRONIC transformers



SNT 70 F
(Installation beginning with primary side)



SNT 105 F

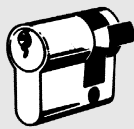


Fig. 1

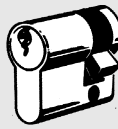


Fig. 2



Fig. 3

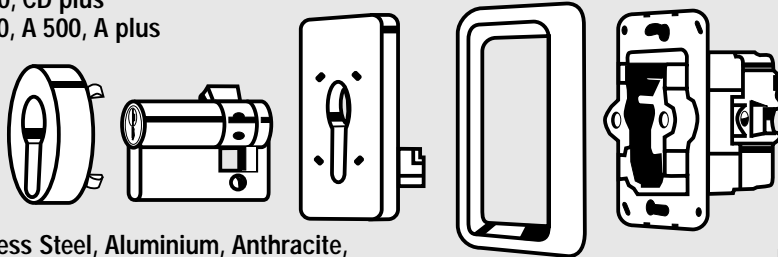


Fig. 4

Installation of key switches

for profile cylinders acc. to DIN 18252 with a total length of approx. 40 mm

CD 500, CD plus
AS 500, A 500, A plus

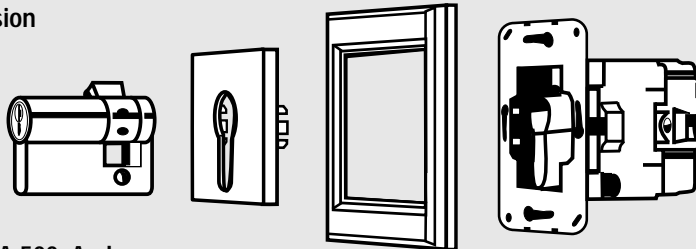


Stainless Steel, Aluminium, Anthracite, Gold, LS 990, LS plus

IP 20

Profile cylinders are equipped with an adjustable key-bit. Adjustment is possible by pressing the pin at the back. We recommend using key-bit position 3 h or 5 h (Fig. 1 – 3) so that the key can be returned to the initial position and taken out after each switching operation. The cover plate is locked in key-bit position 3 h + 5 h (for water-protected execution only in connection with locking plate 18 V). If the key-bit is inserted into the switch-fork (Fig. 4), direct switching is possible. However the key can only be taken out in the OFF position. There is no locking of the cover plate.

Flat version

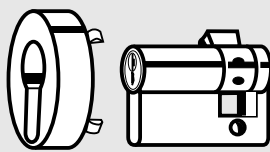


AS 500, A 500, A plus, Stainless Steel, Aluminium, Anthracite, Gold, LS 990, LS plus

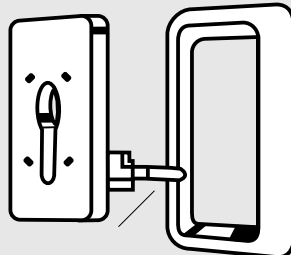
IP 20

AS universal/
CD universal
WG 800

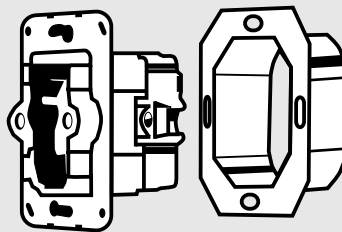
- Profile cylinder must also be earthed!
1. Connect earth wire with the switch insert.
 2. Connect earth contact by using the attached screw and plate with profile cylinder.
 3. Only 1-pole wirings possible.



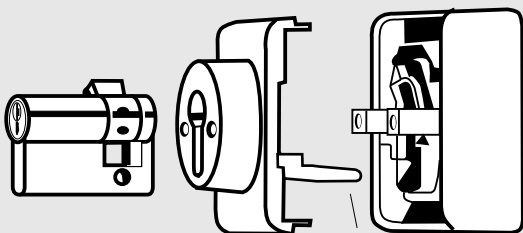
AS universal/
CD universal



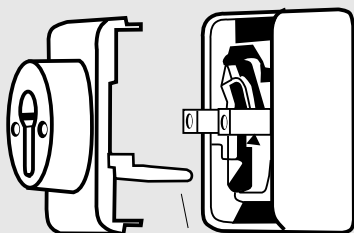
Earth contact



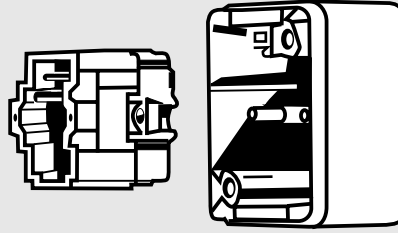
IP 44



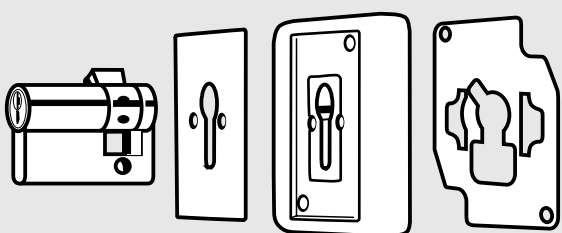
WG 800



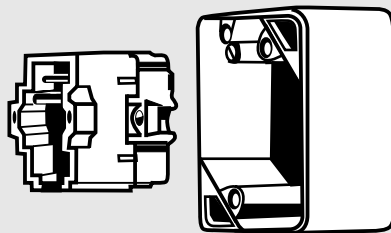
Earth contact



IP 44



Aluminium housing



IP 44

Contact assignments

L = Phase
 N = N-conductor
 S = make contact
 Ö = break contact
 PE = Earth contact

sw = black terminal colour
 rt = red terminal colour
 ws = white terminal colour
 bl = blue terminal colour
 m = minimum contact space

Key switch/ push-button

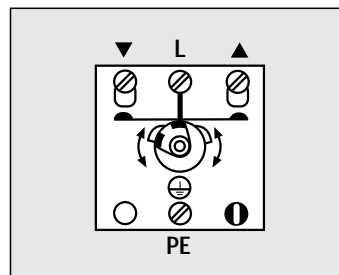
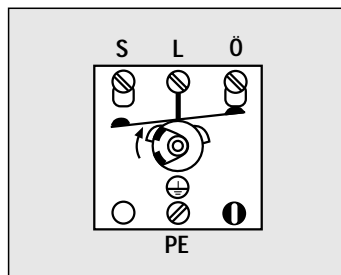
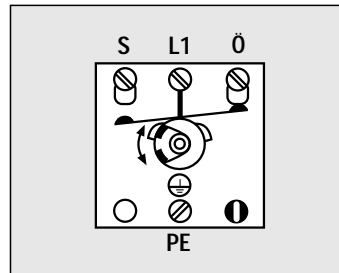
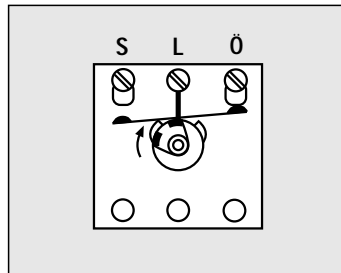
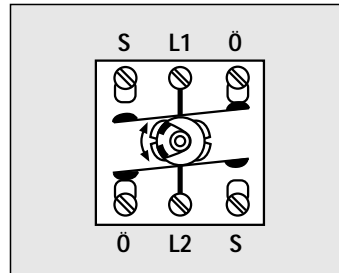
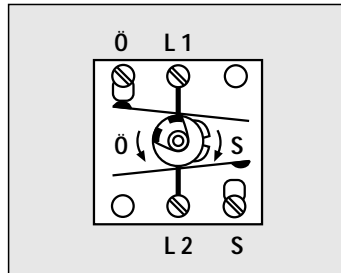
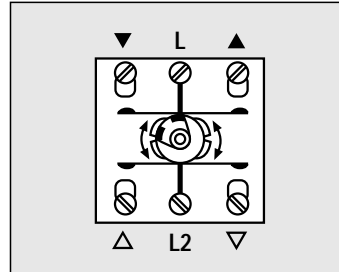
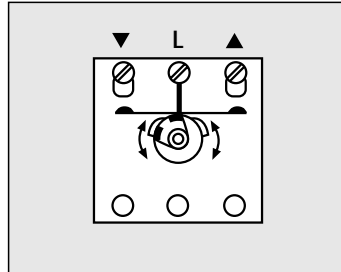
Venetian blind push-button
 10 AX 250 V ~
 1-pole
 134.15, 134.18

Push-button
 10 AX 250 V ~
 1-pole, make/break contact
 138.18

Push-button
 10 AX 250 V ~
 1-pole, 2-way
 133.15, 133.18, 833.18 G

Push-button
 10 AX 250 V ~
 1-pole, 2-way
 CD 133.18 WU, 833.18 W

The Figures show the frontview of inserts !



Venetian blind push-button
 10 AX 250 V ~
 2-pole
 134.28, 834.28 G

Venetian blind switch
 10 AX 250 V ~
 2-pole
 104.28, 804.28 G

Switch
 16 AX 250 V ~
 2-pole, 2-way
 106.28, 806.28 G

Switch
 16 AX 250 V ~
 1-pole, 2-way
 CD 106.18 WU, 806.18 W

Venetian blind push-button
 10 AX 250 V ~
 1-pole
 134.15 (no earth contact)
 CD 134.18 WU, 834.18 W
 Venetian blind switch
 10 AX 250 V ~
 1-pole
 104.15 (no earth contact)
 CD 104.18 WU, 804.18 W

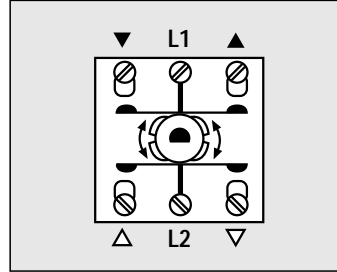
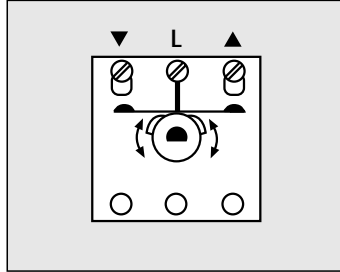
sw = black terminal colour
 rt = red terminal colour
 ws = white terminal colour
 bl = blue terminal colour
 m = minimum contact space

L = Phase
 N = N-conductor
 S = make contact
 Ö = break contact
 PE = Earth contact

Contact assignments

The Figures show the frontview of inserts !

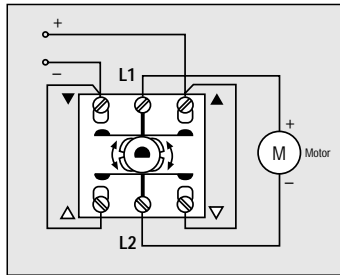
Rotary switch/push-button
 10 AX 250 V ~
 1-pole
 234.10, 834.10 W



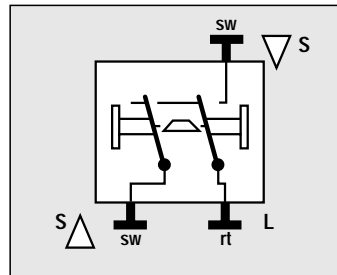
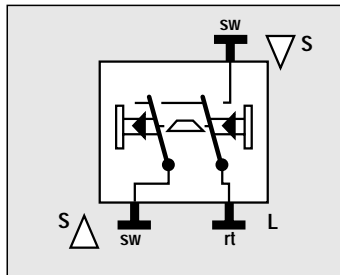
Rotary venetian blind switch

Rotary switch/push-button
 10 AX 250 V ~
 2-pole
 234.20, 834.20 W

Rotary switch/push-button
 10 AX 250 V ~
 2-pole
 234.20, 834.20 W



2-gang venetian blind push-button
 10 AX 250 V ~
 with mechanical interlocking
 to avoid switching of both rockers
 at the same time
 539 VU, 639 VA, 639 VW, 839 VW

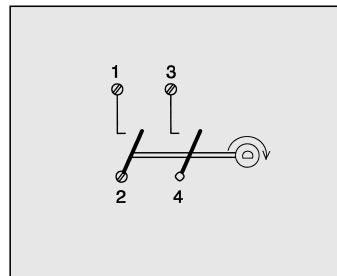
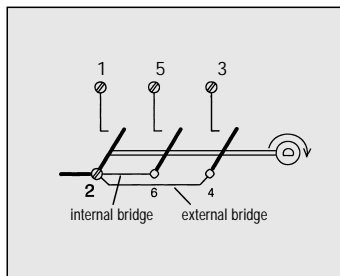


Venetian blind switch (rocker insert)

2-gang venetian blind push-button
 10 AX 250 V ~
 with mechanical interlocking
 to avoid switching of both rockers
 at the same time
 509 VU, 609 VA, 609 VW, 809 VW

⊙	2/1	2/5	2/3
0	0	0	0
1	I	0	0
2	0	I	0
3	0	0	I

Rotary switch 16 AX 250 V ~, 1-pole
 (4 positions: 0 - 1 - 2 - 3)
 101-4

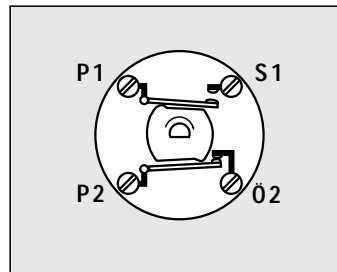
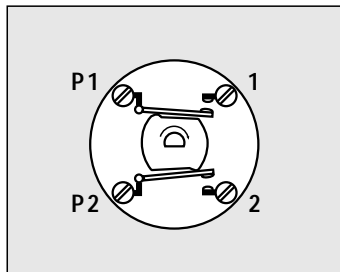


Rotary switch

⊙	2/1	4/3
0	0	0
1	I	I

Rotary switch 20 AX 250 V ~, 2-pole
 (2 positions: 0 - 1)
 101-20

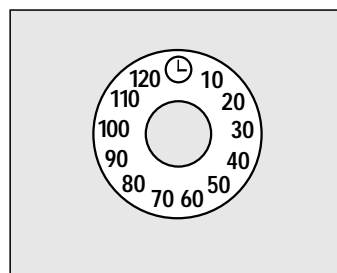
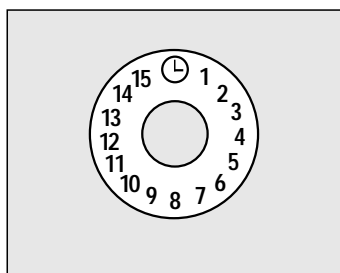
Time delay switch
 16 AX 250 V ~
 2-pole (2 make contacts)
 e.g. 1015, 8015 W, 8012 W
 indicated switch position:
 OFF = delay time elapsed



Time delays

Time delay switch
 16 AX 250 V ~
 1-pole make contact
 1-pole break contact
 e.g. 1120-20
 indicated switch position:
 OFF = delay time elapsed

Scale ref.-no. SKS 1015
 for ref.-no. 1015



Scale ref.-no. SKS 1120-20
 for ref.-no. 1120-20

Contact assignments

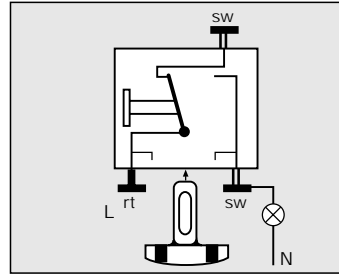
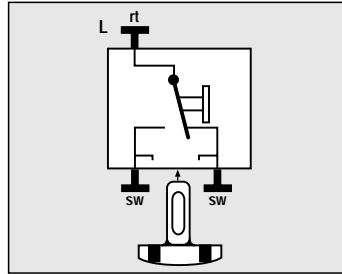
L = Phase
 N = N-conductor
 S = make contact
 Ö = break contact
 PE =Earth contact

sw = black terminal colour
 rt = red terminal colour
 ws = white terminal colour
 bl = blue terminal colour
 m = minimum contact space

The Figures show the frontview of inserts !

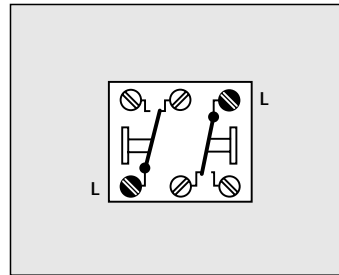
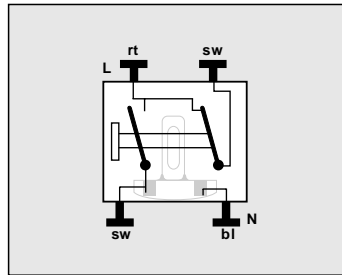
Switches

1-gang switch insert
 1-pole, 2-way
 10 AX/250 V
 Illumination is possible in
 OFF-position
 506 U, 606 A, 606 W, 806 W



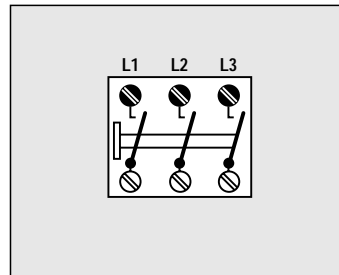
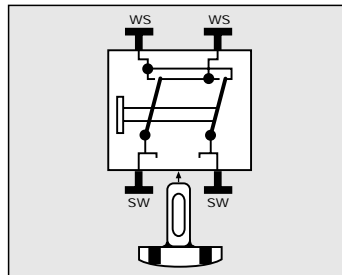
1-gang switch insert
 1-pole, 2-way
 10 AX/250 V
 Illumination is possible in
 OFF-position (not in 2-way wirings)
 506 TU

1-gang switch insert
 1-pole, 2-way
 10 AX/250 V
 with indicator light,
 neutral conductor required
 Indicator light is illuminated,
 when load is switched ON
 506 KO U, 506 KO TU, 606 KO A,
 606 KO W, 806 KO W



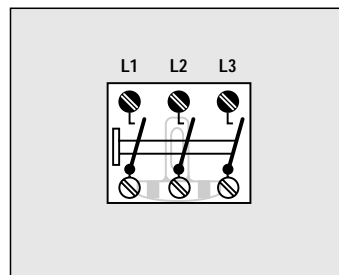
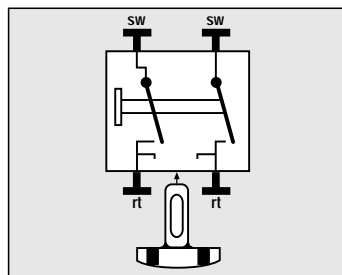
2-gang switch
 10 AX/250 V ~
 1pole, 2-way
 509 U, 809 W

1-gang intermediate switch
 10 AX/250 V
 Illumination is possible in
 OFF-position
 507 U, 507 TU, 607 A,
 607 W, 807 W



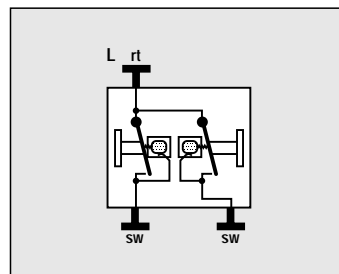
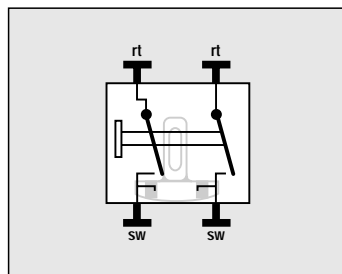
1-gang switch insert
 16 AX/250 V
 3-pole, 1-way
 503 U, 603 W, 803 W

1-gang switch insert
 10 AX/250 V
 Illumination is possible in
 OFF-position
 502 U, 502 TU
 602 A, 602 W
 802 W



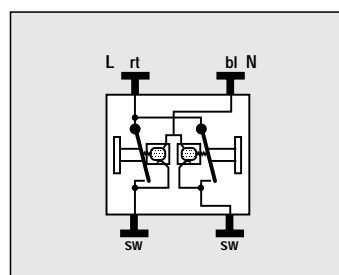
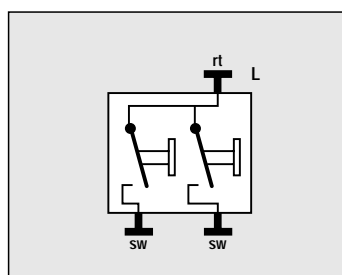
1-gang switch insert 16 AX/400 V
 3-pole, 1-way
 with indicator light
 503 KO U, 603 HW, 803 HW

1-gang switch insert
 10 AX/250 V
 Illumination is possible in
 OFF-position
 502 KO U, 502 KO TU
 602 KO A, 602 KO W
 802 KO W



2-gang switch insert
 10 AX/250 V
 1-pole, 1-way
 with lamps
 Illumination is possible in
 OFF-position

2-gang switch insert
 10 AX/250 V
 505 U, 505 TU
 605 A, 605 W
 805 W



2-gang switch insert 10 AX/250 V
 1-pole, 1-way
 with 2 indicator lights,
 neutral conductor required
 Indicator light is illuminated,
 when load is switched ON
 505 KOU 5

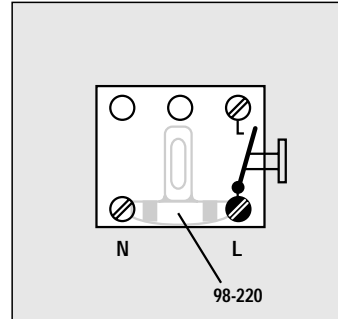
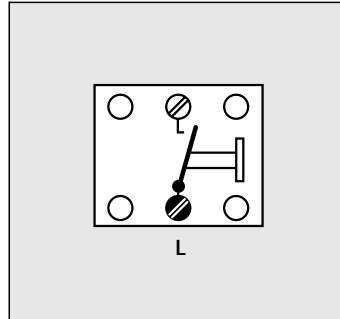
sw = black terminal colour
 rt = red terminal colour
 ws = white terminal colour
 bl = blue terminal colour
 m = minimum contact space

L = Phase
 N = N-conductor
 S = make contact
 Ö = break contact
 PE =Earth contac

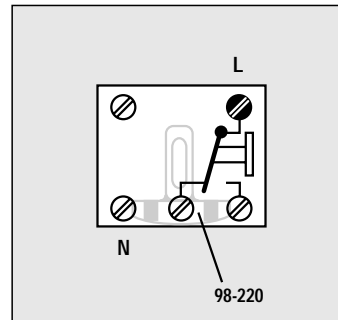
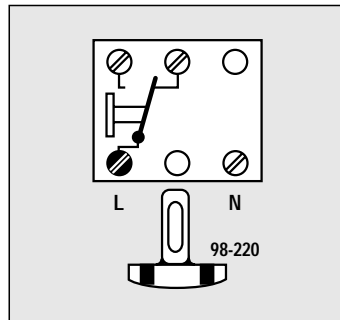
Contact assignments

The Figures show the frontview of inserts !

1-gang switch insert
 20 AX/250 V
 1-pole, 1-way
 501-20 U



1-gang switch insert
 20 AX/250 V
 1-pole, 1-way
 501-20 U

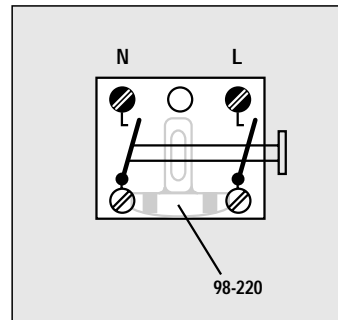
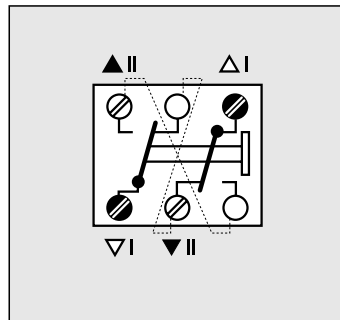


Switches

1-gang switch insert
 20 AX/250 V
 1-pole, 1-way
 with indicator light,
 neutral conductor required
 501-20 KO U

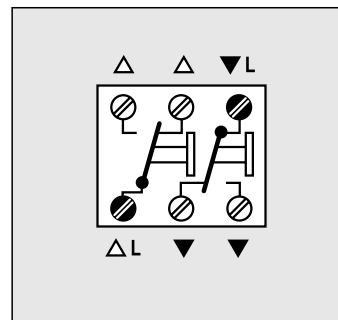
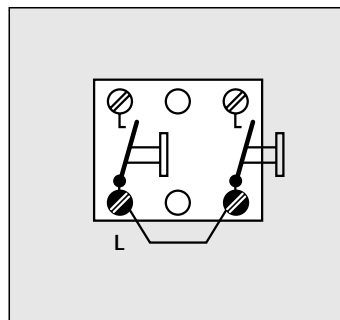
1-gang switch insert
 20 AX/250 V
 1-pole, 2-way
 with indicator light,
 neutral conductor required.
 Indicator light is illuminated,
 when load is switched ON.
 506-20 KO U

1-gang switch intermediate switch
 20 AX/250 V
 Illumination is possible in
 OFF-position
 507-20 U



1-gang switch insert
 20 AX/250 V
 2-pole, 1-way
 with indicator light,
 neutral conductor required.
 Indicator light is illuminated,
 when load is switched ON
 502 KO U

2-gang switch insert
 20 AX/250 V
 1-pole, 1-way
 505-20 U



2-gang switch
 20 AX/250 V ~
 1pole, 2-way
 509-20 U

Contact assignments

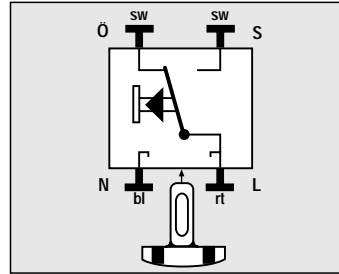
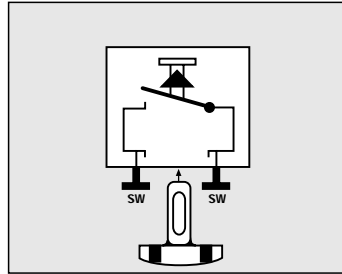
L = Phase
 N = N-conductor
 S = make contact
 Ö = break contact
 PE =Earth contact

sw = black terminal colour
 rt = red terminal colour
 ws = white terminal colour
 bl = blue terminal colour
 m = minimum contact space

Push-button

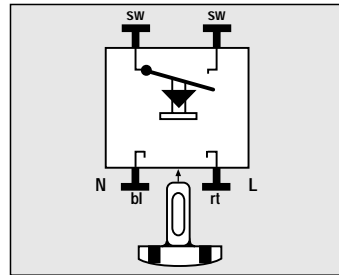
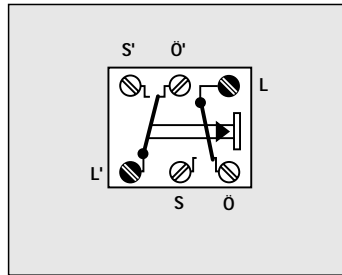
The Figures show the frontview of inserts !

1-gang switch insert
 10 AX/250 V
 1-pole, 1-way
 531 U, 631 A, 631 W, 831 W



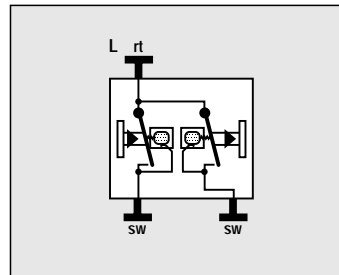
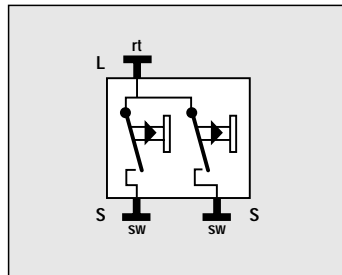
1-gang switch insert
 10 AX/250 V
 1-pole, 2-way (make/break contact)
 Illumination is possible,
 neutral conductor required
 533 U, 633 A, 633 W, 833 W

1-gang switch insert
 10 AX/250 V
 2-pole, 2-way (make/break contact)
 533-2 U, 633-2 W, 833-2 W



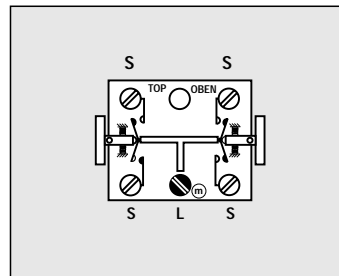
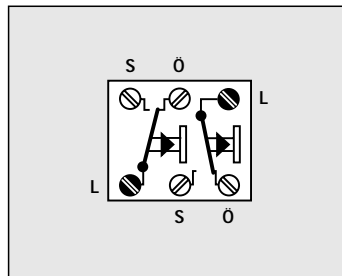
1-gang switch insert
 10 AX/250 V
 1-pole, 1-way
 Separate terminals (L, N)
 for indicator light
 534 U, 634 A, 634 W, 834 W

2-gang switch insert
 10 AX/250 V
 1-pole, 1-way
 535 U, 835 W



2-gang switch insert
 10 AX/250 V
 1-pole, 1-way
 illuminated
 535 U 5

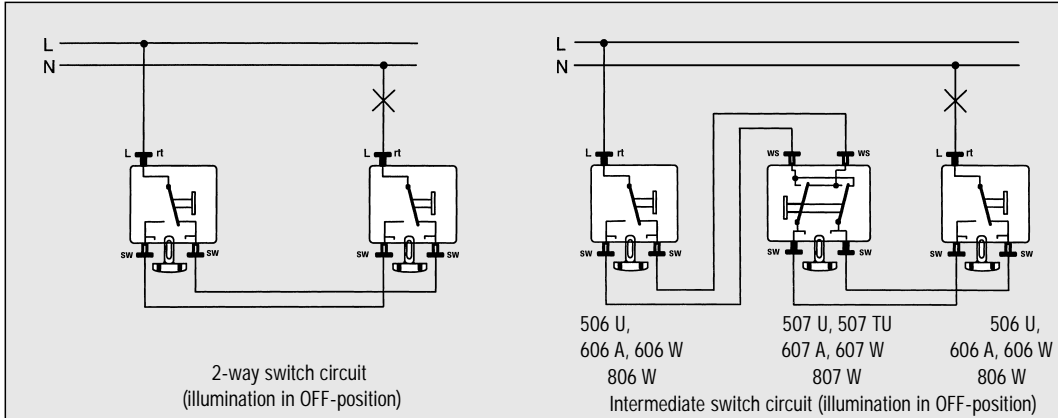
2-gang switch insert
 10 AX/250 V
 1-pole, 2-way (make/break contact)
 539 U, 639 W, 839 W



Multi switch
 10 AX 250 V ~
 2-gang push-button insert
 with 4 make contacts
 531-4 U

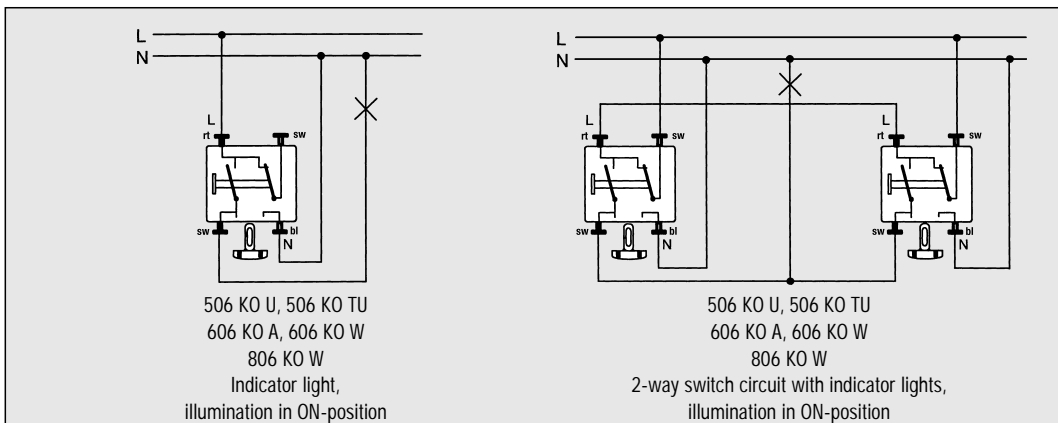
Wiring diagrams for switches and push-buttons

The Figures show the frontview of inserts !



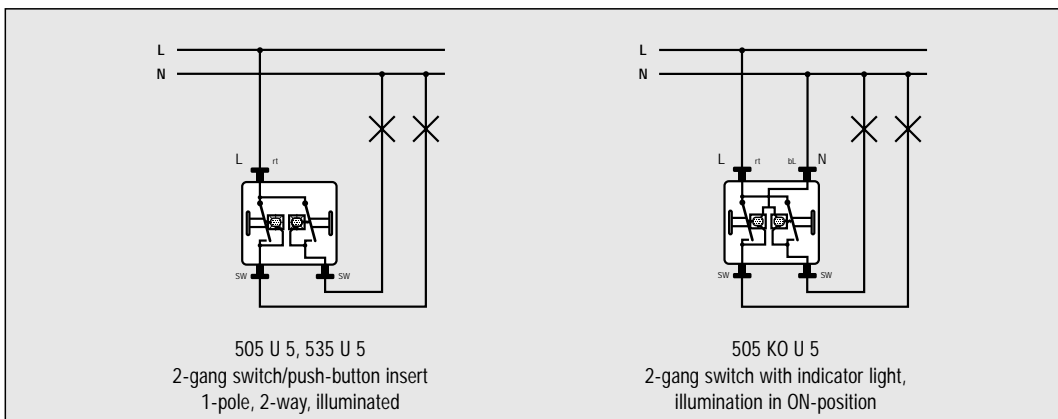
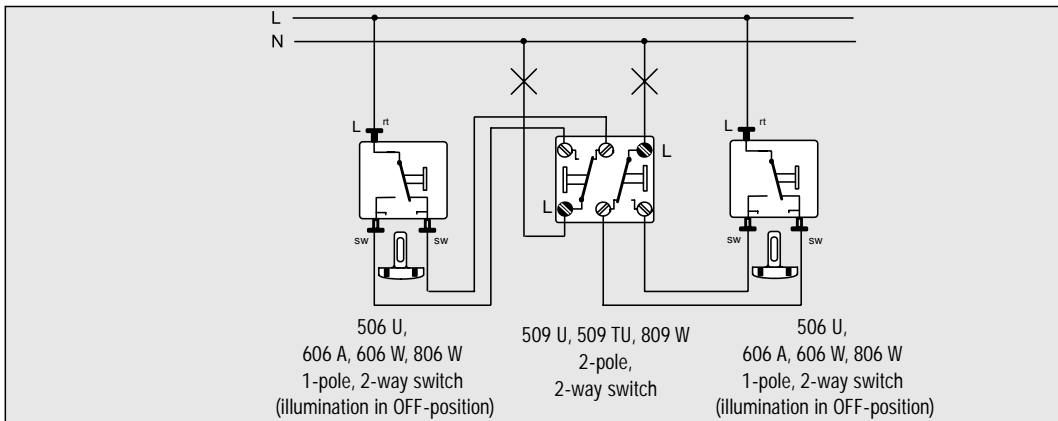
max. capacity for fluorescent lamps:

	36 W	58 W
not compensated	24	16
parallel compensated	24	16
lead-lag circuit	38	24



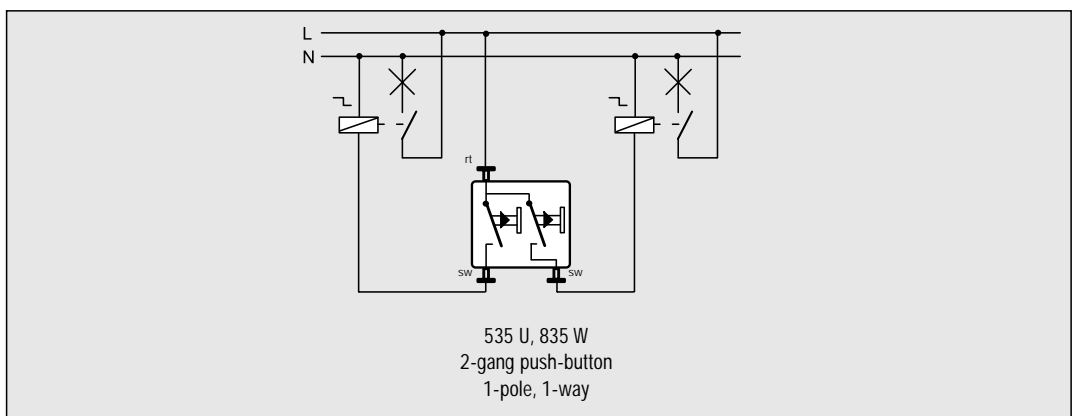
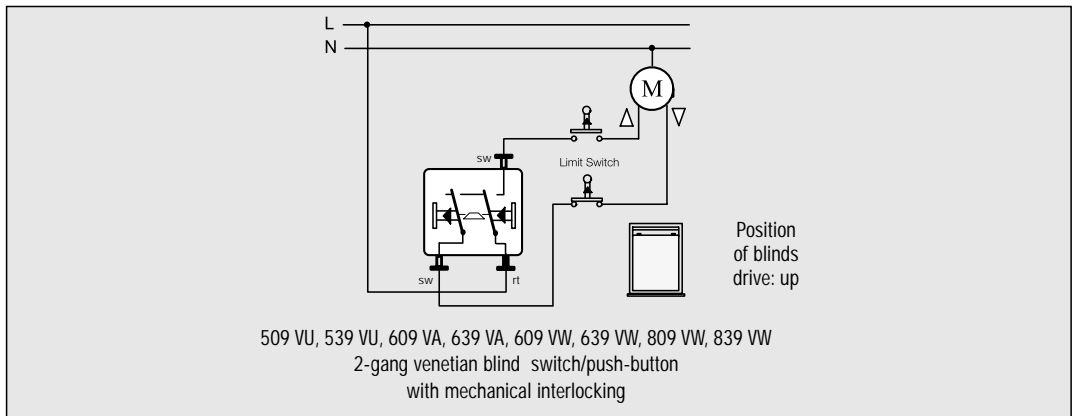
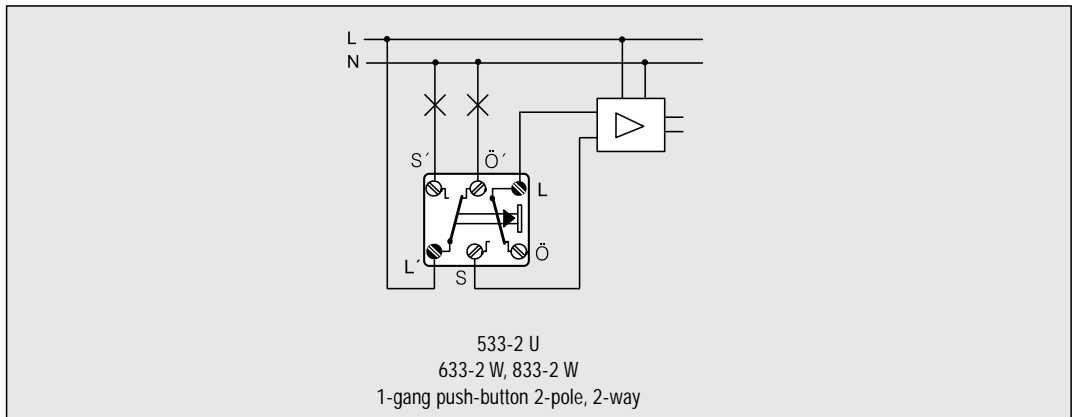
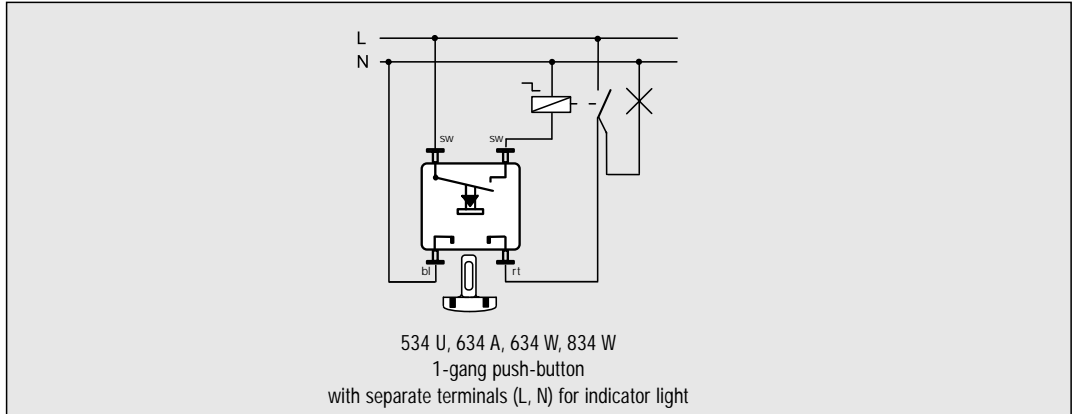
max. capacity for D.C.:

230 V -	0.5 A
110 V -	2.0 A
60 V -	5.0 A



Wiring diagrams for switches and push-buttons

The Figures show the frontview of inserts !



Rotary dimmer for incandescent lamps

Ref.-Nos. 266 GDE, 864 GDW



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers:
R = ohmic

Installation instructions

Depending upon the type of installation, the maximum connected load must be reduced by:

- 10 % per 5 °C exceeding of the ambient temperature of 25 °C.
- 15 % for installation in wooden, gypsum plaster or hollow walls.
- 20 % for installation in multiple combinations.
- Housing for surface-mounting max. power 550 W
- waterprotected housing for surface-mounting max. power 450 W

Note the technical connection conditions of the power stations.

Centralised multi-service control pulses of the power stations may be noticeable by short-time flickering at low dimming positions.

Function

ref.-nos. 266 GDE, 864 GDW

Incandescent-lamp rotary dimmer for switching and dimming:

- 230 V incandescent lamps.
- 230 V halogen lamps.

Press and turn the control knob to switch and dimm.

Control knob pressed: ON – OFF
Control knob turned: Dimming

Short-Circuit Protection

Protected by a T 2.5 H 250 microfuse.
In case of malfunctioning, check the microfuse first. Do not use any fuses other than original.

Overtemperature Protection

Overtemperature cut-out with automatic restart after cooling down.

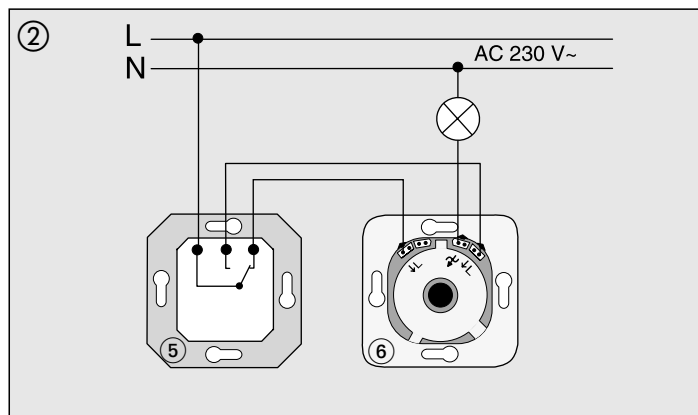
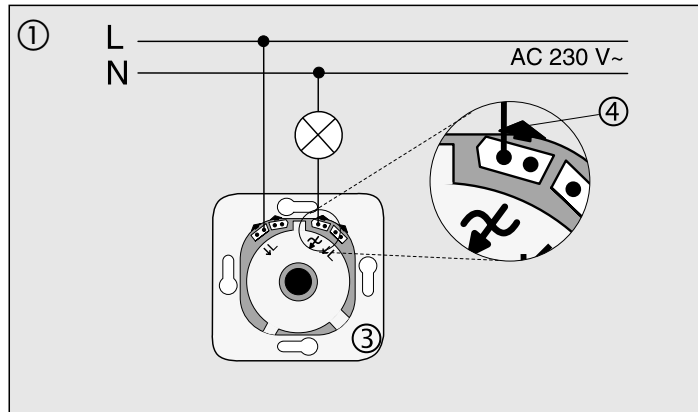
Note

The overall power rating of the consumers connected must not exceed the maximum load specified in the technical data.

Operation with mixed loads of the specified types is possible up to the total admitted load.

A Minimum load of 60 W is required, or the lamps connected may caused to flicker.

The connection of transformers is not allowed.



Connection – refer to Fig. 1

Connect incandescent-lamp dimmer ③ through the spring plug-in terminals accessible from the bottom side. Insert the wire stripped for about 15 mm into the opening of the terminal without operating release clip ④.

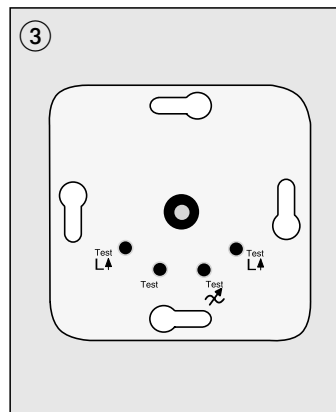
Lift clip ④ to release the wiring from the terminals. For types of load to be connected, refer to Specifications.

Two-way wiring installation

– refer to Fig. 2

Switch on/off the load by mechanical two-way switch ⑥.

Adjust the brightness solely by incandescent-lamp dimmer ⑤.



Note

The upper side of the base plate has measuring points which allow the voltages applied to be checked even without removing the dimmer (Fig. 3).

Technical specifications

ref.-nos. 266 GDE, 864 GDW

Rated voltage: AC 230 V ~, 50 Hz

Connected load:

ref.-no. 266 GDE flush-mounting 60 – 600 W

ref.-no. 266 GDE surface-mounting 60 – 550 W

ref.-no. 864 GDW (waterprotected) 60 – 450 W

Type of loads:

230 V incandescent lamps

230 V halogen lamps

mixed loads of the specified types

Minimum load: 60 W

Fuse: T 2.5 H 250, slow-blow

Wiring: double terminals solid 1.0 mm² to 2.5 mm²

Stripping length: 15 mm (refer to dimmer base plate)

Two-way wiring installation:

via mechanical two-way switches. Two-way wiring installation using two dimmers is not possible.

Basic brightness: factory-set

As per EN 60669-2-1 (02.97), some lighting of the lamp should be perceptible over the entire load range (at rated voltage –10 %) when the dimmer is at dark position.

Wiring diagrams

Rotary dimmer

Ref.-No. 244 EX



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers:
R = ohmic

Installation instruction

Depending upon the type of installation, the maximum connected load must be reduced by:

- 10 % per 5 °C exceeding of the ambient temperature of 25 °C,
- 15 % for installation in wooden, gypsum plaster or hollow walls,
- 20 % for installation in multiple combinations.

Note the technical connection conditions of the power stations.
Centralized telecontrol signals from power stations may be noticed as brief flickering of the lamps in low dimming positions.

Function

Rotary dimmer for switching and dimming:

- 230 V incandescent lamps
- 230 V halogen lamps

Press and turn the control knob to switch and dim.

Control knob pressed: ON – OFF

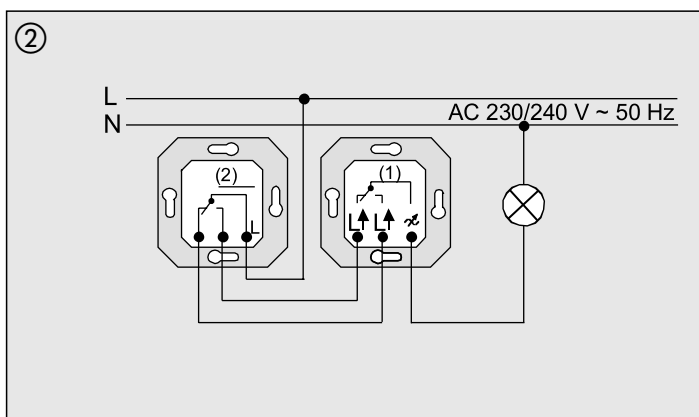
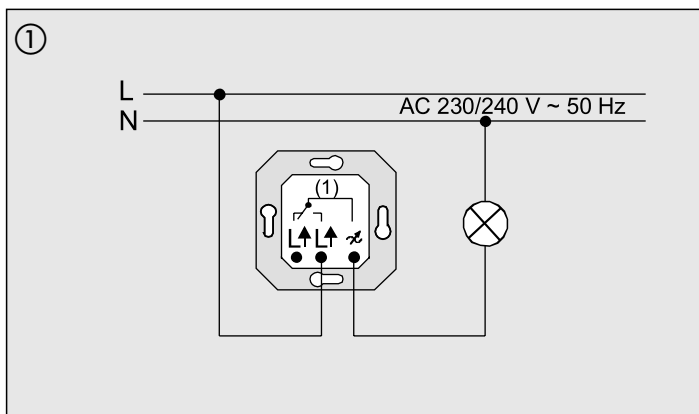
Control knob turned: Dimming

Short-Circuit Protection

Protected by a T 1.60 H 250 micro fuse.

In case of malfunctioning, check the micro fuse first.

Do not use any fuses other than original.



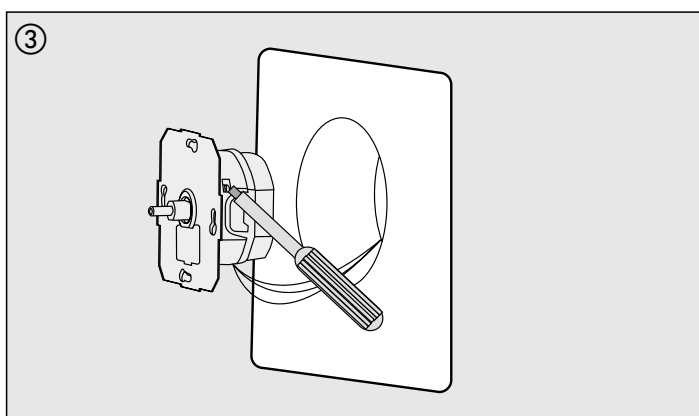
Connection

The rotary dimmer ① is connected by means of screw terminals.

Two-way wiring installation

The mechanical two-way switch ② can be used to switch the load on and off.

The brightness of the lamp can only be varied at the rotary dimmer itself ①. Two dimmers are **not** possible.



Setting the basic brightness, e.g. for use in 60 Hz networks. The basic brightness is set at the factory for operation in 50 Hz networks (Europe). If the dimmer is to be used in 60 Hz networks, the basic brightness setting must be corrected by a qualified electrician.

The basic brightness must be adjusted in such a way, that a lamp switched off and a lamp turned down to minimum dimming position can be clearly distinguished.

Technical specifications

Rated voltage: 230/240 V ~, 50/60 Hz

Connected load: 60 – 400 W

Type of loads: 230/240 V incandescent lamps
230/240 V halogen-lamps
mixed loads of the specified types

Minimum load: 60 W

Fuse: T 1.60 H 250

Stripping length: 15 mm

Cable cross-section: solid 1.0 mm² to 2.5 mm²

Two-way wiring: via mechanical two-way switches.

Two-way wiring installation using two dimmers is **not** possible

Basic brightness: factory-set

As per EN 60669-2-1 (01.2000), some lighting of lamp should be perceptible over the entire load range (at rated voltage –10 %) when the dimmer is at dark position.

Important advice

Ohmic loads only. Not suitable for operation in conjunction with transformers.

Rotary dimmer for incandescent lamps

Ref.-No. 211 GDE



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers:
R = ohmic

Installation instruction

Depending upon the type of installation, the maximum connected load must be reduced by:

- 10 % per 5 °C exceeding of the ambient temperature of 25 °C,
- 15 % for installation in wooden, gypsum plaster or hollow walls,
- 20 % for installation in multiple combinations.

Note the technical connection conditions of the power stations.
Centralized telecontrol signals from power stations may be noticed as brief flickering of the lamps in low dimming positions.

Function

Rotary dimmer for switching and dimming:

- 230 V incandescent lamps
- 230 V halogen lamps

Press and turn the control knob to switch and dim.

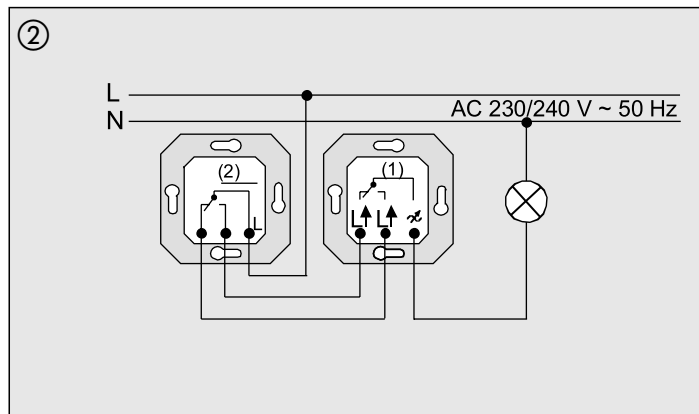
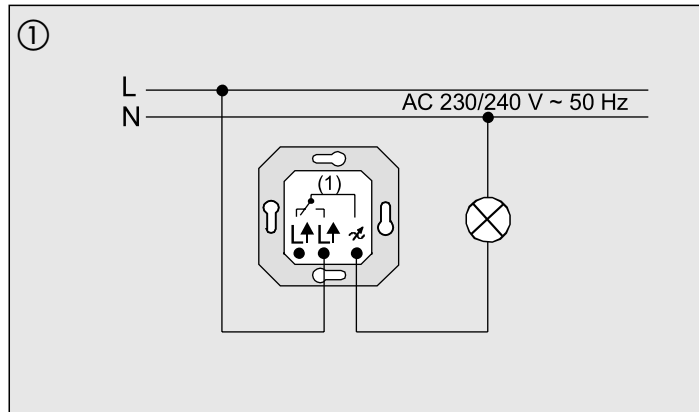
Control knob pressed: ON – OFF
Control knob turned: Dimming

Short-Circuit Protection

The dimmer automatically switches off in case of a short circuit or of overload. It has no conventional fuse. Consequently, the load circuit will not be opened. If the malfunction occurs for less than four seconds, the dimmer will automatically switch on after the elimination of the fault. Otherwise, the dimmer will switch off permanently and will have to be restarted by pressing the control knob twice.

Overtemperature Protection

Overtemperature cut-out with automatic restart after cooling down.



Technical specifications

- Rated voltage: 230/240 V ~, 50 Hz
 Connected load: 100 – 1000 W
 Type of loads: 230/240 V incandescent lamps, 230/240 V halogen-lamps
 Minimum load: 100 W
 Max. cable cross-section: 2 x 2.5 mm² or 1 x 4 mm²
 Two-way wiring: via mechanical two-way switches. Two-way wiring installation using two dimmers is not possible
 Basic brightness: factory-set

As per EN 60669-2-1 (01.2000), some lighting of lamp should be perceptible over the entire load range (at rated voltage -10 %) when the dimmer is at dark position.

Connection

The Rotary dimmer (1) is connected by means of screw terminals.

Two-way wiring installation

The mechanical two-way switch (2) can be used to switch the load on and off. The brightness of the lamp can only be varied at the Rotary dimmer itself (1). Two dimmers are **not** possible.

Wiring diagrams

Rotary dimmer

Ref.-No. 244-110



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers:
R = ohmic

Function

Rotary dimmer for incandescent lamps for switching and dimming of:

- 230/240 V incandescent lamps
- 230/240 V halogen lamps

Important

Not suitable for use with transformers.

Switching and dimming is obtained by depressing and by turning the control knob.

Depressing the control knob: ON – OFF

Turning the control knob: Dimming

Short-circuit protection

ensured by fine-wire fuse: T1.6H 250

In the event of malfunctions check first the fuse.

Use only original fuses.

Installation

The rotary dimmer for incandescent lamps consists of the dimmer base (1) with cover and control knob (2).

The dimmer (1) is installed in a flush-mounting box acc. to DIN 49073.

Depending on the installation, the maximum rated power must be reduced by:

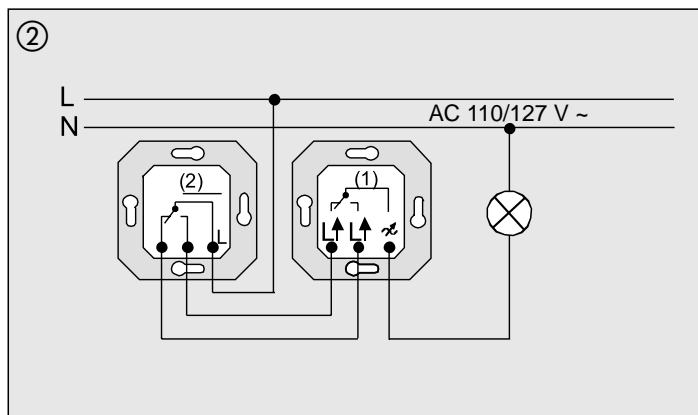
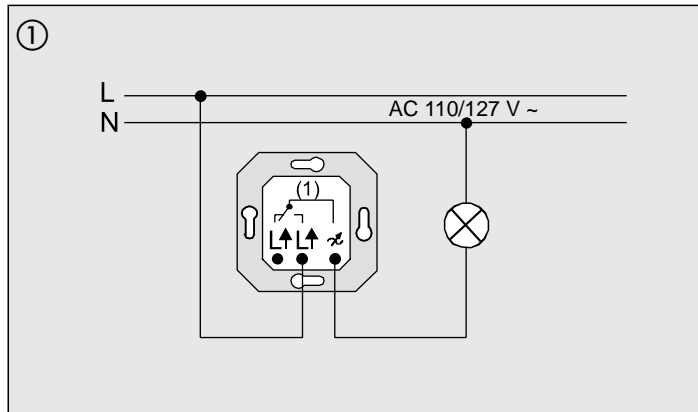
- 10% for every 5°C above an ambient temperature of 25°C
- 15% for incorporation into wooden, plaster-board or hollow walls
- 20% for incorporation into multiple combinations

Observe the technical connection requirements of the power supply companies.

Centralized telecontrol signals from power stations may be visible as brief flickering of the lamps in low dimming positions.

The weak humming noise from the device is caused by the interference suppressor choke.

Both effects are normal and do not constitute a defect of the dimmer.



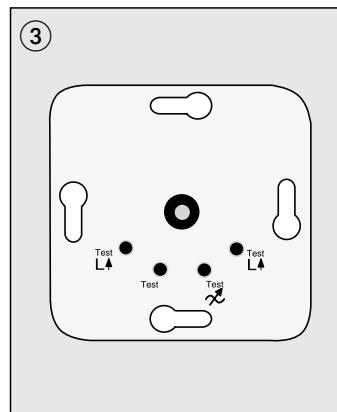
Connection see fig. ①

The rotary dimmer for incandescent lamps (1) is connected by means of screw terminals accessible from below. Rated load: see technical characteristics.

Connection see fig. ②

The mechanical two-way switch (2) can be used to switch the load on and off. The brightness of the lamp can only be varied at the dimmer itself (1).

Setting the basic brightness, e.g. for use in 60 Hz networks The basic brightness is set at the factory for operation in 50 Hz networks (Europe). If the dimmer is to be used in 60 Hz networks, the basic brightness setting must be corrected by a qualified electrician. The basic brightness must be adjusted in such a way, that a lamp switched off and a lamp turned down to minimum dimming position can be clearly distinguished.



Technical specifications

Rated voltage:	AC 230/240 V ~, 50/60 Hz
Connected load:	60 – 400 W
Type of loads:	230/240 V incandescent lamps 230/240 V halogen lamps mixed loads of the specified types
Minimum load:	60 W
Fuse:	T 1.6 H 250
Max. cross section for terminals:	2 x 2.5 mm ² or 1 x 4 mm ²
Two-way circuit:	with mechanical two- way switch Two-way circuits with 2 dimmers are not possible
Basic brightness:	factory-set for 50 Hz networks, for 60 Hz networks see 'Setting of basic brightness'

As per EN 60669-2-1 (01.2000), a faint glow of the lamp should be visible over the full load range (at rated voltage –10 %) when the dimmer is at dark position.

Rotary dimmer for TRONIC loads

Ref.-Nos. 225 TDE, 824 TDE



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, C = capacitive

Installation instructions

Depending upon the type of installation, the maximum connected load must be reduced by:

- 10 % per 5°C exceeding of the ambient temperature of 25°C.
- 15 % for installation in wooden, gypsum plaster or hollow walls.
- 20 % for installation in multiple combinations.

Upon full utilisation of the TRONIC rotary dimmer, up to 10 TRONIC power attachments (built-in or series-mounted type) can be connected (refer to separate Operating Instructions).

Note the technical connection conditions of the power stations.

Centralised multi-service control pulses of the power stations may be noticeable by short-time flickering at low dimming positions.

Function

ref.-nos. 225 TDE, 824 TDE

TRONIC rotary dimmer for switching and dimming:

- 230 V incandescent lamps.
- 230 V halogen lamps.
- LV halogen lamps with TRONIC transformers.

Press and turn the control knob to switch and dim.

Control knob pressed: ON – OFF
Control knob turned: Dimming

Short-Circuit Protection

The dimmer automatically switches off in case of a short-circuit or of overload. It has no conventional fuse. Consequently, the load circuit will not be opened. If the malfunction occurs for less than four seconds, the dimmer will automatically switch on after the elimination of the fault. Otherwise, the dimmer will switch off permanently and will have to be restarted by pressing the knob twice.

Overtemperature Protection

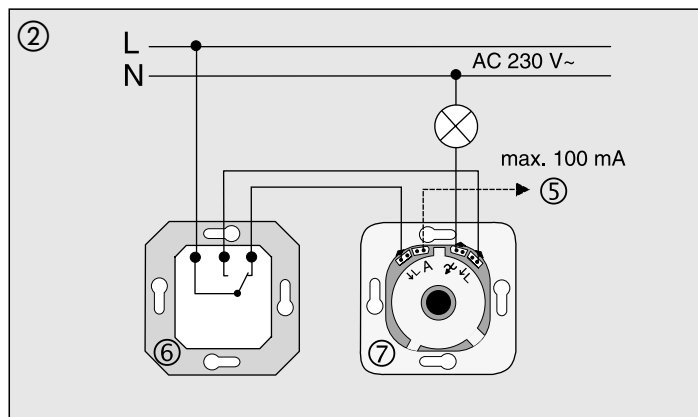
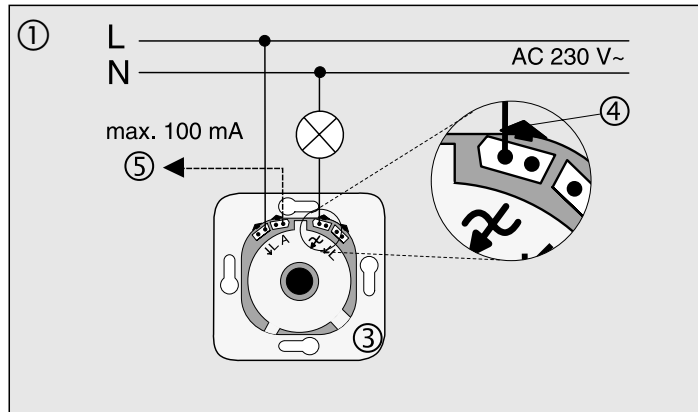
Overtemperature cut-out with automatic restart after cooling down.

Control Output ⑤

Output of the switching state of the TRONIC rotary dimmer for triggering automatic isolating facilities or relays.

The maximum control current is 100 mA.

Note: Control output mechanical contact (must not be used for the connection of loads).



Note

The overall power rating of the consumers connected must not exceed the maximum load specified in the technical data.

Operation with mixed loads of the specified types is possible up to the total admitted load.

A Minimum load of 60 W is required, or the lamps connected may caused to flutter.

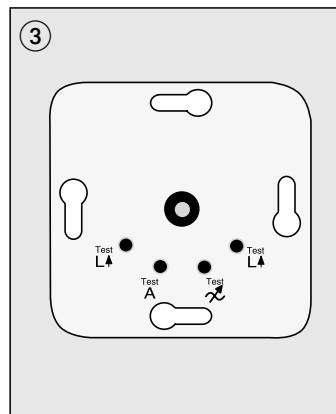
The connection of transformers is not allowed.

Connection – refer to Fig. ①

Connect TRONIC rotary dimmer (3) through the spring plug-in terminals accessible from the bottom side. Insert the wire stripped for about 15 mm into the opening of the terminal without operating release clip (4).

Lift clip (4) to release the wiring from the terminals. Connected control output 100 mA (5).

For types of load to be connected, refer to Specifications.



Two-way wiring installation

– refer to Fig. (2)

Switch on/off the load by mechanical two-way switch (6).

Adjust the brightness solely by Tronic rotary dimmer (7).

Connected control output A max. 100 mA (5).

Note

The upper side of the base plate has measuring points which allow the voltages applied to be checked even without removing the dimmer (Fig. (3)).

Technical specifications

Rated voltage: AC 230 V ~, 50 Hz

Connected load:

ref.-no. 225 TDE flush-mounting
20 – 525 W

ref.-no. 225 TDE surface-mounting
20 – 500 W

ref.-no. 824 TDW (waterprotected):
20 – 400 W

Type of loads
230 V incandescent lamps

230 V halogen lamps
TRONIC transformers max.

15 x 35 W TRONIC transformers max.

or 8 x 60 W TRONIC transformers max.

or 7 x 70 W TRONIC transformers max.

or 5 x 105 W TRONIC transformers max.

or 3 x 150 W TRONIC transformers max.

or 2 x 200 W TRONIC transformers max.

mixed loads of the specified types
20 W

Number of amplifiers:
max. 10 TRONIC amplifiers

Wiring:
double terminals
1.0 mm² to 2.5 mm²

Stripping length:
15 mm (refer to dimmer base plate)

Two-way wiring installation:
via mechanical two-way switches. Two-way wiring installation using two dimmers is not possible.

Basic brightness: factory-set

As per EN 60669-2-1 (02.97), some lighting of the lamp should be perceptible over the entire load range (at rated voltage –10 %) when the dimmer is at dark position.

Control output A:
mechanical contact,
100 mA max.

Wiring diagrams

Rotary dimmer

Ref.-No. 243 EX



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers:
R = ohmic, C = capacitive

Installation instruction

Depending upon the type of installation, the maximum connected load must be reduced by:

- 10 % per 5 °C exceeding of the ambient temperature of 25 °C,
- 15 % for installation in wooden, gypsum plaster or hollow walls,
- 20 % for installation in multiple combinations.

Note the technical connection conditions of the power stations.
Centralized telecontrol signals from power stations may be noticed as brief flickering of the lamps in low dimming positions.

Function

Rotary dimmer switch for switching and dimming:

- 230 V incandescent lamps
- 230 V halogen lamps
- LV halogen lamps in conjunction with tronic transformers

Press and turn the control knob to switch and dim.

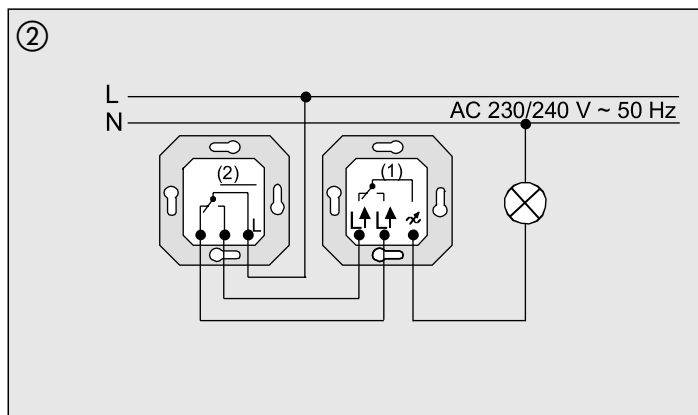
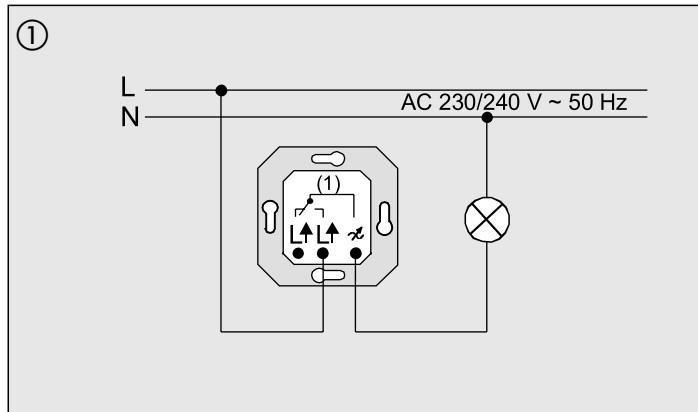
Control knob pressed: ON – OFF
Control knob turned: Dimming

Short-Circuit Protection

The dimmer automatically switches off in case of a short circuit or of overload. It has no conventional fuse. Consequently, the load circuit will not be opened. If the malfunction occurs for less than four seconds, the dimmer will automatically switch on after the elimination of the fault. Otherwise, the dimmer will switch off permanently and will have to be restarted by pressing the control knob twice.

Overtemperature Protection

Overtemperature cut-out with automatic restart after cooling down.



Connection

The Rotary dimmer (1) is connected by means of screw terminals.

Two-way wiring installation

The mechanical two-way switch (2) can be used to switch the load on and off. The brightness of the lamp can only be varied at the Rotary dimmer itself (1). Two dimmers are **not** possible.

Technical specifications

Rated voltage:	230/240 V ~, 50 Hz
Connected load:	20 – 360 W
Type of loads:	230/240 V incandescent lamps 230/240 V halogen-lamps TRONIC transformers 10 x 35 W TRONIC transformers max. or 6 x 60 W TRONIC transformers max. or 5 x 70 W TRONIC transformers max. or 3 x 105 W TRONIC transformers max. or 2 x 150 W TRONIC transformers max. or 1 x 200 W TRONIC transformers max. mixed loads of the specified types
Minimum load:	100 W
Number of power amplifiers:	10 max.
Max. cable cross-section:	2 x 2.5 mm ² or 1 x 4 mm ²
Two-way wiring:	via mechanical two-way switches. Two-way wiring installation using two dimmers is not possible
Basic brightness:	factory-set
As per EN 60669-2-1 (01.2000), some lighting of lamp should be perceptible over the entire load range (at rated voltage -10 %) when the dimmer is at dark position.	

Rotary dimmer for inductive load

Ref.-Nos. 225 NVDE, 823 NVDE



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, L = inductive

Installation instructions

Depending upon the type of installation, the maximum connected load must be reduced by:

- 10 % per 5 °C exceeding of the ambient temperature of 25 °C.
- 15 % for installation in wooden, gypsum plaster or hollow walls.
- 20 % for installation in multiple combinations.

Upon full utilisation of the LV rotary dimmer, up to 10 LV power amplifiers (built-in or series-mounted type) can be connected (refer to separate Operating Instructions).

Note the technical connection conditions of the power stations.

Centralised multi-service control pulses of the power stations may be noticeable by short-time flickering at low dimming positions.

Function

ref.-nos. 266 GDE, 864 GDW

LV rotary dimmer for switching and dimming:

- 230 V incandescent lamps.
- 230 V halogen lamps.
- LV halogen lamps with conventional transformers.

Press and turn the control knob to switch and dimm.

Control knob pressed: ON – OFF
Control knob turned: Dimming

Short-Circuit Protection

Protected by a T 3.15 H 250 microfuse. In case of malfunctioning, check the microfuse first. Do not use any fuses other than original.

Overtemperature Protection

Overtemperature cut-out with automatic restart after cooling down.

Control Output ⑤

Output of the switching state of the inductive rotary dimmer for triggering automatic isolating facilities or relays.

The maximum control current is 100 mA.

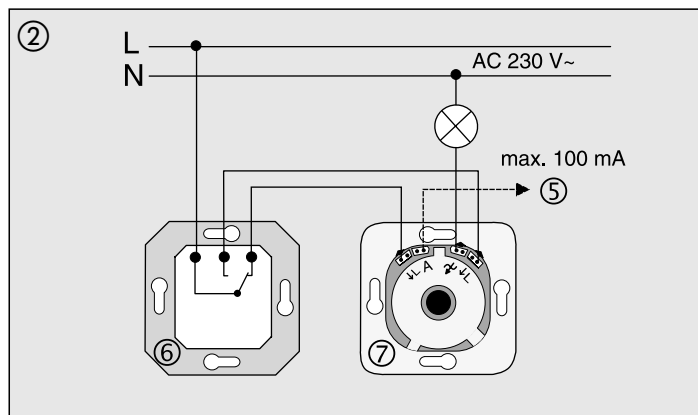
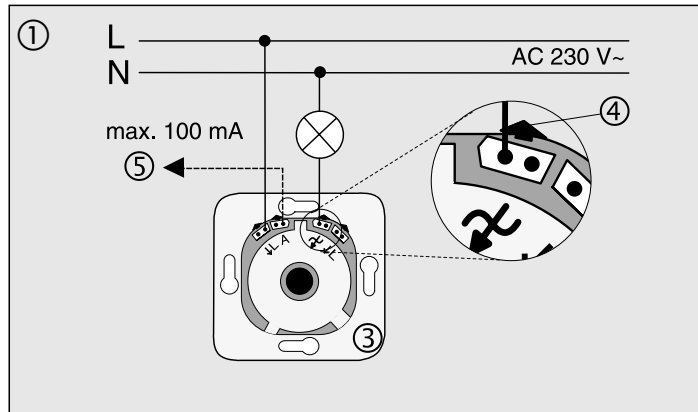
Note: Control output mechanical contact (must not be used for the connection of loads).

Note: The overall power rating of the consumers connected must not exceed the maximum load specified in the technical data.

Operation with mixed loads of the specified types is possible up to the total admitted load.

A Minimum load of 60 W is required, or the lamps connected may caused to flutter.

The connection of electronic transformers is not allowed.



Connection – refer to Fig. ①

Connect inductive rotary dimmer ③ through the spring plug-in terminals accessible from the bottom side. Insert the wire stripped for about 15 mm into the opening of the terminal without operating release clip ④.

Lift clip ④ to release the wiring from the terminals. Connected control output 100 mA ⑤.

For types of load to be connected, refer to Specifications.

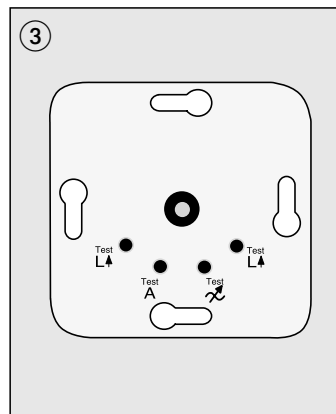
Two-way wiring installation – refer to Fig. ②

Switch on/off the load by mechanical two-way switch ⑥.

Adjust the brightness solely by LV dimmer ⑦.
Connected control output A max. 100 mA ⑤.

Note

The upper side of the base plate has measuring points which allow the voltages applied to be checked even without removing the dimmer (Fig. ③).



Technical specifications

ref.-nos. 225 NVDE, 823 NVDE

Rated voltage: AC 230 V ~, 50 Hz

Connected load:

ref.-no. 225 NVDE flush-mounting

20 – 500 W/VA

ref.-no. 225 NVDE surface-mounting

20 – 450 W/VA

ref.-no. 823 NVDE (waterprotected)

20 – 375 W/VA

Type of loads: 230 V incandescent lamps
230 V halogen lamps
dimmable conventional transformers

Load the transformers with lamps up to at least 85 % of their rated loads. The overall load including transformer losses must not exceed the maximum power rating.
mixed loads of the specified types

Minimum load: 20 VA

Fuse: T 3.15 H 250, slow-blow

Number of amplifiers: max. 10 power amplifiers

Wiring: double terminals
1.0 mm² to 2.5 mm²

Stripping length: 15 mm (refer to dimmer base plate)

Two-way wiring installation: via mechanical two-way switches. Two-way wiring installation using two dimmers is not possible.

Basic brightness: factory-set

As per EN 60669-2-1 (02.97), some lighting of the lamp should be perceptible over the entire load range (at rated voltage –10 %) when the dimmer is at dark position.

Control output A: mechanical contact,
100 mA max.

Wiring diagrams

Rotary dimmer

Ref.-No. 244 HEX



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers:
R = ohmic, L = inductive

Installation Instruction

Depending upon the type of installation, the maximum connected load must be reduced by:

- 10 % per 5 °C exceeding of the ambient temperature of 25 °C,
- 15 % for installation in wooden, gypsum plaster or hollow walls,
- 20 % for installation in multiple combinations.

Note the technical connection conditions of the power stations.
Centralized telecontrol signals from power stations may be noticed as brief flickering of the lamps in low dimming positions.

Function

Rotary dimmer for switching and dimming:

- 230 V incandescent lamps
- 230 V halogen lamps
- LV halogen lamps in conjunction with conventional transformers

Press and turn the control knob to switch and dim.

Control knob pressed: ON – OFF
Control knob turned: Dimming

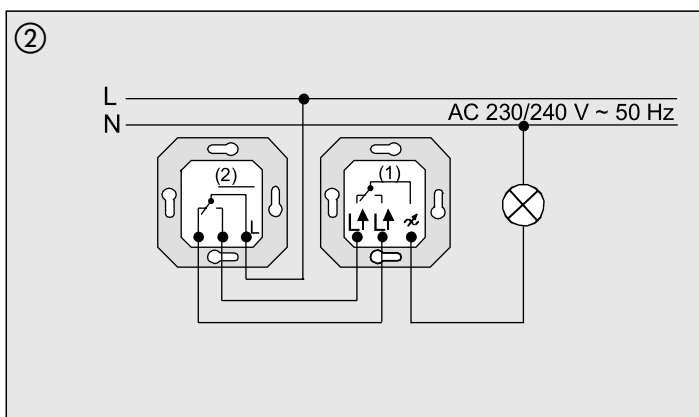
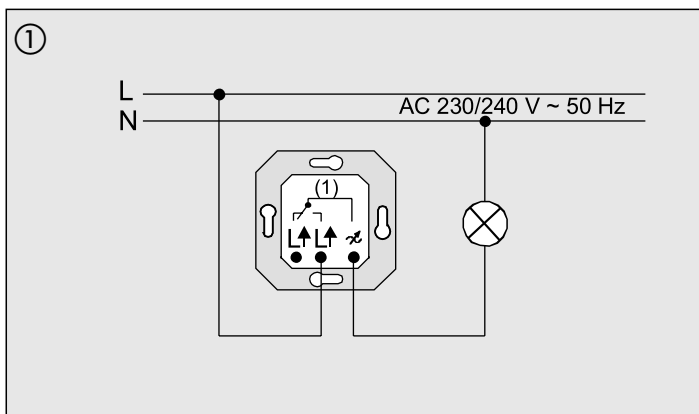
Short-Circuit Protection

Protected by a T 3.15 H 250 micro fuse.
In case of malfunctioning, check the micro fuse first.

Do not use any fuses other than original.

Overtemperature Protection

Overtemperature cut-out with automatic restart after cooling down.

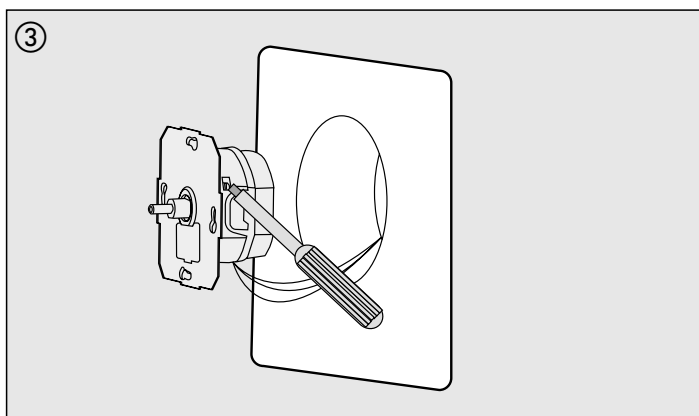


Connection

The rotary dimmer (1) is connected by means of screw terminals.

Two-way wiring installation

The mechanical two-way switch (2) can be used to switch the load on and off.
The brightness of the lamp can only be varied at the rotary dimmer itself (1). Two dimmers are **not** possible.



Setting the basic brightness, e.g. for use in 60 Hz networks. The basic brightness is set at the factory for operation in 50 Hz networks (Europe). If the dimmer is to be used in 60 Hz networks, the basic brightness setting must be corrected by a qualified electrician.

The basic brightness must be adjusted in such a way, that a lamp switched off and a lamp turned down to minimum dimming position can be clearly distinguished.

Technical specifications

Rated voltage:	230/240 V ~, 50/60 Hz
Connected load:	20 – 500 W/VA
Type of loads:	230/240 V incandescent lamps 230/240 V halogen-lamps, dimmable conventional transformers
Minimum load:	20 W/VA
Fuse:	T 3,15 H 250
Number of power amplifiers:	10 max.
Cable cross-section:	2 x 2.5 mm ² or 1 x 4 mm ²
Two-way wiring:	via mechanical two-way switches. Two-way wiring installation using two dimmers is not possible

Basic brightness: factory-set

As per EN 60669-2-1 (01.2000), some lighting of lamp should be perceptible over the entire load range (at rated voltage –10 %) when the dimmer is at dark position.

Important advice

Not suitable for operation in conjunction with electronic transformers.

Universal rotary dimmer with incremental control Ref.-No. 254 UDIE1 Satellite station with incremental control Ref.-No. 254 NIE1



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, L = inductive, C = capacitive

The rotary dimmer 254 UDIE and the satellite 254 NIE will be discontinued. They will be replaced by 254 UDIE1 and 254 NIE1. The new devices do not need a neutral conductor at the satellite station.

Installation instructions

Depending upon the type of installation, the maximum connected load must be reduced by:

- 10 % per 5°C exceeding of the ambient temperature of 25°C.
- 15 % for installation in wooden, gypsum plaster or hollow walls.
- 20 % for installation in multiple combinations.

Observe the Technical Connection Rules of the power supply companies.

Centralized multi-service control pulses of the power stations may be noticeable by short-time flickering at low dimming positions.

Function ref.-nos. 254 UDIE1, 254 NIE1

Rotary dimmer for switching and dimming:

- 230 V incandescent lamps
- 230 V halogen lamps
- Low-voltage halogen lamps with TRONIC transformers or
- Low-voltage halogen lamps with conventional transformers suitable for dimming

Switching and dimming is effected by pressing and turning the control knob of the dimmer and the satellite unit.

Pressing the control knob: ON – OFF

Turning the control knob: dimming

The Universal Rotary Dimmer extension unit is secondary to the dimmer.

The lamps are switched on in the lamp-saving soft-start mode.

Short-circuit protection

The dimmer is switched off automatically by an electronic protection circuitry after load short-circuits or after overloading. For this reason, there is no electrical separation of the load circuit. If the fault condition persists for less than seven seconds (phase cut-off) or 100 ms (phase cut-on), the dimmer restarts automatically. In all other cases, the dimmer is switched off permanently and must be restarted by depressing the control knob.

Overtemperature protection

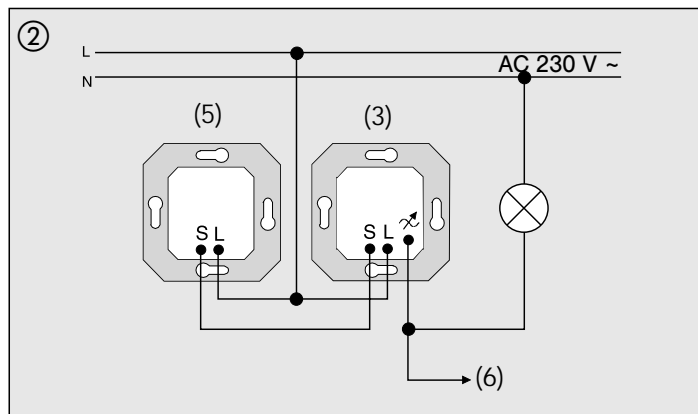
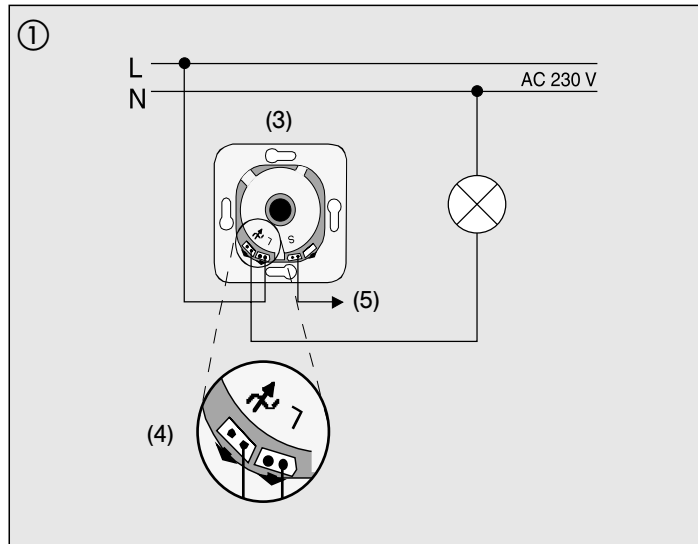
The dimmer shuts off in the event of too high ambient temperatures. After cooling, the device must be restarted by depressing the control knob.

Installation instructions

After first installation and connection of the mains, the dimmer adapts itself automatically to the connected load. The device memory is then at maximum brightness.

For subsequent switching cycles, the brightness after switching on is always the same as the brightness at shut-off.

With ohmic loads (incandescent and mains-voltage halogen lamps), the automatic load recognition is marked by a short flickering of the lamp. Depending on mains conditions, the recognition procedure lasts between 1 and 10 seconds. During this time, no switching or dimming is possible. In the event of a short-circuit during the recognition phase, the load recognition must be repeated after elimination of short-circuit condition.



Mains failures of more than 0.7 seconds result in short-off of the dimmer and loss of the stored brightness value.

Do not connect capacitive loads (e.g. TRONIC transformers) and inductive loads (e.g. conventional transformers) to the same rotary dimmer.

The overall power rating of the consumers connected must not exceed the maximum load specified in the technical data.

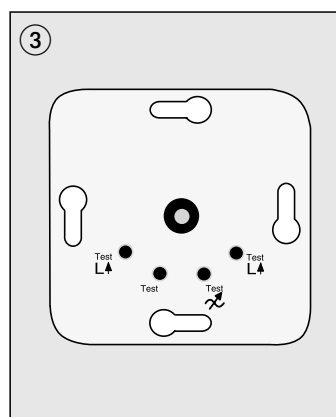
Connection

Wiring of the devices is shown in figs ① and ②.

Rotary dimmer (3)
 Rotary dimmer satellite unit (5) to power amplifiers (6)

The wires are connected to the rotary dimmer (3) or the rotary dimmer satellite unit (5) by means push-lock terminals accessible from below. After removing the insulation over abt. 15 mm, the conductor is pushed into the opening of the maximum terminal without pressing the release lever (4).

For removing the wire from the push-lock terminal, lever must be lifted (4).



For maximum connected load rating see technical specifications. With the full load connected to the dimmer, up to 10 power amplifiers can be connected in addition via terminal (6).

Technical specifications

ref.-nos. 254 UDIE, 254 NIE

Nominal voltage: AC 230 V ~, 50/60 Hz

Connected load:

ref.-no. 254 UDIE flush-mounting Type 50 – 420 W/WA
 ref.-no. 254 UDIE surface-mounting Type 50 – 400 W/WA

Type of loads: 230 V incandescent lamps (ohmic load, phase cut-off)
 230 V halogen lamps (ohmic load, phase cut-off)
 TRONIC transformers (capacitive load, phase cut-off)
 conventional transformers (inductive load, phase cut-off)

Mixing of specified load types (**do not mix capacitive with inductive loads**).

When using mixed loads with conventional transformers, the ohmic load must not exceed 50 %.

Proper functioning can be guaranteed only with Jung TRONIC transformers or with conventional iron/copper transformers.

Number of power amplifiers: max. 10

Setting rate: fast: 360°; slow: 720°

OFF condition – brightness during next switch-on

1/4 turn to the left: minimum brightness

1/4 turn to the right: maximum brightness

Wiring: double terminals solid conductor 1.0 mm² to 2.5 mm²

Stripping length: 15 mm (see also dimmer baseplate)

Satellite control units: use satellite station insert only (254 NIE)

Number of satellites: 5

Length of cable: max. 100 m

Number of power amplifiers: max. 10

Wiring diagrams

Universal rotary dimmer

Ref.-Nos. 254 UDIE-110 / 254 NIE-110



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, L = inductive, C = capacitive

Function

Universal Dimmer for switching and dimming of:

- 110 – 127 V incandescent lamps
- 110 – 127 V halogen lamps

Low-voltage halogen lamps in conjunction with electronic transformers or

Low-voltage halogen lamps in conjunction with conventional transformers suitable for dimming

Switching and dimming is effected by depressing and turning the control knob of the dimmer and the extension unit.

Depressing the control knob: ON – OFF

Turning the control knob: dimming

The extension unit is secondary to the Universal Dimmer.

The lamps are switched on in the lamp-saving soft-start mode.

Short-circuit protection

The dimmer is switched off automatically by an electronic protection circuitry after load short-circuits or after overloading.

For this reason, there is no electrical separation of the load circuit. If the fault condition persists for less than seven seconds (phase cut-off) or 100 ms (phase cut-on), the dimmer restarts automatically. In all other cases, the dimmer is switched off permanently and must be restarted by depressing the control knob.

Overtemperature protection

The dimmer shuts off in the event of too high ambient temperatures. After cooling, the device must be restarted by depressing the control knob.

Installation instructions

The Universal Dimmer consists of dimmer base and an attached control knob.

The Universal Dimmer is installed in a mounting box as per DIN 49073 (fig A) with the connecting terminals pointing downwards.

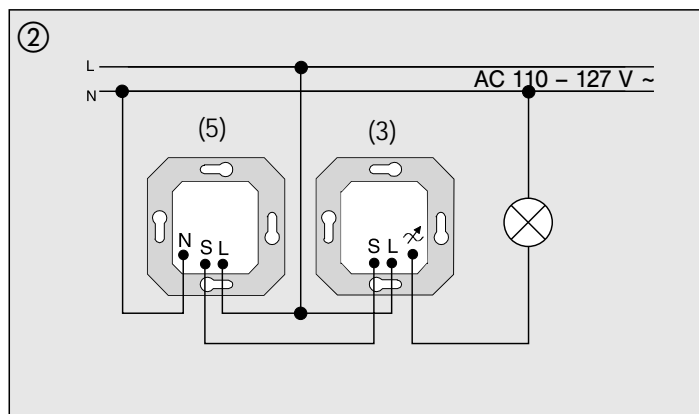
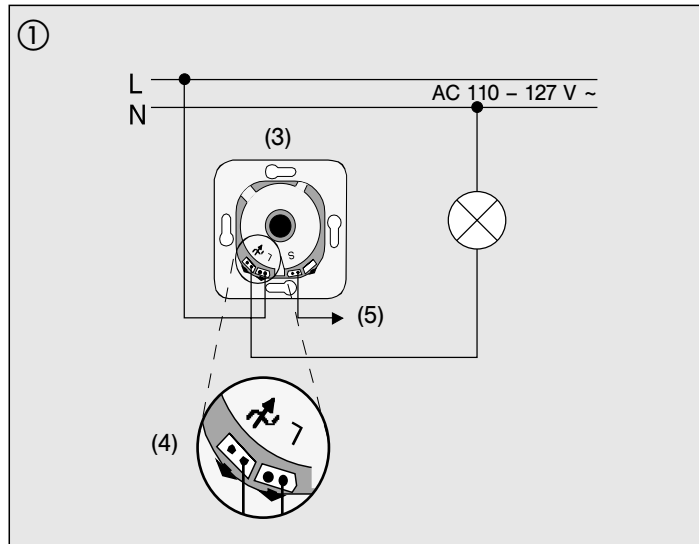
After first installation and connection of the mains, the dimmer adapts itself automatically to the connected load. The device memory is then at maximum brightness. For subsequent switching cycles, the brightness after switching on is always the same as the brightness at shut-off.

With ohmic loads (incandescent and mains-voltage halogen lamps), the automatic load recognition is marked by a short flickering of the lamp. Depending on mains conditions, the recognition procedure lasts between 1 and 10 seconds. During this time, no switching or dimming is possible. In the event of a short-circuit during the recognition phase, the load recognition must be repeated after elimination of the short-circuit condition.

Mains failures of more than 0.7 seconds result in shut-off of the dimmer and loss of the stored brightness value.

Do not connect capacitive loads (e.g. electronic transformers) and inductive loads (e.g. conventional transformers) to the same Universal Dimmer.

The overall power rating of the consumers connected must not exceed the maximum load specified in the technical data.



Depending on the type of installation, the maximum rating must be reduced by:

– 10 % per 5 °C exceeding of the ambient temperature of 25°C.

– 15% for installation in wooden, gypsum plaster or hollow walls.

– 20% for installation in multiple combinations.

Connection

Wiring of the devices is shown in figs ① and ②.

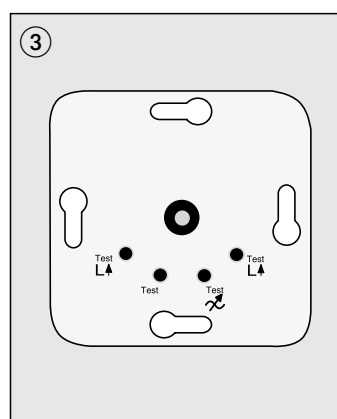
Universal Dimmer (3) Extension unit (5). The wires are connected to the Universal Dimmer or the extension unit by means push-lock terminals accessible from below. After removing the insulation over abt.

15 mm, the conductor is pushed into the opening of the pushlock terminal without depressing the release lever .

For removing the wire from the push-lock terminal, lever must be lifted (4).

For maximum connected load rating see technical specifications.

Observe the Technical Connection Rules of the power supply companies.



Centralized multi-service control pulses of the power stations may be noticeable by short-time flickering at low dimming positions.

This effect is normal and do not constitute a defect of the Universal Dimmer.

Important: The upper side of the baseplate has measuring points for checking of the voltages applied without removing the dimmer.

Technical specifications

Nominal voltage: AC 110 – 127 V ~,
5 0 / 60 Hz

Connected load
Universal Dimmer: 50 – 340 W/VA

Type of loads:

- 110 – 127 V incandescent lamps (ohmic load, phase cut-off)
- 110 – 127 V halogen lamps (ohmic load, phase cut-off)
- electronic transformers (capacitive load, phase cut-off)
- conventional transformers (inductive load, phase cut-off)

Mixing of specified load types (do not mix capacitive with inductive loads).

When using mixed loads with conventional transformers, the ohmic load must not exceed 50 %.

Setting range: fast: 360°; slow: 720°

OFF condition – brightness during next switch-on

1/4 turn to the left: minimum brightness
to the right: maximum brightness

Wiring: double terminals
solid conductor 1.0 mm²
to 2.5 mm²

Stripping length: 15 mm (see also dimmer baseplate)

Extension control units: use Satellite for 254 UDIE-110 only

Number of extensions: 5

Length of cable: 100 m max.

Function

The DALI potentiometer is designed as brightness control for electronic ballasts with DALI interface (DALI device).

Up to 64 DALI devices can be controlled with several DALI potentiometers connected in parallel.

The DALI potentiometer is not suited for use in combination with other DALI sensors or stations.

The DALI voltage must be supplied from a power supply unit in compliance with the DALI specifications (DIN IEC 60929) (e.g. Helvar or Philips).

The selection of the DALI power supply unit is dependent on the number of DALI devices and DALI potentiometers connected.

Operation

A press on the control knob switches the lights ON and OFF. A turn of the knob changes the brightness of the lamps.

The lighting can be controlled from all control posts and acts on all DALI devices connected to the system (broadcast). The electronic ballasts always adopt the value of the potentiometer that has just been actuated.

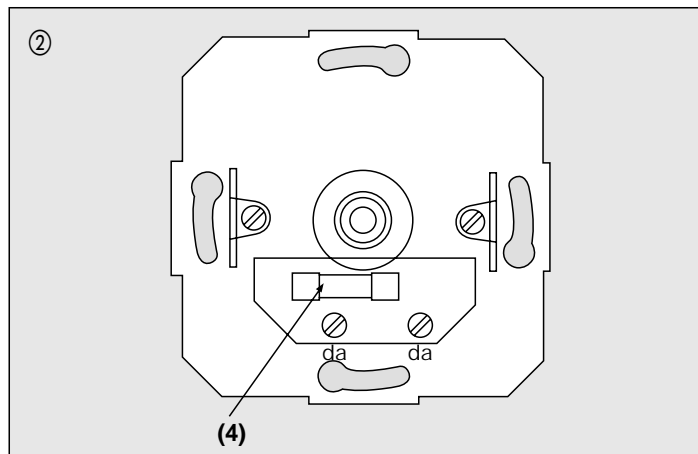
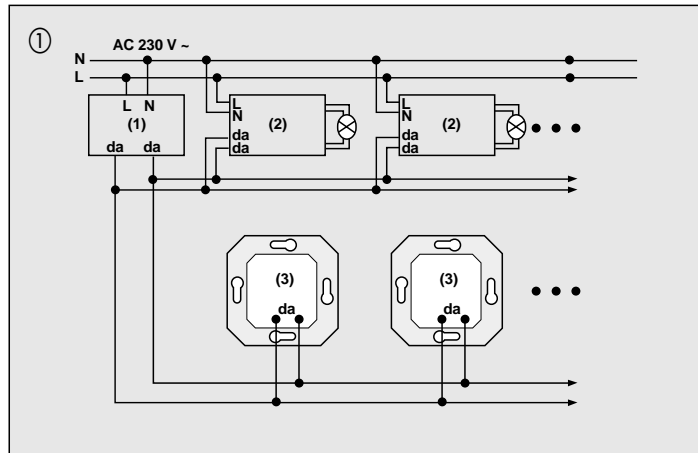
The result may therefore be an abrupt change of brightness at the beginning of the control action.

Mains failure response

– After return of the mains voltage, the switching state and the brightness corresponding to the setting of the potentiometer last actuated will be restored.

– In the event of brief voltage failures or connection to more than a single phase, the restoration of switching state and brightness may last up to 30 seconds. During this time, a value stored in the DALI electronic ballast (PowerON-Level) will be activated.

– The brightness of the lighting in the event of missing DALI telegrams (PowerON-Level) and after failure of the DALI system voltage (SystemFailure-Level) are stored firm in the electronic ballast and cannot be varied with the DALI potentiometer.



Fitting instructions

Connect the DALI potentiometers and the DALI electronic ballasts as shown in fig. A:

- (1) DALI power supply
- (2) DALI electronic ballast
- (3) DALI potentiometer

Observe the instructions of the electronic ballast manufacturer.

The fine-wire fuse in the device protects the DALI potentiometer in case it is connected by mistake to the mains voltage.

In the event of malfunction, check the fine-wire fuse fig. B (4) first. Use original fuses only.

- Control cable: type, cross-section and laying in acc. with VDE regulations for 250 V lines (control voltage basic insulation).
- Control line and load line can share the same cable e.g. NYM J 5 x 1.5.
- The connected DALI devices may be connected to different phases.

Adjusting the basic brightness

To ensure a minimum brightness in a room or in order to optimize the adjusting range of the DALI potentiometer, the basic brightness can be stored as follows.

1. Adjust the desired brightness level.
2. Press the rotary knob for at least 10 s until the lamps go OFF and then ON again.
3. The basic brightness is now stored and will be taken over by the potentiometer when the knob is rotated for the first time.
4. The basic brightness will be adopted also by other potentiometers connected to the DALI line.

To delete the stored basic brightness:

1. Press the knob for at least 10 s when the lamps are OFF.
2. Deleting is confirmed by the lamps being switched ON and then OFF again.

Technical specifications

Current rating: below 2 mA

Fine-wire fuse: F 250 H 250
(use original fuses only)

Max. wire cross-section

for connection to terminals: 2 x 2.5 mm²
or 1 x 4 mm²

Wiring diagrams

Electronic potentiometer

for electronic lamp ballasts (ELB)

with 1 – 10 V control inputs.

Ref.-Nos. 240-10, 240-31

Electronic potentiometer with switch function (ref.-no. 240-10)

Press potentiometer button to switch the ELBs on or off. Turn it to regulate brightness.

Electronic potentiometer with push-button function (ref.-no. 240-31)

(only in connection with pulse relay): Press the control button to release a current surge which will cause the pulse relay to switch the ELBs on or off. Turn it to regulate brightness.

Technical data

Control voltage: 0.7 – 12 V
Control current: max. 40 mA
Microfuse F 500 H 250

Electronic potentiometer with switch function

Max. 6 A continuous current of the mains switch.

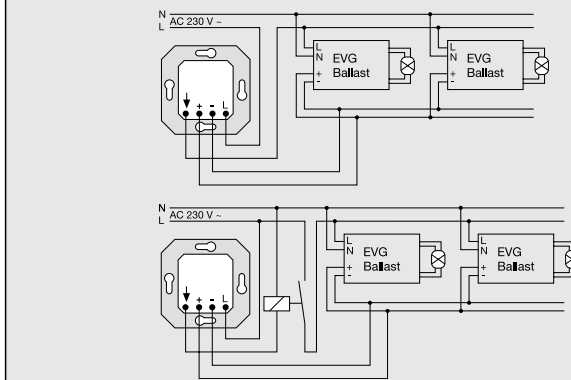
Electronic potentiometer with push-button function

Switched current of push-button max. 2 A. Control line: type, diameter and installation in accordance with VDE regulations for 250 V wires (control voltage insulated from base). Connect ELBs with earthed conductor as specified by the manufacturer. The total current of all ELB control voltages (see ELB manufacturer information) must not exceed 40 mA. For example, you can control up to 50 SIEMENS ELBs (control voltage 0.8 mA) or up to 20 HELVAR ELBs (control voltage 2 mA) simultaneously.

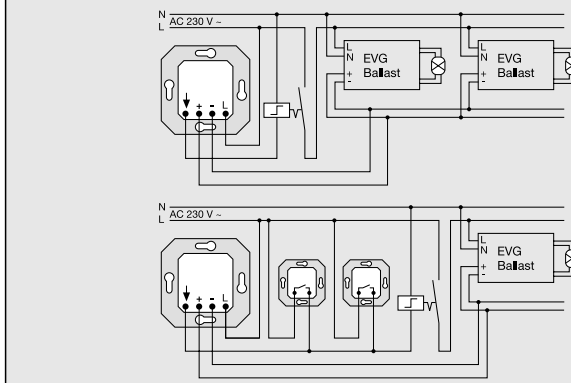
Only use ELBs and fluorescent lamps of the same manufacturer, type and capacity.

After installation, switch on light, turn control button to the extreme left and use trimmer to set minimal visible brightness (Diagram 1).

Electronic potentiometer with switch function, Ref.-No. 240-10

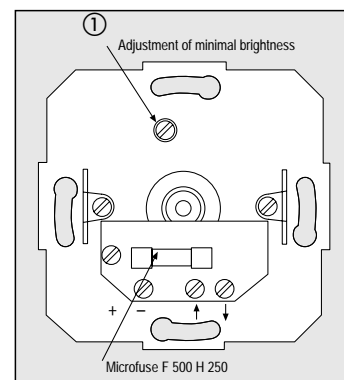


Electronic potentiometer with push-button function, Ref.-No. 240-31



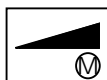
Technical data

Nominal voltage: AC 230 V, 50 Hz
Control voltage: 1 – 10 V
Connected load:
Switching contact relay
Switching capacity
Ohmic load max. 2300 W
ELBs, transformers type-dependent
Control current max. 200 mA
Short-circuit protection: 10 A safety cut-out
No-load proof: yes
Galvanic separation 1 – 10 V: 2 kV basic installation
Ambient temperature (T): 50°
Dimensions: 175 x 42 x 18 mm
Type of protection: IP 20
Terminals: N, 1, L, ↓
3 x (+, -)



Speed controller

Ref.-Nos. 254 245.20, 844.20



Function

Speed controller for speed regulation of single-phase motors such as inductive, shaded-pole or universal motors.

Turn control button to the extreme left: On/off (if the notches on button and cover face each other).

Turn the control button for infinitely variable speed regulation.

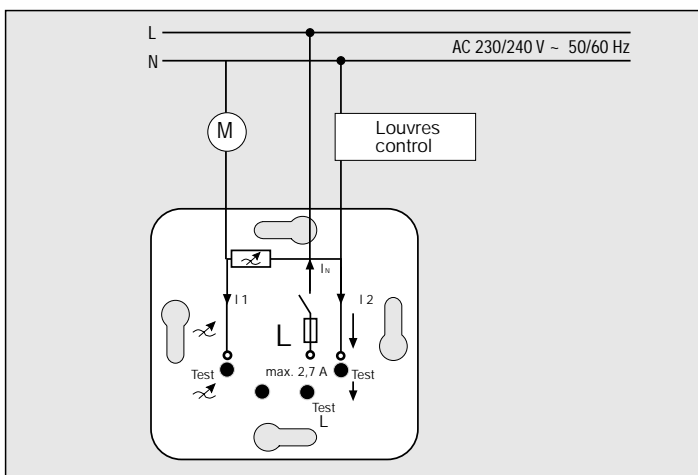
Install the controller in a 60 mm wall box. The rated current range is 0.1 – 2.3 A.

Reduce the max. rated current to 0.1 – 1.6 A if you install the device in a surface cap.

Overtemperature protection

In the event of overtemperature, the device switches itself off and restarts automatically after cooling down.

Use potentiometer on the baseplate to set the basic speed.



Use switching output to actuate blade controllers or ohmic loads. Max. load on the actuator depends on the motor current. Higher consumption blades or ohmic loads can be controlled, if the motor current is reduced. Please note: motor current + blade current = max. 2.5 A.

Do not use to control any other loads.

In case of malfunction check microfuse first.

Only use original spare fuses.

Technical data

Nominal voltage: 230 V AC, 50 Hz
Nominal current: 0.1–2.3 A (flush-mounted)
Nominal current: 0.1–1.6 A (surface-mount.)
Fuse: T 2.5 H 250
Max. nominal current must be reduced, depending on type of installation:
– 10 % per 5 °C above ambient temperature of 25 °C
– 15 % when installed in hollow wall
– 20 % when used in multiple combinations

Universal dimmer Ref.-No. 1254 UDE

Satellite station Ref.-No. 1220 NE



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, L = inductive, C = capacitive

Functions

Universal dimmer for switching and dimming extensive light sources such as:

- 230 V incandescent lamps
- 230 V halogen lamps
- low voltage halogen lamps combined with TRONIC transformers
- low voltage halogen lamps combined with conventional transformers

Switching and dimming commands are carried out by pressing the covers of the dimmer, satellite station or radio transmitter.

The universal dimmer is operated according to the twin area principle i.e. there is a control panel for each of the dimming directions of 'brighter' and 'darker'.

The lamps are switched on using the soft-start feature which protects the lamps.

Operation when the load is switched off

Short operation (less than 400 ms)

UPPER or LOWER rocker contacts or whole rocker: ON.

Longer operation (more than 400 ms)

UPPER contact: Dimming from minimum to maximum brightness.

LOWER contact: Switching on with minimum brightness.

Operation when the load is switched on:

Short operation (less than 400 ms)

UPPER or LOWER rocker contacts or whole rocker: OFF.

Longer operation (more than 400 ms)

UPPER contact: Increase of the light intensity to the maximum (dim up).

LOWER contact: Reduction of the light intensity to the minimum (dim down).

Operation of the whole surface area (min. 3 sec.): The current brightness value is stored and controlled after a restart (short operation). The storing process is indicated by a softstart.

Note

Not suitable for safety isolation. When the universal dimmer is switched off, the load is not electrically isolated from the supply.

When using conventional transformers, each transformer must be fused in primary circuit according to the manufacturers' data. Safety isolating transformers in accordance with DIN VDE 0551 must be used.

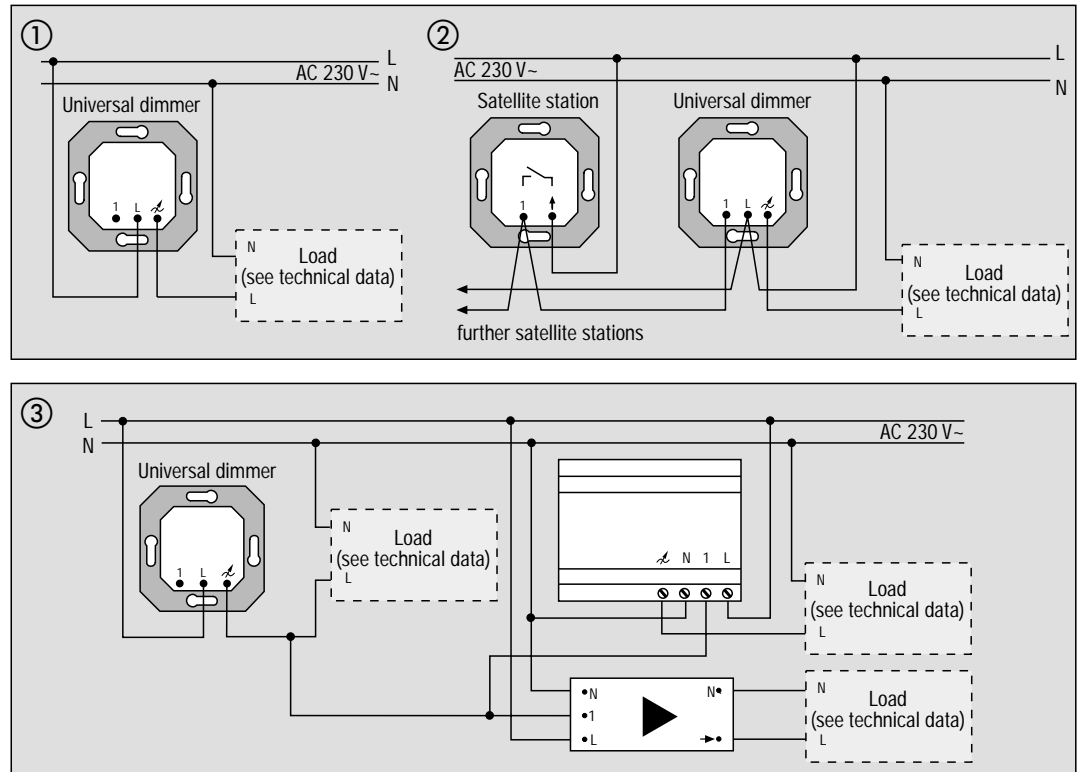
Non-observance of the installation instructions can lead to fire or other hazards.

Installation:

The universal dimmer consists of a dimmer insert and a clip-on operating or receiver component. Clip on the cover before connecting the supply voltage. Do not exchange the clip-on component while the supply voltage is connected as a malfunction may occur.

After the initial installation and isolation from the supply, the universal dimmer is automatically taught into the load. The brightness memory of the universal dimmer is then set at maximum brightness.

Capacitive loads (e.g. TRONIC transformers) and inductive loads (e.g. conventional transformers) should not be connected together to the universal dimmer.



The teaching-in process can be detected for resistive loads (incandescent lamps, 230 V halogen lamps) by a brief flickering. Depending on the network conditions, the teaching-in process lasts between 1 – 10 sec. No operations are possible during this period. If a short circuit occurs during the teaching-in process, the load must be taught in again once the short circuit has been removed.

Mains failures that last longer than 0.7 sec. lead to the disconnection of the dimmer and the loss of the stored brightness value.

Technical data

Nominal voltage:	AC 230 V ~, 50/60 Hz
Connected load:	50 – 420 W/VA
	– 230 V incandescent lamps (resistive load, trailing edge control)
	– high voltage halogen lamps (resistive load, trailing edge control)
	– TRONIC transformers (capacitive load, trailing edge control)
	– conventional transformers (inductive load, leading edge control)

Mixed loads of specific load types are permitted (not capacitive with inductive loads). When using mixed loads with conventional transformers, the proportion of the resistive load (incandescent lamps, 230 V halogen lamps) should not exceed 50 %.

Number of power amplifiers to be connected: max. 10

Satellite stations*: mechanical push-button and satellite station insert, also combined

* only possible without radio receiver cover

Number of satellite stations: unlimited

Emitted interfer.: in accordance with EN 55015

Use of satellite stations*

Satellite station insert
Same functionality as the short-touch key on the universal dimmer.

Mechanical push-button (make contact)

Short operation: ON/OFF

Longer operation: Dimming to maximum brightness

* only possible without radio receiver cover

(Approx. 1 sec. delay to maximum value), then dimming down to minimum brightness.

(Approx 1 sec. delay to minimum value), then dimming up again to maximum brightness. This process is repeated continuously.

It is not possible to store a brightness value using the mechanical push-button (make contact).

Short-circuit protection

Trial edge control mode (capacitive load, resistive load):

Disconnection with automatic restart if the short circuit has been removed within 7 sec. After this period, the universal dimmer remains disconnected until it is switched on again manually.

Leading edge control mode (inductive load):

Disconnection with automatic restart if the short circuit has been removed within 100 ms. After this period, the universal dimmer remains disconnected until it is switched on again manually.

Overtemperature protection

Disconnection when the ambient temperature is too high. Once it has cooled down, the device must be switched on again.

Connected load max. 420 W/VA:

- 230 V incandescent lamps, high voltage halogen lamps
- low voltage halogen lamps with TRONIC transformers or
- low voltage halogen lamps with conventional transformers (conventional transformers should have at least 85% nominal load with lamps. The total load may not exceed 420 W/VA including the power loss of the transformers.)

The total output of the connected lamps may not exceed 420 W/VA.

The minimum connected load is 50 W/VA.

Connection according to figure ①.

Dimming from several points, see figure ②.

Depending on the type of installation, the maximum connected load is reduced by:

- 10% for every 5°C exceeded of the 25° C ambient temperature,
- 15% for installation in wood, plaster or cavities,
- 20% for installation in multiple combinations.

Up to 10 power amplifiers can be connected once the universal dimmer has been used to capacity.

TRONIC power amplifiers (BI or SE) should be used in combination with TRONIC transformers.

Low voltage power amplifiers (BI or SE) should be used in combination with conventional transformers.

Connection according to figure ③.

Technical supply conditions of the electrical generating stations should be observed.

Ripple impulses from the power plants can be detected by a brief flickering at a low dimming setting.

Wiring diagrams

Standard dimmer Ref.-No. 1225 SDE

Satellite station Ref.-No. 1220 NE



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers:
R = ohmic, L = inductive

Functions

Standard dimmer for switching and dimming extensive light sources such as:

- 230 V incandescent lamps
- 230 V halogen lamps
- low voltage halogen lamps combined with conventional transformers

Switching and dimming commands are carried out by pressing the covers of the dimmer, satellite station or radio transmitter.

The standard dimmer is operated according to the twin area principle i.e. there is a control panel for each of the dimming directions of 'brighter' and 'darker'.

The lamps are switched on using the soft-start feature which protects the lamps.

Operation when the load is switched off:

Short operation (less than 400 ms)

UPPER or LOWER rocker contacts or whole rocker: ON.

Longer operation (more than 400 ms)

UPPER contact:

Dimming from minimum to maximum brightness.

LOWER contact:

Switching on with minimum brightness.

Operation when the load is switched on:

Short operation (less than 400 ms)

UPPER or LOWER rocker contacts or whole rocker: OFF.

Longer operation (more than 400 ms)

UPPER contact:

Increase of the light intensity to the maximum (dim up).

LOWER contact:

Reduction of the light intensity to the minimum (dim down).

Operation of the whole surface area

(min. 3 sec.):

The current brightness value is stored and recalled after a restart (short operation). The storing process is indicated by a soft-start.

Note

Not suitable for safety isolation. When the standard dimmer is switched off, the load is not electrically isolated from the supply.

When using conventional transformers, each transformer must be fused in primary circuit according to the manufacturers' data. Safety isolating transformers in accordance with DIN VDE 0551 must be used.

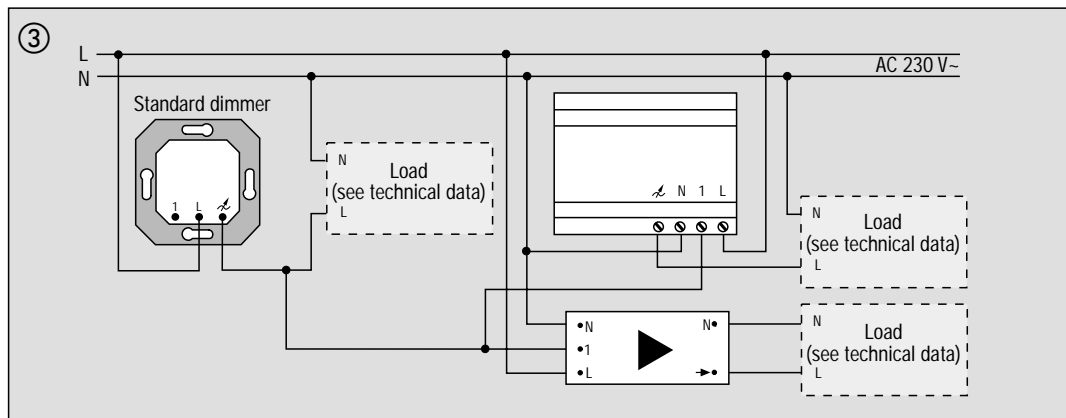
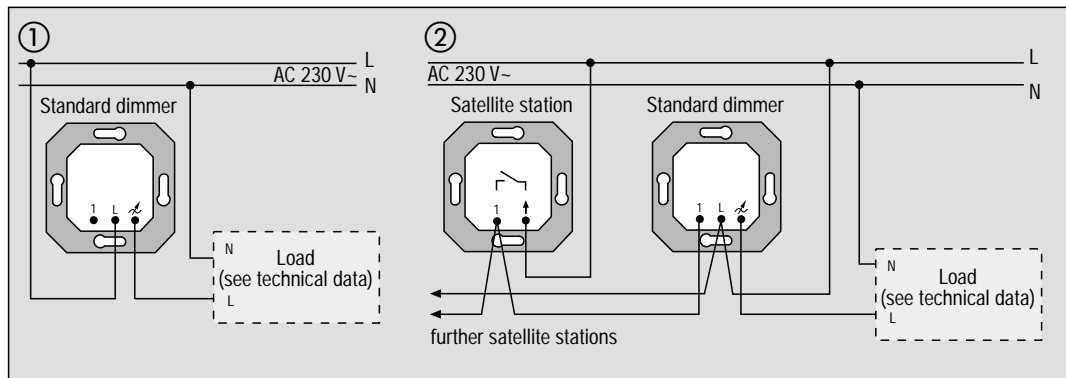
Non-observance of the installation instructions can lead to fire or other hazards.

Installation

The standard dimmer consists of a dimmer insert and a clip-on operating or receiver component. Clip on the cover before connecting the supply voltage. Do not exchange the clip-on component while the supply voltage is connected as a malfunction may occur.

Do not connect capacitive loads to the standard dimmer!

Mains failures that last longer than 1 sec. lead to the disconnection of the dimmer and the loss of the stored brightness value.



Technical data

Nominal voltage: AC 230 V ~, 50/60 Hz
 Connected load: 20 – 500 VA
 – 230 V incandescent lamps (resistive load)
 – high voltage halogen lamps (resistive load)
 – conventional transformers (inductive load)

Mixed loads of specific load types are permitted.

Number of power amplifiers to be connected: max. 10

Satellite stations*: mechanical push-button and satellite station insert, also combined

* only possible without radio receiver cover

Number of satellite stations: unlimited

Emitted interfer.: in accordance with EN 55015

Use of satellite stations*

Satellite station insert
 Same functionality as the cover on the standard dimmer.

Mechanical push-button (make contact):

Short operation: ON/OFF

Longer operation: Dimming to maximum brightness

* only possible without radio receiver cover (Approx. 1 sec. delay to maximum value), then dimming down to minimum brightness.

(Approx 1 sec. delay to minimum value), then dimming up again to maximum brightness. This process is repeated continuously.

It is not possible to store a brightness value using the mechanical push-button (make contact).

Short-circuit protection

T2 H 250 microfuse.

Do not use any fuses other than original.

Overtemperature protection

Disconnection when the ambient temperature is too high. Once it has cooled down, the device must be switched on again.

Connection according to figure ①.

Dimming from several points, see figure ②.

Depending on the type of installation, the maximum connected load is reduced by:
 – 10% for every 5°C exceeded of the 25°C ambient temperature,
 – 15% for installation in wood, plaster or cavities,
 – 20% for installation in multiple combinations.

Up to 10 power amplifiers can be connected once the standard dimmer has been used to capacity.

Low voltage power amplifiers (BI or SE) should be used in combination with conventional transformers.

Connection according to figure ③.

Technical supply conditions of the electrical generating stations should be observed.

Ripple impulses from the power plants can be detected by a brief flickering at a low dimming setting.

Push-button control unit

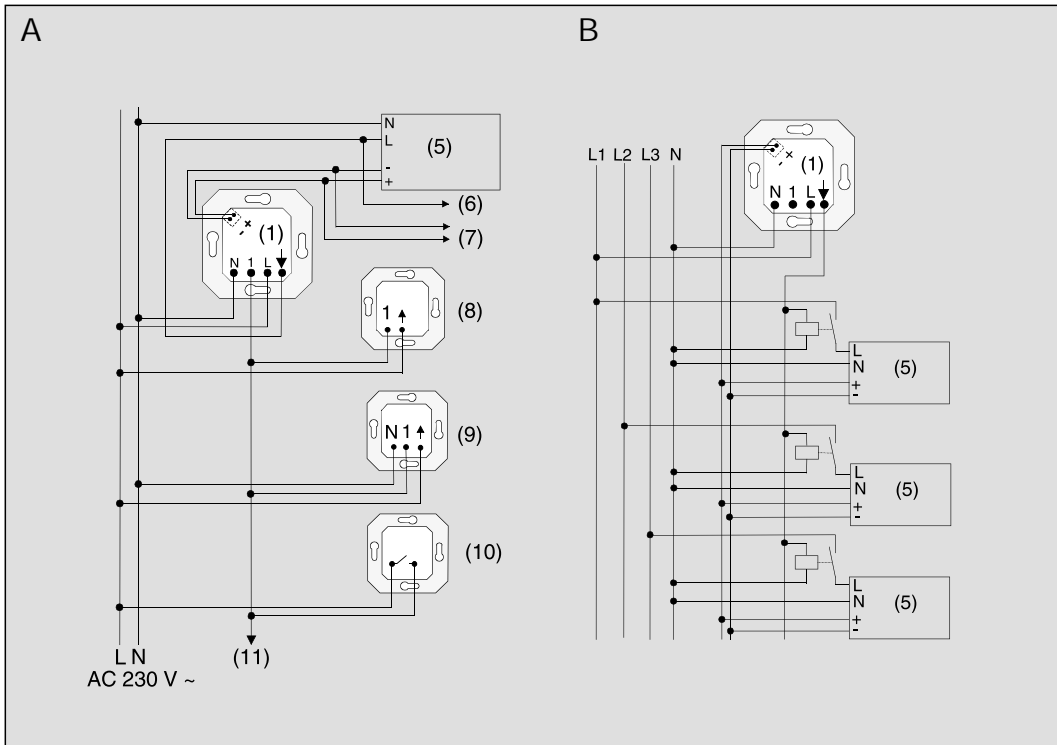
Ref.-No. 1240 STE

Satellite station (2-wire)

Ref.-No. 1220 NE

Satellite station (3-wire)

Ref.-No. 1223 NE



Function

ref.-no. 1240 STE

Push-button control unit for switching and dimming of electronic ballasts or TRONIC transformers with 1 – 10 V interface.

Switching and dimming commands are given by actuating the covers for the push-button control units, satellite units or radio-control transmitters.

The push-button control unit works with the double-button principle, i.e. there is one button for 'brighter' and one for 'darker'.

The lamp is switched on and off via the load line and dimmed via the 1 – 10 V interface.

Operation when the load is switched off

Short operation (less than 400 ms):
UPPER push-button or LOWER push-button or both: ON.

Long operation (longer than 400 ms):
UPPER push-button: dimming from minimum to maximum brightness.

LOWER push-button: switching on at minimum brightness.

Operation when the load is switched on:

Short operation (less than 400 ms):
UPPER push-button or LOWER push-button or both: OFF.

Long operation (longer than 400 ms):
UPPER contact: increasing the brightness up to maximum.

LOWER contact: reducing the brightness down to minimum.

Operation of the whole surface area (at least 3 seconds): The current brightness is stored and recalled when the device is switched on again (short operation). Storage is confirmed by cutting out the lamp for 1 second and by subsequent restarting with the stored brightness value.

Adjustment of basic brightness

The basic brightness can only be adjusted directly at the push-button control unit. To do so, both faces of the button (not with radio-control cover) must be depressed for at least 20 seconds when the device is off.

The brightness of the lamp is first increased to maximum. After about 20 seconds, the device signals that it is ready for programming by reducing the lamp to 50 % brightness. The brightness must now be lowered until the desired basic brightness value is attained. Release the button. The basic brightness is stored after about 20 seconds and the load switched off for confirmation.

Storing the current brightness with a presence detector or an automatic switch

When a brightness value is to be stored in case the push-button control unit is used with a presence detector or with an automatic switch, start by plugging a short-stroke key into the insert (for storage of brightness see double-face actuation with the device on). Withdraw the short-stroke key and plug the presence detector into the insert.

Do not switch off the mains when doing so.

Mains failures of more than 1 second cause the device to lose the stored brightness and the adjusted basic brightness.

The behaviour in the event of mains recovery is dependent on the type of cover plugged onto the insert.

Short-circuit protection

The load output has no internal protection. For protection install a circuit-breaker of 10 A ahead of the device.

The 1 – 10 V control output is protected against shortcircuiting of the control current.

Important

Do not connect the control output to 230 V ~. The push-button control unit will be irreparably damaged.

Connection without extension units

The insert is connected as shown in fig B. The extension unit input „1“ remains open.

- (01) push-button control unit
- (05) load
- (06) switched phase to other loads
- (07) 1 – 10 V control lines to other loads
- (08) satellite unit (art. no. 1220 NE)
- (09) "3-wire" satellite insert (art.no.1223 NE)
- (10) mechanical push-button
- (11) other satellite units

Connection of satellite units

Switching / dimming from several places with the 2-wires satellite unit (8), the "3-wire" satellite unit (9) or a mechanical push-button (10), see fig. B.

Contrary to the 2-wires satellite unit, the N conductor in the "3-wire" satellite unit must be connected, too.

The satellite unit, the "3-wire" satellite unit and the mechanical push-buttons can be used together in combination with each other.

"3-wire" satellite unit

used with the presence detector (art. no. PMS 360 WW) or the automatic switch (art. no. ..1180-1..., ..1280-1.); available functions see operating instructions of the respective cover.

Functions available only if an automatic switch or a presence detector is used also on the main unit.

Max. number of satellites: 10

Satellite unit

with short-touch key. Same functions as with the push-button control unit, adjustment of basic brightness not possible.

Number of extensions: unlimited

Mechanical push-button

(make contact):
short depression ON / OFF
long depression dimming
No. of extensions unlimited

A short depression in the off-state switches the load on with the stored brightness.

A long depression in the off-state increases first the brightness to maximum, the lamp remains at maximum for about 1 second and is then reduced to minimum brightness.

The lamp remains at minimum for about 1 second and is then increased again to maximum brightness. The cycle is continuously repeated.

Storing of a desired brightness is not possible with the mechanical push-button (make contact).

Connection of loads to different phase conductors

This configuration permits switching/dimming of a greater number of electronic ballasts or TRONIC transformers with a single push-button control unit. The insert is connected as shown in fig. C.

The number of electronic ballasts or TRONIC transformers that can be dimmed with a single push-button control unit depends on the control current of the individual electronic ballasts or TRONIC transformers and is dependent on the type of device.

Technical data

ref.-no. 1240 STE

Nominal voltage: AC 230 V ~, 50/60 Hz

Power rating:
incandescent lamps 700 W
electronic ballasts type-dependent

Satellites
mechanical push-buttons, satellite unit or „3-wire“ satellite insert
satellites can be combined

Number of satellites: depending on type of satellite used

Emitted interference:
voltage: acc. to EN 55015 Control
0,5 ... 10 V

Control current: max. 50 mA

Switching contact: relay contact at mains potential

Total length of cable to extension units: max. 100 m

Wiring diagrams

Relay switch insert 1 channel Ref.-No. 1201 URE

Satellite station Ref.-No. 1220 NE

Function

The relay switch insert is a device used for switching light sources:

- 230 V incandescent lamps
- 230 V halogen lamps
- low voltage halogen lamps combined with TRONIC transformers
- low voltage halogen lamps combined with conventional transformers (conventional transformers should have at least 85 % nominal load with lamps. The total load may not exceed 1000 VA including the power loss of the transformers.)
- fluorescent lamps

Switch operation is released by a switch command of a cover, automatic switch or a precense detector.

Note

Not suitable for safety isolation.

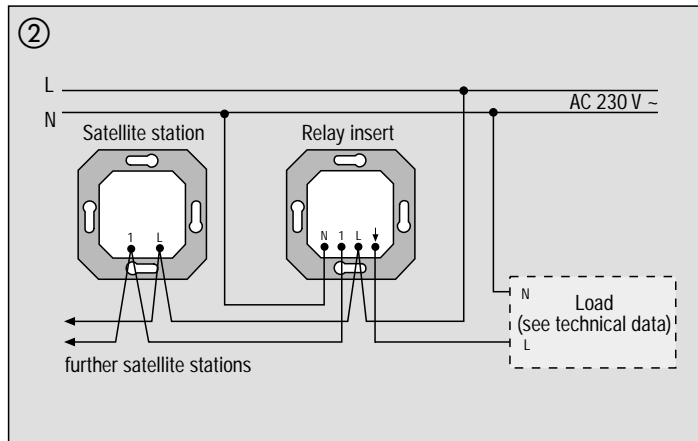
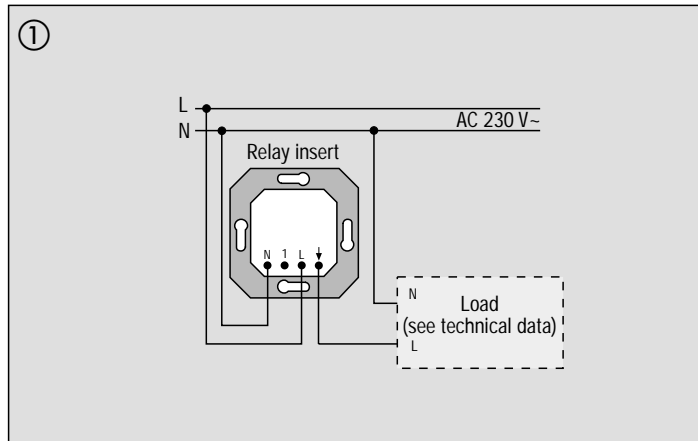
When using conventional transformers, each transformer must be fused in primary circuit according to the manufacturers' data. Safety isolating transformers in accordance with DIN VDE 0551 must be used.

Non-observance of the installation instructions can lead to fire or other hazards.

Installation

Before switching on mains the cover has to be plugged onto the insert together with a frame.

Mains failures that last longer than 1 sec. lead to the disconnection of the relay switch insert.



Technical data

Nominal voltage: AC 230 V ~, 50/60 Hz

Connected load:

- incandescent lamps 2300 W
- high voltage halogen lamps 2300 W
- conventional transformer 1000 VA
- TRONIC transform. 1500 W
- Fluorescent lamps not compensated 1200 W
- parallel compens. 920 W
- lead-lag circuit 2300 W

Attention

energy saving lamps cause high peak current, reduction of capacity necessary! Please check suitability of lamps before installation!

Connection according to figure ①.

The total output of the connected lamps may not exceed the specified rated data.

Technical supply conditions of the electrical generating stations should be observed.

Use of satellite stations*

Same functionality as the cover with radio-receiver on the relay switch insert, according figure ②:

Satellite station insert same functionality as the cover on the relay insert

Mechanical push-button (make contact) ON/OFF

*only possible without radio receiver cover!

Functions

Relay insert with potential-free contact for the switching of extensive lighting installations:

- 230 V incandescent lamps.
- 230 V halogen lamps.

The switching actions are triggered by pressing the cover of the relay insert with potential-free contact, the button of extension units or of radio-control transmitters.

The present operating instructions describe the functions that can be obtained when used with the manual multi-function push-button.

A detailed description of the functions in conjunction with other covers or with the remote control can be found in the corresponding operating instructions.

Operation

Press on the TOP, BOTTOM and center surface:

Switching on, switching off (toggling).

Installation instructions

Install the relay insert with potential-free contact in a flushmounting box as per DIN 49073.

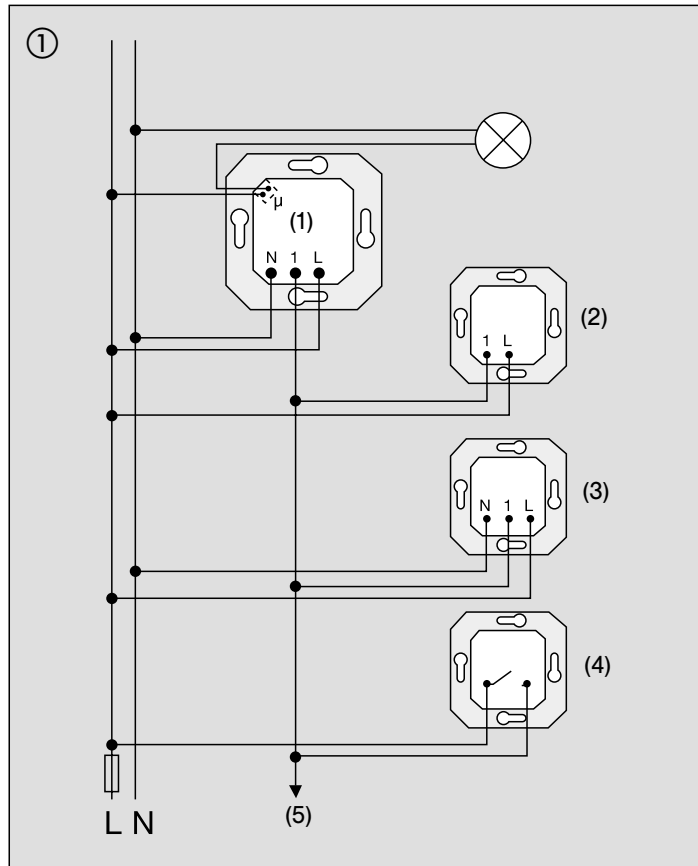
The connecting terminals of the insert (1) must be at the bottom.

The relay insert with potential-free contact can only be used in combination with a cover. Plug the cover together with frame on the insert.

The electrical contact is established by means of connector (4).

The cover must be plugged onto the insert before switching on the mains voltage.

Mains failures of more than 1 second will cause the relay insert with potential-free contact to switch off.



Specifications

Rated voltage:	230 V AC ~, 50 / 60 Hz
Operating temperature:	5 °C ... +35 °C
Connected load:	230 V incandescent lamps: 800 W 230 V halogen lamps: 750 W Mixed loads of the types of loads specified
Minimum load:	12 V, 100 mA
µ switching contact:	relay contact, potential-free, suitable for switching of a second phase conductor, not SELV
Number of Extensions:	
'2-wire' extension insert, mechanical push-button:	unlimited
'3-wire' extension insert:	10
Different types of extension units can be combined	
Total length of extension connecting cable:	max. 100 m
Circuit-breaker:	provide in acc. with local requirements, do not exceed 10 A max

Short-circuit protection

For device protection, connect in series a 10 A automatic cut-out.

Connect the relay insert with potential-free contact as shown in fig. ①.

Observe the maximum connected load and the specified load as per Specifications.

Depending upon the type of installation, reduce the maximum connected load by:

- 10 % per 5 °C exceeding of the ambient temperature of 25 °C.
- 15 % for installation in wooden, gypsum plaster or hollow walls.
- 20 % for installation in multiple combinations.

Switching from different places, see fig. ①.

relay insert with potential-free contact (1), '2-wire' extension insert (2), '3-wire' extension insert (3), mechanical push-button (4), to further extensions (5). Observe the technical connection regulations of the power supply companies.

Using extensions

Control from an extension unit is possible only if the cover on the main unit is in place.

'2-wire' extension insert: same functions as in case of multi-function push-button on relay insert with potential-free contact
Mechanical key (normally open): ON / OFF (toggling) Illuminated mechanical push-buttons must have a separate N terminal.

Wiring diagrams

Relay switch insert 2 channels (HVAC) Ref.-No. 1202 URE

Satellite station Ref.-No. 1220 NE

Function ref.-no. 1202 URE

The 2-channel relay insert has two switching channels and is used for heating, ventilation and air conditioning systems (HVAC) and lighting applications.

Therefore, it is possible to use an insert not only for lamps, but in addition also for switching another consumer, motor loads or control equipment.

Channels 1 and 2 are each equipped with a relay.

The relay contact of channel 1 is at 230 V AC mains potential.

The relay contact of channel 2 is floating and can be used, for instance, for switching of a 2nd phase or another circuit (but not SELV circuits: safety extra low voltage in acc. with EN 50178).

The function of the 2-channel relay insert is dependent on the cover used:

Switch with OFF-delay function

This function can be implemented, for instance, with the short touch rocker.

When operated, channel (1) is switched on and off without delay, channel 2 is switched on and off with a delay depending on channel 1.

Switch for HVAC applications

This function can be achieved with an automatic switch or a presence detector.

Channel 1 is switched on depending on ambient brightness when a movement is detected. When no movement is detected anymore, the device switches off after the delay preset in the cover has elapsed. Channel 2 is switched on with a delay when a movement inside the detection range is detected. The ambient brightness has no influence on the switching response of channel 2. When no movement is detected anymore, the device switches off after the delay preset in the cover has elapsed.

2-channel relay insert with short touch rocker

Channel 1 is switched on and off without delay. Channel 2 is switched with delay depending on the switching status of the lighting (fig. ①).

ON delay: Channel 2 is switched on only after channel 1 has been on for at least 3 min (fig. ①).

OFF delay: The OFF delay starts when channel 1 has been switched off.

Channel 2 is switched off only after the OFF delay preset in the insert has elapsed. The OFF delay t_n can be set in 5 steps (2, 10, 30, 60, 120 min).

2-channel relay insert with presence detector or automatic switch

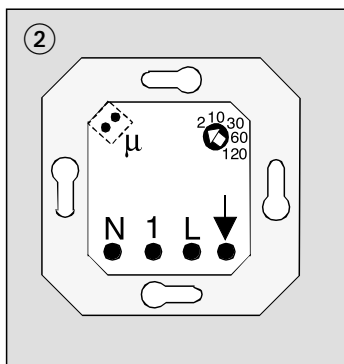
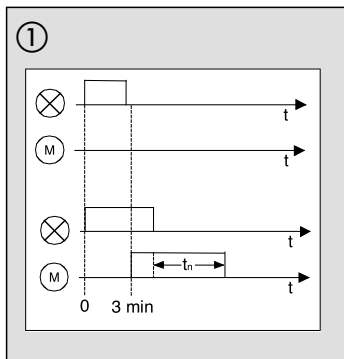
Depending on ambient brightness, channel 1 is switched on when a movement is being detected.

Channel 1 remains activated as long as movements are detected and is switched off after the OFF delay preset in the cover has elapsed.

The activation of channel 2 is independent of ambient brightness.

Channel 2 is switched on after a delay of 3 minutes, if the following condition is fulfilled: A second movement must have been detected within 2.5 to 3 minutes after the first movement has been detected.

Channel 2 remains activated as long as movement is being detected. Otherwise, this channel is switched off after the OFF delay preset in the insert has passed. (Automatic-Switch 'Standard': fixed delay of 2 min.)



The OFF delay t_n can be set in 5 steps (2, 10, 30, 60, 120 min).

Settings

OFF delay for channel 1

Only in conjunction with an automatic switch or a presence detector. The OFF delay depends on the respective cover.

The detailed setting procedure is described in the operating instructions of the cover concerned.

OFF delay for channel 2

The OFF delay for channel 2 can be selected in 5 steps (2, 10, 30, 60, 120 minutes). The potentiometer is located in the 2-channel relay insert (fig. 2).

To change the duration of the OFF delay, turn the potentiometer in the desired direction.

Short-circuit protection

The 2-channel relay insert offers no internal device protection. To protect the device, both switching channels must be protected with circuit breakers.

Operation of a PIR central unit from a satellite unit

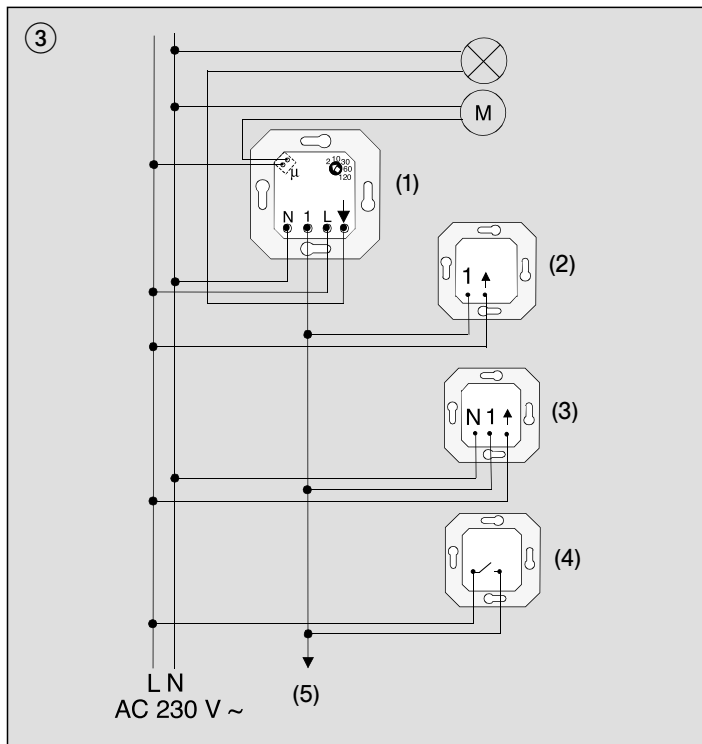
An satellite insert or a conventional push-button permit manual operation of the central unit from different places.

When controlled from satellite units, the individual PIR covers are distinguished by their functions.

In general, channel 1 can be switched on independent of brightness for the OFF delay. Channel 2 is activated with a delay dependent on movements inside the range of detection.

Presence detector

Channel 1 can be switched off from the satellite control unit. During the next 2 minutes, the device can only be reactivated from the satellite unit. The automatic mode restarts only after no more movements have been detected during the next 2 minutes.



Channel 2 cannot be switched off from the satellite unit.

Automatic switch

Channel 1 and 2 cannot be switched off from the satellite unit. For a detailed description of the functions, please refer to the operating instructions of the respective cover.

Connection of satellite units

Satellite units are connected to the 2-channel relay insert as shown in fig. 3. Different satellite units can be combined.

(1) 2-channel relay insert (central unit)

(2) satellite insert (permits manual operation from several different places)

(3) '3-wire' satellite insert (extends the detection range of the presence detector and the automatic switch)

(4) conventional push-button (permits manual operation from several different places, not possible when central unit is used in combination with the short touch rocker)

(5) further satellite units

Important

Satellite units (2), (3), (4) must be connected to the phase used for channel 1 of the 2-channel relay insert (1).

Response in the event of mains failure

shorter than ca. 200 ms: switching state remains unchanged

longer than ca. 200 ms: Both relays are switched off. The response of the device on return of power depends on the type of cover used. For more details please refer to the operating instructions of the cover concerned.

Technical data

Rated voltage: AC 230 V ~, 50/60 Hz

Operating temperature: 5°C – 35°C

Number of satellites:

satellite insert, conventional push-button unlimited

'3-wire' satellite insert: 10

Different types of satellite units can be combined.

Total length of satellite connecting cable: max. 100 m

Relay channel 1

Power rating

incandescent lamps 1000 W

230 V halogen lamps 1000 W

tronic transformers 750 W

conventional transf. 750 W

fluorescent lamps uncompensated 500 W

Switch contact: relay contact at mains potential (same phase as insert supply voltage)

Relay channel 2 (HVAC)

OFF delay 5 steps: ca. 2, 10, 30, 60, 120 min.

Power rating:

incandescent lamps 800 W

230 V halogen lamps 750 W

motor load 450 VA, at a max. starting current of 2.1 A

Switch contact: relay contact, floating suitable for switching of a second phase, not suitable for SELV

TRONIC switch insert Ref.-No. 1254 TSE

Satellite station Ref.-No. 1220 NE



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, C = capacitive

Function ref.-no. 1254 TSE

The TRONIC switch insert is a device with an integrated electronic switch for switching light sources:

- 230 V incandescent lamps
- 230 V halogen lamps
- low voltage halogen lamps combined with TRONIC transformers

Switch operation is released by a switch command of a cover, automatic switch or a presence detector.

The lamps are switched on using the soft-start feature which protects the lamps.

Note

Not suitable for safety isolation.
Not suitable for conventional transformers.
Do not change the cover when mains switched on.

Installation

Before switching on mains the cover has to be plugged onto the insert together with a frame.

Mains failures that last longer than 1 sec. lead to the disconnection of the TRONIC switch insert.

Short-circuit protection

Disconnection with automatic restart if the short circuit has been removed within 7 sec. After this period, the TRONIC switch insert remains disconnected until it is switched on again manually.

Overtemperature protection

Disconnection when the ambient temperature is too high. Once it has cooled down the device must be switched on again.

Connection according to figure ①

Switch insert (TRONIC insert)

Load

The total output of the connected lamps may not exceed the specified rated data.

Technical supply conditions of the electrical generating stations should be observed.

Use of satellite stations*

Same functionality as the cover on the TRONIC switch insert, see figure ②:

Satellite station insert: same functionality as the cover on the TRONIC insert

Mechanical push-button (make contact): ON/OFF

* **only possible without radio receiver cover!**

Satellite stations: satellite station insert and mechanical push-button, also combined

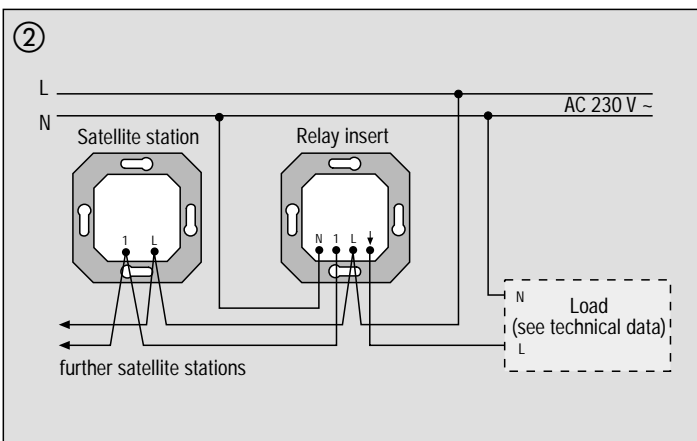
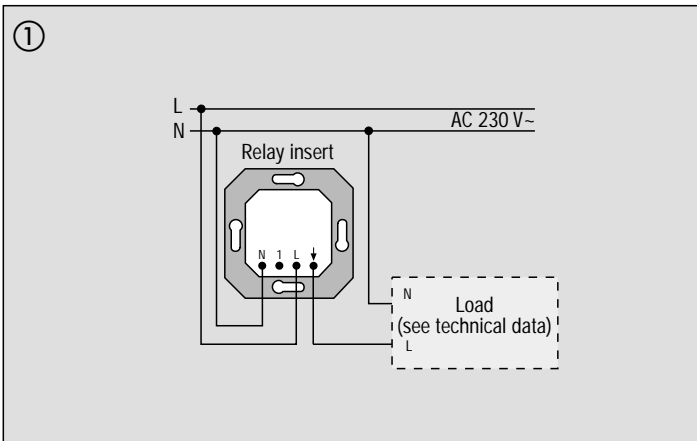
Number of satellite stations: unlimited

Length of wires: maximum 100 m

Technical data

Nominal voltage: AC 230 V ~, 50/60 Hz

Connected load: 50 – 420 W/VA
– incandescent lamps
– high voltage halogen lamps
– low voltage halogen lamps with TRONIC transformer



Function ref.-no. 1244 NVSE

The NV Triac switch insert is a device with an integrated electronic switch for switching light sources:

- 230 V incandescent lamps
- 230 V halogen lamps
- low voltage halogen lamps combined with conventional transformers (Conventional transformers should have at least 85 % nominal load with lamps. The total load may not exceed 400 W/VA including the power loss of the transformers.)

Switch operation is released by a switch command of a cover, automatic switch or a presence detector.

The lamps are switched on using the soft-start feature which protects the lamps.

Note

Not suitable for safety isolation.
Not suitable for TRONIC transformers.
Do not change the cover when mains switched on.

Installation

Before switching on mains the cover has to be plugged onto the insert together with a frame.

Mains failures that last longer than 1 sec. lead to the disconnection of the NV Triac switch insert.

Short-circuit protection

T 2 H 250 microfuse. Do not use other fuses than original.

Overtemperature protection

Disconnection when the ambient temperature is too high. Once it has cooled down the device must be switched on again.

Connection according to figure ①

Switch insert (LV Triac insert)

Load

The total output of the connected lamps may not exceed the specified rated data.

Technical supply conditions of the electrical generating stations should be observed.

Use of satellite stations*

Same functionality as the short-touch key on the LV Triac switch insert, see figure ②:

Satellite station insert: same functionality as the cover on the NV Triac insert

Mechanical push-button (make contact): ON/OFF

* **only possible without radio receiver cover!**

Satellite stations: satellite station insert and mechanical push-button, also combined

Number of satellite stations: unlimited

Length of wires: maximum 100 m

Technical data

Nominal voltage: AC 230 V ~, 50/60 Hz

Connected load: 40 – 400 W/VA
– incandescent lamps
– high voltage halogen lamps
– low voltage halogen lamps with conventional transformer

LV Triac switch insert Ref.-No. 1244 NVSE

Satellite station Ref.-No. 1220 NE



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, L = inductive

Wiring diagrams

Pulse unit Ref.-No. 1208 UI

Power unit for DIN rail mounting Ref.-No. 208 REG

Function ref.-no. 1208 UI

In combination with the REG staircase lighting timer (DIN-rail type), the trigger insert is used for installation or retrofitting of automatic switches or presence detectors in staircase lighting circuits. A manually controlled system can thus be changed into an automatic staircase lighting timer installation.

Trigger inserts are only used for controlling REG staircase lighting timers.

The maximum number of trigger inserts connected in parallel is limited to 8.

Trigger insert

The trigger insert is a 2-wire device and replaces the mechanical push-button used in staircase lighting installations.

The trigger insert supplies a 60 ms pulse for controlling of the REG staircase lighting timer.

The connection of the 2-wire (ref.-no. 1220 NE) and 3-wire (ref.-no. 1223 NE) satellite inserts is not possible.

Manual switching

For manual switching applications, the trigger insert is used on an multifunction push-button.

A press on the top, bottom or center surface of the button triggers a pulse independent of ambient brightness. The pulse triggers the REG staircase lighting timer which switches on the lighting or retriggers the timing delay.

The trigger insert transmits a pulse every 6 s as long as the push-button is held depressed.

When mechanical push-buttons are used, the number of trigger inserts must be reduced

Trigger inserts	non-illuminated push-buttons	illuminated push-buttons	
		0,5 mA	1,1 mA
2	any number	12	8
3	any number	9	6
4	any number	6	4
5	any number	3	2
6	any number	---	---
7 – 8	---*	---	---

* If more than 6 trigger inserts are used together with additional mechanical push-buttons (extensions), the overload protection of the REG staircase lighting timer may be triggered. The REG staircase lighting timer will then no longer switch off the lights.

Important

- The trigger insert cannot be combined with the short-touch rocker with radio-control receiver or with the multifunction button 'Universal'.
- The lighting cannot be switched off manually.

As an alternative, a mechanical push-button with make contact (only with a maximum of 6 trigger inserts, refer to the table above) which switches on the lighting independent of brightness or which retriggers the ON-time of the REG lighting timer can be used. Switching off of the lighting is not possible.

Automatic switching

For automatic switching of the lighting, an System automatic switch or a presence detector is plugged onto the trigger insert.

The trigger insert transmits a pulse when a movement is being detected and when the ambient brightness is below the preset brightness threshold.

The ON-time of the REG staircase lighting timer is retrIGGERED independent of brightness as long as movements inside the detection field are registered.

For this purpose, the trigger insert transmits a new pulse every 6 s.

Important

- The covers used on the insert must correspond to release level „R3“.
- The combination of automatic switches, presence detectors and short-touch rocker in a circuit is possible. The number of trigger inserts that can be connected in parallel is still limited to a maximum of 8 inserts.

- The „time“ potentiometer of the presence detector 'Universal' is not functional.

- The shutoff delay of the automatic switch 'Standard' is not evaluated.

- The operating mode selection switch of the automatic switch 'Universal' is not functional.

- The „time“ potentiometer of the automatic switch 'Universal' must be set to short-time operation as there is otherwise a risk of malfunctions.

- If the REG staircase lighting timer is set to an On-time of less than 30 seconds, the lighting may go on and off repeatedly during the initialization stage of the automatic switch "Universal".

Technical data Trigger insert

Rated voltage: AC 230 V ~, 50 / 60 Hz

Power consumption: approx. 0.5 W

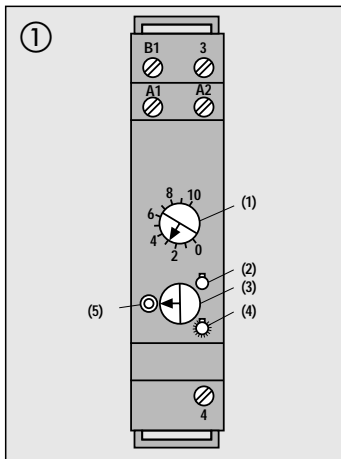
Switching: 60 ms pulse via Mosfet

Brightness: see cover operating instructions

Number of devices in parallel: max. 8 (without mechanical push-button, refer to table)

Connecting terminals: max. 4.0 mm²

Overall length of wiring: max. 100 m

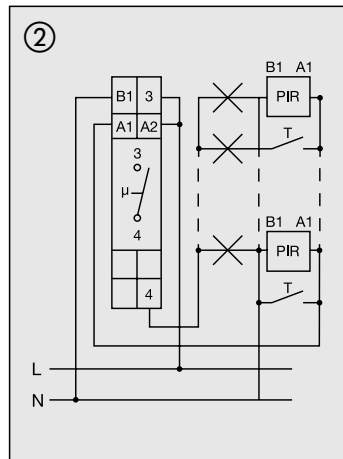


Power unit for DIN rail mounting ①:

The power unit is an electronic staircase lighting timer with low switching noise for installation on DIN rails in distributions.

The power unit switches on the light after receiving a corresponding trigger pulse. The sensing of brightness performed by automatic switches and presence detectors is deactivated during the ON-time of the device and the brightness is not evaluated.

When the time preset at the power unit is out and if no new movement is detected by a trigger insert with automatic switch/presence detector or if the timer is not retrIGGERED from a push-button, the power unit transmits a shut-off signal to all connected trigger inserts. Trigger inserts equipped with an automatic switch or presence detector are now locked for a variable time of up to 3 s before movements are again evaluated.



Uncontrolled restarting by detection of a cooling-down lamp is thus prevented.

Settings

ON-time/mode of operation

ON-time (1) and mode of operation (3) are preset on the power unit (fig. ①).

Time setting (1): approx. 10 secs. to approx. 10 min.

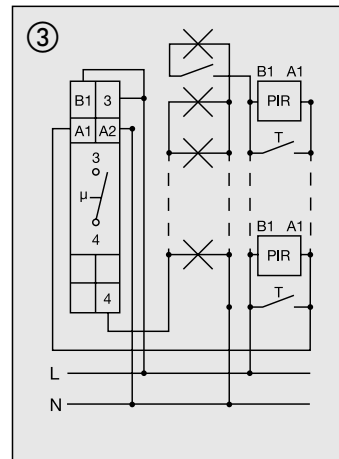
Operating modes (3): OFF (2) / Automatic (5) / ON (4)

The switching state is indicated by a LED in the mode control (3) knob: LED on = lighting is on.

Brightness threshold

The brightness threshold is preset on the cover.

For more details, see the operating instructions of the respective cover.



For function testing, the „Lux“ potentiometer of the cover must be set to the daytime symbol ('sun' symbol).

For activation at darkness, a setting of 10 lux is recommended.

The precise value must be determined depending on individual conditions.

Fitting instructions

Install the trigger insert in a flush-mounting box in acc. with DIN 49073.

Fitting height 1.10 m or 2.20 m depending on the type of cover used. More information on the device and on fitting can be found in the operating instructions of the respective cover. Install the power unit by snapping it onto the DIN rail.

Connection for 3-wire installations, fig. ②.

Connection for 4-wire installations, fig. ③.

The total length of the wiring must not exceed a maximum of 100 m. Power units must not be connected in parallel.

Important

The power unit is equipped with an internal overload protection responding to temperature. When the overload protection is triggered, the lights are switched on and the power supply to the trigger inserts is interrupted.

- For this reason, avoid installing power units side by side.

- Avoid sources of heat (e.g. REG dimmers) in the immediate vicinity of the power unit.

Ensure sufficient dissipation of heat.

Technical data power unit

Rated voltage: AC 230 V ~, 50 / 60 Hz

Power consumption: approx. 1 W

Width: 1 module

Rated switching capacity: 16 A / AC 250 V ~

Incandescent lamp: 1000 W

Fluorescent lamps

Lead-lag circuit: 1000 W

Electronic ballast: 700 W

Inductive load

cos φ = 0,6: 5 A (at AC 230 V ~)

Duty cycle: 100 %

Temperature range: -5 °C ... +50 °C

Radio interference suppression: in acc. with EN 55014

Connecting terminals: max. 4.0 mm²

Function

The 'Universal' automatic switches respond to thermal movements initiated by persons, animals or objects and trigger a switching process. The 'Universal' automatic switches remain switched on as long as some movements are detected, otherwise they will switch off after their shut-off delay time has elapsed.

Optionally, the 'Universal' automatic switch can also be set to short-time operation, thus facilitating the triggering of acoustic signals (bell) to observe an entrance door.

The 'Universal' automatic switches must be operated in conjunction with a switch or dimmer insert. In combination with the 3-wire satellite (ref.-no. 1223 NE), the detection range can be extended.

On the basis of a modular principle, covers and inserts can be combined for indoor and moisture-proof or outdoor applications (IP 44).

Information on the place of installation

The automatic switches will detect a movement to an optimum when they are installed laterally to the moving direction (Fig. ①). Otherwise, delayed detection will have to be expected.

To avoid unintentional switching events, please follow these instructions (Fig. ②) as early as during the installation:

- Exclude interference sources such as lamps or heating radiators from the detection field: Choose a suitable place of installation or use the slip-fit mask.
- Reflection of thermal radiation from the light or too short a distance between the automatic switch and the lamp may retrigger the automatic switch.

Important

The automatic switches automatically adapt to the ambient conditions.

This will render almost impossible any unintentional switching events. Nevertheless, if any unintentional switching events should occur, adapt the sensitivity manually, or use the slip-fit mask.

Settings

The shut-off delay, the sensitivity and the brightness can be set by means of three potentiometers. These are located behind slide (10) at the front of the automatic switch (Figs. ③ and ④).

Shut-off delay

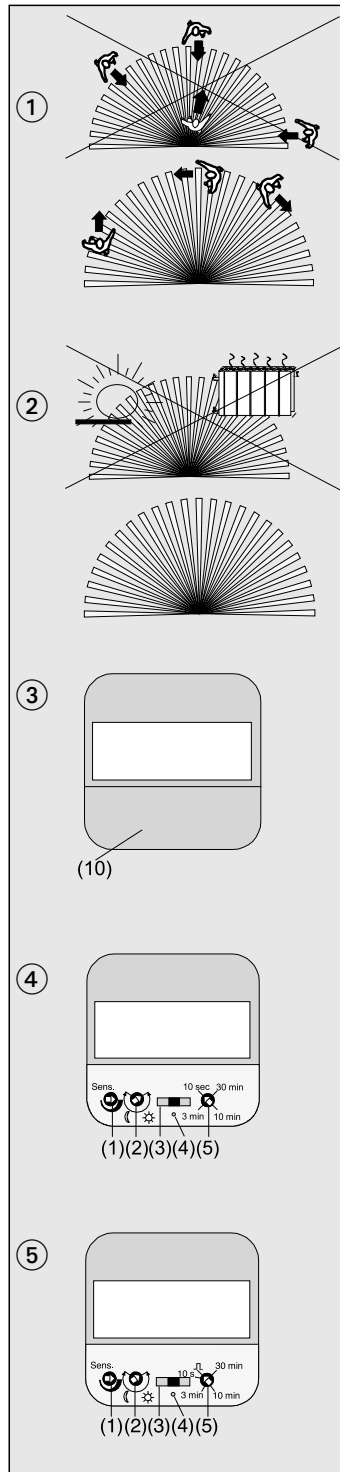
The shut-off delay determines how long the light will still remain on after no more movement was detected. This shut-off delay can be set within a range from 10 seconds to approx. 30 minutes. This setting is not linear, i. e. longer periods can only be preset within a relatively coarse raster. To vary the shut-off delay, turn potentiometer (5) into the desired direction (Fig. ④).

If the automatic switch has switched on, any further movement detected will retrigger the shut-off delay. This means that the shut-off delay will be restarted from the very beginning.

The automatic switch does not include any forced shut-off. This means that continuous movements in the detection field will result in permanent light.

Switch insert

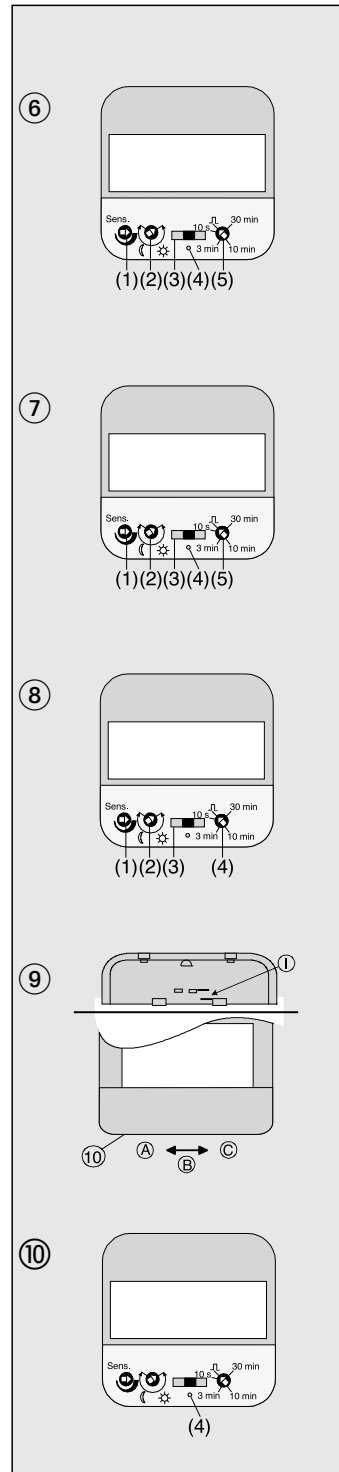
After the shut-off delay has elapsed, the automatic switch will switch off if a Light Management switch insert is used.



Dimmer insert

If the automatic switch has been plugged onto a Light Management dimming insert, the light will be dimmed from maximum to minimum brightness after the shut-off delay has elapsed and then switched off.

If dimming starts from a brightness value lower than maximum, minimum brightness will be reached faster. Nevertheless, final switching off will take place only after 30 seconds.



If any movement is detected during the dim-down phase, the automatic switch will return to its stored brightness value (memory value).

Setting the short-time mode

In conjunction with a Light Management switch insert (no dimmer insert), the automatic switch can also be set to short-time operation as a special mode. The short-time mode can, for example, be used to actuate a bell.

For this purpose, set potentiometer (5) to the □ symbol (Fig. ⑤).

If a movement is detected, the automatic switch will now switch on for 0.5 seconds, no matter what the brightness is.

The detection of any further movements will cause another switch-on event after a locking time of 3 seconds has elapsed.

Setting the brightness threshold

Any movements detected will only trigger a switching event if the preset brightness threshold is undercut. The brightness threshold can be set within a range from approx. 0 to 80 lux.

To vary the brightness threshold, turn potentiometer (2) into the desired direction (Fig. ⑥).

If potentiometer (2) is set fully clockwise to the "sun" symbol (Fig. ⑥), the automatic switch will be in daytime operation, thus switching independently of the brightness.

Setting the sensitivity

The automatic switch has an internal algorithm which provides for automatic adaptation to the ambient conditions. This will render almost impossible any unintentional switching events.

Normally, the potentiometer should be set to maximum sensitivity (Fig. ⑦).

If it should be necessary in some exceptional cases, you can vary the sensitivity manually.

To vary the sensitivity of the automatic switch, turn the potentiometer (1) into the desired direction.

The internal algorithm to avoid unintentional switching events will remain active.

Only the "basic sensitivity" has been shifted.

Recommended test settings

To check the function and detection behaviour of the automatic switch after its installation, please perform the following settings (already factory-set):

1. Select automatic mode; bring selector (3) into middle position (Fig. ⑧).
2. Set brightness potentiometer (2) to daytime operation (fully anticlockwise to the "sun" symbol).
3. Set shut-off delay potentiometer (4) to approx. 10 seconds.
4. Set sensitivity potentiometer (1) to maximum value.

Perform your desired settings after checking.

Mode of operation

The automatic switch has three different modes of operation which can be set with slide (10) (Fig. ⑨).

Automatic mode (B) is factory-set, with the slide being locked at this position.

Before you can set any other mode, you must unlock slide (10):

1. Take off slide (10).
2. Remove locking screw (4) (Fig. ⑩) and keep it in holder (I) on the back of the slide (Fig. ⑨).
3. Return the slide and set your desired mode of operation.

Wiring diagrams

Automatic switch universal

Ref.-Nos. ..1180-1., ..1280-1..

Permanent "OFF" (A)

Switches the light permanently off.

If a dimmer insert is used, the light will be dimmed down to minimum brightness and then switch off permanently after 30 seconds.

Switching through satellites is not possible.

Automatic mode (B) (Fig. 9)

When it detects a movement, the automatic switch will switch on in dependence of the brightness and then switch off after the pre-set shut-off delay has elapsed, if no more movement is detected.

Switching through satellites is possible.

Permanent "ON" (C) (Fig. 9)

Switches the light permanently on.

Switching through satellites is not possible.

Storing a memory value

The memory value is the brightness, on the basis of which the light will be switched on when a dimmer insert is used.

The memory value can be set through an satellite and stored in the automatic switch:

1. To begin with, set the light to the desired brightness through the satellite.
2. To store the brightness value, actuate the entire surface of the satellite for at least 3 seconds when the latter is on.

Important

- In case of power failure, or when the automatic switch is detached from the insert, the memory value will be erased.
- The memory value can be stored by means of a Light Management satellite only (no mechanical push-button).

What will happen if the automatic switch is detached from the insert

If the automatic switch is detached from the insert, the respective (ON, OFF) switching state will be maintained.

Re-plugging makes the automatic switch respond in the same way as after a power failure of longer than 2 seconds.

The automatic switch will make a self-test. The latter will last some 90 seconds. During this time, the light will be on. Then the light will be switched off, with the preselected mode being active.

Important

Detaching the automatic switch from the Light Management insert will lead to the loss of the stored brightness threshold and of the memory value.

Extending the detection field

The detection range of main unit can be enlarged by satellites.

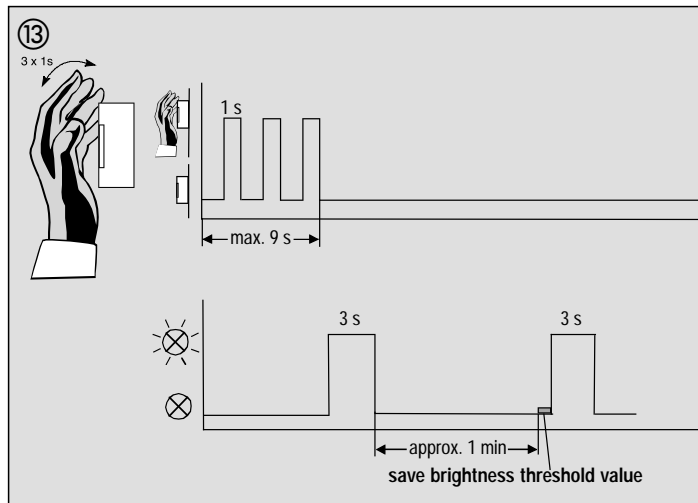
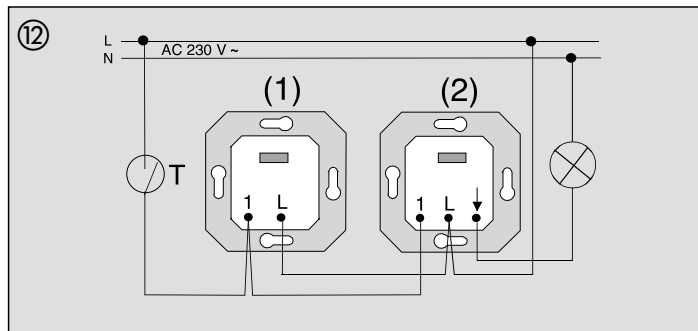
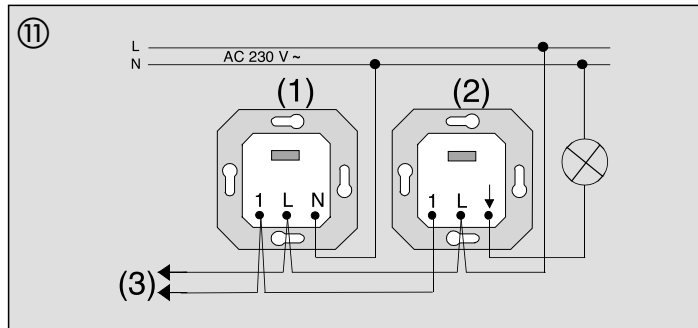
For this purpose, you can combine a 'Universal' or 'Standard' automatic switch with a Light Management 3-wire satellite insert (Item no. 1223 NE) and connect it to the main unit.

Note

Satellite inserts are not suitable for any direct switching of loads and only transmit brightness-independent movement signals to the main unit.

The main unit must also use an automatic switch or presence detector cover. Otherwise, no function will be provided.

The automatic switch cannot be used on 2-wire satellite inserts (ref.-no. 1220 NE).



Connection example

3-wire satellite insert (1) connected to main unit, e.g. dimmer insert (2), for further satellites (3), refer to fig. 11.

If the satellite and the main unit have an automatic switch each, the brightness will be evaluated by the main unit only. The shut-off delay will also be determined by the main unit.

Operation from the switched-on state

Short actuation (shorter than 400 ms) UPPER, LOWER button or entire surface:

For safety reasons, the light cannot be switched off manually.

Long actuation (longer than 400 ms) for dimmer inserts only UPPER button:

Increasing (dimming up) the brightness to maximum.

LOWER button:

Decreasing (dimming down) the brightness to minimum.

Actuation of the entire surface:

Storing a memory value (initial brightness to be switched on when a dimmer insert is used).

For this purpose, actuate the satellite for at least 3 seconds. To confirm storage, the light will be switched off and then switched on with the stored brightness value.

Mechanical push-button (make contact)

With the aid of a mechanical push-button, the light can be switched on independently of the brightness.

It will not be possible to switch off or dim the light.

Important

Storing a memory value and dimming are not possible with the mechanical push-button (make contact).

The maximum wiring length which can be connected to satellite input "1" is 100 m.

The number of satellites is not limited.

Use in conjunction with a 2-channel relay insert

The use of the automatic switch on a 2-channel relay insert is possible.

Teach function

You can use the teach function to store the current ambient brightness as brightness threshold. The brightness threshold preset by the potentiometer will then no longer be evaluated.

Executing the teach function

1. To activate the teach function, fully cover the automatic switch at least three times (approx. 1 s) within 9 s (Fig. 13).
2. Once the automatic switch has detected three light changes, the teach function will be active.
3. To confirm, the light will be switched off when it is ON and then be switched on for 3 s. When the light is OFF, it will be switched on for 3 s.
4. Step back from the automatic switch for the next minute to enable it to correctly measure and store the current brightness.
5. To confirm storage, the light will be switched on for 3 s.
6. Then the automatic switch will change to preset mode.

Important

Any voltage failure exceeding approx. 2 s will lead to the loss of the brightness threshold stored.

Storing any value in excess of 80 lux as brightness threshold will set the automatic switch to daytime operation and make it respond independently of the brightness.

What will happen in case of main failure

Shorter than 200 ms:	No change of the switching state.
200 ms to be approx. 2 s:	Upon system recovery, the light will be switched on for the shut-off delay.
Longer than 2 s:	Upon system recovery, the automatic switch will make a self-test. The latter will last some 90 s. During this time, the light will be on. Then the light will be switched off, with the preselected mode being active.

Important

Any voltage failure exceeding approx. 2 s will lead to the loss of the brightness threshold stored and of the memory value.

Automatic switch universal

Ref.-Nos. ..1180-1.., ..1280-1..

Technical data – 1.10 lens version ref.-no. ..1180-1..

Opening angle:	approx. 180°
Detection field:	approx. 10 m x 12 m
Installation height:	1.10 m
Number of lenses/ lens levels:	18 / 2
Rated voltage:	refer to insert operating instructions
Operating temp.:	approx. –20°C to 45°C
Shut-off delay:	approx. 10 s to 30 min
Immunity period (for short-time operation only):	3 s

Brightness:	infinitely variable from approx. 0 lux to 80 lux and daytime operation
Sensitivity:	approx 20 % to 100 %
Switching capacity:	refer to flush-mounted insert operating instructions
Number of satellites on flush-mounted insert passive (e.g. push-buttons):	unlimited refer to "3-wire" satellite operating instructions
active:	
Satellite wiring length:	max. 100 m

Technical data – 2.20 lens version ref.-no. ..1280-1..

Opening angle:	approx. 180°
Detection field:	approx. 12 m x 12 m
Installation height:	2.20 m
Number of lenses/ lens levels:	26 / 3
Rated voltage:	refer to insert operating instructions
Operating temp.:	approx. –20°C to 45°C
Shut-off delay:	approx. 10 s to 30 min
Brightness:	infinitely variable from approx. 0 lux to 80 lux and daytime operation

Sensitivity:	approx 20 % to 100 %
Switching capacity:	refer to flush-mounted insert operating instructions
Number of satellites on flush-mounted insert passive (e.g. push-buttons):	unlimited refer to "3-wire" satellite operating instructions
active:	
Satellite wiring length:	max. 100 m

Function ref.-nos. ..1180.., ..1280..

The automatic switches in the standard version react to thermal movement and trigger a switching operation. The lighting remains switched on while automatic switch detects movement. Otherwise, it is switched off once the fixed overshoot time of approx. 2 minutes has elapsed.

The automatic switch standard can only be used for switching applications and is operated in combination with a switch insert LM. Dimming inserts can be used as switch inserts. The detection range can be extended in combination with the 3-wire satellite station ref.-no. 1223 NE. Covers and inserts can be combined according to the modular principle for indoor installations and for applications in damp locations and outdoors (IP 44).

Notes about the installation site

The automatic switch can detect movement at the optimum level if they are mounted sideways to the direction of movement (Diagram ①).

Otherwise, there may be a delay in the detection.

To prevent unwanted switching operations, the following notes should be observed during the installation (Diagram ②):

- Sources of interference such as lamps or heaters should be excluded from the detection field: select the most favourable installation site or use snap-on covers (see application of the covers).
- Renewed starting operations may occur due to the reflection of thermal radiation from the lighting or if the distance between the automatic switch and the lamp is too small.

Setting the brightness threshold

(Diagram ③)

The limit value for the brightness level at which a detected movement triggers a switching operation can be set with the potentiometer in a range between approx. 0 and 80 lux (2). Switching without dependence on brightness (day operation) is carried out at the end stop "Sun".

Setting the sensitivity (Diagram ③)

If required, you can change the sensitivity of the automatic switches.

For this purpose, turn potentiometer (1) into the desired direction.

Behaviour on removal of the cover

The switching state of the insert is maintained. When it is replaced, the automatic switch standards behaves in the same way as when a mains failure occurs which lasts longer than approx. 1 second.

Behaviour on mains voltage failure/recovery

Shorter than 200 ms:	No change in the switching state
200 ms to approx. 1 sec:	Switched on for the overshoot time (retriggered) on mains recovery
Longer than approx. 1 sec:	Self-test of approx. 60 s after mains recovery, lighting is switched on, then motion-dependent switching

Extension of the detection field

The detection area of a master can be enlarged by satellite stations. An automatic switch standard can be combined with a 3-wire satellite insert LM and connected to the master.

Note: Satellite stations issue movement signals to the master that are not dependent on brightness. The brightness evaluation and overshoot time are determined by the master. An automatic switch must likewise be used on the master as otherwise no function is given. The automatic switch standard cannot be operated on the 2-wire satellite insert. Connection example: (Diagram ④) 3-wire satellite insert (1) on the master (2) (e.g. switch insert).

Operation of satellite stations

Using a LM satellite station with short-touch key or mechanical push-button, the brightness can be switched on or retriggered without dependence on the brightness. It is not possible to switch off the light.

Note

Long and short operation have the same meaning.

Connection example: LM satellite station (1) and/or mechanical push-button T, see diagram ⑤.

Technical data ref.-nos.: ..1180.., ..1280..

Angle of detection:	approx. 180°
Mounting height:	1.10 m / 1.20 m
Detection field:	approx. 10 x 12 m

1.10 m lens
Number of lenses/
planes: 18 / 2

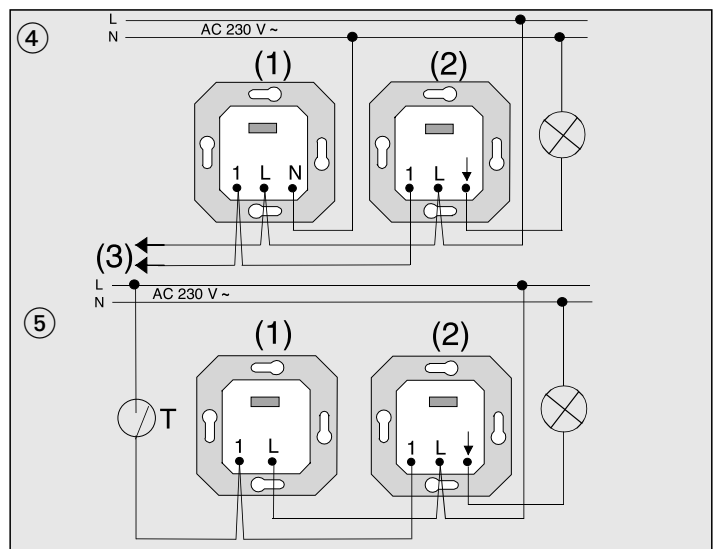
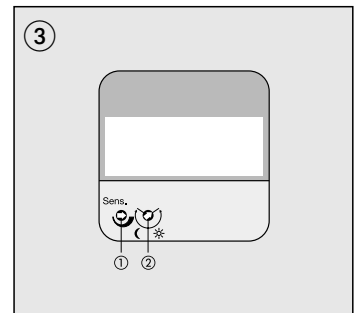
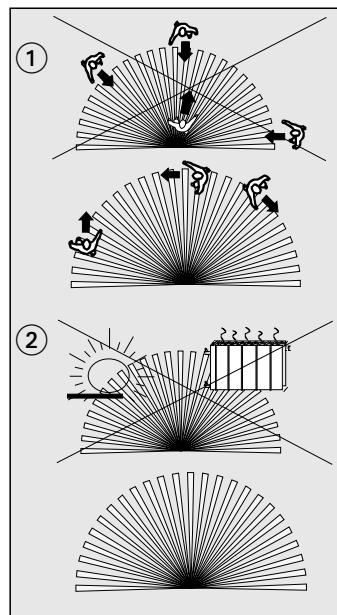
2.20 m lens
Number of lenses/
planes: 26 / 3
Nominal voltage: See instructions for insert

Operating temp.:	approx. –20°C to +45°C
Fixed overshoot time:	approx. 2 minutes
Lock-out time after disconnection:	approx. 3 second

Automatic switch standard

Ref.-Nos. ..1180.., ..1280..

Brightness threshold:	approx. 0 lux – 80 lux and day operation
Switching capacity:	See instr. for insert
Number of satellite stations on flush-mounted insert passive (e.g. push-button):	unlimited
active (3-wire satellite station):	10
Length of cable for satellite stations:	max. 100 m



Wiring diagrams

Universal center plate Ref.-No. ..1561.07 U..

Functional principle

The Universal center plate is used for manual or automatic switching of lamps.

Four different modes of operation can be selected with switch (1).

1. **Timer switch**
The lights are switched on for a pre-defined time span.
2. **Twilight switch**
The lights are switched on during darkness.
3. **Memory switch**
The lights are switched on during stored times (simulation of presence).
4. **Random switch**
The lights are switched on randomly during darkness (simulation of presence).

Changing the mode of operation deletes all stored settings (switching times, memory value, basic brightness).

In combination with a „3-wire“ extension insert, ref.-no. 1223 NE, and a presence detector or an automatic switch, the light can also be switched depending on movement (not in the twilight switch mode).

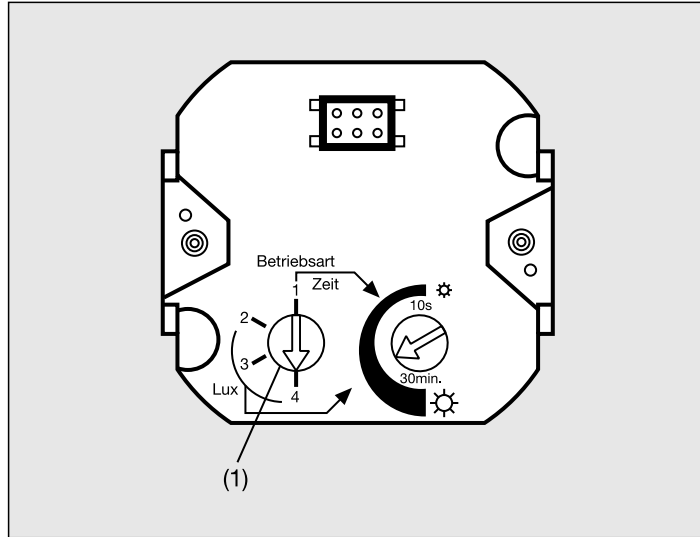
The installation of the Universal center plate on a 2-channel relay insert cannot be recommended. Channel 2 (the HLK channel) will not be switched.

Fitting

The Universal center plate is used in combination with a switching or dimming insert.

Important

- The Universal center plate can only be used on a main unit.
- Parallel connection of main units with the Universal center plate is not permitted.
- The insert used must correspond to release „R2“ or higher.
- If manual control from several places is desired, the main unit must be operated with „2-wire“ extension inserts (ref.-no. 1220 NE) or with mechanical push-buttons (make contact).
- Operation from extension units is only possible if the main unit is equipped with a cover.
- Illuminated mechanical push-buttons must have a separate N terminal.



Place of installation

The Universal center plate detects the ambient brightness by means of a light sensor. The sensor is located together with the status LED behind the window in the middle of the center plate. The following instructions must be observed, especially when the device is used in the twilight switch mode of operation:

To ensure correct detection of the ambient brightness in identical lighting conditions for the light sensor with and without scattered light, the light to be switched must be prevented from falling onto the sensor. Otherwise risk of malfunction (lights going on an off continuously).

Response at mains failure

- less than 200 ms
No change of switching state
Mode of operation and stored values are maintained

- longer than 200 ms
On return of the mains, the lighting is switched off.
The set mode of operation is signalled by the LED as follows:
flashing once: timer switch mode
flashing twice: twilight switch mode
flashing three times: memory switch mode
flashing four times: random switch mode
Thereafter, the selected mode is active.
All further reactions depend on the mode of operation.

Response on removal of the center plate from the insert

When the Universal center plate is withdrawn from its insert, the actual switching state (on/off) is preserved.
After plugging the device back onto the insert, the response is the same as after a mains failure of more than 2 seconds.

Timer switch

- The lighting remains off until
- manual reactivation
 - activation by the automatic switch
 - activation of the presence detector.

Twilight switch

The lighting is switched on when the ambient brightness is below the threshold.

Memory switch Record

- The lighting remains off until
- manual reactivation
 - activation by the „3-wire“ extension insert

Replay

Stored switching events are executed later, otherwise as with Recording.

Random switch

Random switching deactivated

- The lighting remains off until
- manual reactivation
 - activation by the „3-wire“ extension insert

Random switching activated

- The lighting remains off until
- manual reactivation
 - next random switching event
 - activation by the „3-wire“ extension insert

Technical data

Rated voltage:	see insert operating instructions
Operating-temperature:	-5 °C to 35 °C
Operating modes:	4
Turn-off relay:	approx. 10 s to 30 min
Brightness:	infinitely variable between approx. 3 lux and 80 lux
Switching capacity:	see insert operating instructions
Number of extensions at insert:	„2-wire“ extension insert ref.-no. 1220 NE unlimited, mechanical push-button unlimited
„3-wire“ extension insert, ref.-no. 1223 NE:	5
at other inserts:	10
Length of extension cable overall:	100 m max.

Function of the presence detector 'Universal'

The presence detector responds to thermal movements triggered by persons, animals or objects.

On detection of a movement below an adjustable brightness threshold, the load is switched on.

The device remains on as long as further movements are being detected and lighting is needed.

When used on a dimmer insert, a constant light control can be implemented. To enlarge the field of detection, the presence detector is combined with a "3-wire" satellite insert and connected to the main unit.

The presence detector is not suitable for use in alarm systems.

Combination with a switching insert

The lighting is always switched on with maximum brightness.

The lighting is switched off in either of the two following cases.

- No movement is being detected anymore. The lighting is switched off after the preset turn-off delay has elapsed.
- The brightness on the monitored surface exceeds durably at least twice the preset value (e.g. due to more daylight), the presence detector cover switches off after 10 minutes at the latest even if movements continue. Exceeding of the preset brightness is signalled by flashing of the LED.

Combination with a dimming insert

The lighting is at first switched on with maximum brightness. The lighting is then dimmed down to such a level that the brightness is kept constant at the reference value preset on the presence detector.

This means that the lighting is dimmed down or switched off with increasing daylight and switched on or increased in intensity with decreasing daylight.

The dimming characteristic is designed in such a way that the user is virtually not aware of the light intensity regulation.

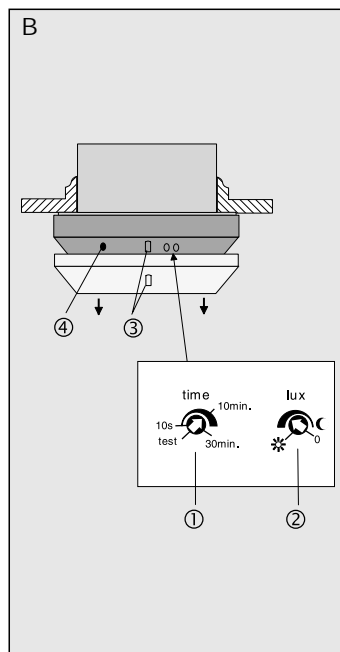
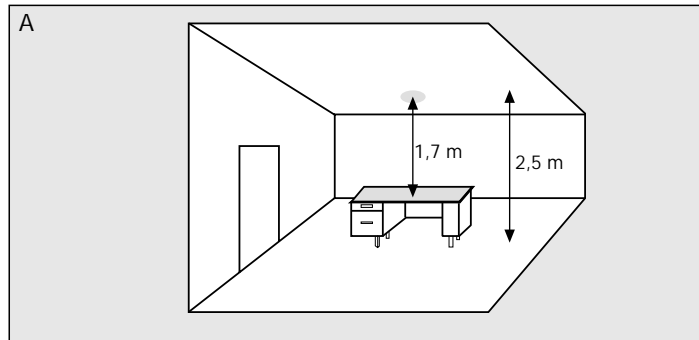
The lighting is switched off in either of the two following cases:

- If no movement is detected anymore and if the preset turn-off delay has elapsed, the lighting is dimmed down depending on the actual dimming level within maximum 1 minute to the lowest dimming position. If no further movements are detected within the next 5 minutes, the light is switched off completely.
- The presence detector has reduced the lighting to the lowest dimming position. The brightness on the monitored surface nevertheless exceeds the preset reference value by at least 1.5 times (e.g. due to more daylight). The lighting is now switched off after 10 minutes at the latest even if movements continue. Exceeding of the preset brightness is signalled by flashing of the LED.

Fitting instructions

The presence detector is fitted exclusively under ceilings and monitors the working surface below (fig. A).

Selecting a suitable fitting location



The field of detection should not be restricted by furniture, columns, etc. (see also „Field of detection“).

Avoid direct sunlight into the sensor window. Do not place the presence detector during fitting into direct sunlight. There is otherwise a risk of irreparable damage to the sensor due to high-intensity heat radiation.

The brightness sensor should be installed on the side opposite the window to prevent it from being influenced by undesired scattered light.

Settings (fig. B)

LED serves as a diagnosis and adjusting aid and is only visible when the trim ring is removed.

Turn-off delay

The turn-off delay is the time during which the lighting remains on even if no movements are being detected anymore.

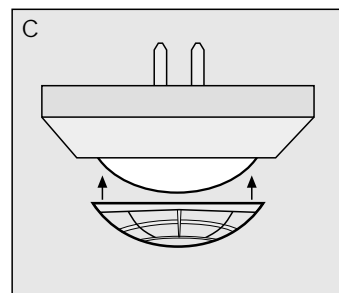
With the „time“ potentiometer, the turn-off delay can be adjusted in small steps.

Test operation: ca. 1 s in position „test“

Presence operation: ca. 10 s to ca. 30 min.

Brightness

Brightness



Minimum brightness on the monitored surface.

If the ambient brightness drops below the minimum brightness, the lighting is switched on when a movement is detected.

When used on a dimming insert, the minimum brightness is at the same time the reference level at which the lighting is kept constant.

With „lux“ potentiometer, the minimum brightness can be adjusted between approx. 10 lux (moon symbol) and 1000 lux (sun symbol).

Important

When this potentiometer is set to „0“, the presence detector can only be switched on from an extension unit and automatic first detection is deactivated.

With switching inserts, the shut-off brightness is approx. 400 lux.

Enlarging the field of detection

To enlarge the field of detection, a presence detector is used in combination with an "3-wire" satellite insert and connected to the main unit.

Important

- "3-wire" satellite inserts are not suitable for direct switching of loads. They merely transmit brightness-independent movement detection signals to the main unit.

- Connecting presence detector main units in parallel is not permitted.

- The presence detector cannot be operated on the "2-wire" satellite insert.

The evaluation of brightness and the presetting of the turn-off delay are effected exclusively in the main unit.

The adjusting potentiometers of the presence detector on the "3-wire" satellite insert are not functional.

After switching off the light, the "3-wire"

satellite insert is inhibited for about 2 seconds.

The signals from the "3-wire" satellite insert will again be evaluated by the main unit only after the inhibit time has elapsed.

More information on the installation can be found in the operating instructions of the insert.

Use of extension units

- With switching inserts, a long actuation has the same effect as a short actuation.
- Operation from an extension unit is only possible, if a cover is in place on the main insert.

"2-wire" satellite insert

Operation with the load switched off

Short actuation (shorter than 400 ms)

Press on UPPER, LOWER or center surface of the button. The lighting is switched on with maximum brightness.

Exception: dimming insert, see overleaf.

The turn-off delay corresponds to the value adjusted on the potentiometer, but is at least 2 minutes.

Detected movements will retrigger the turn-off delay for the time adjusted on the potentiometer.

Important

- If the presence detector has switched off the lighting because of sufficient external brightness (e.g. daylight), the light control function can be deactivated manually. To do so, the lights must be switched on again manually within one minute after automatic shut-off. The lights remain on as long as movements are being detected. If no movements are detected anymore, the lighting is switched off after the turn-off delay has elapsed. The light control is then active again.

- If the lights were switched off manually, a manual operation will switch them on again with the brightness last set (dimming insert only).

Long actuation (longer than 400 ms – dimming inserts only)

UPPER push-button surface or center: The lighting is switched on with minimum brightness, held at this value for 1s and then increased in intensity up to maximum brightness.

The turn-off delay corresponds to the value adjusted on the potentiometer, but is at least 2 minutes. Detected movements will retrigger the turn-off delay.

The dimmed brightness value will be adopted temporarily as brightness reference value as long as the lighting remains switched on.

LOWER surface of button

The lighting is switched on with minimum brightness. The turn-off delay corresponds to the value adjusted on the potentiometer, but is at least 2 minutes. Detected movements will retrigger the turn-off delay.

The dimmed brightness value will be adopted temporarily as brightness reference value as long as the lighting remains switched on.

Wiring diagrams

Universal presence detector Ref.-No. PMU 360 WW

Operation with the load switched on

Short actuation (shorter than 400 ms)

Press on UPPER, LOWER or center surface of the button: The lighting is switched off. Thus, it is possible to deactivate the automatic function intentionally, for instance, in order to darken a room (slide presentation).

In the next 3 minutes, the lights can only be switched on again from the extension unit. (With dimming inserts, the brightness is set before switch-off).

Movements detected by the PIR sensors will not reactivate the load. If further movements are detected in the field of detection within these three minutes, the inhibit time of the main unit will be prolonged again to 3 minutes.

Only after the 3-minute interval has elapsed without movements being detected will the automatic mode of the main unit be reactivated, i.e. all movements detected will switch on the lamps depending on the prevailing brightness conditions.

Long actuation (longer than 400 ms – dimming inserts only)

UPPER push-button surface or center: The intensity of the light is increased to maximum brightness. The dimmed brightness value will be adopted temporarily as brightness reference value as long as the lighting remains switched on. The turn-off delay will be retriggered.

LOWER surface of button

The intensity of the light is decreased (dimmed) down to minimum brightness. The dimmed brightness value will be adopted temporarily as brightness reference value as long as the lighting remains switched on. The turn-off delay will be retriggered.

Mechanical push-button (make contact)

Operation when the load is off

The lighting is switched on with maximum brightness. The turn-off delay corresponds to the time adjusted on the potentiometer, but is at least 2 minutes. Detected movements will retrigger the turn-off delay by the time adjusted on the potentiometer.

Operation when the load is on

The lighting is switched off. Restarting within the next 3 minutes (detected movements will retrigger the delay) is possible only via the extension unit (see also short actuation of Light Management "3-wire" satellite insert).

Important

- Long and short actuation have the same effect.
- Dimming is not possible with the mechanical push-button (make contact).
- Changing the temporary lux reference value is not possible (dimming insert only).
- If the lights were switched off manually, a manual operation will switch them on again with the brightness last set (dimming insert only).
- Illuminated push-buttons must have a separate N terminal.

Response in the event of withdrawing the presence detector 'Universal'

If the presence detector is withdrawn from the insert, the actual switching status of the load (on or off) is not lost.

When the detector is plugged back into the insert, the presence detector behaves in the same way as after a mains failure of more than 200 ms.

Response in the event of mains failure

shorter than 200 ms

At mains recovery the presence detector will be retriggered.

longer than 200 ms

The presence detector effects a self-test on return of the mains. The test lasts up to 30 s. During this time, the lighting is on. It is then switched off and the presence detector is ready for operation. During the self-test, no operation is possible.

Technical data

Angle of detection:	360°
Greatest range of detection for fitting height:	2.5 m
at desktop level:	approx. 5 m
at floor level:	approx. 8 m
The field of detection varies with different heights of installation	
Number of lenses	
levels of detection:	80 / 6
Rated voltage:	see insert
Switching:	see insert
Turn-off delay:	1 sec. in test-mode, approx. 10 sec. – 30 min.
Brightness:	approx. 10 – 1000 Lux
Number of extensions connected to flushmounting insert:	
"2-wire" satellite insert:	unlimited
mechanical push-button:	unlimited
Illuminated push-buttons must have a separate N terminal.	
"3-wire" satellite insert:	see operating instructions for "3-wire" satellite insert

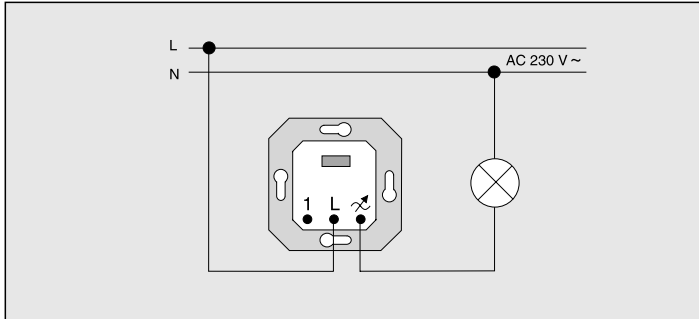
Different types of extension units can be combined.

Total length of extension connection cable: max. 100 m

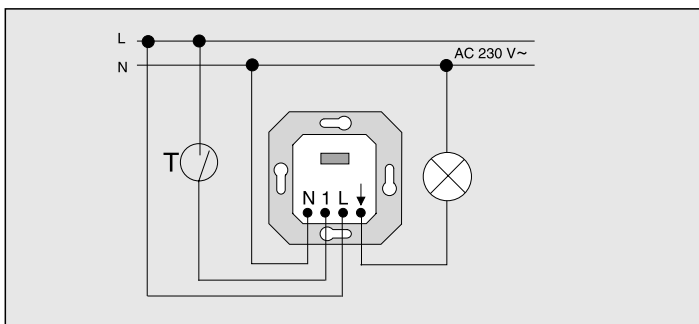
Universal presence detector

Ref.-No. PMU 360 WW

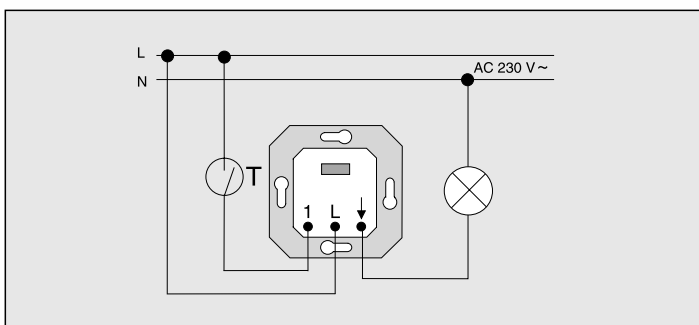
Wiring diagrams



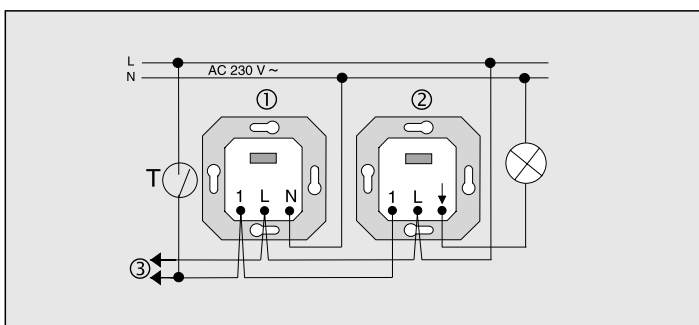
Combination of the presence detector standard with the universal touch dimmer or standard touch dimmer.
The control of a second station is carried out solely via satellite input 1.



Combination of the presence detector standard with the relay insert.
A switching operation without dependence on brightness can be triggered with the push-button T (make contact).



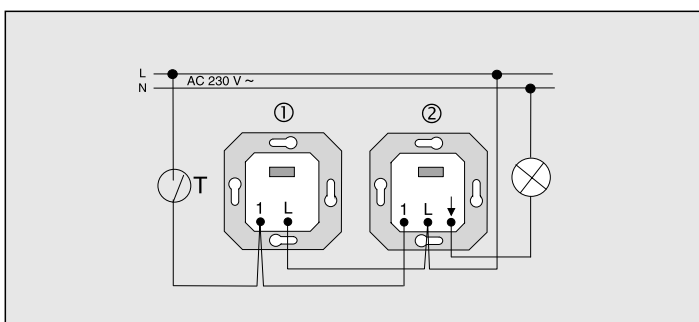
Combination of the presence detector standard with a TRONIC switch insert or low voltage TRIAC switch insert.
A switching operation without dependence on brightness can be triggered with the push-button T (make contact).



Connection of the 3-wire satellite insert ① to the master ② (e.g. TRONIC switch insert).
③ Option to connect further satellite stations.

A switching operation without dependence on brightness can be triggered with the push-button T (make contact).

The cable length that can be attached to satellite input 1 is max. 100 m.



Connection of mechanical push-button T (make contact) and/or satellite insert (with push-button cover) ① on the master ② (e.g. TRONIC switch insert).

Wiring diagrams

Push-button sensor 24 V Ref.-Nos. .. 2224 .., .. 2248 ..

Function

Push-button sensor intended for connection to the relay station, ref.-no. RS 8 REG or other control systems with a control voltage of 24 V.

Connection to the device is made at the back by means of a terminal block.

Each sensor is equipped with a red LED for status indication purposes.

Installation

- Fit the supporting ring in the correct position on a flush-mounting box (observe the TOP marking).
- Place the frame of the design range on the supporting ring.
- Connect the push-button sensor to the channel relay station and place it on the supporting ring.
- Fasten the push-button sensor with the plastic screws supplied on the supporting ring. The screws are intended as a protection against removal or theft.

Technical data

Rated voltage sensor/LED: AC/DC 24 V SELV
 Current load of sensor: max. 20 mA per sensor
 LED current: approx. 1 mA per LED
 Connection: 2 x terminal block 9-pole 0.25...0.8 mm² single wire

Power consumption: max. 0.2 W (all LEDs on)

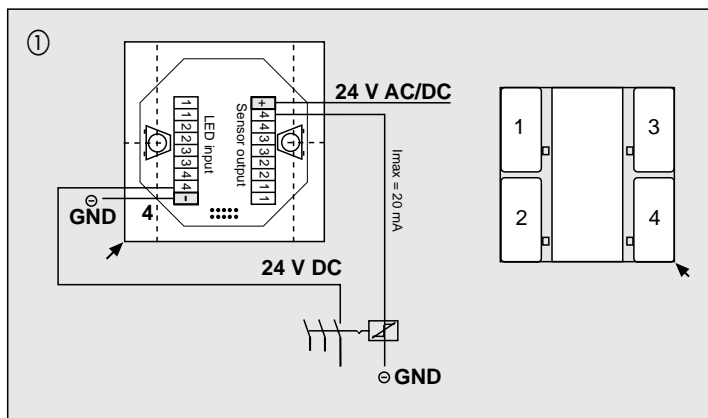
Type of protection: IP 20

Safety class: III

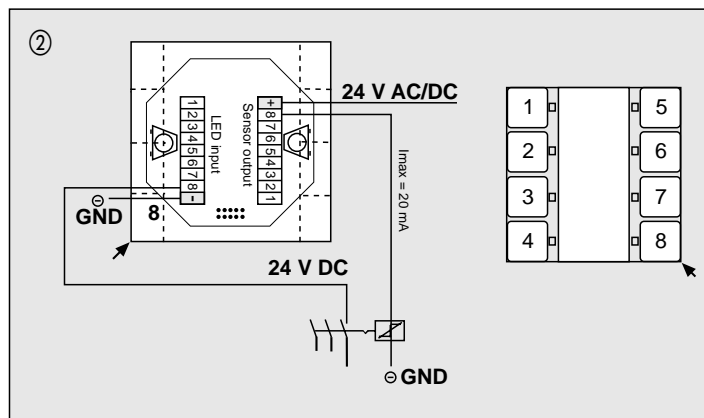
Ambient temperature: -5° C bis +45° C

Storage/transport temp.: -25° C bis +70° C

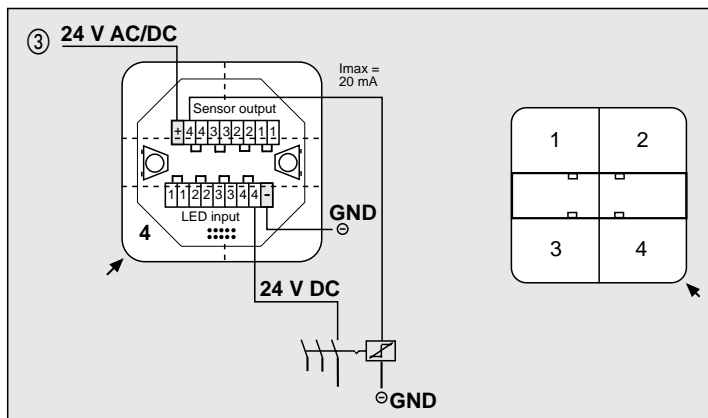
Technical specifications subject to change.



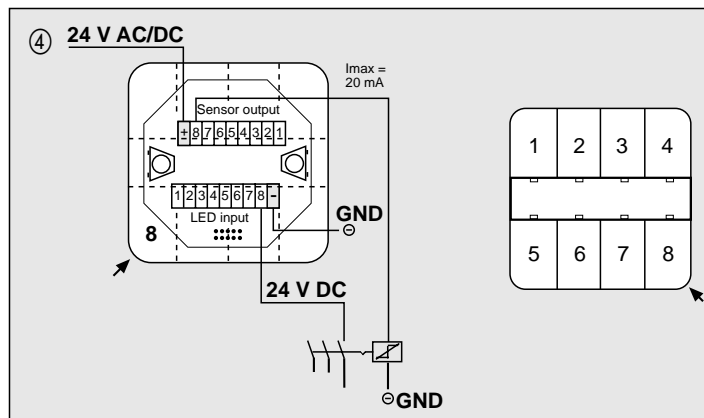
Input and output wiring for A 2224.. (fig ①)



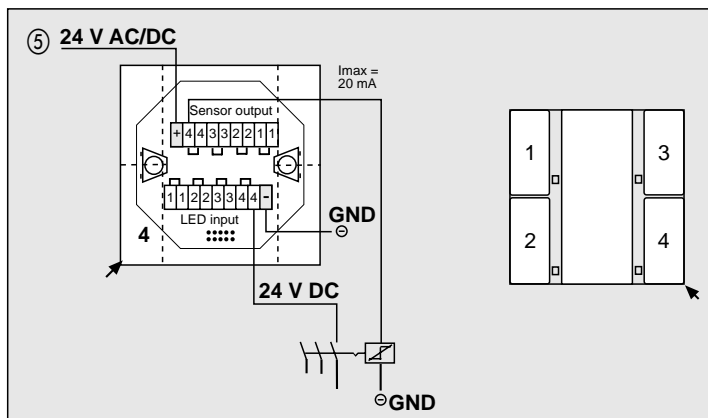
Input and output wiring for A 2248.. (fig ②)



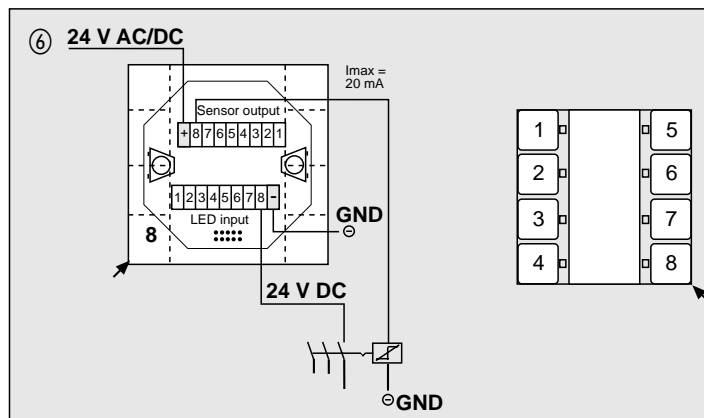
Input and output wiring for CD 2224.. (fig ③)



Input and output wiring for CD 2248.. (fig ④)



Input and output wiring for LS, AL, ES 2224.. (fig ⑤)



Input and output wiring for LS, AL, ES 2248.. (fig ⑥)

Function

Important

The relay station is **not** a KNX/EIB device.

The relay station is equipped with 8 potential-free load contacts for a maximum current of 10 A each for the switching of different loads, e.g. lighting.

The relay station can be operated as a switch actuator (make contacts) or as a push-button actuator.

The station is controlled with an AC/DC 24 V 20 mA push-button sensor (e.g. ref.-no. ... 2248 ...) or with mechanical push-buttons.

The output terminals A1' – A8' can be used for the connection of status LEDs.

The relay station supplies the control voltage (positive pole) for the switching inputs (E1 – E8) and the common ground line for the checkback LEDs at its DC output.

Operation (fig. ①)

The relay station is operated by means of the connected push-button sensor 24 V. The red LEDs (1) of the relay station indicate the switching state of the relay contacts.

- Relay contact closed LED on
- Relay contact open LED off

Installation (fig. ②)

Connect the supply voltage AC 230 V ~ for the relay station to terminals "L" and "N", see fig. ①.

Connect the loads to be switched to the output terminals A1 – A8 of the relay station, see fig. ①. The illustration shows 3 lamps connected to different phase conductors. The remaining terminals are connected in the same way.

The schematic in fig. ② shows the relay station used in combination with the 24 V push-button sensor.

Mechanical push-buttons, e.g. 534 U, can be used as an alternative.

Connect the switching inputs of the relay station E1 – E8 with outputs 1 – 8 of the touch sensor (e.g. ref.-no. ...2248...).

The schematic in fig. ② is a wiring example. The remaining terminals are connected in the same way.

Connect the LED inputs 1 – 8 of the push-button sensor with the output terminals A1' – A8' (DC 24 V, 10 mA) of the relay station.

The schematic in fig. ② is a wiring example. The remaining terminals are connected in the same way. In this case, the switching state of the relay contacts is indicated by the LEDs of the touch sensor.

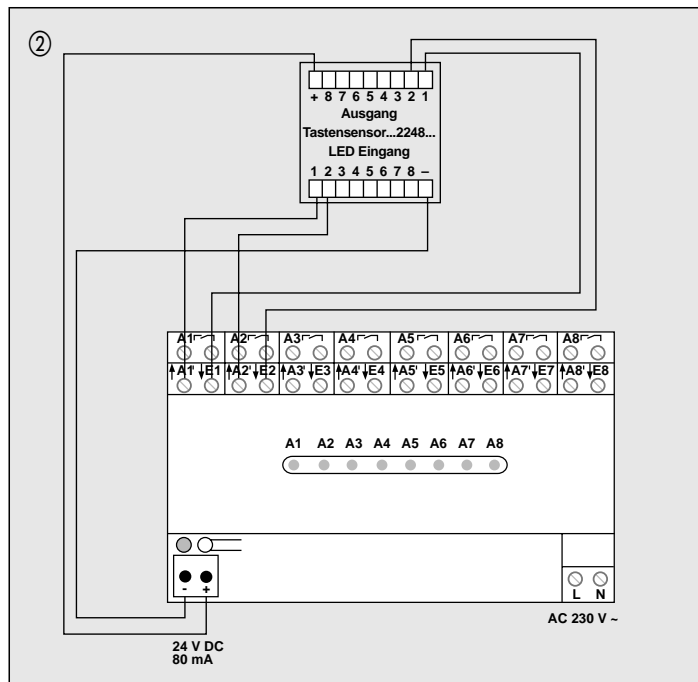
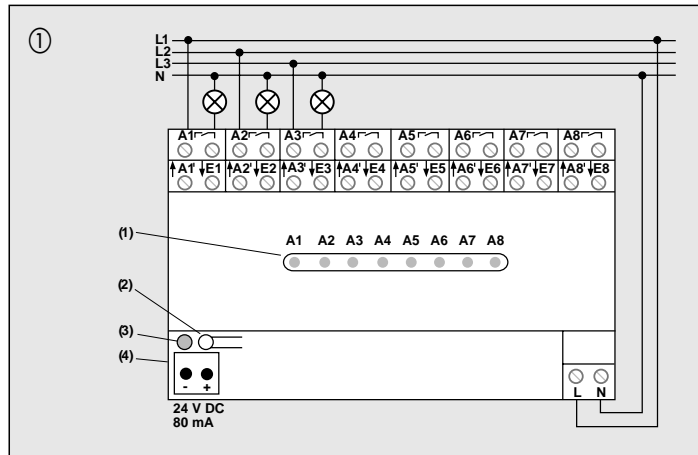
- Relay contact closed LED on
- Relay contact open LED off

Connect the 24 V DC output (4) of the relay station with the correct polarity to the push-button sensor, see fig. ①.

Important

In the event of a short-circuit at the DC output,

- the station will no longer accept commands from the push-button,
- the relays will switch off briefly (approx. 1 s).



Commissioning

Push-button (2) and LED (3) are accessible only during the fitting and installation activities, see fig. ①.

For switching between the two modes of operation press the push-button (2) for at least 7 s.

The selected mode is stored in a memory.

The device is delivered preset to the switching mode.

- push-button mode LED (3) lit up red; the relay contact is closed as long as the control push-button is kept depressed.
- switching mode LED (3) lit up green; the relay contact is closed or opened after each press of the control push-button.

Response to mains failures

After a mains failure, all relay contacts are open and must be activated again.

If an undefined fault occurs during operation of the device, the LED (3) lights up yellow.

Acknowledge the fault by pressing the push-button (2) for ca. 1.5 s.

The relay station is then in the switching mode.

Technical data

Rated voltage: AC 230 / 240 V ~, 50 / 60 Hz

Operating temperature: -5° C to +45° C

Storage temperature: -25° C to +70° C

Fitting width: 144 mm

Outputs A1 – A8

Contact type: potential-free n.o. contact (μ contact)

Rated switching capacity: AC 250 V ~ / 10 A

incandescent lamps: 1400 W

HV halogen lamps: 1225 W

conventional transformers: 1200 VA

Tronic transformers: 1200 VA

motors: 600 W

fluorescent lamps: not approved

minimum load: 12 V, 100 mA

Outputs A1' – A8': Ra = 330 Ω

DC 24 V / 10 mA max.

Switching inputs

E1 – E8: Ri = 200 kΩ

24 V max.

Screw terminals:

0.5 – 4 mm² single wire

2 x 0.5 – 2.5 mm² single wire

0.34 – 4 mm² stranded without ferrule

0.14 – 2.5 mm² stranded with ferrule

DC output: 24 V DC, 80 mA

screwless connection

Power consumption

Typically

(all relays on): 7.7 W

Maximum (all outputs at full load): 12.5 W

Standby: 0.5 W

Length of control line: max. 100 m

Technical specifications subject to change

Wiring diagrams

Radio hand-held transmitter

standard Ref.-No. 48 FH

comfort Ref.-No. 48 KFH

Function

The radio hand-held transmitter makes it possible to carry out wireless remote control.

The hand-held transmitter sends a radio telegram after a push-button operation.

This radio telegram is understood and evaluated by all the radio receivers of the Radio Management system.

The hand-held transmitter has the following operating elements

- ① Group push-buttons (A, B, C), with the associated group LED
- ② Channel push-buttons (1 ... 8)
- ③ ALL ON button
- ④ ALL OFF button

Additionally for the comfort variant of the radio hand-held transmitter

- ⑤ Light scene push-buttons (1 ... 5)
- ⑥ Master push-button

There are 3 groups (A, B, C) ① available, each with 8 channels ② for switching, dimming and shutter control i.e. 24 radio receivers can be operated individually.

All the taught in switching and dimming loads are controlled in the factory setting with the ALL OFF ③ or ALL ON ④ button. (These buttons correspond to user-definable light scenes.)

Up to 5 light scenes ⑤ can be stored and retrieved using the comfort variant of the radio hand-held transmitter.

The range of light scenes includes

- Fixed dimming value of a luminaire (e.g. 70 % auf the maximum brightness),

or

- fixed switching state of a load (e.g. fan switched on),

or

- fixed limit position of a blind (e.g. blind lowered).

When using covers with radio receivers, a light scene can be dimmed brighter/darker or switched on/off with the master push-button ⑥.

Teaching in the radio receiver

In order for a radio receiver to understand a radio telegram from the hand-held transmitter, this receiver must first 'learn' this radio telegram.

The number of receivers that can be assigned to a channel of the hand-held transmitter is unlimited.

The learning process leads exclusively to an assignment in the radio receiver.

Procedure

1. Switch the radio receiver to the learning mode.

2. Teaching in a channel

Press the \wedge / \vee button ② of the required channel (e.g. Group C, Channel 6) for at least 1 sec.

Teaching in a light scene push-button

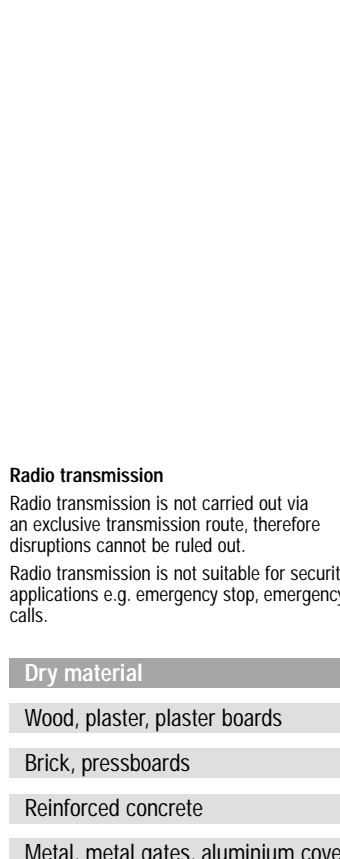
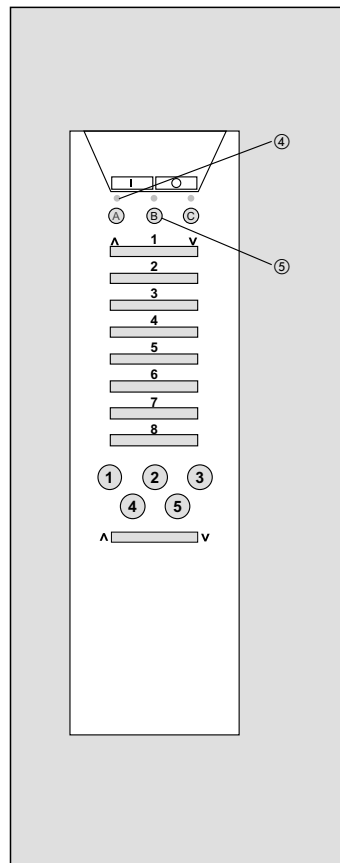
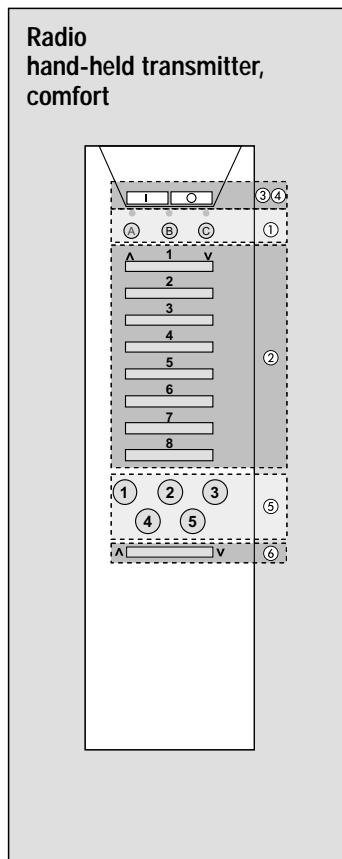
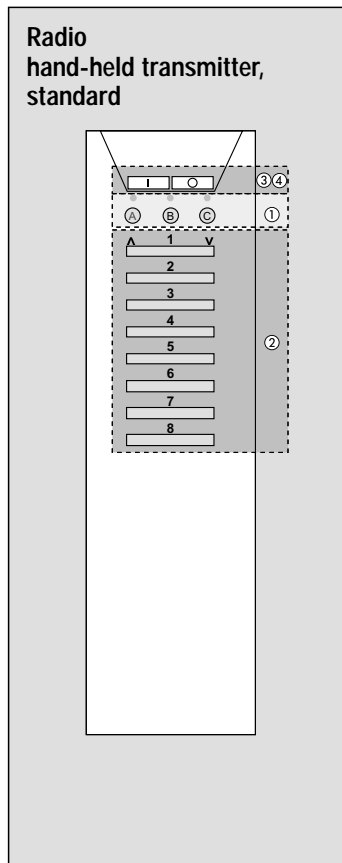
Press the required light scene push-button ⑤ for at least 3 sec. The selected group LED flashes for confirmation.

Teaching in the ALL OFF or ALL ON button

Press the ALL OFF or ALL ON button ③ for at least 10 sec. All the group LEDs flash for confirmation.

3. Switch the radio receiver to normal mode.

The learning process is complete !



Deleting channels

If the channel, light scene or ALL OFF/ALL ON buttons of the radio hand-held transmitter are taught in again, the assignment in the radio receiver is deleted.

Assignment of the groups

There are 3 groups available (A, B, C), each with 8 channels (3 x 8 channels = 24 channels).

A group with eight functions can be operated for each.

When one of the 8 rockers is pressed, the active group is indicated by the group LED lighting up briefly ④ (e.g. Group A).

Group A is active once the batteries have been inserted.

You can switch between the groups by pressing a group push-button ⑤ (e.g. Group B).

Changing the group temporarily (for approx. 4 sec.)

1. Press a group push-button briefly (less than 4 sec.).
2. Press the required channel push-button within this period.

Changing the group

1. Press a group push-button for a long period (at least 4 sec.).
2. The relevant group LED flashes for approx. 4 sec.

Technical data

Power supply:	6 V DC
Batteries:	4 x micro, alkaline (LR 03)
Capacity:	1 Ah
Battery life:	approx. 3 years
Transmission frequency:	433.42 MHz (ASK)
Transmission range:	approx. 100 m (free field)
Dimensions (LxWxH):	192 x 53 x 23 mm
Temperature range:	+4°C up to +55°C
Weight:	approx. 100 g

Note

If all the LEDs flash for approx. 4 sec. after a push-button operation, the batteries need to be changed.

The maximum transmission length is 12 sec. even if another push-button is pressed afterwards.

If several push-buttons are pressed simultaneously, a radio telegram is not sent.

Radio transmission

Radio transmission is not carried out via an exclusive transmission route, therefore disruptions cannot be ruled out.

Radio transmission is not suitable for security applications e.g. emergency stop, emergency calls.

The transmission range of the radiohand-held transmitter (max. 100 m in free field according to EN) is dependent on the structural conditions of the property:

Dry material	Penetration
Wood, plaster, plaster boards	approx. 90 %
Brick, pressboards	approx. 70 %
Reinforced concrete	approx. 30 %
Metal, metal gates, aluminium covers	approx. 10 %

Radio hand-held transmitter

standard Ref.-No. 48 FH

comfort Ref.-No. 48 KFH

Operation

Normal function

Each rocker ① has 2 functions (Λ and V). Refer to the table for possible functions.

Additional function

If you wish the radio-controlled performance unit to be switched on continuously for approx. 2 hours, it is necessary to press the taught-in channel push-button Λ for at least 1 sec.

If the radio-controlled performance unit is to ignore the transmissions of the radio-controlled Observer for approx. 2 hours, you must press the channel push-button V for at least 1 sec.

ALL OFF / ALL ON

During the learning process for a radio channel, the ALL OFF and ALL ON buttons are automatically 'learnt' as well by the radio receiver (exception: radio-controlled shutter cover).

When calling up the ALL OFF or ALL ON button, you must press the respective push-button for at least 1 sec. to avoid maloperations.

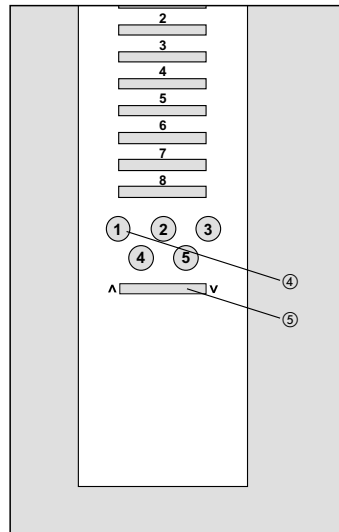
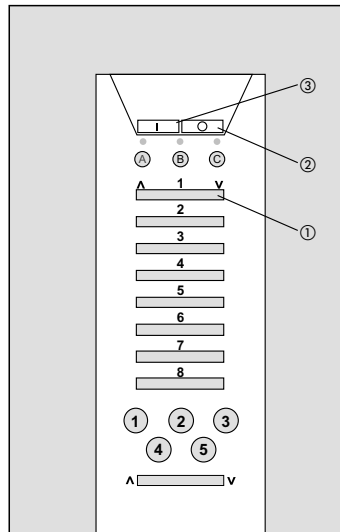
With the ALL OFF button ②, the load is disconnected at all the taught-in radio receivers or connected with the ALL ON button ③.

All the group LEDs light up for approx. 12 seconds for confirmation.

Deleting ALL OFF / ALL ON

If a specific radio receiver is not supposed to react to the ALL OFF or ALL ON button, this function must be 'unlearnt'.

Rocker	Duration	Light	Blind
Left Λ	max. 1 sec.	ON	Louvre adjustment
Left Λ	min. 1 sec.	Brighter	Continual movement UP
Right V	max. 1 sec.	OFF	Louvre adjustment
Right V	min. 1 sec.	Darker	Contin. movement DOWN



Master

(only for the comfort variant of the radio-controlled hand-held transmitter)

With the MASTER button ⑤ you can dim the last retrieved light scene brighter/darker with

the active radio dimmer (press for at least 1 sec.) or switch it on/off (press for less than 1 sec.).

Blinds cannot be operated.

Procedure

1. Switch the radio receiver to the learning mode.
2. Press the ALL OFF ② or ③ for at least 10 sec. All the group LEDs flash for confirmation.
3. Switch the radio receiver to the normal mode.

The deletion process is complete!

Light scene

(only for the comfort variant of the radio-controlled hand-held transmitter)

You can store (long switch operation min. 3 sec.) and retrieve (short switch operation max. 3 sec.) 5 light scenes with the round buttons (1 ... 5) ④.

This light scene push-button must be taught in before storing or recalling a light scene (see 'Teaching in a light scene push-button').

Changing light scene

1. Set the required lighting scenario.
2. Press the light scene push-button (1 ... 5) for at least 3 sec.
Note: The previous light scene is retrieved first and then the new one is activated.
3. The relevant group LED flashes for confirmation.
In addition a short signal tone is emitted at the flush-mounted radio receiver.

Wiring diagrams Radio hand-held transmitter

„Mini“ Ref.-No. 42 FH

Function

The "Mini" radio hand-held transmitter enables the wireless remote control of a light or blind.

The "Mini" radio hand-held transmitter has two independent radio channels available (channel 1 and channel 2).

Two push-buttons (▲ and ▼) are assigned to each radio channel.

Application example

The lighting is dimmed with channel 1 while channel 2 operates the blind.

The hand-held transmitter sends a radio telegram after a push-button operation. This radio telegram is understood and evaluated by all the radio receivers of the Radio-Management system.

Commissioning

The hand-held transmitter is immediately ready for operation.

Battery

The radio hand-held transmitter is operated with one lithium button cell (CR 2032) (supplied with the device).

Teaching in the radio receiver

In order for a radio receiver to understand a radio telegram from the hand-held transmitter, the receiver must first "learn" the radio telegram.

The number of receivers that can be assigned to a channel of the hand-held transmitter is unlimited.

The learning process leads solely to an assignment in the radio receiver.

Procedure

1. Switch the radio receiver to the learning mode.
2. Press the ▲- or ▼ button of the required channel for at least 1 second.
3. Switch the radio receiver to normal mode.

The learning process is complete.

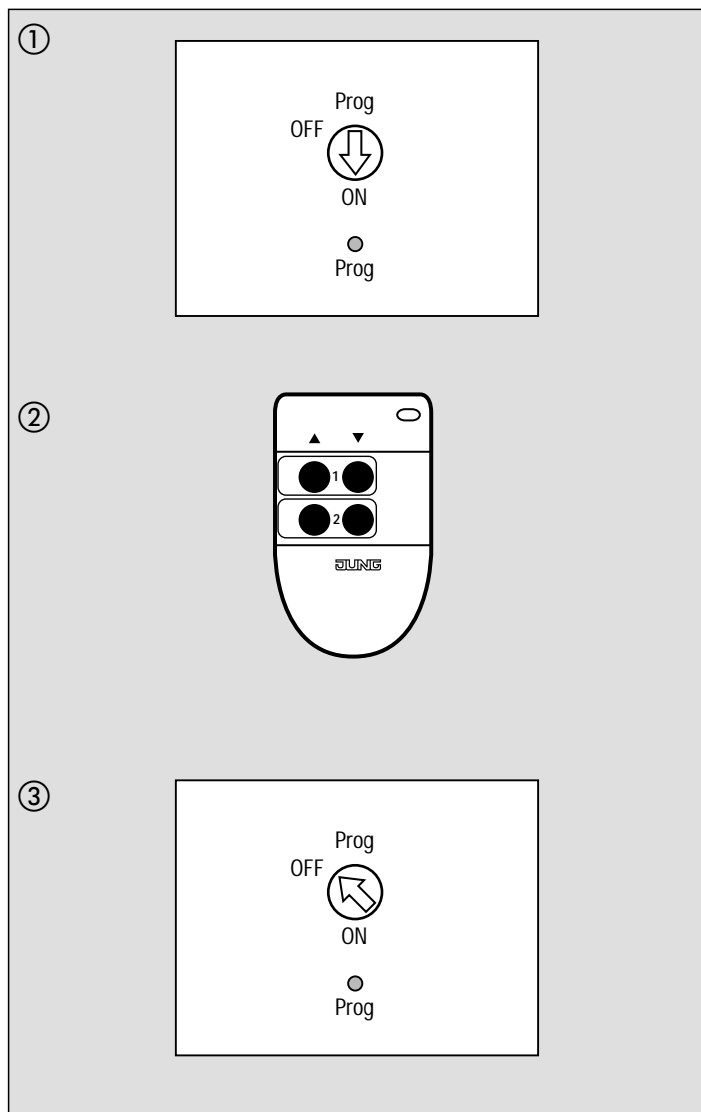
Deletion in the radio receiver

If a channel of the "Mini" radio hand-held transmitter is taught in again, the assignment in the radio receiver is deleted.

Radio transmission

Radio transmission is not carried out via an exclusive transmission route, therefore disruptions cannot be ruled out. Radio transmission is not suitable for security applications e.g. emergency stop, emergency calls.

The transmission range of the radio hand-held transmitter (max. 30 m in free field) is dependent on the structural conditions of the property:



Operation

Each radio channel (1 and 2) ① has two push-buttons (▲ and ▼).

A push-button action is displayed by the flashing of the red LED ②.

In order to prevent maloperations, only press **one button at a time**.

The following functions are possible (see table below).

Special function with the radio-controlled performance unit

If you wish the radio-controlled performance unit to be switched on continually for approx. 2 hours, it is necessary to press the taught-in channel push-button ▲ for at least 1 second.

If the radio-controlled performance unit is to ignore the transmissions of the radio-controlled observer for approx. 2 hours, you must press the channel push-button ▼ for at least 1 second.

The maximum transmission length is 12 seconds even if another push-button is pressed afterwards.

Technical data

Power supply:	3 V DC
Batteries:	1 x lithium button cell (CR 2032)
Battery life:	approx. 5 years
Transmission frequency:	433.42 MHz, ASK
Transmission range:	max. 30 m (in free field)
Postal approval:	LPD-D
Dimensions (LxWxH):	73 x 43 x 18 mm
Temperature range:	0°C up to + 55°C
Relative humidity:	max. 80 %

Rocker	Duration	Light	Blind
Left ▲	max. 1 sec.	ON	Louvre adjustment
Left ▲	min. 1 sec.	ON/Brighter	Continual movement UP
Right ▼	max. 1 sec.	OFF	Louvre adjustment
Right ▼	min. 1 sec.	OFF/Darker	Cont. movement DOWN

Dry material	Penetration
Wood, plaster, platerboard	approx. 90 %
Brick, plywood panels	approx. 70 %
Reinforced concrete	approx. 30 %
Metal, metal grids, aluminium laminate	approx. 10 %

Flush-mounted radio transmitter

Ref.-No. 40 FW

Function

The flush-mounted radio transmitter makes it possible to have wireless remote control but from a fixed installation.

The flush-mounted radio transmitter is operated in combination with standard push-button sensors (1-gang, 2-gang or 4-gang) from the CD 500, CD plus, A 500, LS 990 and Stainless Steel ranges.

The electrical contact is made via a 10-pole plug connector.

The flush-mounted radio transmitter sends a radio telegram after a push-button action. This radio telegram is understood and evaluated by all the radio receivers of the Radio Management system.

The number of radio channels is dependent on the push-button sensor in use (e.g. 1-gang push-button sensor => 1-channel radio-wall-mounted transmitter).

Each set of two facing push-buttons belongs to one channel.

The flush-mounted radio transmitter is fitted with a 4-gang switch S. The function can thus be selected before the push-button sensor is placed on top. The function can be changed at any time.

Individual channels of the push-button sensor can transmit special functions such as 'ALL OFF' or 'light scene'.

The flush-mounted radio transmitter ① is secured with screws in a flush-mounted switch box or a surface-mounted cover.

The label TOP must lie above.

Commissioning

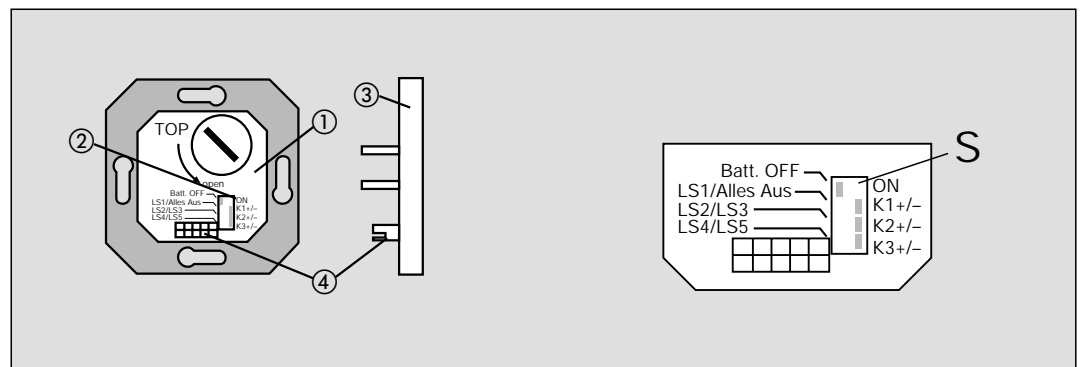
- Put the 'Batt.' switch ② into the ON position (right).
- Select the function of the push-buttons with switch S ②. Once the push-button sensor has been removed, the function can be changed at any time by toggling the single switch S. The factory setting is shown in bold type.
- Plug in the push-button sensor ③. The electrical contact is made via a 10-pole plug connector ④.
- Press any push-button for approx. 1 sec.

Technical data

Power supply:	6 V DC
Batteries:	2 x lithium button cells (CR2032)
Capacity:	0,22 Ah
Battery life:	approx. 3 years
Transmission frequency:	433.42 MHz (ASK)
Transmission range:	approx. 100 m (free field)
Temperature range:	+4°C up to +55°C

S	= Function	OFF (left)	ON (right)
S1	= flush-m. transmitter is disconnected		connected
S2	= Push-button 1 -	ALL OFF	Channel 1 -
	= Push-button 1 +	Light scene 1 (on)	Channel 1 +
S3	= Push-button 2 -	Light scene 2 (on)	Channel 2 -
	= Push-button 2 +	Light scene 3 (on)	Channel 2 +
S4	= Push-button 3 -	Light scene 4 (on)	Channel 3 -
	= Push-button 3 +	Light scene 5 (on)	Channel 3 +

Note: Push-button 4 + or 4 - always corresponds to Channel 4 + or 4 -.



Note

To protect the batteries, disconnect the flush-mounted radio transmitter as soon as a push-button sensor has been permanently removed.

Therefore switch the function switch 'Batt.' to the OFF position (left).

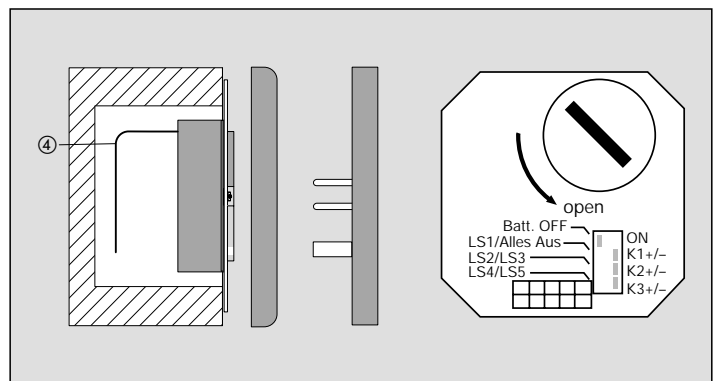
The batteries need to be changed if all the LEDs flash 5 times after a push-button action of less than 3 sec.

Antenna

In order to maintain the maximum radio transmission power, lay the antenna ④ flat and as far away from the radio transmitter as possible.

The antenna should not be wound up and must be positioned at the greatest distance possible away from metal components with a large surface area e.g. metal door frames.

You should not strip the insulation from the antenna or shorten or extend it.



Wiring diagrams

Flush-mounted radio transmitter

Ref.-No. 40 FW

Teaching in the radio receiver

In order for a radio receiver to understand a radio telegram from the flush-mounted radio transmitter, this receiver must first 'learn' this radio telegram.

The number of receivers that can be assigned to a channel of the flush-mounted radio transmitter is unlimited. The learning process only leads to an assignment in the radio receiver.

Procedure

1. Switch the radio receiver to the learning mode.

2. Teaching in a channel

Press the +/- button of the required channel for at least 1 sec.

Teaching in the ALL OFF button

Press the ALL OFF button for at least 10 sec. The channel LED flashes for confirmation.

Teaching in a light scene push-button

Press the required light scene push-button for at least 3 sec.

The channel LED flashes for confirmation.

3. Switch the radio receiver to normal mode.

The learning process is complete!

Deleting channels

If the channel, light scene or ALL OFF buttons of the flush-mounted radio transmitter are taught in again, the assignment in the radio receiver is deleted.

Operation

A radio telegram is sent when a channel push-button is pressed. The respective red channel LED lights up for confirmation.

The maximum transmission length is 12 sec. even if another push-button is pressed afterwards.

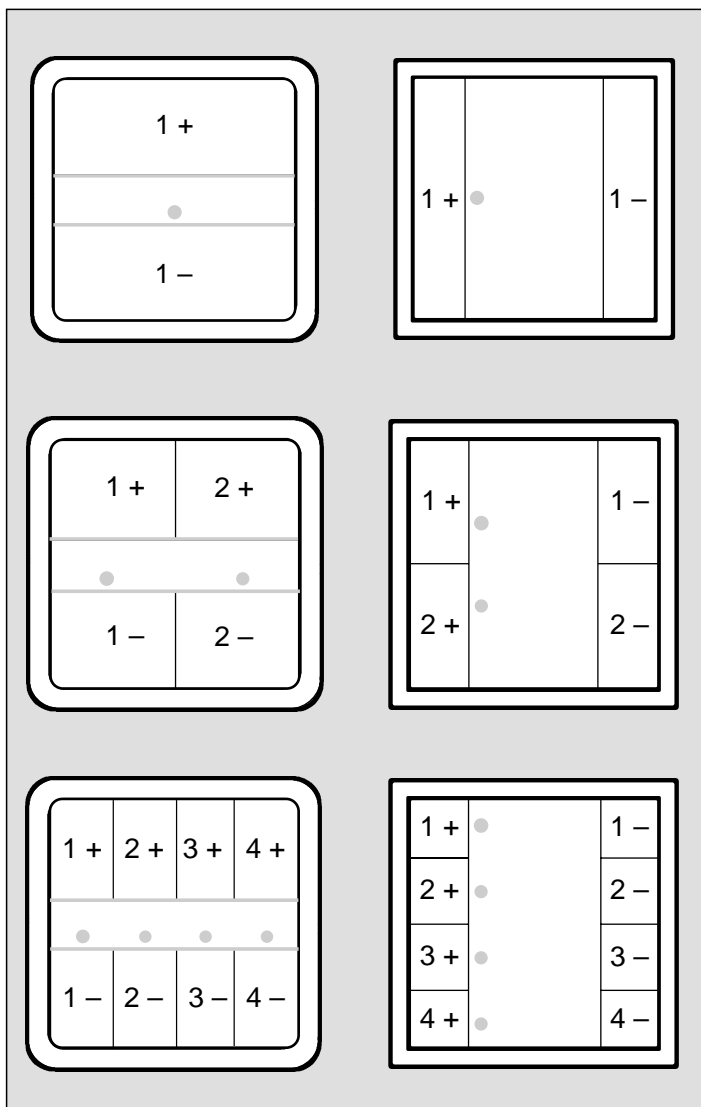
If several push-buttons are pressed simultaneously, a radio telegram is not sent.

A telegram is sent by pressing a channel push-button e.g. 1+.

The reaction is dependent on the type of radio receiver (see table).

Additional functions

If you wish the radio-controlled performance unit to be switched on continuously for approx. 2 hours, it is necessary to press the taught-in channel push-button \wedge for at least 1 sec. If the radio-controlled performance unit is to ignore the transmissions of the radio-controlled Observer for approx. 2 hours, you must press the channel push-button \vee for at least 1 sec.



Push-button	Duration	Light	Shutter
X +	max. 1 sec.	Switch on	Louvre adjustment
X -	max. 1 sec.	Switch off	Louvre adjustment
X +	min. 1 sec.	Dim brighter	Continual movement UP
X -	min. 1 sec.	Dim darker	Contin. movement DOWN

Light scenes

You can store (long switch operation: min. 3 sec.) and retrieve (short switch operation: less than 3 sec.) 5 light scenes.

This light scene push-button must be taught in before storing or recalling a light scene (see 'Teaching in a light scene push-button').

Changing light scene

1. Set the required lighting scenario.

2. Press the required light scene push-button for at least 3 sec.

Note:

The previous light scene is retrieved first (do not release the push-button) and then the new one is activated.

3. The relevant channel LED flashes for confirmation. In addition a short signal tone is emitted at the flush-mounted radio receiver.

ALL OFF

During the learning process for a radio channel, the additional light scene 'ALL OFF' is automatically 'learned' as well by the radio receiver (exception: radio-controlled shutter cover).

When retrieving 'ALL OFF', you must press push-button 1- for at least 1 sec. in order to avoid maloperations.

The load is disconnected at all the taught-in radio receivers.

Deleting ALL OFF

If a specific radio receiver is not supposed to react to the ALL OFF button, this function must be 'deleted'.

Procedure

1. Switch the radio receiver to the learning mode.

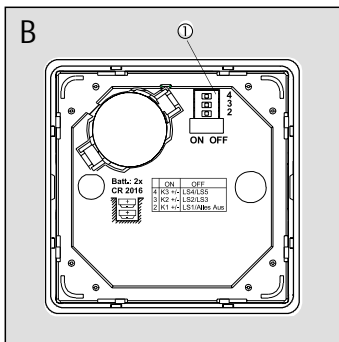
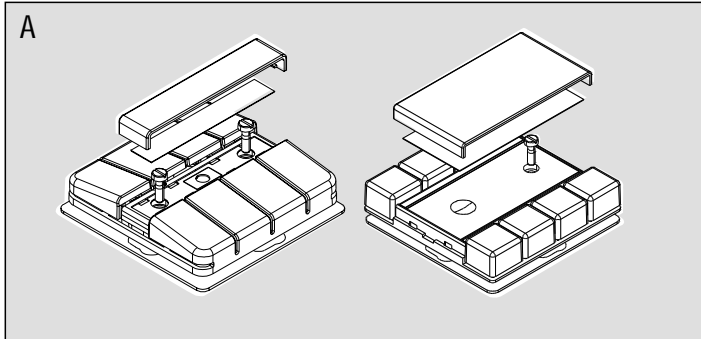
2. Press the ALL OFF button 1- for at least 10 sec. The channel LED flashes for confirmation.

3. Switch the radio receiver to the normal mode.

The deletion process is complete!

"Flat" wall-mounted radio transmitter

1-channel Ref.-Nos. ..41 F.
2-channel Ref.-Nos. ..42 F.
4-channel Ref.-Nos. ..44 F.



Function

The "Flat"-mounted radio transmitter enables the wireless remote control of all the receivers in the Radio-Management system.

The transmitter is available as 1-channel, 2-channel or 4-channel and sends a radio telegram after a push-button operation.

This radio telegram is understood and evaluated by all the radio receivers of the Radio Management system.

Each set of two opposing push-buttons belongs to one channel.

The wall-mounted transmitter is fitted with a 3-gang function switch. The function can thus be selected and can be changed at any time. Special functions such as "ALL OFF" or "Light scene" can be assigned to individual buttons of the push-button sensor.

Batteries

The "Flat"-mounted radio transmitter is operated with two lithium button cells (CR 2016) (supplied with the device).

If the LEDs flash five times after a push-button operation of less than 2 seconds, the batteries must be changed.

Changing the batteries

1. Un screw the "Flat"-mounted radio transmitter from the base plate (Diagram A).
2. Remove the used batteries with a screwdriver via the notch in the housing (Diagram C).
Note: Do not place the screwdriver under the battery holder.
3. When inserting the new batteries, note the correct polarity according to Diagram D (+ at the top).
4. Press any button for approx. 1 second.

Teaching in the radio receiver

In order for a radio receiver to understand a radio telegram from the "Flat"-mounted radio transmitter, the receiver must first "learn" this radio telegram. The number of receivers

that can be assigned to a channel of the "Flat"-mounted radio transmitter is unlimited. The learning process for the taught-in channel leads solely to an assignment in the radio receiver.

Procedure

1. Switch the radio receiver to the learning mode.
2. **Teaching in a channel:**
Press the +/- button of the required channel for at least 1 second.
Teaching in the ALL OFF button:
Press the ALL OFF button for at least 10 seconds.
Teaching in the light scene push-button:
Press the required light scene push-button for at least 3 seconds.
3. Switch the radio receiver to normal mode.

The learning process is complete.

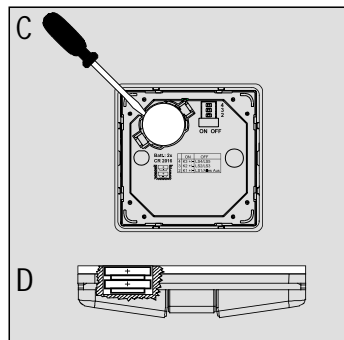
Deleting channels

If the channel, light scene or ALL OFF buttons of the "Flat"-mounted radio transmitter are taught in again, the assignment in the radio receiver is deleted.

Radio transmission is not carried out via an exclusive transmission route, therefore disruptions cannot be ruled out.
Radio transmission is not suitable for security applications e.g. emergency stop, emergency calls.

Technical data

Power supply:	6 V DC
Batteries:	2 x lithium button cells (CR2016)
Battery life:	approx. 3 years
Transmission frequency:	433.42 MHz, ASK
Transmission range:	Typ. 30 m (in free field)
Postal approval:	LPD-D
Temperature range:	0 °C up to +55 °C
Rel. humidity:	max. 80% (without moisture condens.)
Type of protection:	IP 20



Commissioning

1. Unscrew the "Flat"-mounted radio transmitter from the base according to Diagr. A.
2. Select the function of the push-buttons with the functions switch ① at the back of the wall-mounted transmitter (Diagram B). It is possible to change the function once the push-button sensor has been removed by toggling the individual + switches (2...4).

Note

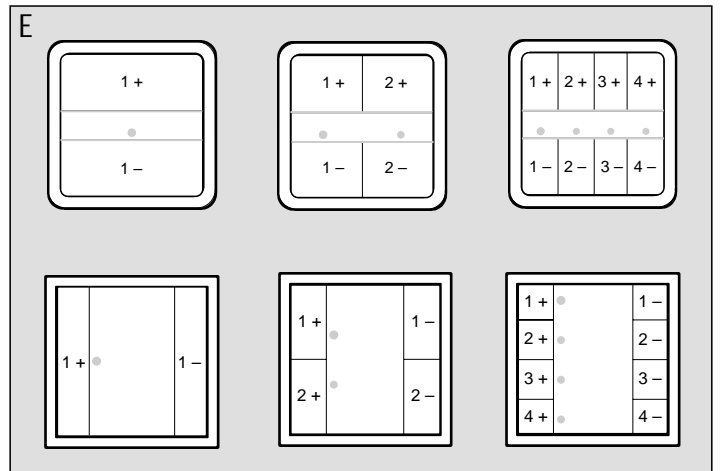
- Push-button 4+ or 4- always corresponds to channel 4+ or 4-.
- See Diagram E for the position of the push-buttons (1-, 1+, 2-, ...).
- 3. Screw the "Flat"-mounted radio transmitter back onto the base plate.

E	Function	OFF	ON
F2	= Push-button 1-	ALL OFF	Channel 1-
	= Push-button 1+	Light scene 1 (ON)	Channel 1+
F3	= Push-button 2-	Light scene 2 (ON)	Channel 2-
	= Push-button 2+	Light scene 3 (ON)	Channel 2+
F4	= Push-button 3-	Light scene 4 (ON)	Channel 3-
	= Push-button 3+	Light scene 5 (ON)	Channel 3+

Operation (E)

A radio telegram is sent when a channel push-button (e.g. 1+) is pressed.

Push-button	Duration	Light	Blind
x+	max. 1 sec.	Switch ON	Louvre adjustment
x-	max. 1 sec.	Switch OFF	Louvre adjustment
x+	min. 1 sec.	Dim brighter	Continual movement UP
x-	min. 1 sec.	Dim darker	Continual movement DOWN



The maximum transmission length is 12 seconds even if another push-button is pressed afterwards. If several push-buttons are pressed at the same time, no radio telegram is sent. If you wish the radio-controlled performance unit to be switched on continuously for approx. 2 hours, it is necessary to press the taught-in channel push-button X for at least 1 second.

Light scenes

The light scene push-button must be taught in before storing or recalling a light scene. 5 light scenes can be stored (long switch operation: min. 3 seconds) and retrieved (short switch operation: max. 3 seconds).

Changing light scenes

1. Set the required lighting scenario.
2. Press the required light scene push-button for at least 3 seconds.
Note: The previous light scene is recalled first (do not release the push-button) and then the new one is activated.
3. A short signal tone is emitted for confirmation at the flush-mounted radio receivers.

ALL OFF

During the learning process for a radio channel, the ALL OFF button is automatically "learnt" as well by the radio receiver (exception: radio-controlled shutter cover).

When retrieving the ALL OFF function, you must press push-button 1- for at least 1 second to avoid maloperations. The load is disconnected at all the taught-in radio receivers.

Deleting ALL OFF

If a specific radio receiver is not supposed to react to the ALL OFF button, this function must be deleted.

Procedure

1. Switch the radio receiver to the learning mode.
2. Press the ALL OF button 1- for at least 10 seconds.
3. Switch the radio receiver to normal mode.

The deletion process is complete.

Wiring diagrams

Radio multi function transmitter

Ref.-No. FMS 4 UP

Function

This radio multi function transmitter (Fig. A) is a battery-operated four-channel radio transmitter for the extension of an existing radio control installation.

At its four inputs E1 to E4 (see Fig. B), the transmitter detects switching states of potential-free installation switches or push-buttons.

It transmits radio data telegrams which can be decoded by all radio-controlled receivers.

A 5-digit microswitch (Fig. A a) facilitates the selection of eight different modes of operation.

A red LED (Fig. A b) indicates the transmission of radio telegrams (slow unsymmetrical blinking, 4 Hz) or an empty battery "LowBatt" (quick symmetrical blinking, 10 Hz).

Installation

Install the radio multi function transmitter in a surface-mounted or flush-mounted box behind a potential-free installation switch or push-button. The transmitter has no pull-relief.

Important

To avoid saturation of the radio receivers (actuators), the distance between the transmitter and the receiver must be approximately 1 m.

Cable

The eight-wire cable serves to connect potential-free installation switches and push-buttons. Wires not used should be insulated and must not be brought into contact with live parts to prevent the device from being irreparably damaged.

Plug the connector of the eight-wire multi-colour cable and the white antenna into the multifunction transmitter (Fig. B).

Wire colour assignment:

Yellow (YE) and yellow/black: input E1.

Green (GN) and green/black: input E2.

Grey (GY) and grey/black: input E3.

Pink (PK) and pink/black: input E4.

The black-striped wires form a common reference potential.

Antenna

To obtain maximum radio transmitting power unroll and install the antenna in a straight line.

Keep away from large-surface metal parts (e. g. metal door frame). Do not strip, shorten or extend the white antenna.

Battery

The multifunction transmitter is powered by a lithium button cell (CR 2032). The device comes with the battery inserted.

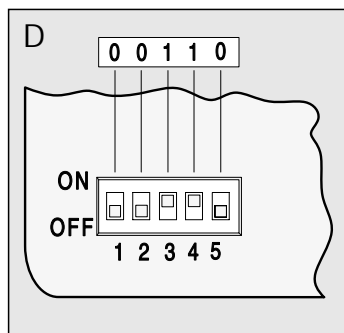
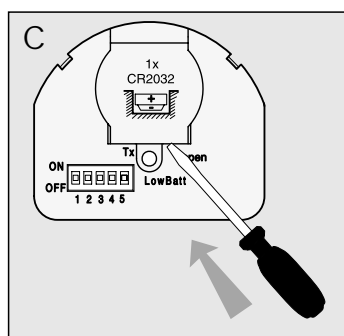
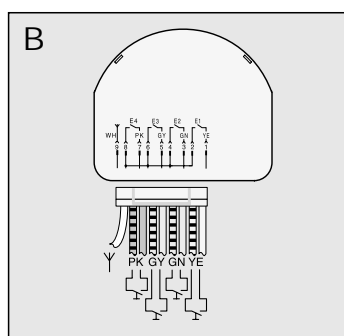
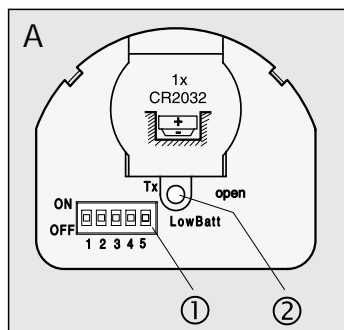
Safety and disposal instructions

Attention: Keep button cells away from children. Seek medical advice immediately when button cells have been swallowed.

Remove used batteries immediately and discard without polluting the environment. Replace battery by identical or equivalent types only.

Battery Change

1. Use a screwdriver and open the battery compartment (Fig. C) carefully.



2. Remove the exhausted battery.
3. Put a fresh battery on the ⊕ contact of the battery holder first. Then press slightly to snap the battery in place. Ensure correct polarity (⊕ = up). Keep the battery grease-free.
4. Close the battery compartment.

Modes of operation

The following pages explain the eight selectable modes of operation with their associated microswitch positions.

They are divided into:

Modes 1 – 2: Connection of installation push-buttons.

Modes 3 – 4: Connection of installation switches.

Modes 5 – 8: Light scene operation using installation push-buttons.

For the microswitches, position 1 is ON and position 0 is OFF.

For example, Figure D shows microswitch position 00110 for mode 4.

Operation

For the connection of installation push-buttons, a distinction is made between 1-gang and 2-gang operation:

1-gang operation using installation push-buttons

Connection of a push-button to a wire pair of the radio multi function transmitter. The rocker of the push-button can be used for switching on and off, or for increasing or lowering of the brightness (Fig. E1).

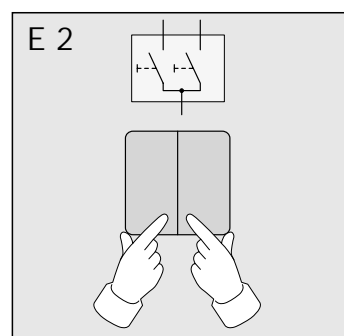
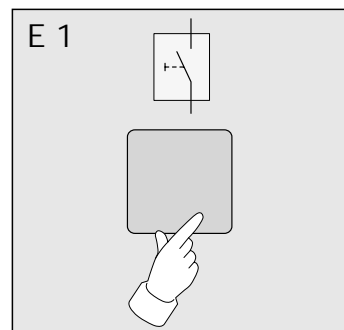
2-gang operation using installation push-buttons

Connection of a 2-gang push-button, for example, to two wire pairs of the radio multi function transmitter. One rocker serves to switch on, increase the brightness or move up a blind; the other one to switch off, dim the lights or to lower a blind (Fig. E2).

Actuation Times

When installation push-buttons are connected, a distinction is made between long (> 1 s) and short actuation (< 1 s). Accordingly, different reactions of the radio receivers are possible:

	Short	Long
Switching actuator	Switching on/off	Switching on/off
Dimming actuator	Switching on/off	brighter/darker
Venetian blind actuator	Slat adjustment	Cont. up/down run



Important

Venetian blind operation is only possible with the rocker element (no. 2) and in the light scene (nos. 5 – 8) modes.

The maximum transmission time is 12 s, even though another push-button connected is still being pressed.

Mode Selection

1) Single-rocker operation using installation push-buttons

Single-rocker switching or dimming using up to four installation push-buttons (E1 – E4).

Actuation leads to switching over (toggling) of the telegram type (on/off, brighter/darker) in the multifunction transmitter. Toggling takes place in the transmitter. Therefore, to obtain the desired response, the multifunction transmitter will possibly have to be actuated twice after local operation or when the receiver has been controlled by a different transmitter.

2) Double-rocker operation using installation push-buttons

Double-rocker switching, dimming or blind operation using installation push-buttons. Inputs E1/E2 and E3/E4 form one channel each.

3) Connection of installation switches (normally open contacts)

Inputs E1 to E4 form one switching channel for controlling radio receivers with installation switches (normally open contacts).

The switching contact acts in the same way as the switch connected to the multifunction transmitter.

4) Connection of installation switches (normally closed contacts)

Inputs E1 to E4 form one switching channel for controlling radio receivers with installation switches (normally closed contacts). The switching action of the contact is opposed to that of the switch connected to the multifunction transmitter.

5) ALL-ON, ALL-OFF, light scenes 1 and 2

E1: Switching ON all programmed receivers. (ALL-ON function).

E2: Switching OFF all programmed receivers. (ALL-OFF function).

E3: Calling or saving light scene 1.

E4: Calling or saving light scene 2.

6) ALL-OFF, light scenes 1 to 3

E1: Switching OFF all programmed receivers. (ALL-OFF function).

E2: Calling or saving light scene 1.

E3: Calling or saving light scene 2.

E4: Calling or saving light scene 3.

7) ALL-OFF, light scenes 3 to 5

E1: Switching OFF all programmed receivers. (ALL-OFF function).

E2: Calling or saving light scene 3.

E3: Calling or saving light scene 4.

E4: Calling or saving light scene 5.

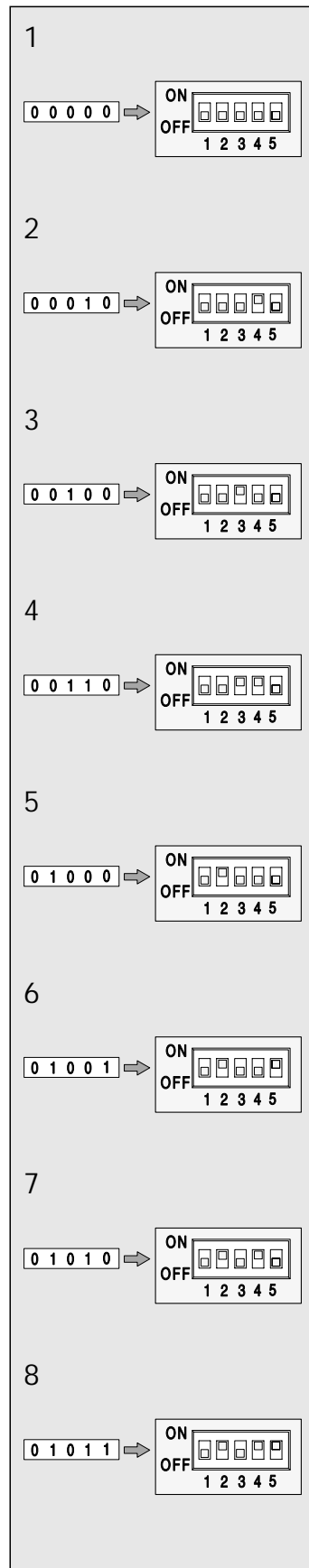
8) Light scenes 1 – 4

E1 to E4: Calling or saving light scene 1 to 4. Other microswitch positions not described are without function.

Programming of radio receivers

A radio multi function transmitter channel can be programmed into any number of radio receivers. Programming affects only the radio receiver.

During programming of a transmitter, the sensitivity of the receiver is reduced to approx. 5 m. The distance between the radio receiver and the radio transmitter to be programmed should therefore be between 0.5 m and 5 m.



Procedure

1. Switch the radio receiver into the programming mode. (Refer to the "Radio Receiver" operating instructions).

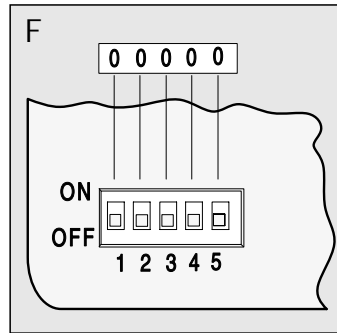
2a. Programming of modes 1 and 2:

- Set microswitch to the desired position.
- Press the installation push-button of the desired input for at least 1 s.

Note: For double rocker modes, press one push-button per radio channel only.

2b. Programming of modes 3 and 4

- Set microswitch first to position 00000 (refer to Fig. F).
- Press the connected switch of the desired input for at least 1 s.
- Now, set the associated microswitch position.



2c. Programming of modes 5 to 8

- Set microswitch to the desired position.
- Depending on the function selected, press the light scene key for at least 3 s or the ALL-ON or ALL-OFF key for at least 10 s.

Important
When a light scene key is programmed, the ALL-ON or ALL-OFF key will be stored automatically by the radio receiver. (Refer to the "ALL-ON/ALL-OFF" or "Calling / Saving a Light scene" chapters.)

Clearing of channels

Reprogramming of the transmitting channel to be deleted cancels the old assignment in the radio receiver.

ALL-ON/ALL-OFF (for modes 5 to 7 only)

When programming the ALL-ON or ALL-OFF key, make sure the light scene is on or off if ALL-ON or ALL-OFF assignments are already available. Otherwise, the existing light scene will be changed. (Refer to "Changing ALL-ON/ALL-OFF".)

Changing ALL-ON/ALL-OFF

Example:
One of the receivers (bathroom light) is supposed not to respond to the ALL-ON function, while all the other receivers switch on the light.

Procedure

1. Press the ALL-ON key for at least 1 s. This switches on all programmed radio receivers.
2. Set your lights in the way you expect them to respond later when the ALL-ON key is pressed, i. e. since all receivers are on, now switch OFF the light in the bathroom, for example.
3. Press the ALL-ON key for at least 10 s to save the light setting.

Important

First of all, the previous light setting is recalled (do not release the key). After approx. 10 s, the new setting will be activated and saved. This completes the new assignment of the ALL-ON key. To change the ALL-OFF key, proceed accordingly.

Recalling/saving a light scene (for modes 5 to 8 only)

Before you can save (long actuation for at least 3 s) or call (short actuation) a light scene, the light scene key must have been programmed (refer to "Programming of Radio Receivers") and the light scene set.

Setting or changing a light scene

1. Set your desired light scene (e. g. light 1 = 50 % brightness, light 2 = 70 % brightness, Venetian blind up).

2. Press the desired light scene key for at least 3 s.

Important

First of all, the previous light scene is called (do not release the key). After approx. 3 s, the new light scene will be activated and saved.

Important for venetian blinds

If a venetian blind is not in one of its end positions or not on its way to such position while a light scene is being saved, this blind will not be stored in the light scene.

Radio transmission

Radio transmission is not carried out via an exclusive transmission route, therefore disruptions cannot be ruled out.

Radio transmission is not suitable for security applications e.g. emergency stop, emergency calls.

The transmission range of the radio handheld transmitter (max. 30 m in free field according to EN) is dependent on the structural conditions of the property:

Dry material	Penetration approx.
Wood, plaster, plaster boards	90 %
Brick, pressboards	70 %
Reinforced concrete	30 %
Metal, metal gates, aluminium covers	10 %

Specifications

Power supply:	3 VDC
Battery:	1 x CR 2032 lithium cell
Length of connecting lines:	approx. 290 mm
Transmission frequency:	433.42 MHz, ASK
Transmitting range:	100 m max. (in the free field)
Coding:	> 109 different possibilities
Protective system:	IP 20
Temperature range:	approx. -20 °C to +55 °C
Relative atmospheric humidity:	65 % max. (without condens.)
Dimensions (LxWxH):	45 x 40 x 10 mm
Subject to technical modifications.	

Wiring diagrams

Universal radio transmitter Ref.-No. FUS 22 UP

Function

The universal radio transmitter can be used to extend an existing electrical installation by the possibility of transmitting 230 V control commands by radio. The transmitter can be operated for switching, dimming or blind/shutter control functions.

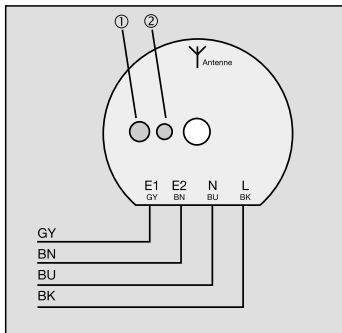
When mains voltage (230 V ~) is applied to inputs (E1, E2), the universal radio transmitter transmits radio telegrams which are evaluated by all radio-controlled receivers. For selection an indication of the mode of operation, the device is equipped with a push-button ① and an LED ②.

The universal radio-controlled transmitter has 3 modes of operation:

Mode A: 2-channel dimming (toggling) (E1 and E2)

Mode B: 2-channel switching (E1 and E2)

Mode C: 1-channel blind/shutter resp. dimming (E1/E2)



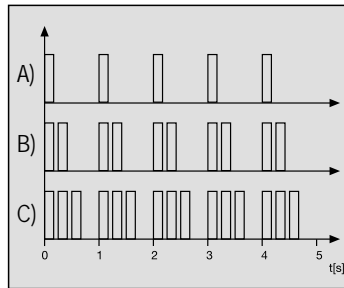
Fitting

Install the universal radio transmitter in a deep flushmounting box behind a flush-mounting insert (60 mm-deep mounting box recommended).

Antenna

For maximum transmission range, the antenna should be stretched out to full length and not be left coiled up.

Keep away as far as possible from large metal surfaces such as metallic door frames. Do not shorten or lengthen the antenna and do not strip off the insulation.



Modes of operation

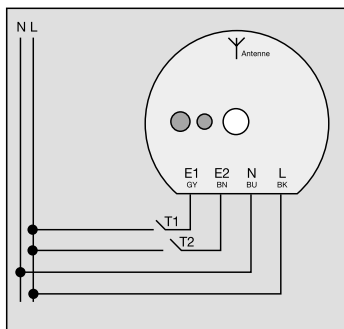
The universal radio transmitter has 3 modes of operation which can be selected or indicated with push-button ①.

The modes are signalled by the LED ② as follows:

A) 2-channel dimming, toggling (E1 and E2)
2 brief flashes per second for 5 s altogether

B) 2-channel switching (E1 and E2)
1 brief flash per second for 5 s altogether

C) 1-channel blind/shutter resp. dimming (E1/E2)
3 brief flashes per second for 5 s altogether



Mode A

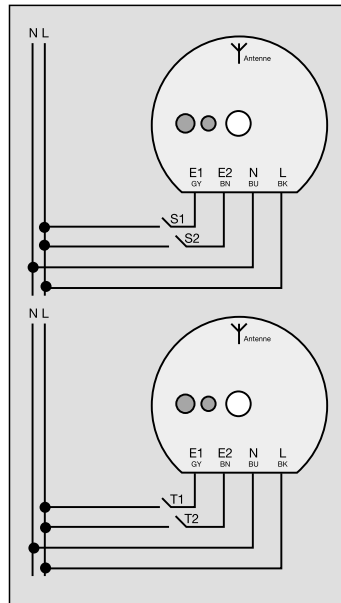
2-channel dimming, toggling (E1 and E2)

For independent control of two radio-controlled dimming actuators. Connection of conventional push-buttons (n.o. contacts):

A press on the button switches over (toggles) the type of telegram from the transmitter:

brief press (< 1s): switching on / off

long press (> 1s): lamp brighter / darker



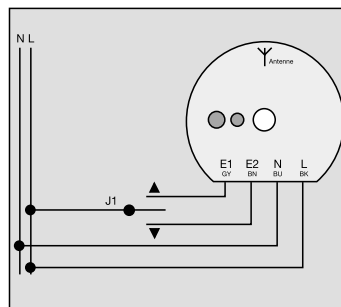
Mode B

2-channel switching (E1 and E2)

For independent control of two radio-controlled switching actuators.

Connection of conventional switches (n.o. contact):
the universal transmitter transmits switch-on telegrams when closed and switch-off telegrams when opened.

Connection of conventional push-buttons (n.o. contact):
the transmitter is in the special „doorbell“ mode and transmits switch-on telegrams when closed and switch-off telegrams when opened.



Mode C

1-channel blind/shutter (E1/E2)

For controlling of a radio-controlled blind/shutter

Dimming

Connection of conventional push-buttons (n.o. contacts):

Actuation:

T1 < 1s: switch on T1 > 1s: lamp brighter

T2 < 1s: switch off T2 > 1s: lamp darker

Important

When the load is off a long press (> 1s) of T2 causes suitable dimmers to switch on with their minimal brightness.

Blind/shutter

Connection of a blind/shutter switch or a motor control insert:
The universal transmitter transmits blind/shutter control telegrams (short-step / long-step) for one channel.

Important

The radio universal transmitter must not be connected in parallel with blind/shutter motor.

Programming

A universal radio transmitter channel can be programmed into an unlimited number of radio receivers.

Programming information is stored only in the radio-controlled receiver. During programming of a radio transmitter, the sensitivity of the receivers is reduced to approx. 5 m.

The distance between the receiver and the transmitter to be programmed should therefore be between 0.5 m and 5 m.

Procedure

1. Switch the radio-controlled receiver into the programming mode (see „radio-controlled receiver“ operating instructions)
- 2a. Programming of operating mode A or C
Actuate the connected push-button or switch for at least 1 s.
- 2b. Programming of operating mode B
The switching telegrams of operating mode B are not suitable for programming. Set the universal transmitter therefore at first to operating mode A. Press or actuate the corresponding buttons or switches for at least 1 s. Then go back to operating mode B.
3. Switch the radio-controlled receiver back into the operating mode (see „radio-controlled receiver“ operating instructions).

Clearing a programmed channel

Reprogramming of the transmit channel to be cleared in the same mode of operation deletes the assignment stored in the radio-controlled receiver.

Technical data

Power supply:	230 V ~
Transmit frequency:	433.42 MHz, ASK
Transmitting range:	approx. 100 m
Operating temperature:	approx. -20 °C to +55 °C
Type of protection:	IP 20
Dimension (Ø x H):	52 mm x 23 mm

Function

The radio-controlled switch actuator switches electrical loads (230 V/10 A) as soon as it receives a corresponding (learnt) radio signal.

The actuator can 'teach in' up to 30 radio transmitters.

When it receives a radio signal from the radio-controlled Observer, it switches on for approx. 1 minute.

The actuator can be operated via a satellite station signal (230 V).

Light scenes

Limited light scene operation is possible (only switching) using the radio-controlled hand-held or wall-mounted transmitter e.g. switching on the light.

The required light scene push-button of the radio-controlled hand-held or wall-mounted transmitter must be learnt in the radio-controlled actuator.

Up to 5 light scenes can be stored.

ALL OFF

The operation of the ALL OFF button of a learnt radio-controlled hand-held or wall-mounted transmitter leads to the load being disconnected.

ALL ON

The operation of the ALL ON button of a learnt radio-controlled hand-held or wall-mounted transmitter leads to the load being connected.

Satellite station signal

The satellite station signal (230 V) is connected via a push-button (make contact) with terminal 1 of the radio-controlled actuator.

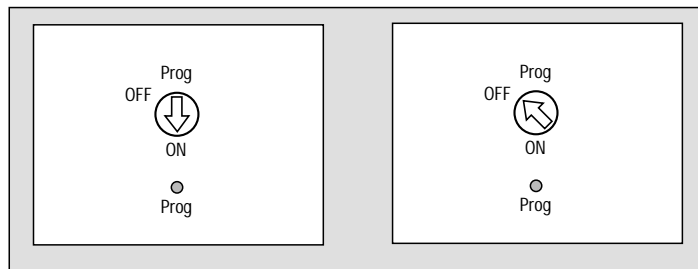
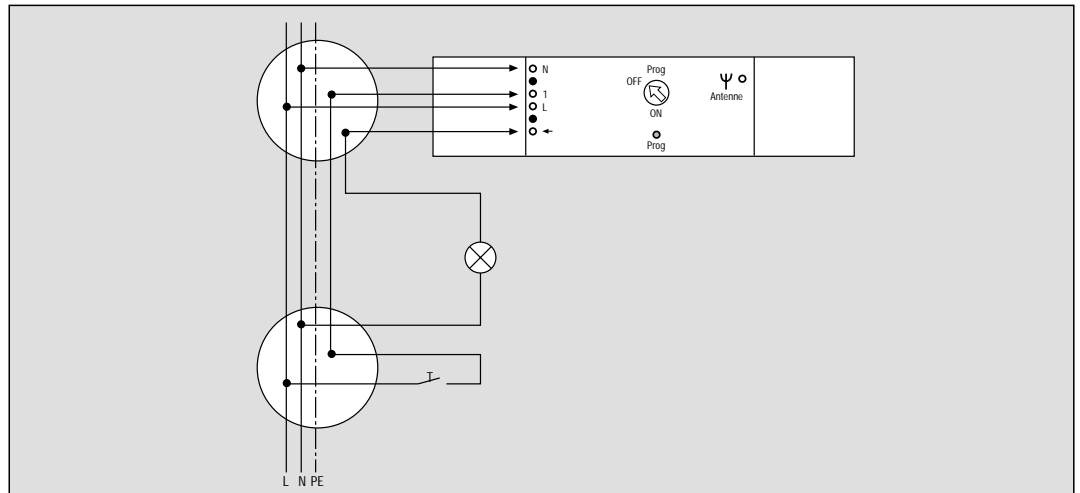
The radio-controlled switch actuator works in an 'ON/OFF' two-way mode.

Note

The distance away from electrical loads (e.g. electronic transformers, devices with electronic ballast, TV) must be at least 0.5 m.

Antenna

The radio reception power can be improved if required by bringing out the antenna that is rolled up in the device.



Teaching in a radio transmitter

In order to be able to operate the radio-controlled switch actuator by radio remote control, this remote control must be taught into the radio-controlled actuator.

The distance between the radio-controlled actuator and the radio transmitter that is to be taught may not exceed 5 m.

Activation at the device

1. Turn the Prog switch to the ON position. The red Prog LED flashes.

2. The required radio transmitter must trigger a radio transmission.

Teaching in a radio channel:

Press the required channel push-button for at least 1 sec.

Teaching in a light scene push-button:

Press the required light scene push-button for at least 3 seconds.

Teaching in the ALL OFF/ALL ON button:

Press the ALL OFF or ALL ON button for at least 10 sec.

Teaching in a radio-controlled Observer:

Carry out a movement in the detection field of the radio-controlled Observer.

3. To check that a radio transmission has been received, the red Prog LED lights up. The load (relay) is connected.

The radio transmitter has been taught in!

4. Turn the Prog switch to the OFF position. The red Prog LED goes out. The load (relay) is disconnected.

Note

When teaching in a radio channel, ALL OFF/ALL ON is automatically learnt as well.

Activation via satellite station T

1. Press push-button T for approx. 10 sec. The load (relay) is connected and disconnected in cycles (approx. 1 sec.).

2. The required radio transmitter must trigger a radio transmission within 1 min. by ... see 'Activation at the device'.

3. To check that a radio transmission has been received, the load (relay) is connected. The radio channel is learnt!

You can exit the learning mode at any time via a further satellite station signal.

Note

If all 30 memory locations are occupied, you must delete an already taught-in radio transmitter.

Deleting a radio transmitter

The deletion of a taught-in radio transmitter is carried out by a new learning process for this radio transmitter.

All the channels and light scene push-buttons must be deleted individually.

A successful deletion process is indicated by the red Prog LED going out and the load (relay) being disconnected.

Technical data

Power supply:	AC 230 V ~
Switch contact:	Relay (10 A)
Switching capacity:	
Incandescent lamps	2300 W
High voltage halogen lamps	2300 W
Temperature range:	-20° C up to 55° C
Reception frequency:	433.42 MHz ASK
Dimensions (BxHxT):	175 x 42 x 18 mm

Wiring diagrams

Radio-controlled push-button controller, built-in 1 – 10 V

Ref.-No. FST 1240 EB

Functions

The radio-controlled push-button controller 1 – 10 V enables the lighting to be controlled remotely via radio. This lighting can be switched (brief actuation) or dimmed (longer actuation).

The radio-controlled push-button controller can teach in up to 30 radio transmitters.

On receipt of a radio signal from the radio-controlled Observer, it switches on for an overshoot time of approx. 1 minute.

Light scene

The operation of light scenes is possible using the radio-controlled hand-held or wall-mounted transmitter.

The required light scene push-button of the radio-controlled hand-held or wall-mounted transmitter must be taught into the radio-controlled push-button controller

The scope of a light scene includes:

- the dimming value of a luminaire (e.g. 70 % of the maximum brightness level)
- the switching state of a load (e.g. the lighting is switched on)

ALL OFF

The operation of the ALL OFF button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the **load being disconnected**.

ALL ON

The operation of the ALL ON button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the **load being connected**.

Installation

The device must be placed at a distance of at least 0.5 m from any electrical loads (e.g. TRONIC transformer, electronic lamp ballast, TV).

The technical operating conditions of the power stations must be observed.

Check that the electronic lamp ballast is suitable prior to the installation. Only electronic lamp ballasts and fluorescent lamps or transformers from the **same** manufacturer and of the **same** type and rating class should be used.

Only use electronic lamp ballasts or transformers with a standard 1 – 10 V interface in accordance with DIN EN 60928 (electrical isolation between the mains supply and the 1 – 10 V input).

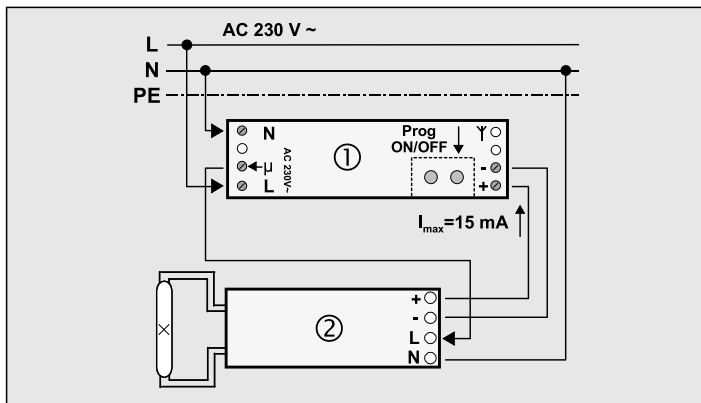
Note

Some electronic lamp ballasts switch the fluorescent lamps to maximum brightness for a short period once the supply voltage has been applied. This type of electronic ballast only reacts to the applied control voltage once this period has elapsed and sets the brightness level of the luminaire accordingly.

The control line should be laid (type, cross section) in accordance with VDE specifications for 250 V cables (control voltage with basic insulation). The load and control line should be laid in the same cable.

Teaching in a radio transmitter

In order to be able to operate the radio-controlled push-button controller with a radio transmitter, this radio transmitter must be taught into the radio-controlled push-button controller.



The distance between the radio-controlled push-button controller and the radio transmitter that is to be taught in must not exceed 5 m.

Procedure

1. Switch off the connected load.
2. Press the ON/OFF button for at least 3 seconds.
The red **Prog** LED flashes to indicate that the learning mode has been activated (duration of approx. 1 minute). During this period, **one** radio channel can be taught in.
3. The required radio transmitter must trigger a radio transmission.
Teaching in a radio channel: Press the required channel push-button for at least 1 second.
Teaching in a light scene push-button: Press the required light scene push-button for at least 3 seconds.
Teaching in the ALL ON or ALL OFF button: Press the ALL ON or ALL OFF button for at least 10 seconds.
Teaching in a radio-controlled Observer: Carry out a movement in the detection field of the radio-controlled Observer.
4. The red **Prog** LED glows continually to check that a radio transmission has been received.

The learning process can be interrupted at any time by pressing the ON/OFF button.

The radio channel has been taught in.

Note

- When teaching in a radio channel, the ALL ON/ALL OFF button is automatically learnt as well.
- If all 30 memory locations are occupied, an already taught-in radio transmitter must be deleted.

Deleting a radio transmitter

A taught-in radio transmitter is deleted by carrying out a new learning process for this radio transmitter. All the channels and light scene push-buttons must be deleted individually. A successful deletion process is indicated by the red **Prog** LED flashing rapidly.

Modes

The radio-controlled push-button controller can be operated directly at the device or on receipt of a taught-in radio telegram from a radio-controlled hand-held or wall-mounted transmitter.

(A) Permanent ON/OFF

By pressing the **Prog** button for less than 1 second, the radio-controlled push-button controller is switched permanently on or off.

(B) Memory

If the current dimming value is to be stored as a memory value in the radio-controlled push-button controller, the **Prog** button must be pressed for at least 3 seconds, **while the load is connected**.

A "softstart" is carried out as confirmation i.e. the lamp is dimmed brighter until it reaches the stored memory value.

This stored value is retrieved the next time that the lamp is switched on.

When the device is supplied, the memory value is set at the maximum brightness level.

(C) Light scene

The brightness of a luminaire can be stored in a light scene.

This light scene can be changed at any time by storing it again.

A light scene push-button of the radio transmitter must be taught in before storing or retrieving a light scene.

(D) Storing a light scene

1. Set the brightness of the luminaire.
2. Press the required light scene push-button of the radio transmitter for at least 3 seconds.

(E) Detection

If a taught-in radio telegram from a radio-controlled Observer is received, the radio-controlled push-button controller switches on for approx. 1 minute.

Technical data

Power supply:	AC 230 V ~ 50/60 Hz
Control voltage:	1 – 10 V
Control current:	max. 15 mA
Electrical isolation 1 – 10 V:	2 KV- basic insulation
Switch contact:	μ relay contact
Connected load:	
Resistive load:	max. 1800 W
Electronic ballast, transformer:	type-dependent
Series-connected miniature circuit-breaker:	10 A
Number of radio transmitters:	max. 30
Transmission frequency:	433.42 MHz, ASK
Postal approval:	LPD-D
Dimensions (LxWxH):	187 x 28 x 28 mm
Temperature range:	0 up to +55 °C

Radio-controlled universal dimmer, built-in Ref.-No. FUD 1253 EB

Functions

The radio-controlled universal dimmer enables the radio remote control and manual triggering of luminaires.

The lighting can be switched (brief actuation) or dimmed (longer actuation).

The radio-controlled universal dimmer can teach in up to 30 radio transmitters.

On receipt of a radio signal from the radio-controlled Observer, it switches on for an overshoot time of approx. 1 minute.

The radio-controlled universal dimmer can only be operated via a satellite station (ref.-no. 1220 NE) using the twin area principle.

Light scene

The operation of light scenes is possible using the radio-controlled hand-held or wall-mounted transmitter.

The required light scene push-button of the radio-controlled hand-held or wall-mounted transmitter must be taught into the radio-controlled universal dimmer.

Up to 5 light scenes can be stored.

The scope of a light scene includes:

- **The dimming value of a luminaire** (e.g. 70 % of the maximum brightness level)

ALL OFF

The operation of the ALL ON button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the **load being connected**.

ALL ON

The operation of the ALL ON button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the **load being connected**.

Installation

The device must be placed at a distance of at least 0.5 m from any electrical loads (e.g. TRONIC transformer, electronic lamp ballast, TV).

The technical operating conditions of the power stations must be observed. In a low dimming setting, ripple control pulses from the power stations can be seen by a brief flickering.

Satellite station signal

The radio-controlled universal dimmer can be operated with a satellite station (ref.-no. 1220 NE) according to the twin area principle. One or several satellite stations (SS) are linked with **terminal 1** of the radio-controlled universal dimmer.

Conventional push-button is not working!

Teaching in a radio transmitter

In order to be able to operate the radio-controlled universal dimmer with a radio transmitter, this radio transmitter must be taught into the radio-controlled universal dimmer.

The distance between the radio-controlled universal dimmer and the radio transmitter that is to be taught must not exceed 5 m.

Procedure

1. Switch off the connected load.
2. Press the ON/OFF button for at least 3 seconds. The red **Prog** LED flashes to indicate that the learning mode has been activated (duration of approx. 1 minute). During this period, **one** radio channel can be taught in.
3. The required radio transmitter must trigger a radio transmission.

Teaching in a radio channel:

Press the required channel push-button for at least 1 second.

Teaching in a light scene push-button: Press the required light scene push-button for at least 3 seconds.

Teaching in the ALL ON or ALL OFF button: Press the ALL ON or ALL OFF button for at least 10 seconds.

Teaching in a radio-controlled Observer: Carry out a movement in the detection field of the radio-controlled Observer.

4. The red **Prog** LED glows continually to check that a radio transmission has been received.

The learning process can be interrupted at any time by pressing the ON/OFF button.

The radio channel has been taught in.

Note

- When teaching in a radio channel, the ALL ON/ALL OFF button is automatically learnt as well.
- If all 30 memory locations are occupied, an already taught-in radio transmitter must be deleted.

Deleting a radio transmitter

A taught-in radio transmitter is deleted by carrying out a new learning process for this radio transmitter. **All** the channels and light scene push-buttons must be deleted individually. A successful deletion process is indicated by the red **Prog** LED flashing rapidly.

Power amplifiers

Depending on the capacity utilisation of the universal dimmer, up to 10 power amplifiers can be connected.

TRONIC power amplifiers (built-in or series embodied) are used in combination with TRONIC transformers (capacitive loads). Low voltage power amplifiers (built-in or series embodied) are used in combination with conventional transformers (inductive loads).

Automatic load detection

After the initial installation and isolation from the supply, the universal dimmer detects the load automatically.

Capacitive loads (e.g. TRONIC transformers) and inductive loads (e.g. conventional transformers) should not be connected together to the universal dimmer.

The detection process is indicated for resistive loads (incandescent lamps, high voltage halogen lamps) by a brief flickering.

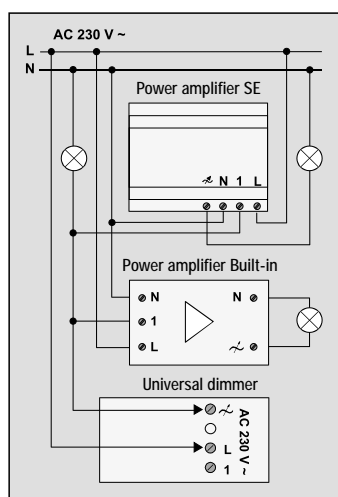
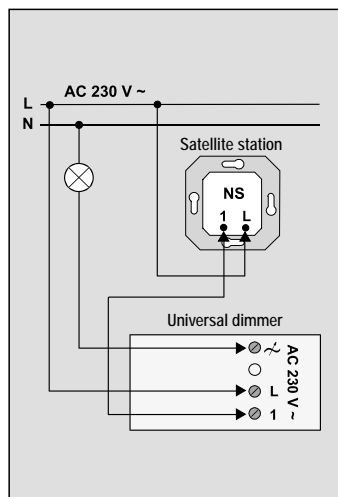
Depending on the network conditions, the detection process lasts between 1 – 10 seconds. No operations are possible during this period. If a short circuit occurs during the detection process, the load must be re-measured once the short circuit has been removed. A mains failure that lasts longer than 0.7 sec. leads to the dimmer being switched off.

Short-circuit protection Operation with trailing edge control (capacitive load, resistive load)

Disconnection with automatic restart if the short circuit has been removed within 7 seconds. After this period, the universal dimmer remains disconnected until it is switched on again manually.

Operation with leading edge control (inductive load)

Disconnection with automatic restart if the short circuit has been removed within 100 ms. After this period, the universal dimmer remains disconnected until it is switched on again manually.



universal dimmer, the Prog button must be pressed for at least 3 seconds, while the load is connected. A "softstart" is carried out as confirmation i.e. the lamp is dimmed brighter until it reaches the stored memory value. This stored value is retrieved the next time that the lamp is switched on.

When the device is supplied, the memory value is set at the maximum brightness level.

(C) Satellite station

The radio-controlled universal dimmer can be switched on or off or dimmed with a satellite station (ref.-no. 1220 NE) according to the twin area principle.

- Brief actuation (max. 0.4 seconds)
The lamp is switched.
The lamp switches on with the memory value.
- Longer actuation (min. 0.4 seconds)
Operation of upper contact:
Dimming to maximum brightness
Operation of lower contact:
Dimming to minimum brightness

(D) Light scene

The brightness of a luminaire can be stored in a light scene. This light scene can be changed at any time by storing it again. A light scene push-button of the radio transmitter must first be taught in before storing or retrieving a light scene.

(E) Storing a light scene

1. Set the brightness of the luminaire.
2. Press the required light scene push-button of the radio transmitter for at least 3 seconds.

(F) Detection

If a taught-in radio telegram from a radio-controlled Observer is received, the radio-controlled universal dimmer switches on for approx. 1 minute.

Technical data

Power supply:	AC 230 V ~, 50 Hz (neutral line is not required)
Connected load:	50 – 315 VA
	230 V incandescent lamps (resistive load, trailing edge control)
	High voltage halogen lamps (resistive load, trailing edge control)
	TRONIC transformers (capacitive load, trailing edge control)
	or Conventional transformers (inductive load, leading edge control)
	Mixed loads of specific load types are permitted. (not capacitive with inductive loads)
	In the case of a mixed load with conventional transformers, 50 % of the resistive load (incandescent lamps, high voltage lamps) should not be exceeded.
No. of connected power amplifiers:	max. 10
No. of satellite stations:	unlimited
Emitted interference:	according to EN 55015
Transmission frequency:	433.42 MHz, ASK
Postal approval:	LPD-D
Dimensions (LxWxH):	187 x 28 x 28 mm
Temperature range:	0°C up to +55°C

Overtemperature protection

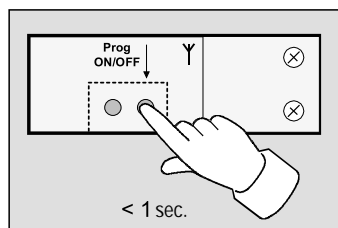
Disconnection when the ambient temperature is too high. Once it has cooled down, the device must be switched on again.

Modes

The radio-controlled universal dimmer can be operated directly at the device, via a satellite station (ref.-no. 1220 NE) according to the twin area principle or via the receipt of a taught-in radio telegram from a radio-controlled hand-held or wall-mounted transmitter.

(A) Permanent ON/OFF

By pressing the Prog button for less than 1 second, the radio-controlled universal dimmer is permanently switched on or off (two-way operation).



(B) Memory

If the current dimming value is to be stored as a memory value in the radio-controlled

Wiring diagrams

Radio-controlled universal in-line dimmer

Ref.-No. FUSD 1253

Functions

The radio-controlled universal in-line dimmer enables the radio remote control and manual triggering of luminaires.

The lighting can be switched (brief actuation) or dimmed (longer actuation).

The radio-controlled universal in-line dimmer can teach in up to 30 radio transmitters.

Light scene

The operation of light scenes is possible using the radio-controlled hand-held or wall-mounted transmitter.

The required light scene push-button of the radio-controlled hand-held or wall-mounted transmitter must be taught into the radio-controlled universal in-line dimmer. Up to 5 light scenes can be stored.

The scope of a light scene includes:

- the dimming value of a luminaire (e.g. 70 % of the maximum brightness level)

ALL OFF

The operation of the ALL OFF button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the **load being disconnected**.

ALL ON

The operation of the ALL ON button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the **load being connected**.

Installation

The device must be placed at a distance of at least 0.5 m from any electrical loads (e.g. TRONIC transformer, electronic lamp ballast, TV).

The technical operating conditions of the power stations must be observed. In a low dimming setting, ripple control pulses from the power stations can be seen by a brief flickering.

Connect the radio-controlled universal in-line dimmer according to the diagram.

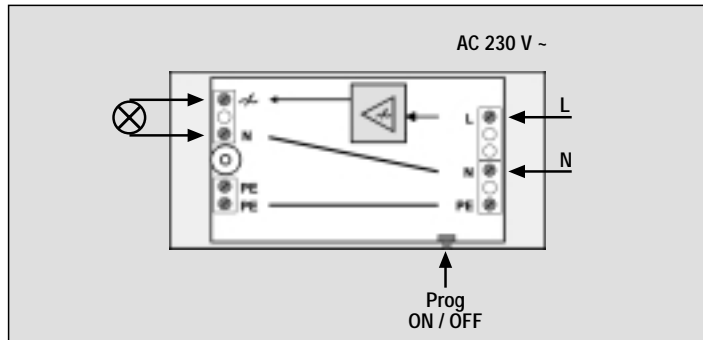
Teaching in a radio transmitter

In order to be able to operate the radio-controlled universal in-line dimmer with a radio transmitter, this radio transmitter must be taught into the radio-controlled universal in-line dimmer.

The distance between the radio-controlled universal in-line dimmer and the radio transmitter that is to be taught must not exceed 5 m.

Procedure

1. Switch off the load that is connected to the pull cord dimmer.
2. Press the ON/OFF button for at least 3 seconds. The red Prog LED flashes to indicate that the learning mode has been activated (duration of approx. 1 minute). During this period, one radio channel can be taught in.
3. The required radio transmitter must trigger a radio transmission.



Teaching in a radio channel:

Press the required channel push-button for at least 1 second.

Teaching in a light scene push-button:

Press the required light scene push-button for at least 3 seconds.

Teaching in the ALL ON or ALL OFF button:

Press the ALL ON or ALL OFF button for at least 10 seconds.

Teaching in a radio-controlled Observer: Carry out a movement in the detection field of the radio-controlled Observer.

4. The red Prog LED glows continually to check that a radio transmission has been received.

The learning process can be interrupted at any time by pressing the ON/OFF button.

The radio channel has been taught in.

Note

- When teaching in a radio channel, the ALL ON/ALL OFF button is automatically learnt as well.
- If all 30 memory locations are occupied, an already taught-in radio transmitter must be deleted.

Deleting a radio transmitter

A taught-in radio transmitter is deleted by carrying out a new learning process for this radio transmitter. All the channels and light scene push-buttons must be deleted individually. A successful deletion process is indicated by the red Prog LED flashing rapidly.

Automatic load detection

After the initial installation and isolation from the supply, the universal in-line dimmer detects the load automatically.

Capacitive loads (e.g. TRONIC transformers) and inductive loads (e.g. conventional transformers) should not be connected together to the universal in-line dimmer.

The detection process is indicated for resistive loads (incandescent lamps, high voltage halogen lamps) by a brief flickering.

Depending on the network conditions, the detection process lasts between 1 – 10 seconds. No operations are possible during this period. If a short circuit occurs during the detection process, the load must be re-measured once the short circuit has been removed. A mains failure that lasts longer than 0.7 seconds leads to the dimmer being switched off.

Short-circuit protection
Operation with trailing edge control (capacitive load, resistive load)

Disconnection with automatic restart if the short circuit has been removed within 7 seconds. After this period, the universal in-line dimmer remains disconnected until it is switched on again manually.

Operation with leading edge control (inductive load)

Disconnection with automatic restart if the short circuit has been removed within 100 ms. After this period, the universal in-line dimmer remains disconnected until it is switched on again manually.

Overtemperature protection

Disconnection when the ambient temperature is too high. Once it has cooled down, the device must be switched on again.

Modes

The radio-controlled universal pull dimmer can be operated directly at the device or on receipt of a taught-in radio telegram from a radio-controlled hand-held or wall-mounted transmitter.

(A) Permanent ON/OFF

By pressing the Prog button for less than 1 second, the radio-controlled universal in-line dimmer is permanently switched on or off (two-way operation).

(B) Memory

If the current dimming value is to be stored as a memory value in the radio-controlled universal in-line dimmer, the Prog button must be pressed for at least 3 seconds, **while the load is connected**. A "softstart" is carried out as confirmation i.e. the lamp is dimmed brighter until it reaches the stored memory value.

This stored value is retrieved the next time that the lamp is switched on. When the device is supplied, the memory value is set at the maximum brightness level.

(C) Light scene

The brightness of a luminaire can be stored in a light scene.

This light scene can be changed at any time by storing it again.

A light scene push-button of the radio transmitter must first be taught in before storing or retrieving a light scene.

(D) Storing a light scene

1. Set the brightness of the luminaire.
2. Press the required light scene push-button of the radio transmitter for at least 3 seconds.

(E) Detection

If a taught-in radio telegram from a radio-controlled Observer is received, the radio-controlled universal in-line dimmer switches on for approx. 1 minute.

Technical data

Power supply: AC 230 V ~, 50 Hz

Connected load: 50 – 315 VA

230 V incandescent lamps

(resistive load, trailing edge control)

High voltage halogen lamps

(resistive load, trailing edge control)

TRONIC transformers

(capacitive load, trailing edge control)

or

Conventional transformers

(inductive load, leading edge control)

Mixed loads of specific load types are permitted.

(not capacitive with inductive loads)

In the case of a mixed load with conventional transformers, 50 % of the resistive load

(incandescent lamps, high voltage lamps)

should not be exceeded.

No. of connected power

amplifiers: max. 10

Emitted interference: according to

EN 55015

Transmission frequency: 433.42 MHz, ASK

Postal approval: LPD-D

Dimensions (LxWxH): 126 x 60 x 28 mm

Radio-controlled switch actuator

Ref.-No. FA 10 UP

Functions

The radio-controlled switch actuator switches electrical loads (AC 230 V ~/8 A) as soon as it has received an appropriate taught-in radio signal.

The radio-controlled switch actuator can teach in up to 14 radio transmitters. On receipt of a radio signal from a radio-controlled Observer, it switches on for an overshoot time of approx. 1 minute.

Light scenes

The operation of light scenes (switching only) is possible using the radio-controlled hand-held or wall-mounted transmitter e.g. light is switched on.

The required light scene push-button of the radio-controlled hand-held or wall-mounted transmitter must be taught into the radio-controlled actuator. Up to 5 light scenes can be stored.

ALL ON

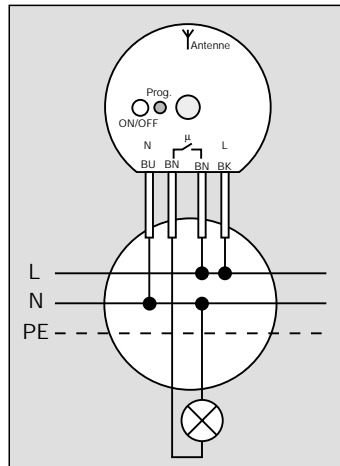
The operation of the ALL ON button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the **load being connected**.

ALL OFF

The operation of the ALL OFF button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the **load being disconnected**.

Installation

Blue cable, BU: N, neutral conductor



Black cable, BK: L, AC 230 V~
Brown cable, BN: μ , potential-free, make contact

Note

The potential-free, make contact is separated internally from the phase with basic insulation.

The following load potentials can be connected:

- Functional extra-low voltage (FELV)
- One phase L (AC 230 V ~) against neutral conductor N

Teaching in a radio transmitter

In order to be able to operate the radio-controlled switch actuator with a radio transmitter, this radio transmitter must be taught into the radio-controlled switch actuator.

The distance between the radio-controlled switch actuator and the radio transmitter that is to be taught must not exceed 5 m.

Procedure

1. Press the ON/OFF button for at least 3 seconds. The red Prog LED flashes to indicate that the learning mode has been activated (duration of approx. 1 minute). During this period, **one** radio channel can be taught in.

2. The required radio transmitter must trigger a radio transmission.

Teaching in a radio channel:

Press the required channel push-button for at least 1 second.

Teaching in a light scene push-button: Press the required light scene push-button for at least 3 seconds.

Teaching in the ALL ON or ALL OFF button:

Press the ALL ON or ALL OFF button for at least 10 seconds.

Teaching in a radio-controlled Observer: Carry out a movement in the detection field of the radio-controlled Observer.

3. The red Prog LED glows continually to check that a radio transmission has been received.

The learning process can be interrupted at any time by pressing the ON/OFF button.

The radio channel has been taught in.

Deleting a radio transmitter

A taught-in radio transmitter is deleted by carrying out a new learning process for this radio transmitter.

All the channels and light scene push-buttons must be deleted individually. A successful deletion process is indicated by the red Prog LED flashing rapidly.

Technical data

Nominal voltage:	AC 230 V ~, 50/60 Hz
Switch contact:	Relay, μ contact, 8 A
Miniature circuit-breaker:	10 A
Switching capacity:	
Incandescent lamps	1000 W
High voltage halogen lamps	1000 W
Low voltage halogen lamps with conventional transformer	750 VA, with a nominal load of 85 %
Fluorescent lamps not compensated	500 VA
parallel compensated (47 μ F)	400 VA
lead-lag circuit	1000 VA

Energy-saving lamps

Pay attention to high inrush peaks when using energy-saving lamps. Check the suitability of the lamps before use.

Functions

The 2-channel radio-controlled switch actuator is a component of the Radio Management system.

It enables two electrical loads (AC 230 V / 6 A) to be switched independently, as soon as it has received a taught-in radio telegram. The switch actuator can be programmed to store up to 7 radio-controlled transmitters per channel. If a taught-in radio telegram from a radio-controlled Observer is received, the actuator is switched on for an overshoot time of approx. 1 minute.

Note

If all 7 locations of a channel are occupied, an already taught-in radio transmitter must be deleted so that an additional transmitter can be taught in.

Installation

Connect the 2-channel "Mini" radio-controlled switch actuator according to the diagram.

Note

- The device must be placed at a distance of at least 5 m from electrical loads (e.g. microwaves, hi-fi systems, TV).
- The distance between the switch actuator and a transmitter must be at least 1 m.

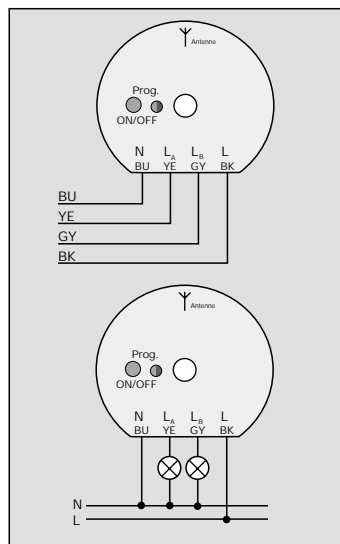
Antenna

In order to maintain the maximum radio transmission power, the antenna should be laid as far away as possible. It must be positioned away from metal components with a large surface area e.g. metal door frames.

You should not shorten or extend the antenna or strip away the insulation.

Teaching in a radio transmitter

When teaching in a radio transmitter, the sensitivity of the radio receiver is reduced to approx. 5 m. The distance between the



2-channel radio-controlled switch actuator and the radio transmitter that is to be taught should therefore not exceed 5 m.

Procedure

1. Press the ON/OFF button for at least 3 sec. in order to switch to the channel selection mode. Both channels are switched off and the Prog LED lights up in red and green for approx. 2 seconds. Both channels are switched off and the Prog LED flashes red for the first channel. When the second channel has to be selected, the ON/OFF button has to be pressed for approx. 3 sec. Now the green LED flashes and can be taught in. The learning mode is now activated for approx. 1 minute.

Radio-controlled switch actuator, 2-channel

Ref.-No. FA 26 UP

2. Trigger the radio telegram at the selected radio transmitter.

Teaching in a channel:

Press the channel push-button for longer than 1 second.

Teaching in a light scene push-button: Press the light scene push-button for longer than 3 seconds.

Teaching in the ALL ON/ALL OFF button: Press the ALL ON or ALL OFF button for longer than 10 seconds.

Teaching in a radio-controlled Observer: Carry out a movement in the detection field of the radio-controlled Observer.

3. The Prog LED of the 2-channel radio-controlled switch actuator glows continually to indicate that the learning process has been successful.

4. You exit the programming mode either automatically after approx. 1 minute or by pressing the ON/OFF button. The 2-channel radio-controlled switch actuator is then ready for operation.

Light scenes

The 2-channel radio-controlled switch actuator can be integrated into light scenes. The required light scene push-button of the radio-controlled hand-held or wall-mounted transmitter must be taught into the radio-controlled actuator. Up to 5 light scenes can be stored.

ALL ON/ALL OFF

When teaching in a channel push-button, the ALL ON or ALL OFF button of the radio-

controlled hand-held or wall-mounted transmitter is automatically learnt as well. Pressing the ALL ON (ALL OFF) button of a taught-in radio-controlled hand-held or wall-mounted transmitter (dis)connects the load.

Deleting a radio transmitter

A taught-in radio transmitter is deleted by carrying out a new learning process for this radio transmitter. All the channels and light scene push-buttons must be deleted individually. A successful deletion process is indicated by the Prog LED flashing rapidly.

Technical data

Nominal voltage:	AC 230 V ~, 50/60 Hz
Switch contacts:	Relay, μ contact, 6 A
Miniature circuit-breaker:	10 A
Switching capacity per channel:	
Incandescent lamps	350 W
High voltage halogen lamps	300 W
Low voltage halogen lamps with conventional transformer	350 VA, with a nominal load of 85%
with TRONIC transf.	300 W
Fluorescent lamps not compensated	350 VA
Transmission frequency:	433.42 MHz, ASK
Postal approval:	LPD-D
Temperature range:	0°C up to +55°C
Type of protection:	IP 20

Wiring diagrams

Radio-controlled blinds actuator

Ref.-No. FAJ 6 UP

Function

The radio-controlled blinds actuator is a component of the Radio Management system. It enables the wireless remote control of a shutter or blinds motor.

Dependent on the operation of a radio-controlled hand-held or wall-mounted transmitter, the louvres are adjusted (short push-button action < 1 second) or the blind is moved into position (long push-button action > 1 second).

The radio-controlled blinds actuator can teach in up to 14 radio transmitters.

The limit position of the blind (upper or lower) can be combined together with the lighting into a light scene.

Note

If all 14 memory locations are occupied, an already taught-in radio transmitter must be deleted so that an additional transmitter can be taught in.

The device must be placed at a distance of at least 0.5 m from electrical loads (e.g. electronic transformers, electronic lamp ballasts, TV).

The radio-controlled blinds actuator FM was exclusively developed for operating motors for blinds or shutters.

Do not switch any other loads!

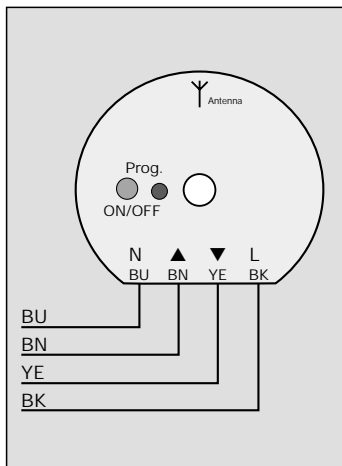
Other applications can prove dangerous e.g. controlling security gates.

Observe the instructions from the motor manufacturer when switching shutter motors in parallel. Only blinds or shutters with mechanical or electronic limit switches should be used. Due to the electronic lock-out of the device, a minimum reversing time of approx. 1 second is implemented after a change in direction.

Observe the instructions from the motor manufacturer with regard to the reversing time and maximum operating time.

Antenna

In order to maintain the maximum radio transmission power, the antenna should be laid as far away as possible. It must be positioned away from metal components with a large surface area e.g. metal door frames. You should not shorten or extend the antenna or strip away the insulation.



Teaching in a radio transmitter

When teaching in a radio transmitter, the sensitivity of the radio receiver is reduced to approx. 5 m.

The distance between the radio-controlled blinds actuator and the radio transmitter that is to be taught may not exceed 5 m.

Procedure

1. Press the ON/OFF button for at least 3 seconds. The red Prog LED flashes for approx. 1 minute. During this period, one radio channel can be taught in.

2. Trigger a radio telegram at the selected radio transmitter.

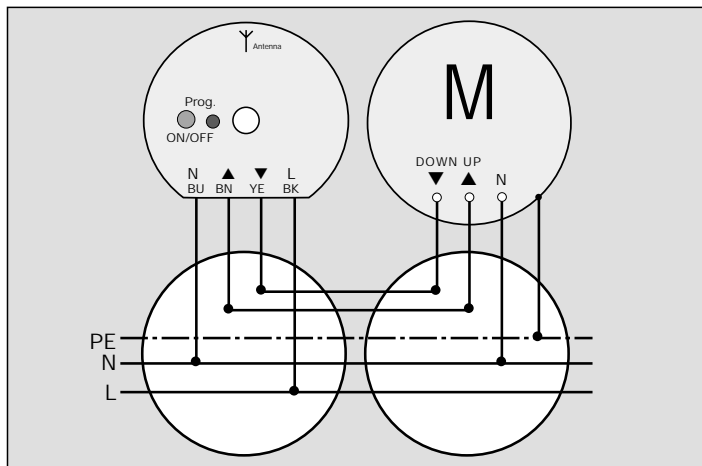
Teaching in a channel:

Press the channel push-button for longer than 1 second.

Teaching in a light scene push-button: Press the light scene push-button for longer than 3 seconds.

3. The Prog LED of the radio-controlled blinds actuator glows continually to indicate that the learning process has been successful.

4. You exit the programming mode either automatically after approx. 1 minute or by pressing the ON/OFF button. The radio-controlled blinds actuator is then ready for operation.



Light scenes

The limit position of a blind can be stored in a light scene.

This light scene can be changed at any time by storing it again.

Before storing or retrieving a light scene, a light scene push-button of the radio-controlled transmitter must be taught in.

Storing a light scene

1. Move the blind into the required limit position.
2. Press the required light scene push-button of the radio transmitter for at least 3 seconds.

Note

If the blind is not in the limit position during the teaching of a light scene, this blind is not stored in this light scene.

Deleting a radio transmitter

A taught-in radio transmitter is deleted by carrying out a new learning process for this radio transmitter.

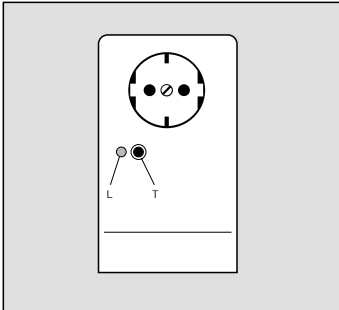
All the channels and light scene push-buttons must be deleted individually. A successful deletion process is indicated by the Prog LED flashing rapidly.

Technical data

Nominal voltage:	AC 230 V ~, 50/60 Hz (neutral line required)
Switching capacity:	max. 1 motor 400 VA
Relay output:	2 make contacts (non-floating and interlocked)
Reversing time for change in direction:	approx. 1 second
Continuous operation:	2 minutes
Transmission frequency:	433.42 MHz, ASK
Postal approval:	LPD-D
Temperature range:	0°C up to +55°C
Dimensions:	Height 23 mm ø approx. 52 mm
Type of protection:	IP 20

Radio-controlled plug adapter switch

Ref.-No. FZS 10 WW



Functions

A special transmission telegram is used in the Radio Management system which can only be produced and evaluated by this family of products.

In connection with a radio-controlled wall-mounted, hand-held or universal transmitter (switching mode) or a radio-controlled Observer, the radio-controlled plug adapter switch enables the remote switching of portable appliances (e.g. floor lamps) with a mains plug.

The radio-controlled plug adapter switch operates electrical loads (AC 230 V ~) as soon as it has received a (taught-in) Radio Management signal.

On receipt of the radio signal from a radio-controlled Observer, it switches on for an overshoot time of approx. 1 minute.

The plug adapter switch can teach in up to 30 radio transmitters. Each radio transmitter has at least one radio channel.

The plug adapter switch has an increased level of protection against electric shocks.

Light scenes

When using the radio-controlled hand-held or wall-mounted transmitter, the lamp that is plugged in can be integrated in light scenes with the states "ON" or "OFF" e.g. light scene 1 = floor lamp is switched on.

The required light scene push-button of the radio-controlled hand-held or wall-mounted transmitter must be taught into the radio-controlled plug adapter switch.

Up to 5 light scenes can be stored.

ALL ON

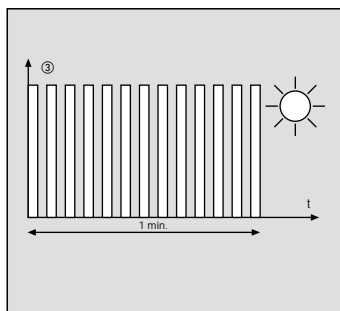
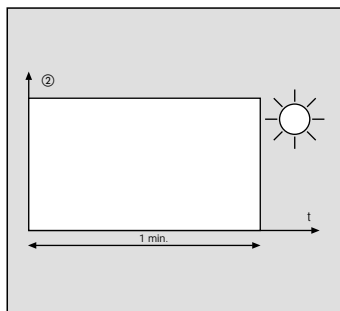
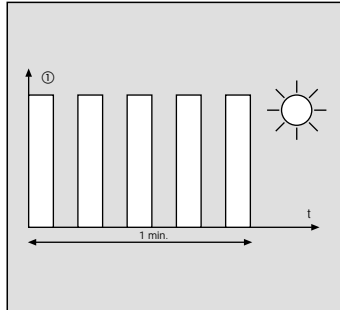
The operation of the ALL ON button of a taught-in radio-controlled hand-held transmitter leads to the load being connected.

ALL OFF

The operation of the ALL OFF button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the load being disconnected.

Note

When teaching in a radio channel, the ALL ON/ALL OFF button is automatically learnt as well. The device must be placed at a distance of at least 0.5 m from loads that cause electrical interference (e.g. microwaves, hi-fi system, TV).



Teaching in a radio transmitter

In order to be able to operate the plug adapter switch with a radio transmitter, the radio channel of the required radio transmitter must be taught in. The distance between the radio-controlled plug adapter switch and the radio transmitter that is to be taught in should not exceed 5 m.

1. Press the push-button T for approx. 3 seconds. The radio-controlled plug adapter switch switches off the connected load. One radio transmitter can be taught in within approx. 1 minute. The red LED ① flashes during this period.
2. The required radio transmitter must trigger a radio transmission.

• Teaching in a radio channel:

Press the required channel push-button for at least 1 second.

• **Teaching in a light scene push-button:** Press the required light scene push-button for at least 3 seconds.

• **Teaching in a radio-controlled Observer**

Carry out a movement in the detection field of the radio-controlled Observer.

• **Teaching in the ALL ON or ALL OFF button:** Press the ALL ON or ALL OFF button for at least 10 seconds.

3. The red LED ② lights up to check that a radio transmission has been learnt.

4. You exit the learning process either automatically after approx. 1 minute or by pressing the push-button T. The radio-controlled plug adapter switch then switches to the normal receiving mode.

If a further radio channel is to be taught in, the learning process is retrieved again. If all 30 memory locations of the radio transmitters are occupied, you must first delete an already taught-in radio transmitter. You must delete the channel and light scene push-button individually.

Deleting a taught-in radio channel

A taught-in radio channel is deleted by carrying out a new learning process as described above.

A successful deletion process is indicated by the red LED ③ flashing in quick session.

You exit the deletion process either automatically after approx. 1 minute or by pressing the push-button T. The radio-controlled plug adapter switch then switches to the normal receiving mode.

Technical data

Power supply: AC 230 V ~

Fuse: T 6.3 H 250 V

Switching capacity (relay contact):

Incandescent lamps 1000 W

High voltage halogen lamps 1000 W

Low voltage halogen lamps with conventional transformers 750 VA

with TRONIC transf. 750 W

Fluorescent lamps not compensated 500 VA

parallel compensated 400 VA

lead-lag circuit 1000 VA

Temperature range: -20°C up to 55°C

Transmission frequency: 433.42 MHz, ASK

Postal approval: LPD-D

Dimensions (LxWxT): 163 x 70 x 72 mm

Energy-saving lamps

Pay attention to high inrush peaks when using energy-saving lamps.

Check the suitability of the lamps before use.

Operation

By pressing push-button T for less than 3 seconds, the plug adapter switch is permanently switched on or off (two-way operation). Alternatively, the device can be operated via taught-in radio transmitters. The red LED L indicates that the load is connected.

Fuse

In the case of a malfunction, you should first of all check the fuse (T 6.3 H 250 V) (in the event of an overload, the fuse is tripped). The fuse holder contains a spare fuse. The fuse holder S is located between the plug-in contacts.

Only the original fuse should be used!

Radio transmission

Radio transmission is not carried out via an exclusive transmission route, therefore disruptions cannot be ruled out. Radio transmission is therefore not suitable for security applications e.g. emergency stop, emergency calls.

Wiring diagrams

Radio-controlled plug adapter dimmer Ref.-No. FZD 1254 WW



The symbols used to identify dimmer loads designate the type of the electrical behaviour of loads connected to dimmers: R = ohmic, L = inductive, C = capacitive

Function

The radio-controlled plug adapter dimmer is a universal dimmer with automatic load detection permitting radio-controlled switching and dimming of mobile luminaires.

The turn-on brightness can be stored in the device as memory value.

The adapter is operated from a programmed radio-controlled transmitter (e.g. radio-controlled hand-held transmitter, etc.) or directly on the device itself (only switching).

Depending on the actuation of the radio-controlled transmitter, the lights are either switched on or off (short press on key) or dimmed (long press on key). When a programmed telegram from a radio detector is received by the dimmer while deactivated, the dimmer will switch on for a delay of about 1 minute with the preset memory value when it is dark. All functions described are available only if the radio-controlled adapter plug with dimmer is plugged into a socket outlet and if a specified load is plugged into the socket of the radio-controlled adapter plug with dimmer. The radio-controlled adapter plug with dimmer can be programmed to identify up to 30 radio channels.

Light scenes

The radio controlled adapter plug dimmer can be integrated into up to 5 light scenes which are recalled and stored with radio-controlled transmitters (e.g. handheld transmitter 'Komfort'). The corresponding light-scene key must have been programmed before into the radio-controlled adapter plug with dimmer.

Light control

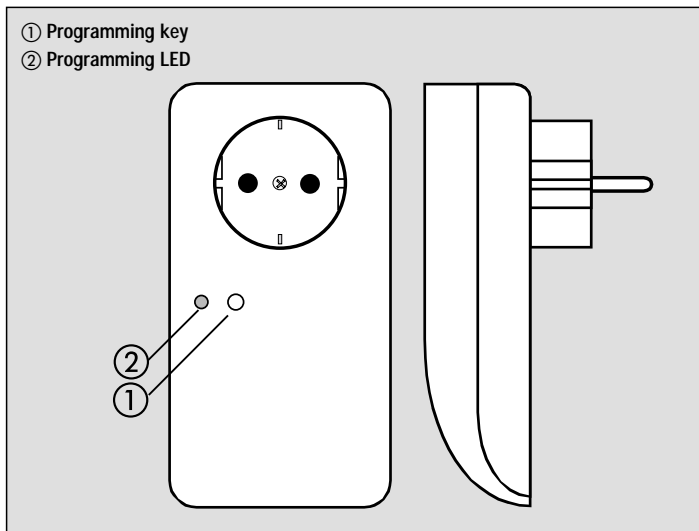
A light control can be realized with a radio controlled adapter plug dimmer and an identified radio control presence detector or light sensor.

Installation instructions

- The distance to electric loads (e.g. microwave ovens, Hi-fi equipment and TV sets) must be at least 0.5 m.
- To avoid overloading of the radio-controlled receiver (actuator) the distance between the radio-controlled adapter plug dimmer and a transmitter must be at least 1 m.

Automatic load detection

After first installation and disconnection of the mains, the radio-controlled adapter plug dimmer detects the load automatically. With resistive loads, the detection of the load is accompanied by short flickering of the lamps incandescent and HV halogen lamps). Depending on mains conditions, the detection procedure as such lasts between 1 s and 10 s. During this time, no operation is possible. A mains failure of more than 0.2 s causes the adapter plug to shut off.



Programming of radio-controlled transmitters

During programming of a radio-controlled transmitter into receiver, the sensitivity of the receiver is reduced to approx. 5 m. For the programming procedure, the adapter plug must be plugged into a socket outlet and a specified load be plugged into the dimmer.

Procedure

1. Switch off the load plugged into the adapter plug with a brief press (< 1 s) on the programming button.
2. Press the programming button for abt. 4 s in order to get into the programming mode. The LED flashes for abt. 1 min. The adapter plug is now in its programming mode.
3. Send a radio telegram from the selected transmitter.

Programming a channel

Depress the channel key for more than 1 second.

Programming a light scenes key

Depress the light scenes key for more than 3 seconds.

Programming a detector

Remove the battery for about 2 minutes from the detector. Put the the battery back in place and make a movement inside the detection range of the detector within the next 15 minutes.

Programming a presence detector or a light sensor

Remove the battery(ies) for about 2 minutes from the transmitter. After putting the battery(ies) back in place, the device starts transmitting programming telegrams for about 30 s.

Important

It is not possible to program a combination consisting of presence-control detector, light sensor and detector.

4. The adapter plug confirms storage of the data transmitted by a permanently lit LED.

5. The programming mode ends automatically after about 1 minute or can be terminated by a short depression of the programming key. The adapter plug is then again in the normal operating mode.

Deleting a radio-controlled transmitter

A radio control transmitter in the adapter's memory is deleted when the same transmitter is programmed again into the memory. All channels and light scenes keys must be deleted one by one. Successful deletion is signalled by the LED blinking faster.

Deleting all radio-controlled transmitters

It is possible to delete all transmitters stored in the device by resetting the radio-controlled adapter plug with dimmer to the state of delivery.

For this deleting procedure, a load must be plugged into the adapter plug .

1. Switch off the load connected to the adapter plug with a brief press (< 1 s) on the programming button.
2. Depress the programming key for about 20 s. After 4 s, the programming LED begins to flash and after 20 s the flashing sequences is replaced for about 6 s by periodic high-intensity light pulses.
3. Release the programming button briefly during these 6 s and depress once again for about 1 s to start deletion.
4. During the deleting procedure, the LED is permanently lit. Successful deletion of all radio-controlled transmitters stored is then signalled by the LED flashing faster. The flashing sequence ends after about 1 min or can be terminated by a brief press on the button.

Memory value (switch-on brightness)

A preset brightness value can be stored in the device as memory value. This memory value can then be recalled as the switch-on brightness.

Storing the memory value

1. Set the lamp to the desired brightness.
2. Depress the programming key for at least 4 s. This action is confirmed by a „soft start“, i.e. the lamp is switched off for a short moment and then increased in brightness up to the memory value.

Light scenes

Before storing or recalling a lightscape, the lightscape key of the radio-controlled transmitter must be programmed into adapter plug.

After transmitter programming, the light-moods data (lamp brightness) can be stored in the adapter plug. A light scene can be changed at any time by storing it again.

Storing a light scene

1. Adjust the desired brightness of the lamp.
2. Depress the light scenes key of the radio-controlled transmitter for at least 3 s. The old light scene is recalled (do not release the key). The new light scene is activated and stored 3 s later.

Technical data

Nominal voltage: 230 V ~, 50/60 Hz

Fuse: T 6.3 H 250 V

Power rating: 50 – 420 W/VA

– 230 V incandescent lamps

(resistive load, phase cut-off)

– HV halogen lamps

(resistive load, phase cut-off)

– JUNG-Tronic transformers

(capacitive load, phase cut-off)

or

– Conventional transformers

(inductive load, phase cut-on)

When mixed loads are connected to conventional transformers, the resistive part of the load (incandescent lamps, HV halogen lamps) must not exceed 50 % of the total load.

(Do not mix capacitive with inductive loads.)

Faultless operation is guaranteed only if JUNG Tronic transformers or conventional iron-copper transformers are used.

Receive frequency: 433.42 MHz, ASK

Type op protection: IP 20

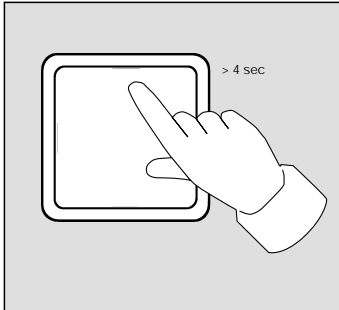
Temperature range: approx. +5 to +35 °C

Humidity in operation: max. 65 % (without condensation)

Dimensions (LxWxD): 136 x 70 x 72 mm

Radio center plate

Ref.-Nos. ...1561.07 F.



Technical data

Power supply: from the flush-mounted insert
Transmission frequency: 433.42 MHz (ASK)
Temperature range: -20°C up to +55°C

Teaching in a radio transmitter

In order to be able to operate the center plate with radio remote control, this remote control must be taught in to the center plate. The distance between the center plate and the radio transmitter that is to be taught in must not exceed 5 m.

1. Switch the lighting off with the center plate.
2. Press a push-button for at least 3 seconds. The transmitter signals its readiness to learn (duration approx. 1 min.) by a long pulsing tone ①. During this period a radio channel can be taught in.
3. The required radio transmitter must trigger a radio transmission.

Teaching in a radio channel:
Press the required push-button for at least 1 sec.

Teaching in a light scene push-button:
Press the required light scene push-button for at least 3 sec.

Teaching in the ALL OFF/ALL ON button:
Press the ALL OFF/ALL ON button for at least 10 sec.

4. A successful learning process is confirmed by a continuous tone ② (duration approx. 1 min.).

You can interrupt the learning process at any time by a push-button action.

Note:

If all 30 memory locations are occupied, you must delete an already taught-in radio transmitter.

Deleting a radio-transmitter

The deletion of a taught-in radio transmitter is carried out by a new learning process.

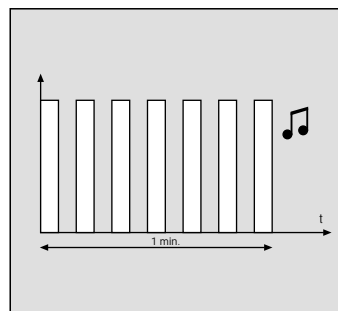
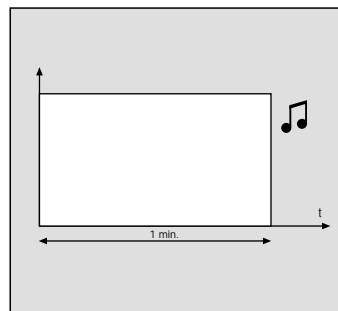
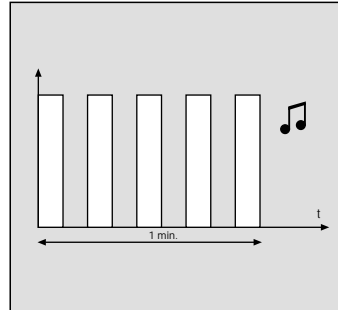
All the channels and light scene push-buttons must be deleted individually.

A successful deletion process is confirmed by a short pulsing tone ③ (duration approx. 1 min.).

You can interrupt the deletion process at any time by pressing a push-button.

Operation

The lighting is dimmed brighter with the upper half of the center plate and dimmed darker with the lower half.



Short operation (< 0,4 sec.)

The lighting is switched (to the memory value).

Long operation (≥ 0,4 sec.)

The lighting is dimmed.

Memory function

If the current dimming value is to be stored as a memory value in the center plate, press the entire surface area of the push-button while the load is connected for at least 3 seconds.

A 'softstart' is carried out as confirmation i.e. the lamp is dimmed brighter until it reaches the stored memory value.

When the lamp is switched on the next time, this stored value is retrieved.

It is switched on via the receipt of a taught-in radio telegram from a radio-controlled, hand-held or wall-mounted transmitter or a 2-channel flush-mounted transmitter.

If a taught-in radio telegram from a radio-controlled Observer is received, the radio-controlled push-button switches on for approx. 1 minute with the memory value.

Light scene

The brightness of a luminaire can be integrated into a light scene.

This light scene can be changed at any time by storing it again.

A light scene push-button of the radio transmitter must be taught in before storing or retrieving a light scene.

Storing a light scene

1. Set the brightness of the luminaire.
2. Press the required light scene push-button of the radio transmitter for at least 3 sec.
3. A short signal (approx. 1 sec.) sounds as confirmation that this light scene has been stored.

Functions

When combined with the universal dimmer, the radio center plate makes it possible to have radio remote control and manual lighting control.

The lighting can be switched (brief actuation) or dimmed (longer actuation).

When a radio signal is received from the radio-controlled Observer, it switches on for approx. 1 minute.

The required brightness value can be stored (memory function).

The radio center plate can 'teach in' up to 30 radio transmitters.

Light scenes

Light scene operation is possible using the radio-controlled hand-held or wall-mounted transmitter.

The required light scene push-button of the radio-controlled hand-held or wall-mounted transmitter must be learnt in the center plate with radio receiver.

Up to 5 light scenes can be stored.

ALL OFF

Pressing the ALL OFF button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the load being disconnected.

ALL ON

Pressing the ALL ON button of a taught-in radio-controlled hand-held or wall-mounted transmitter leads to the load being connected.

The radio center plate can only be put into operation when it is combined with the universal dimmer.

Note

The center plate should not be plugged in when the mains voltage (230 V) is connected otherwise a malfunction may occur.

The distance away from electrical loads (e.g. electronic transformers, devices with electronic ballast, TV) must be at least 0.5 m.

Wiring diagrams

Master receiver Ref.-No. FK 100 REG

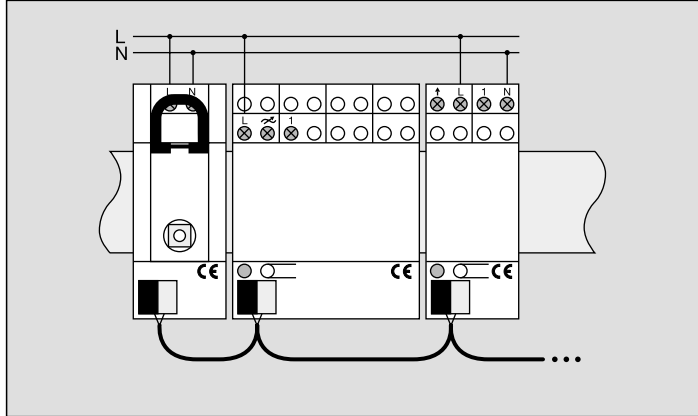
Function

The Master receiver is a modular DIN-rail device for the reception of radio-control telegrams. The telegrams are converted to wire-bound data and transmitted for evaluation to DIN-rail radio-controlled actuators (e.g. switching, dimming or shutter actuators). Up to 30 DIN-rail radio-controlled actuators can be connected to one Master receiver.

For the reception of radio-control telegrams, the device is equipped with an integrated antenna. In locations with unfavourable receiving conditions (e.g. metallic distribution cabinet), an external antenna can be connected as an option.

Instructions

- The overall length of the bus lines to the DIN-rail radio-controlled actuators must not exceed 3 m.
- To prevent saturation of the radio-controlled receiver (actuator), the distance between the DIN-rail radio-controlled receiver and a transmitter must be at least 1 m.
- The polarity of the bus lines must not be reversed.
- Up to 30 DIN-rail radio-controlled actuators can be connected to a DIN-rail radio-controlled receiver.



Antenna

For the reception of radio-control telegrams, the device is equipped with an integrated antenna. In locations with unfavourable receiving conditions (e.g. metallic distribution cabinet), an external antenna can be connected as an option (accessory ref.-no.: F-Ant).

Fitting and connection

Snap the Master receiver onto the DIN rail and connect as shown in the figure.

Connect the Master receiver by means of the connecting terminals with the DIN-rail radio-control actuators using a bus line.

The bus line used must be a shielded cable (with twisted wires and a wire dia. of 0.8 mm) designed for a test voltage of 2.5 kV AC.

Specifications

Rated supply voltage:	AC 230 V ~ 50/60 Hz
Screw terminals:	1.5 to 4 mm ² single-wire 0.75 to 4 mm ² stranded wire (without ferrule) 0.5 to 2.5 mm ² stranded wire (with ferrule)
Receive frequency:	433.42 MHz
Operating temperature:	approx. 0 °C ... +45 °C
Storage temperature:	approx. -25°C ... + 70 °C
Type of protection:	IP 20
Mounting width:	36 mm (2 TE)

The functions of the DIN rail actuators are similar to the comparable built-in or flush-mounted actuators of the Radio Management system.

Radio-controlled Observer Ref.-No. FW 180 WW

Radio-controlled performance unit Ref.-No. FWL 2200 WW

The radio-controlled Observer reacts to thermal movements triggered by people, animals or objects and sends any detected movement to the radio-controlled performance unit which evaluates the information and connects the load(s).

It is a good idea to implement the radio-controlled Observer system when local conditions require the use of several sensors. The radio-controlled Observer is operated using a 9 V monobloc battery and therefore does not require a supply cable. The devices can therefore be installed where they are needed and not where a mains connection is available.

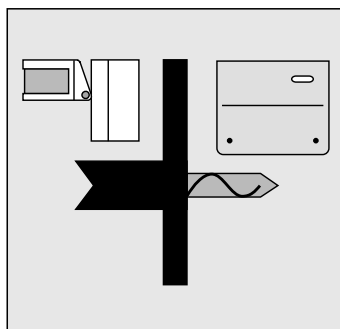
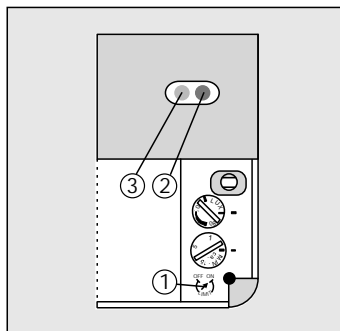
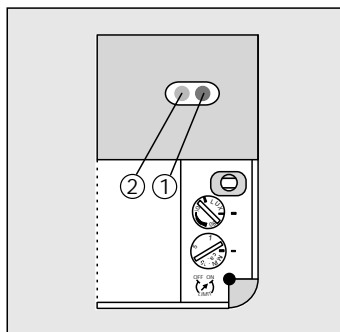
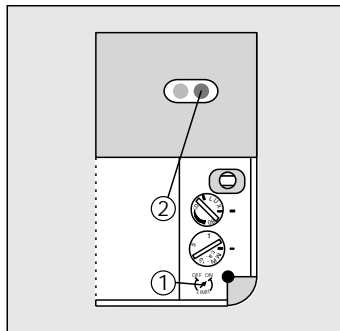
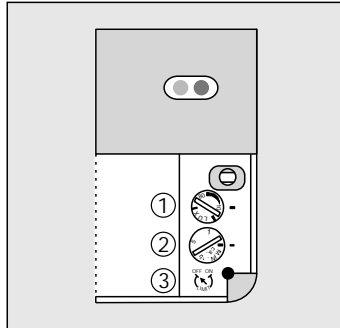
Visual displays signal the activation of the device.

The load remains connected while movement is being detected. If no movement is detected, the radio-controlled performance unit disconnects the load once the set delay period has elapsed.

Additional functions are supported such as a 2 hour ON period or 2 hour OFF period. Both the operating time and the brightness value which activates the system when the value drops below this level can be set in the radio-controlled performance unit.

Technical data Radio-controlled Observer ref.-no. FW 180 WW

Nominal voltage:	9 V DC
Battery type:	9 V monobloc battery
Battery life:	
Lithium (1,2 Ah)	approx. 4 years
Alkaline (0,55 Ah)	approx. 1,5 years
Power consumption:	
Daytime operation	approx. 0,14 mW
Night operation	approx. 0,27 mW
Radio transmission	approx. 27 mW
Transmission power:	< 10 mW
Transmission frequency:	433.42 MHz, ASK
Range:	approx. 100 m (free field)
Detection radius:	180°
Detection field:	16 m x 32 m
Mounting height:	approx. 2,40 m
Sensitivity:	20 % – 100 %
Evaluation	
Operation range:	3 – 200 lux ± 50%
Sensor for retriggering:	80 lux
Sensor is off:	> 200 lux
Temperature range:	-25°C up to +55°C
Type of protection:	IP 55



Settings of the radio-controlled performance unit

The following are located in the terminal housing of the radio-controlled performance unit:

Brightness setting ①

Recommendation: Setting the device to 10 lux (see diagram) activates the device as dusk falls.

Time setting ②

Can be set between 10 seconds and 15 minutes.

Programming ③

OFF: normal mode

ON: learning mode

Teaching in the radio-controlled Observer

During the initial installation, the radio-controlled Observer is to assign to the radio-controlled performance unit i.e. "learn". The radio-controlled performance unit can only understand and evaluate signals from taught-in radio-controlled Observers.

- The Prog rotary switch ① on the radio-controlled performance unit must be set to the ON position in order to activate the learning mode. The right red LED ② flashes. A movement must be carried out to trigger the radio-controlled Observer into sending a radio transmission. This applies both to normal mode and test mode.
- The right red LED ① and the left green LED ② light up to check that a radio transmission has been received. The load is connected. The radio-controlled Observer has been taught in.
- The Prog rotary switch ① must be set to the OFF position in order to activate normal mode. The right red LED ② and the left green LED ③ are extinguished. The load is disconnected.

Up to 30 radio-controlled Observers can be taught into the system.

Deleting the radio-controlled Observer

If an already taught-in radio-controlled Observer is taught in for a second time, it is deleted. A successful deletion process is indicated as follows:

Right red LED ② -> lights up

Left green LED ③ -> does not light up

Technical data

Radio-controlled performance unit, ref.-no. FWL 2200 WW

Nominal voltage:	AC 230 V ~, 50 Hz
Switch contact:	Relay
Switching capacity:	
Incandescent lamps	2500 W
High voltage halogen lamps	2500 W
Fluorescent lamps	
not compensated	1200 W
parallel compensated	920 W
lead-lag circuit	2400 W

Note

Pay attention to high inrush peaks when using energy-saving lamps. Check suitability of the lamps before use.

Miniature circuit-breaker: 10 A

Power consumption: 2 W

Inrush current: max. 20 A

Operating time: approx. 10 sec. – 15 min
± 10 % retriggered

Brightness setting: approx. 3 – 80 lux
± 10 %

Additional function via push-button (break contact)

Pulse duration: 400 ms, ± 50 %

Pulse interval: 600 ms

1st function: 1 x pulse, operating time

2nd function: 2 x pulse, ON = 2 hrs, ±10 %

3rd function: 3 x pulse, OFF = 2 hrs, ±10 %

Transmission frequency: 433.42 MHz, ASK

Temperature range: -25°C up to +55°C

Type of protection: IP 55

Interference suppression: in accordance VDE 0875, part 1/12.88

Night operation

On detection of a movement, the radio-controlled Observer measures and evaluates the light intensity E:

- E < set brightness level: radio signal to the performance unit
- Set brightness level < E < 200 lux: radio signal (retriggered) to the performance unit
- E > 200 lux: Change to daytime operation

Daytime operation

The radio-controlled Observer measures the level of light intensity every 10 seconds. If the value falls below 80 lux, the device switches to night operation.

Low battery voltage

A "Low-Bat" signal is sent to the radio-controlled performance unit as soon as the battery voltage falls below the critical value ($U_{\text{Bat}} < 8,0 \text{ V}$). The signal is indicated by the red LED of the radio-controlled Observer and the radio-controlled performance unit.

Note

The radio-controlled Observer is not tamper-proof and is therefore not suitable for use in alarm systems.

Radio transmission

The transmission range of the radio-controlled hand-held Observer is dependent on the structural conditions of the property:

Dry material	Penetration
Wood, plaster, plasterboard	90 ... 100 %
Brick, plywood panels	65 ... 95 %
Reinforced concrete	10 ... 70 %
Metal, metal grids, aluminium laminate	0 ... 10 %

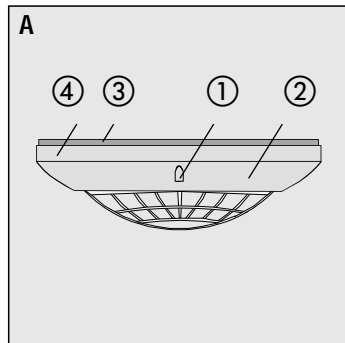
Wiring diagrams

Radio presence detector

Ref.-No. FPM 360 WW

Function

The radio presence detector (fig. A) permits to achieve optimal energy savings by controlling the illumination of a room depending on the presence of persons.



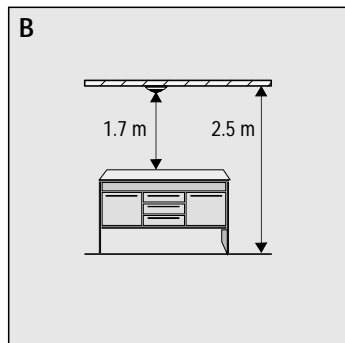
The radio presence detector consists of:

- ① sensor window with LED
- ② ornamental ring
- ③ base plate
- ④ push-button

Installation

The presence detector is fitted under the room ceiling and monitors the working surface below (fig. B). Since the actual brightness measured by the presence detector depends on the reflection properties of the working surface, the characteristics of the surface should not change too often.

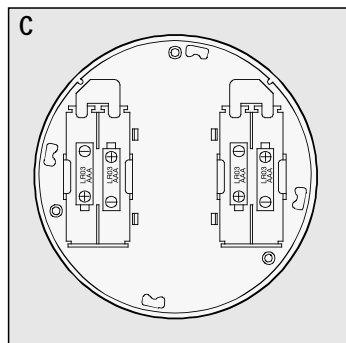
Avoid direct sunlight into the sensor window. The sensors might be irreparably damaged by the high amounts of heat energy received. If needed, the detection field can be confined by means of the shield supplied with the device.



Batteries

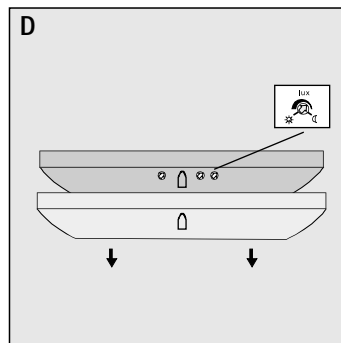
The radio presence detector operates on 4 alkaline micro batteries as shown in fig. C (LR 03, not included in the scope of supply). Batteries of the carbon-zinc type (R 03) must not be used.

After insertion of the batteries, the device is at first for ca. 30 seconds in the programming mode. To avoid undesired programming, make sure that none of the actuators is in the programming mode during this time.



Important

When programming the first presence detector into the radio controlled receiver make sure the brightness control (fig. D) does not point to the "Moon" symbol. A presence detector with this setting will be identified as a slave unit and can therefore not be programmed as first unit into an actuator. The radio-controlled presence detector cannot be operated together with a radio-controlled detector or a radio-controlled light sensor.

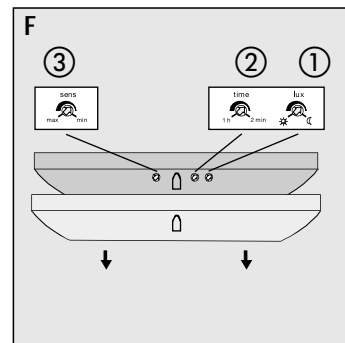


② Switch-off delay "time"

The potentiometer permits adjustment of the switch-off delay for automatic operation in fine steps between approx. 2 minutes (2 min) to approx. 1 hour (1 h).

③ Sensitivity "sens"

The potentiometer permits adjusting the sensitivity of the sensor between maximum and minimum.



Teaching in of a detector into a radio controlled receiver

For the purpose of constant light control, the radio presence detector must be taught into only one radio controlled receiver. The programming information is stored in the radio controlled receiver only.

During teaching in of a radio presence detector, the sensitivity of the radio controlled receivers is reduced to approx. 5 m. The distance between the receiver and the presence detector should therefore be not less than 0.5 m and not more than 5 m.

Procedure

1. Remove the battery for approx. 3 minutes from the presence detector (capacitor discharge time).
2. Switch the receiver into the teaching in mode.
3. Put the battery back in place. The presence detector now starts transmitting special programming information telegrams for approx. 30 seconds. The receiver confirms the programming cycle.
4. Switch the receiver back to the operating mode.

Deleting a detector in the radio controlled receiver

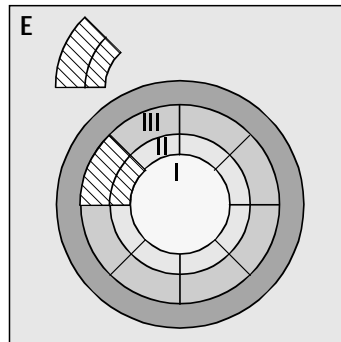
An already programmed presence detector can be deleted by starting a new teaching in cycle in the receiver.

Detector window shield

The snap-on shield supplied with the detector can be used to blank out undesired zones or sources of interference by confining the field of detection.

The shield is snapped onto the sensor window. Cut out the shield only along the marked lines (fig. E).

Cutting out the shield changes the diameter of the detection field on the floor.



Settings

The presence detector is equipped with potentiometers to control the following parameters (fig. F):

① Reference brightness "lux"

The potentiometer permits the adjustment of reference brightness values in fine steps between approx. 3 lux (moon symbol) to approx. 2000 lux (sun symbol).

The setting is taken over by the radio actuator only after activation of the "light control test mode".

To change the brightness, switch-off time delay or sensitivity settings, withdraw the ornamental ring from the presence detector. The 3 control potentiometers are then accessible.

Operation modes

1. Light control test mode

The reference brightness can only be adjusted on the presence detector when the device is in the light control test mode. In this mode, there is no movement detection, but a fast adjustment of the actual reference brightness values (light control).

The reference brightness preset on the detector is stored in the taught in actuator and compared to the actual brightness value transmitted by the presence detector.

2. Movement test mode

In the movement test mode, the detection field of the presence detector can be tested independently of the brightness.

When the detector detects a movement in the movement test mode, the taught in receiver will be activated for a fixed switch-off time delay of 10 seconds.

3. Constant light control with a dimming actuator

A dimming actuator from release 2 (R2) onwards can be used to implement a constant light control function. For this purpose, the dimming value in the actuator is adjusted in such a way that the brightness measured at the presence detector corresponds to the reference value preset in the detector.

Automatic light control operation

After a presence detector has been taught into a radio controlled dimming actuator, the actuator operates permanently in the automatic mode.

If the actual brightness value measured at the presence detector is below the reference brightness, the dimming actuator is started with full brightness (100%) when presence is detected.

Thereafter, the degree of dimming is adjusted between 100 % and 0 % in such a way that the actual brightness measured at the presence detector corresponds to the reference value preset in the presence detector (constant light control).

If the actuator is regulated down to 0 % and if the switch-off time delay is permanently retriggered by presence in the shut-off phase, the actuator restarts with the lowest dimming level when it is switched on again.

If – in the light control mode – no presence is detected any more during the preset switch-off delay time, the dimming actuator shuts off, but remains in the automatic mode.

Manual activation of the constant light control

To activate the constant light control manually when the load is switched off (without presence detection), depress briefly a key on any of the radio controlled transmitters taught into the radio-controlled actuator.

If used with a radio controlled cover for switching and dimming the constant light control can also be activated locally. When the presence detector has been taught into the device, the constant light control can be terminated by depressing briefly either the upper or the lower rocker of the cover.

Important

If no presence is detected for a period of at least 2 minutes after manual activation, the dimming actuator is switched off.

Temporary change of the reference brightness setting

The reference brightness is adjusted in the light control test mode on the presence detector. This permanent reference brightness can be changed temporarily.

With a prolonged depression of a key (> 1 s) on a radio transmitter taught into the dimming actuator or by prolonged local actuation of a radio controlled cover for switching and dimming, the brightness of the connected lamps can be changed.

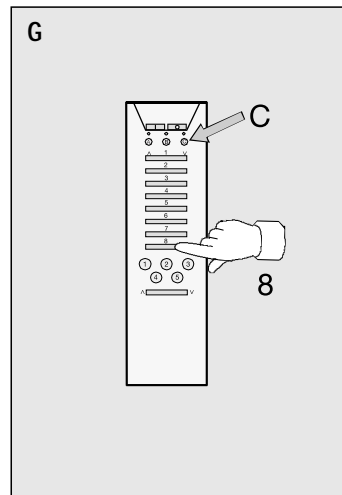
This new illumination level is temporarily stored in the actuator as reference brightness until the next shut-off.

Permanent change of the reference brightness setting

When a hand-held transmitter of the Standard/Comfort type has been taught into the dimming actuator, the temporary reference brightness value can be stored as permanent reference brightness in the dimming actuator:

Depress channel key 8 (Λ or V) of channel group C longer (> 1 s) (fig. G).

To go back to the reference brightness adjusted on the presence detector, activate the light control test mode in the presence detector.



Switching on / switching off for 2 hours

After a presence detector and a hand-held transmitter of the Standard/Comfort type have been taught into a dimming actuator for constant light control, the additional functions "Switching on for 2 hours" and "Switching off for 2 hours" can be selected.

4. Light control with a switching actuator

A radio controlled switching actuator from release 2 (R2) onwards offers the possibility of implementing a two-point light control with ON and OFF as the only two switching states available.

For the further adjustments see chapter constant light control with a dimming actuator.

5. Light scene operation

During the switch-off delay time, the radio controlled actuator involved in a constant light control can be integrated together with other radio controlled actuators into light scenes.

The light scenes can be recalled, stored and changed with a hand-held transmitter of the Comfort type, a wall-mounted transmitter or a multi-function transmitter. Please refer to the corresponding transmitter operating instructions

The recalled light scene is statical, i.e. there is no constant light control.

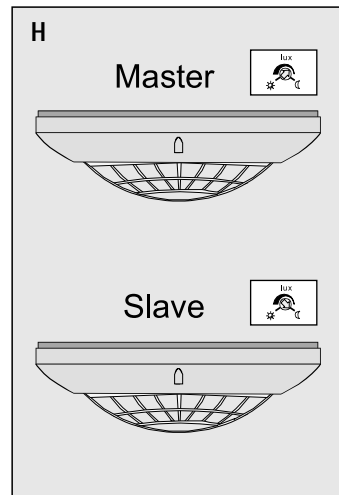
If the presence detector detects movement, the switch-off time delay will be retriggered. If no movement is detected anymore, the actuator involved in a constant light control switches off after the adjusted switch-off time delay and returns to automatic operation.

Important

When a multi-function transmitter is used it is necessary after recalling of a light scene to wait until the switch-off time delay has passed before it is possible to return to the constant light control mode. Switching off the light scene with a multi-function transmitter earlier is not possible.

6. Presence detector system (Master/Slave)

If larger areas are to be monitored, it is possible to use several presence detectors together in the same system.



Reference brightness value

In a presence detector system one presence detector must be specified as the master unit. The desired reference brightness is adjusted on this master unit and is then valid for the whole system.

In all other presence detectors (slaves), the reference brightness must be set to minimum (moon symbol, fig. H).

Switch-off delay times

The switch-off delay times can be adjusted separately on all presence detectors used. If an actuator is switched by a presence detector, the switch-off time delay of this device starts running.

Teaching in of the presence detectors

When teaching in the presence detectors into the radio controlled receiver make sure the presence detector specified as master unit must be taught in first. The brightness reference control must therefore not be set to minimum (moon symbol) since the detector would otherwise be identified as slave, which means that it cannot be programmed in first place into an actuator.

The slave detectors can only be programmed thereafter. In the slaves, the brightness reference must be set to minimum (moon symbol).

If a master has already been taught in, any further teaching in of a master overwrites the previous one, i.e. only one unit can be stored as master detector.

Technical data

Nominal voltage: 6 V DC
Batteries: 4x1.5 V Micro LR03 (AAA) Alkaline

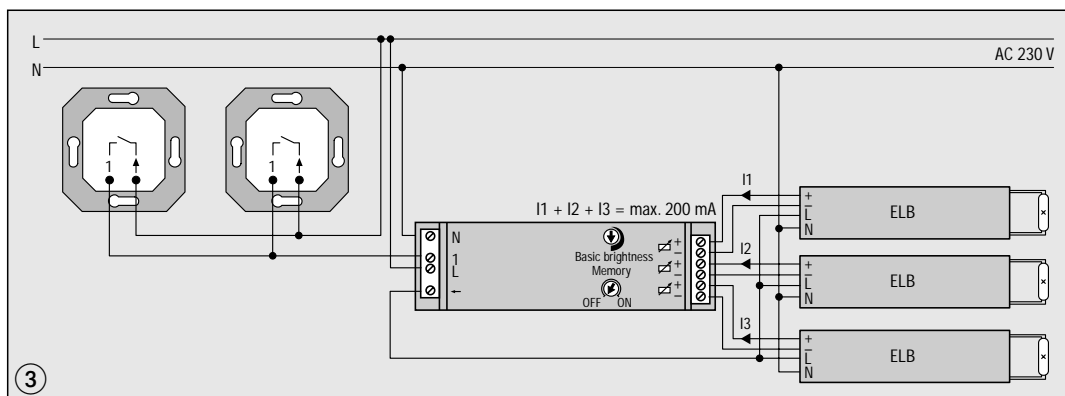
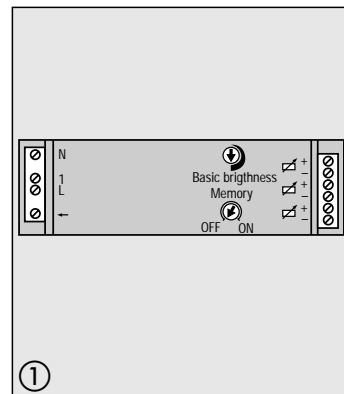
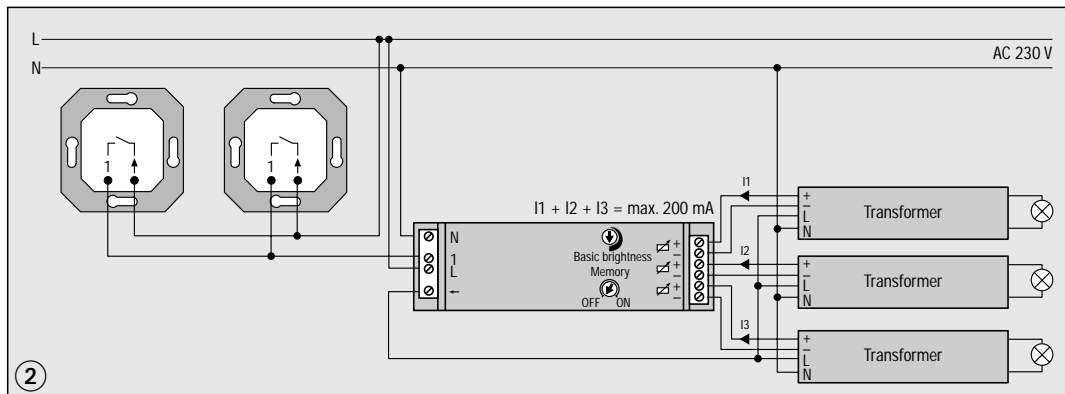
Note: Never use carbon-zinc batteries (R 03).

Transmission frequency: 433.42 MHz
Modulation: ASK
Transmitting range: max. 100 m (free field)
Coding: 1 billion
Angle of detection: 360°
Nominal range:
– at desk height ca. Δ 5 m
– at floor level ca. Δ 8 m
Fitting height for nominal range: 2.5 m
Switch-off delay: ca. 2 min – 1 h
Brightness: ca. 3 – 2000 lux
Temperature range: 0°C ... 45°C
Degree of protection: IP 20
Dimensions:
diameter 103 mm
height 42 mm

Wiring diagrams

Built-in controller

Ref.-No. 240-10 EB



to calculate the max. number of ELBs or transformers to be connected to the built-in controller for ELBs with 10 V control input. Make sure not to exceed a total current of 200 mA (Diagram ②) (see technical data provided by transformer or ELB manufacturer). For example, you can control up to 250 SIEMENS ELBs (control voltage 0.8 mA) or up to 100 HELVAR ELBs (control voltage 2 mA) simultaneously. Only use ELBs and fluorescent lamps of the **same** manufacturer, type and capacity. After installation, switch on light, adjust satellite control button to its lowest light value and use trimmer to set minimal visible brightness (Diagram ①, potentiometer for min. brightness).

Technical data

Nominal voltage	AC 230 V, 50 Hz
Control voltage	1 – 10 V
Connected load	
Switching contact	relay
Switching capacity	
Ohmic load	max. 2300 W
ELBs, transformers	type-dependent
Control current	max. 200 mA
Short-circuit protection	10 A safety cut-out
No-load proof	yes
Galvanic separation	
1 – 10 V	2 kV basic installation
Ambient temperature (T)	50°
Dimensions	175 x 42 x 18 mm
Type of protection	IP 20
Terminals	N, 1, L, ↓
	3 x (+, -)

Built-in controller

Built-in controller for ELBs with 10 V control input for the switching and dimming of fluorescent lamps via ELBs with 1 – 10 V control input or electronic transformers with 1 – 10 V control input. Operation via satellite 231.07, mechanical push-button (make contact), IR push-button with constant impulse 40 VA or ceiling IR push-button 234 IREB.

Press briefly: On/Off
Press and hold: infinitely variable dimming

The built-in controller for ELBs with 10 V control input is equipped with a memory switch.

There are two alternative switching or dimming options:

Memory switch = OFF:
Always switch on at max. brightness

Dimming starts at min. brightness

Memory switch = ON:

Switching on reactivates last brightness setting
Dimming starts at last brightness setting

Dimming after switching on is delayed (approx. 600 ms) and the stored brightness setting is restored without having to dim up or down.

Note: Check suitability of ELB before installation! After activation of the voltage supply, some ELBs automatically set the fluorescent lamps to their max. brightness. ELBs of this type will only react to the control voltage after this period to adjust brightness accordingly.

Connect the built-in controller for ELBs with 10 V control input as illustrated by Diagrams ② and ③.

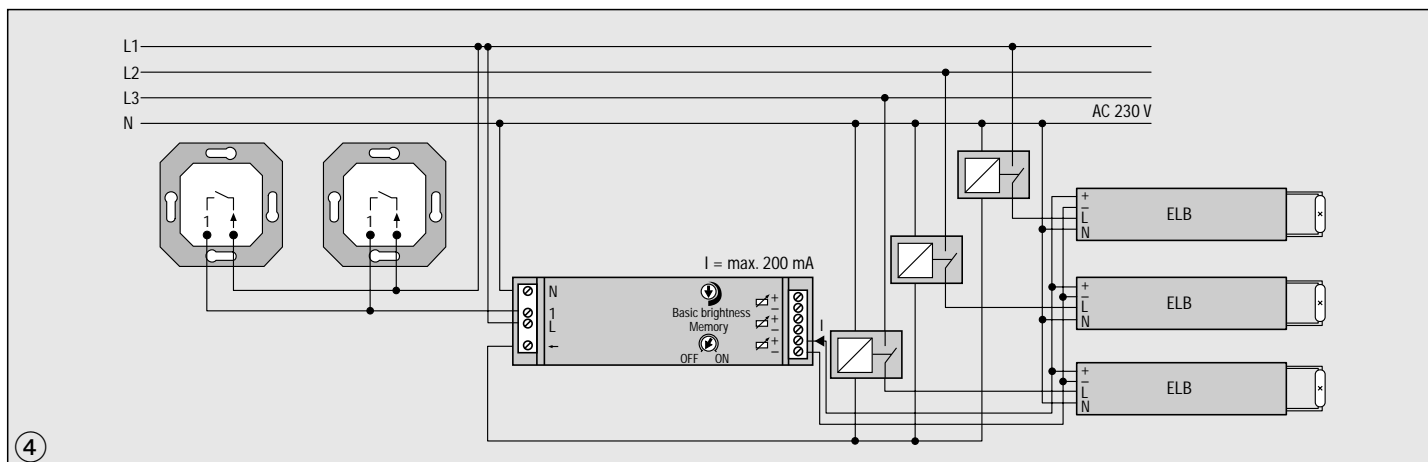
3-phase-wiring for the built-in controller for ELBs with 10 V control input as illustrated by Diagram ④.

Only use ELBs or transformers with interfaces standardised in acc. with DIN EN 60928 (galvanic separation between mains supply and 1 – 10 V input).

Include a 10 A circuit-breaker into the circuit.

Control line: type, diameter and installation in accordance with VDE regulations for 250 V wires (control voltage insulated from base). Avoid laying load and control lines within the same cable. Connect ELBs to earthing conductor in acc. with manufacturer specifications.

Use the total currents of all control voltages



TRONIC built-in dimmer Ref.-No. 247.07 EB



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, C = capacitive

TRONIC built-in dimmer

for installation in false ceilings
Dimensions: 212 x 48,5 x 46 mm, 50 – 700 W

Control by push-button, satellites of touch dimmer or IR push-button with constant pulse.

Only suitable for 230 V incandescent lamps, low voltage halogen lamps with electronic transformers and high voltage halogen lamps.

Technical data

Nominal voltage: 230 V AC, 50/60 Hz

Input power: approx. 1 W

Connected load: max. 700 W

– TRONIC-transformers + low voltage halogen lamps

– standard incandescent lamps

– high-voltage halogen lamps

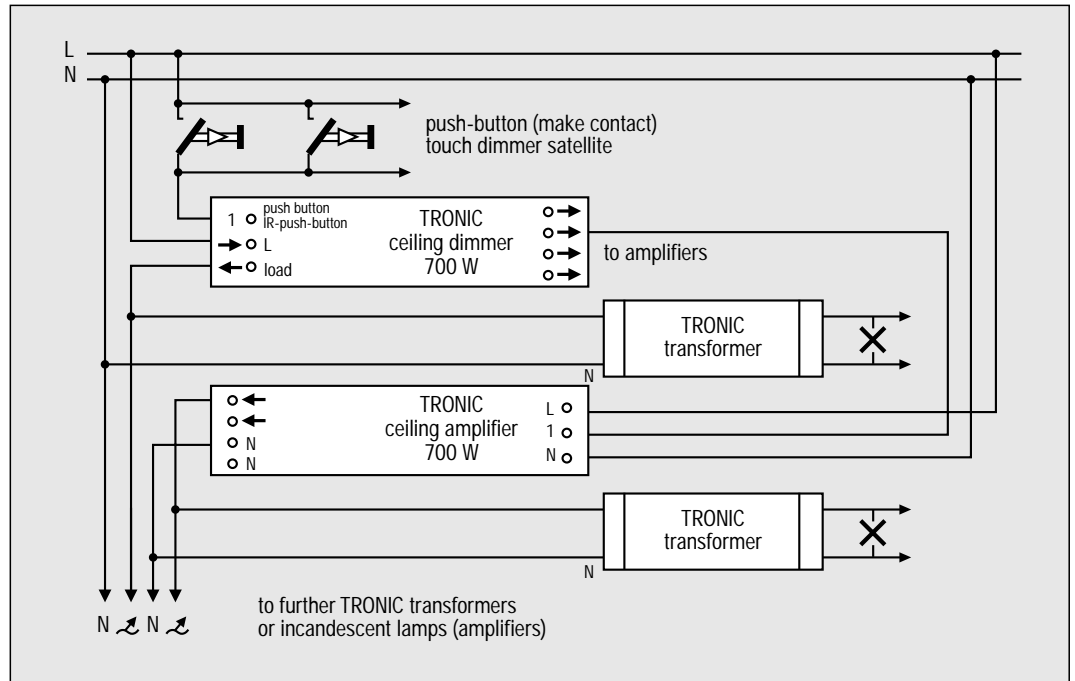
– loads specified above in combination

Number of amplifiers per

TRONIC-dimmer: max. 10 (when load of TRONIC-dimmer = 300 W)

Ambient temperature: max. 45°C/113°F

Temperature of housing: max. 70°C/158°F



TRONIC built-in amplifier Ref.-No. 247 EB



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, C = capacitive

Installation instructions

for TRONIC amplifier

When using amplifiers, charge TRONIC dimmer with min. 50 W.

An amplifier may be connected to max.

10 TRONIC-transformers 70 W or

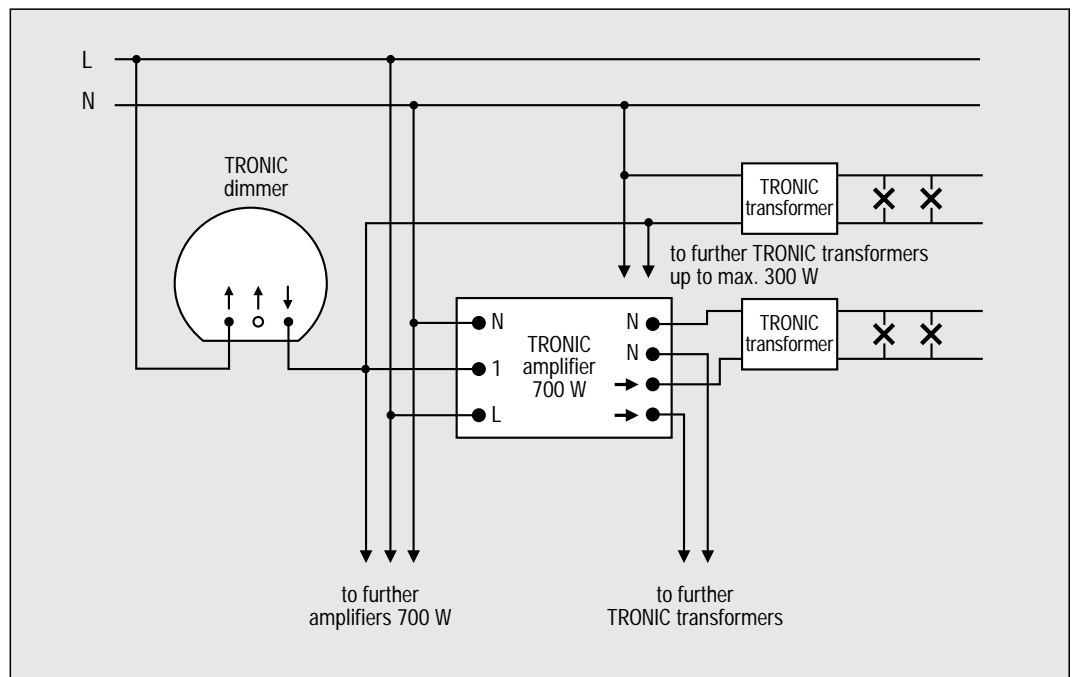
7 TRONIC-transformers 105 W or

5 TRONIC-transformers 150 W or

4 TRONIC-transformers 200 W.

The power consumption of the connected halogen bulbs may not exceed a total of 700 W.

Use identical phases for TRONIC-dimmers and amplifiers. Do not exchange L (phase) and N (neutral) on the amplifier otherwise malfunctions will occur.



Wiring diagrams

Inductive built-in amplifier

Ref.-No. 246 EB



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers: R = ohmic, L = inductive

Function

The low voltage built-in amplifier extends the capacity of low voltage dimmers for phase control by 600 W. The following dimmers are supported: touch dimmers, IR-dimmers, dimmers with push-button two-way switches.

Connecting several amplifiers (up to 10) in parallel, allows one single dimmer to control extensive lighting systems of low voltage halogen lamps with inductive transformers, incandescent lamps and halogen lamps (230 V).

The softstart feature ensures optimal lamp life cycles. The system causes an ON delay of the lamps of approx. 1 – 2 seconds at the amplifier.

Short-circuit protection

Permanent disconnection in case of shorts. Switch off dimmer. **Disconnect voltage.** Remove short-circuit. Reconnect voltage. Switch dimmer on again.

Overtemperature protection

Automatic disconnection in the event of thermal overload. Automatic restart after 454cooling off.

Installation instructions

Use the **same phase conductor** for dimmers and amplifiers. Do not get L and N confused when connecting the amplifier because non-compliance will lead to malfunction.

Cut back outer sheath of the wire by 22 mm to guarantee safe strain relief.

Small differences of illumination between dimmer load and load on the amplifier may occur, depending on the mains voltage supplied and the lamp selected.

Overall load (including transformer leak current) must not exceed 600 W (high voltage halogen lamps: 500 W).

Technical data

Nominal voltage: AC 230 V, + 6 % - - 10 %, 50 Hz

Connected load:
 Incandescent lamps 100 – 600 W
 Low voltage halogen lamps with inductive transformer 100 – 600 VA
 High voltage halogen lamps 100 – 500 W

Mixed load of specified loads

Max. mixed load with high voltage halogen lamps: 500 W

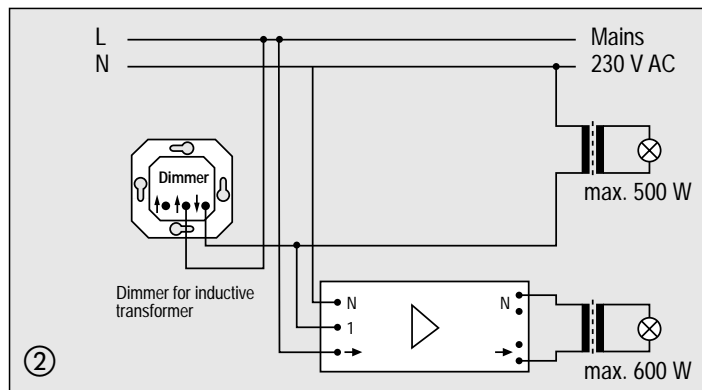
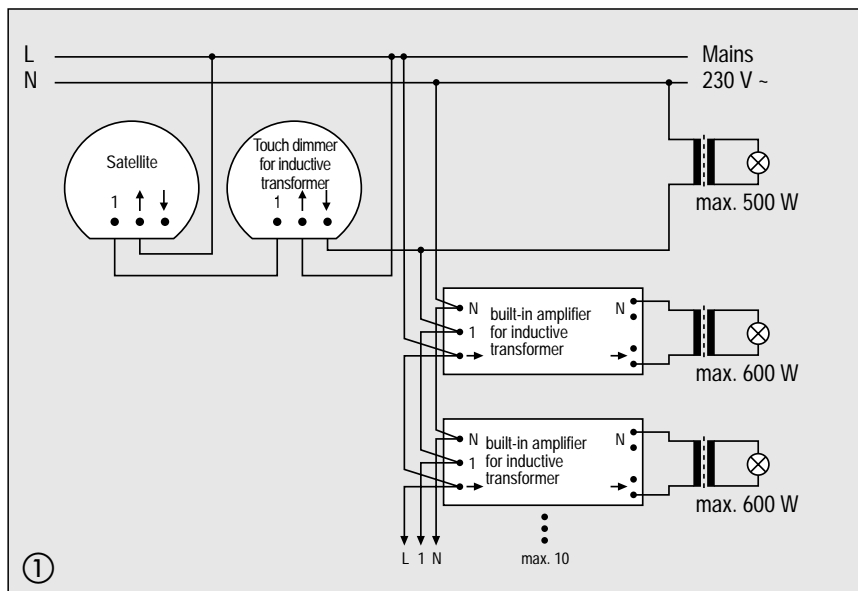
Softstart: approx. 1 – 2 sec

Short-circuit protection: permanent disconnection after approx. 100 ms

Ambient temperature: max. 45° C

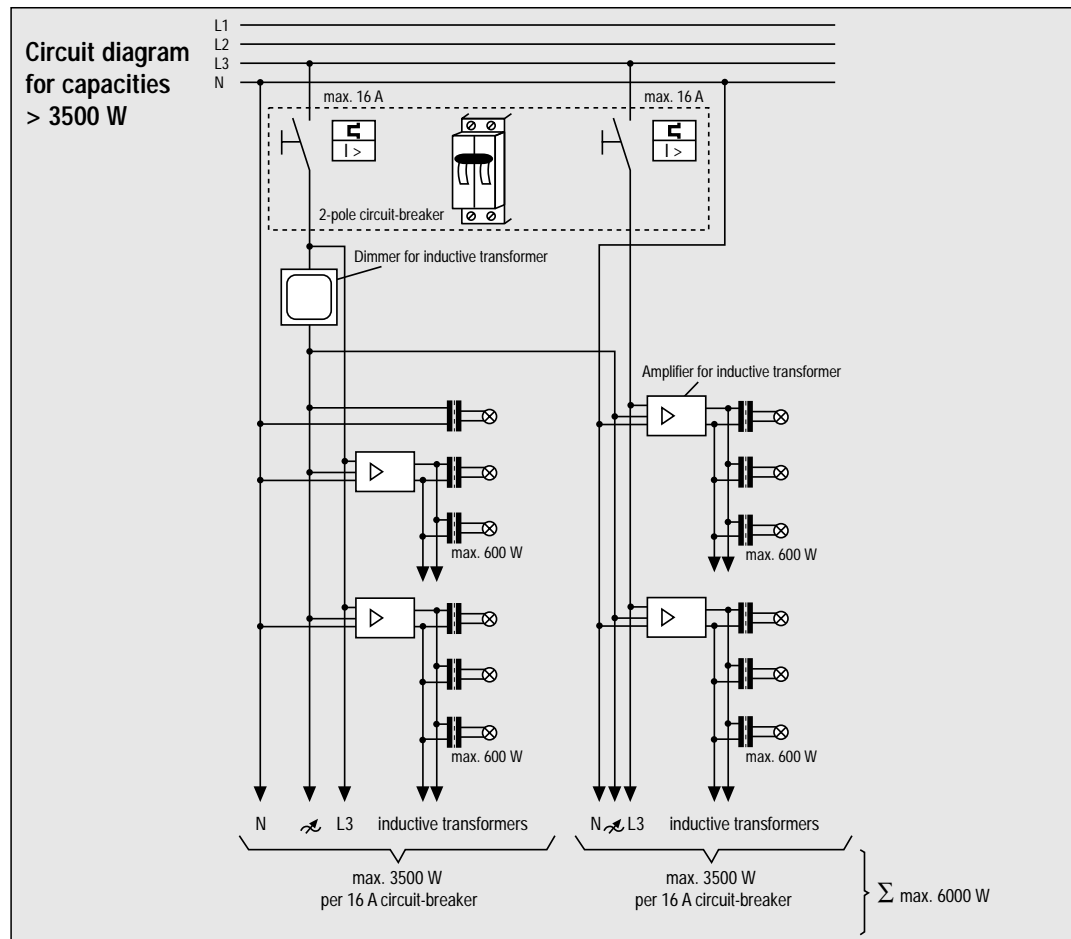
Temperature of housing: max. 70° C

Dimensions: 212 x 48.5 x 46 mm



If you use amplifiers, always put a direct load on the dimmer with inductive transformers or 230 V incandescent or halogen lamps according to dimmer specifications (see diagrams 1 and 2).

Diagram 2 illustrates the connection of a single amplifier, Diagram 1 shows several amplifiers connected in parallel.



TRONIC transformers for low-voltage halogen lamps

Function

Used for 12 V halogen lamps. Dimmable only by TRONIC dimmer (1254 UDE, 225 T DE, 254 UDIE, FUD 1253 EB, 245 TD REG, UD 1255 REG, 247.07 EB), Diagram ①.

Softstart feature guarantees the least possible stress on the lamp when switching on.

Overload and overtemperature protection by automatic power reduction (40 / 70 / 105 / 150 W transformers) and/or by disconnection until cooling off (200 W transformers).

Short-circuit protection (40 / 70 / 105 / 150 W transformers): automatic disconnection and restart after cause of failure has been removed.

Short-circuit protection (200 W transformer): automatic cut-out and restart within 5 seconds after cause of failure has been removed. Then permanent disconnection until manual restart. 200 W transformer also suitable for use with 230 VDC.

TRONIC transformers are spike-proof in accordance with EN 61047. Install separate load circuit for TRONIC transformers as a means of protection against higher overvoltages (which may be caused by switching on/off fluorescent lamps, discharge lamps, motors and other inductive loads). TRONIC transformer defects caused by voltage surges when switching the load circuit can otherwise not be excluded.

If there is the danger of mains spikes, also install a TRONIC overvoltage protection module on the primary side and in parallel to the TRONIC transformers, see Diagram ② a.

1 TRONIC overvoltage protection module is sufficient for approx. 10 TRONIC transformers per circuit.

If TRONIC dimmers are used, install the overvoltage protection device in parallel to the series-connected TRONIC dimmer and TRONIC transformer, see Diagram ② b.

Observe the transformer's capacity range. Underload may cause flickering.

Install and connect as illustrated by Diagram ③ (maintain double distance between transformers) and Diagram ④.

Avoid presence of heat sources (e.g. lamps) in immediate proximity to the transformer. In critical cases, measure the temperature at point Tc.

For recommended diameter and type of secondary line (output line) see Diagram ⑤.

Secondary line max. 2 m (radio protection), Diagram ⑥.

We recommend using a six-fold distributor, Diagram ⑥.

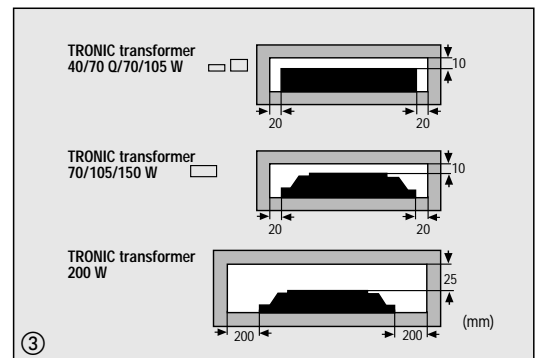
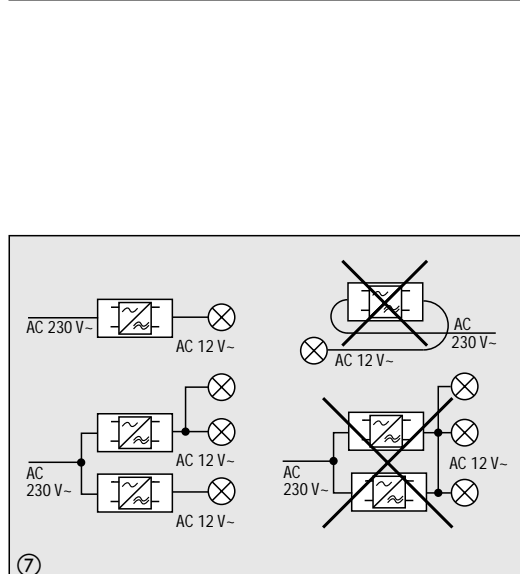
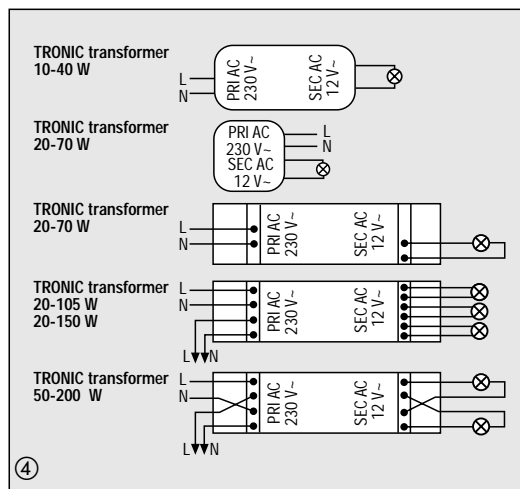
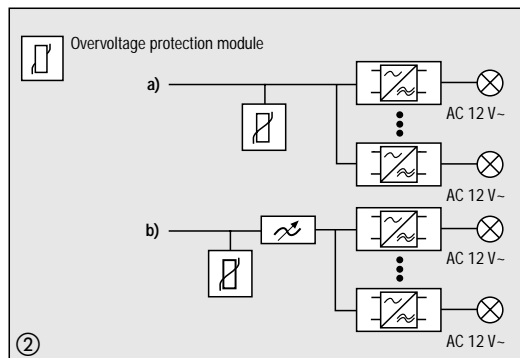
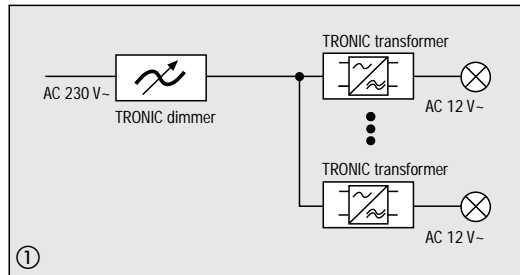
Use six-fold distributor with safety cut-out if you wish to protect individual lamp lines separately.

Do not connect secondary line to other TRONIC transformers and do not lay near the mains, Diagram ⑦.

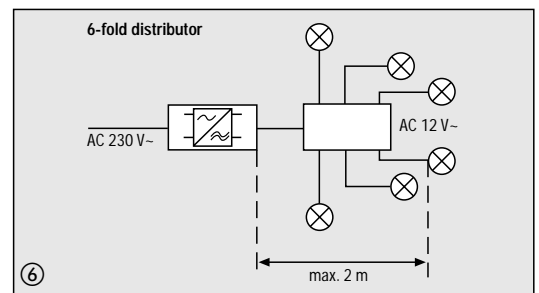
If TRONIC transformers not provided with a strain relief are used, ensure push- and pull-free cable connections to the TRONIC transformer.

Use suitable installation box for mains connection to TRONIC transformers equipped with pre-assembled cable connectors.

For TRONIC transformers provided with a strain relief, use mains cable min. H 05 VV-F 2 x 1,5 mm². For lengths of outer cable sheath and basic insulation to be removed, refer to Diagram ⑧.



Capacity per line	Wire diameter	Recommended secondary line
≤ 35 W	≥ 0.75 mm ²	e.g. H03 VV-F 2 x 0.75 mm ²
40 W - 105 W	≥ 1.5 mm ²	e.g. H 05 VV-F 2 x 1.5 mm ²
110 W - 150 W	≥ 2.5 mm ²	e.g. H 05 VV-F 2 x 2.5 mm ²
155 W - 200 W	Divide capacity across min. 2 lines (min. 2 x 1.5 mm ²)	



Transformer	Pre-assembled	(mm)
Transformer 10-40 W		8, 17, 200
Transformer 20-70 W		8, 16
Transformer 20-70 W, 20-105 W, 20-150 W		8, 16
Transformer 50-200 W		8, 23

Wiring diagrams

Universal dimmer REG

Ref.-No. UD 1255 REG



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers:
R = ohmic, L = inductive, C = capacitive

Function

Universal dimmer REG for switching and dimming of different types of lighting equipment.

- 230 V incandescent lamps, HV halogen lamps
- LV halogen lamps with Tronic transformers
- LV halogen lamps with conventional transformers

The lamps are switched on in the lamp-saving softstart mode.

Switching and dimming operations are controlled either by pressing the button in the front panel of the dimmer or from extension units connected to the device.

The switching states of the dimmer are indicated by the LED Fig. A (1).

LED on: dimmer ON

LED off: dimmer OFF

Operation with integrated push-buttons

Button layout see fig. A.

Operation in OFF state

Brief press (less than 400 ms):

Button ▲ or ▼ or both buttons

ON with stored brightness value.

Long press (longer than 400 ms):

Button ▲ or both buttons

Switching on with minimum brightness and subsequent light variation up to maximum brightness.

Button ▼

Switching on with minimum brightness.

Operation in ON state

Brief press (less than 400 ms):

Button ▲ or ▼ or both buttons: OFF.

Long press (longer than 400 ms):

Button ▲

Increase of brightness to maximum value

Button ▼

Reduction of brightness to minimum value

Both buttons (at least 3 s)

The current brightness value is permanently stored and reactivated when the device is switched on (brief press). Storage is indicated by a soft-start of the lighting. Restoring of the brightness overwrites the old value.

Operation with satellite insert "2-wire" ref.-no. 1220 NE

The functions of a satellite insert "2-wire" in combination with the multi-function push-button ref.-no. ...1561.07 corresponds are the same as those obtained in local operation with the integrated push-buttons.

Button functions Button satellite insert "2-wire"

▲ Fig. A (2) UPPER half of rocker

▼ Fig A (3) LOWER half of rocker

▲ and ▼ Fig A (2) (3) center of rocker

Functions see „Operation with integrated push-buttons“.

Mechanical push-button (n.o. contact) as local satellite unit

Brief press: ON / OFF

Long press: brightness variation

- A brief press in OFF state switches on the device with the stored brightness value.

- A long press in the OFF state switches on the device at first with minimum brightness. When kept pressed, the brightness is increased to maximum brightness.

Dwell-time ca. 1 s at maximum brightness, thereafter reduction of brightness to minimum brightness.

Dwell-time ca. 1 s at minimum brightness, thereafter again increase of brightness to maximum. The process repeats itself continuously.

- The mechanical push-button (n.o. contact) cannot be used for storing a brightness value.

Fitting

The dimmer is a modular rail-mounted device and is therefore snap-fastened on a DIN rail in acc. with DIN EN 50022. The connecting terminals must be at the top.

Important

To prevent overheating when several dimmers or boost units are operated in the same control cabinet, the distance between individual devices must correspond to one modular spacing.

At nominal load (500 W/VA), the temperature inside the control cabinet must not exceed 45 °C at the hottest point.

At temperatures above 45 °C, the load that can be connected to the device decreases by 15 % per 5 degrees centigrade.

Installation instructions

- After first installation and after disconnection of the mains, the dimmer adapts automatically to the load.

The adaptation process may be accompanied by short flickering of the lamps and lasts between 1 – 10 s, depending on mains conditions. During the adaptation, the device does not accept any commands.

- **Do not connect capacitive loads (e.g. TRONIC transformers) together with inductive loads (e.g. conventional transformers) to the Universal dimmer REG.**

- In the event of a short-circuit during the adaptation procedure, the adaptation must be restarted after removal of the short-circuit.

- After the first installation, the brightness value in the dimmer memory is set to maximum.

- The total load connected including transformer losses must not exceed 500 W/VA.

- Power amplifier units can be connected to the dimmer to increase the load rating when the dimmer capacity is exhausted. Select a amplifier unit suited to the dimmer and to the load e.g. Universal power amplifier unit REG 200 – 500 W ref.-no. ULZ 1215. Further details can be found in the operating instructions of the respective amplifier unit.

- A minimum load of 50 W/VA is necessary to prevent flickering of the lamps connected.

- At least 85 % of the total load connected to conventional transformers must consist of lamps.

- Observe the technical connection conditions of the power supply companies.

- Centralized telecontrol signals of the power stations may be noticed as flickering of the lamps. This is not a defect of the dimmer.

- After mains failures of more than 0.7 seconds, the dimmer switches off.

- Illuminated mechanical push-buttons must be equipped with a separate N terminal.

Connection as per fig. pag. 77

(1) Local extension unit

(2) Universal dimmer REG

(3) Central extension unit

(4) Load

Short-circuit protection

Phase cut-off operation (capacitive load, resistive load):

The device shuts off and restarts automatically if the short-circuit is removed within 7 seconds.

If the short-circuit lasts longer than 7 s, the universal dimmer remains permanently off until it is switched on again manually.

Phase cut-on operation (inductive load):

The device shuts off and restarts automatically if the short-circuit is removed within 100 ms. If the shortcircuit lasts longer than 100 ms, the universal dimmer remains permanently off until it is switched on again manually.

Overtemperature protection

The universal dimmer is shut off automatically when the ambient temperature is too high. After cooling down, the device must be switched on again.

Technical data

Supply voltage: AC 230 V ~, 50/60 Hz

Power rating: 50 – 500 W/VA

Load types: 230 V incandescent lamps (resistive load, phase cut-off)

HV halogen lamps (resistive load, phase cut-off)

JUNG-TRONIC-transformers (capacitive load, phase cut-off)

conventional transformers (inductive load, phase cut-on)

Mixed loads consisting of the specified load types (do not mix capacitive with inductive loads).

If mixed loads are used with conventional transformers, the share of resistive loads (incandescent, HV halogen lamps) must not exceed 50%.

Nominal power losses: 5 W

Ambient temperature (Ta): 45 °C

Dimensions: 2 modules

Degree of protection: IP 20

Power amplifier units: see amplifier unit operating instructions

Overall length load line: max. 100 mm

Local satellite units number: satellite insert "2-wire", mechanical push-button: unlimited

Illuminated mechanical push-buttons must be equipped with a separate N terminal.

Local extension units can be combined with one another.

Overall length satellite line: max. 100 mm

Central satellite units Number: satellite insert "2-wire": unlimited

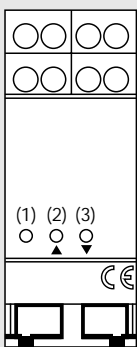
Overall length satellite line: max. 100 mm

Noise emissions: as per EN 55015

Connecting terminals: L, 1, Z, $\frac{\text{A}}{\text{N}}$ max. 4.0 mm²

Specifications subject to change with technical progress.

Fig. A

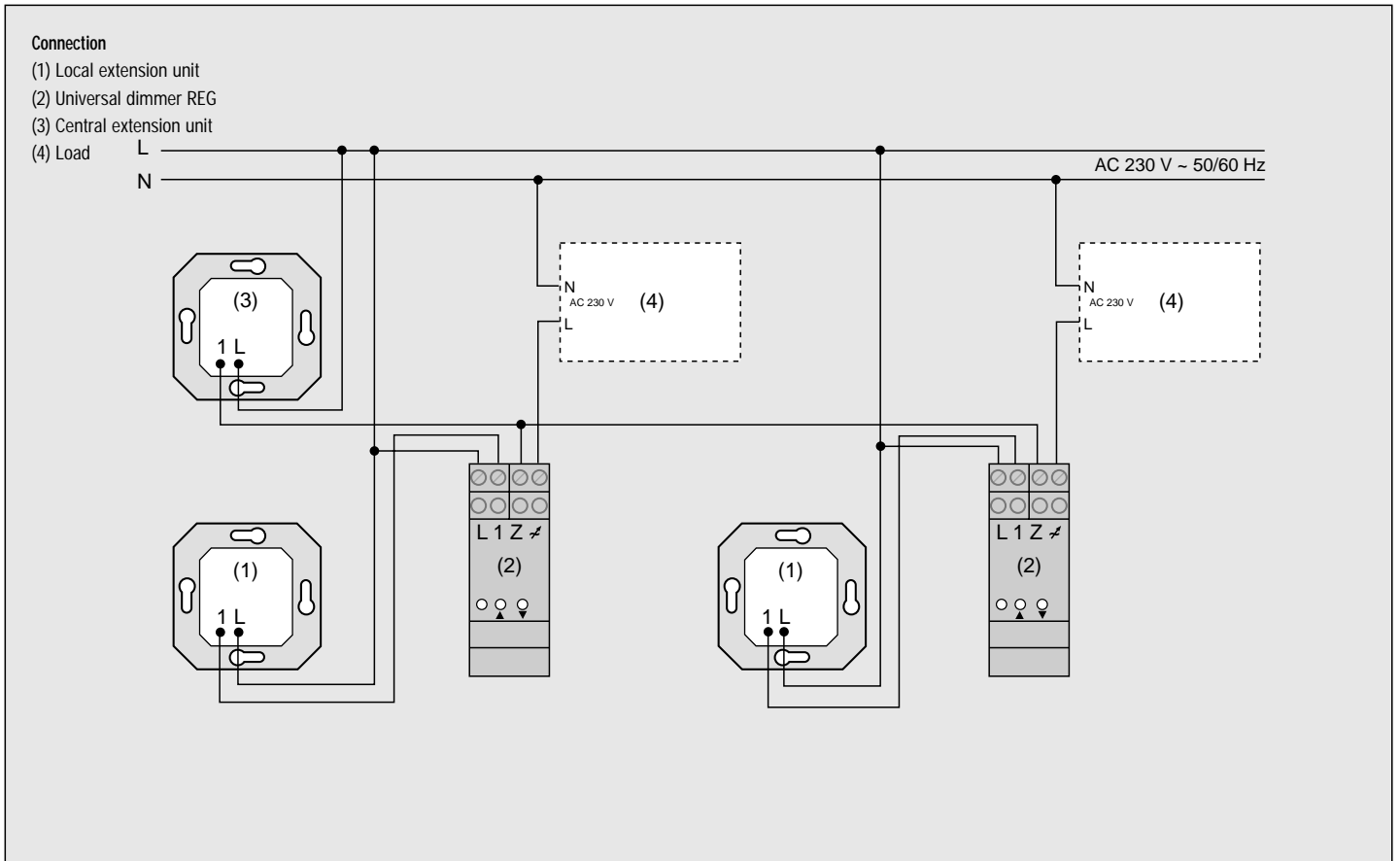


Universal dimmer REG

Ref.-No. UD 1255 REG



The symbols used to identify dimmer loads designate the type of the electrical behaviour of loads connected to dimmers:
R = ohmic, L = inductive, C = capacitive



Wiring diagrams

Universal amplifier REG

Ref.-No. ULZ 1215 REG



The symbols used to identify dimmer loads designate the type or the electrical behaviour of loads connected to dimmers:
R = ohmic, L = inductive, C = capacitive

Function

The universal amplifier REG is used for extending the power rating of Tronic, universal-type or LV dimmers.

The universal amplifier REG has no control elements. The device is entirely controlled from the connected dimmer.

Depending on the required power rating, several amplifier can be connected to one dimmer. The connected loads are supplied via a common load line.

- Lighting systems with a power consumption of more than 3500 W/VA must be supplied by two separate circuits, however from the same phase conductor. The circuit breakers of these circuits must be ganged in order to ensure safe disconnection of the lighting system from the mains.

- Lighting systems with a power consumption of more than 1000 W/VA are considered as a professional system.

- Observe the technical connection conditions of the power supply companies.

Centralized telecontrol signals of the power stations may be noticed as short-time flickering of the lamp at low dimming positions.

Fitting

The universal amplifier REG is designed as a modular rail-mounted device and snap-fastened on a mounting rail in acc. with EN 50022. The connecting terminals are at the top.

If several dimmers or power amplifier units are installed in the same control cabinet, it is necessary to observe a clearance of 1 DIN rail unit between the devices in order to prevent overheating.

Under rated load conditions, the temperature inside the control cabinet must not exceed 45 °C at the hottest point.

For temperatures above 45 °C, the load that can be connected must be reduced by 15 % per every 5 °C.

Short-circuit protection

The universal amplifier REG shows the same behaviour as the connected dimmer.

Example: Universal dimmer REG

Phase cut-off operation (capacitive load, resistive load)

The device shuts off and restarts automatically if the short-circuit is removed within 7 seconds. If the short-circuit lasts longer than 7 s, the universal dimmer remains permanently off until it is switched on again manually.

Phase cut-on operation (inductive load)

The device shuts off and restarts automatically if the short-circuit is removed within 100 ms. If the short-circuit lasts longer than 100 ms, the universal dimmer remains permanently off until it is switched on again manually.

Fitting instructions

- Only the dimmers mentioned in the reference list on page 50 can be used in combination with universal amplifier REG.
- Do not connect capacitive loads (e.g. TRONIC transformers) together with inductive loads (e.g. conventional transformers) to the universal amplifier REG.
- The overall power consumed by the connected loads is shared by the dimmer and the connected amplifier.

- The common load line must therefore have the required cross-section.

- At least 85 % of the load of conventional transformers must consist of lamps.

A minimum load of 200 W/VA is necessary to prevent flickering of the lamps connected.

Overtemperature protection

The universal amplifier REG is shut off automatically when the ambient temperature is too high.

The load supply is then at first shared by all of the remaining devices. The subsequent behaviour of the system varies and is influenced by:

- the type of dimmer used
- the number of devices
- the utilization of the devices
- the fitting location of the devices

Technical data

Rated voltage: AC 230 V~, 50/60 Hz
total load greater 1000 W/VA for professional systems only.

Minimum load: 200 W/VA

Load types: 230 V incandescent (resistive load)
230 V-halogen lamps (resistive load)
TRONIC transformers (capacitive load)
conventional transformers (inductive load)

Mixed loads composed of the loads specified (capacitive loads not together with inductive loads).

If mixed loads are used with conventional transformers, the share of resistive loads (incandescent, HV halogen lamps) must not exceed 50%.

Nominal power losses: 5 W

Ambient temperature (Ta): 0 ... 45° C

Observe the load reductions for temperatures above 45° C, see 'Fitting'.

Dimensions: 2 DIN rail devices

Degree of protection: IP 20

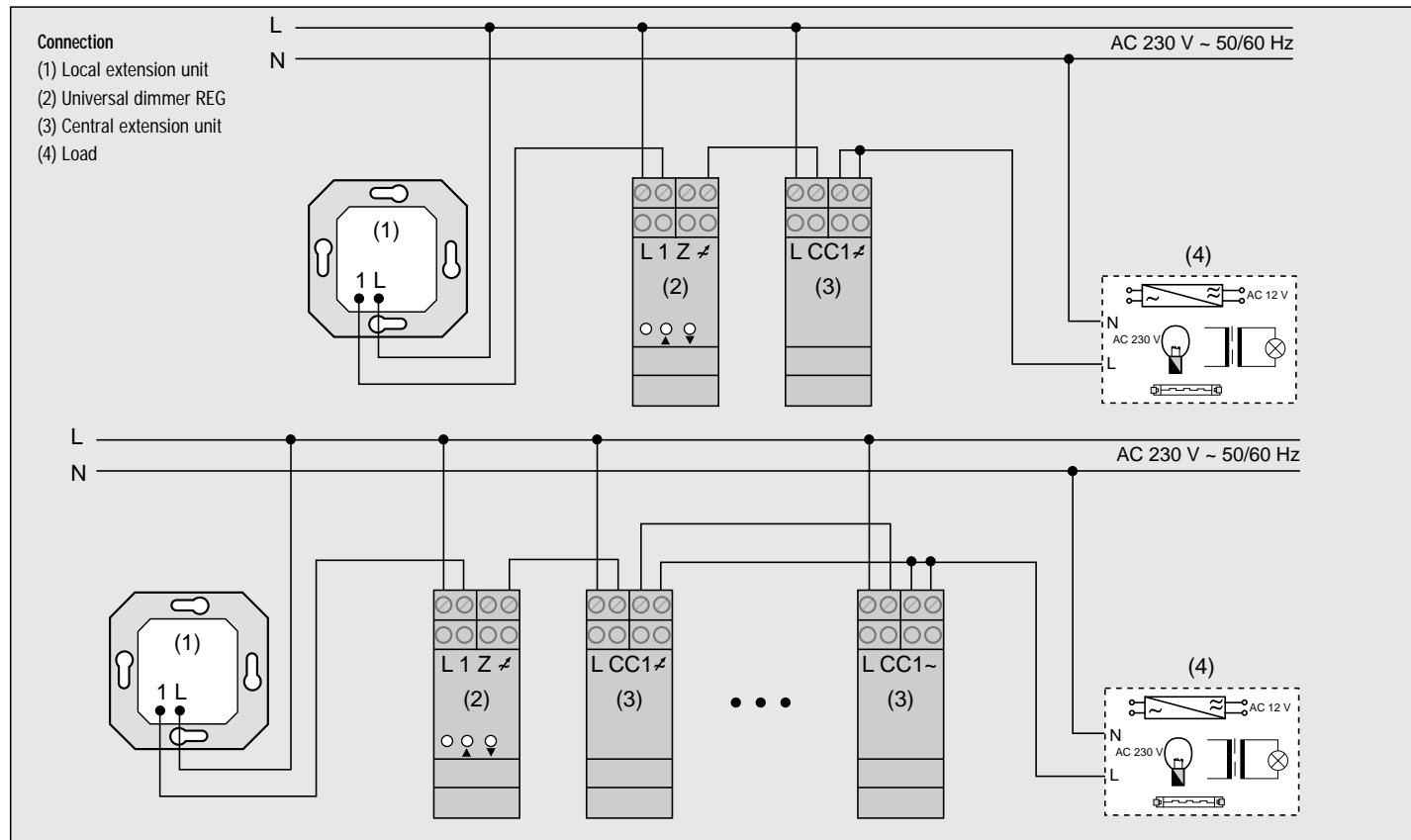
Max. number (n) of power amplifier units: see table

Emitted interference: as per EN 55015

Terminals: L, C, C1,

Terminal cross-section: max. 4.0 mm²

Specifications subject to change in the course of technical progress.



Wiring diagrams

Electronic time delay switch

Ref.-No. .. 5201 T ...

The time switch is a system component which is installed in a 60 mm wall box (recommended: deep recess). The device provides the possibility of timer-controlled switching of various light sources (see technical data) up to 1000 W.

Product features:

- Simple operation via 4-button keypad
- 2 independent program memories for up to 18 switching times (e.g. 9 ON and 9 OFF times)
- Timer function
- Random function
- Astro function
- Summer time/winter time selectable
- Individual astro functions by astro time shift
- Control via satellites
- Reset option to factory settings
- Up to 24 hours power reserve (maintenance-free, no batteries)
- Manual operation at any time

Technical data

Nominal voltage: AC 230 V ~, 50 Hz, neutral conductor required

Switching capacity:
Incandescent lamps 1000 W
High voltage halogenlamps 1000 W
Low voltage halogenlamps 750 W
with TRONIC transformers

Inductive transformers 750 W
Inductive transformer with min. 85 % nominal load

Fluorescent lamps:
Not compensated 500 VA
Parallel compensated (47 µF) 400 VA
Lead-lag circuit 1000 VA

Energy-saving lamps:
observe possible high inrush surges of energy-saving lamps;
check suitability of lamps before use!

Relay output: 1 potentialfree make contact

Not to be used for disconnecting!

Interval between switching operations: min. 1 minute

Terminals: screw-type terminals for max. 2.5 mm² or 2 x 1.5 mm² wires

Circuit-breaker: max. 16 A

Switchover time: min. 500 ms

Precision: +/-1 min. per month

Power reserve: approx. 24 hours (no batteries required)

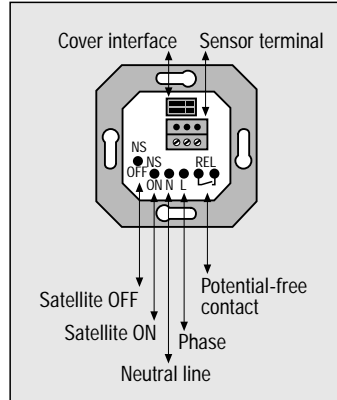
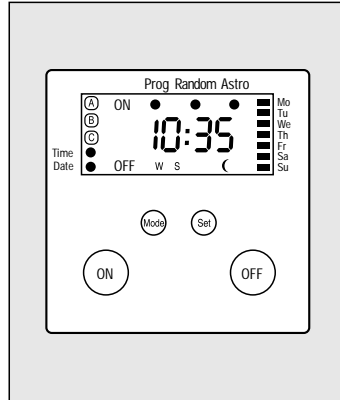
Switching times: max. 18 (in 2 program memories)

Timer function: 1 min. to 23 hours and 59 min.

Randomiser: +/-15 minutes

Astro program shift range +/-1 h and 59 min.

Interval between two switching operations: min. 1 minute

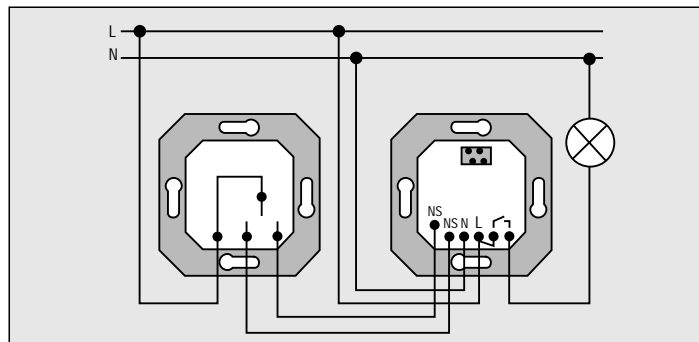
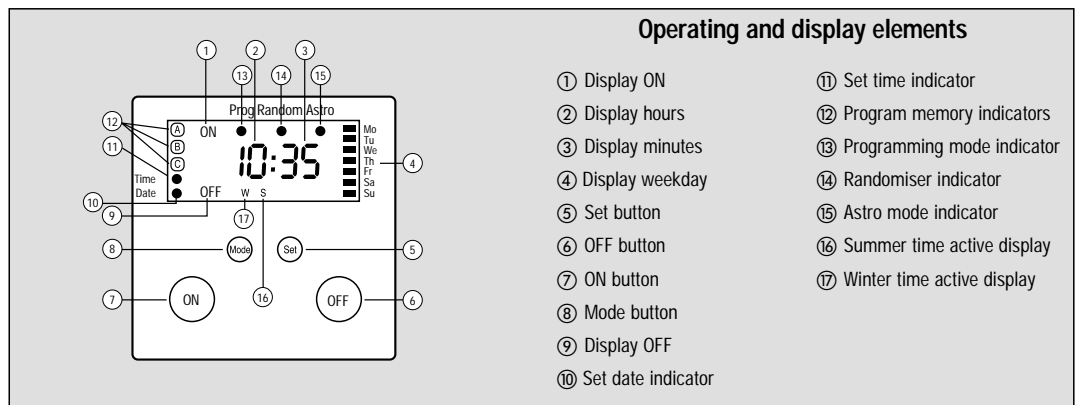


Consumers can be controlled via two separate satellite inputs by pressing a mechanical push-button (2-gang, 2 make contacts).

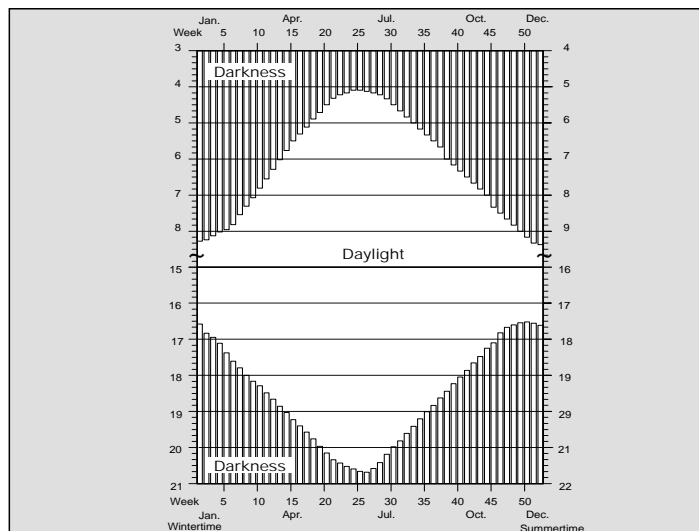
Set switching times will be maintained even in cases of mains failures for over 24 hours.

Current data (time, date) will be lost and will have to be set again. „12:00“ will be displayed as flashing.

Activating the timer function allows you to set a lighting up time between 1 minute and 23 hr and 59 minutes.



Connect phase L with the relay input (jumper wire) to connect a mechanical push-button, e.g. 2-gang push-button, ref.-no. 535 U.



Astro function

If you wish to switch the light on at sunset (SS) or to switch off at sunrise (SR), the switching times set for automatic operation need to be permanently adapted to the continuously changing astronomical calendar. The time switch therefore calculates the SS and SR times for every calendar day (relating approx. to the German city of Würzburg).

If you also activate the astro program, the stored OFF times will already be activated at sunrise while the stored ON times will be delayed until sunset. OFF times will be delayed until sunset. OFF times in the morning darkness and ON times in the evening darkness will not be changed.

To adjust the default astro times to your local conditions, you can shift these astro times by max. +/-1 hour and 59 minutes.

Wiring diagrams

Motor controller insert „Direct“

Ref.-No. 220 ME

Function ref.-no. 220 ME

The motor control insert „Direct“ is used in electrical installations without neutral conductor (N). The existing mechanical shutter switch can therefore be replaced directly by a comfortable control unit with the motor control insert „Direct“.

The motor control insert „Direct“ is a component of the Blinds Management and is used in conjunction with covers of the Blind Management in a mounting box acc. to DIN 49073 (deep box recommended).

By replacing the cover it is therefore possible to realize systems with manual operation, comfortable operation by radio remote control or timer-controlled fully automatic operation.

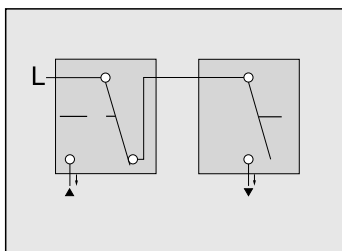
The Motor control insert „Direct“ must only be used in conjunction with one of the following blinds covers:

- cover JM
- cover with radio-controlled receiver JM
- cover with memory function JM
- cover with timer function JM or cover with timer function „Standard“ JM

The insert is equipped with two mechanically interlocked relay power contacts.

The simultaneous activation of both moving directions of the shutter motor connected is thus excluded.

Attention: Connect only one motor with limit switches and a power consumption of 1000 W max. to each insert. It is absolutely necessary to check the motor for suitability as described.

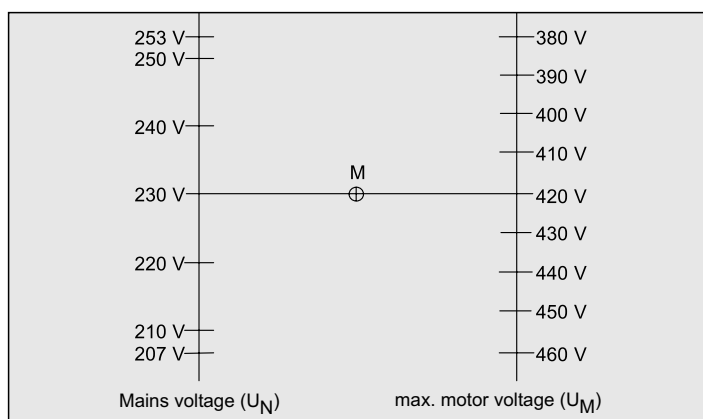
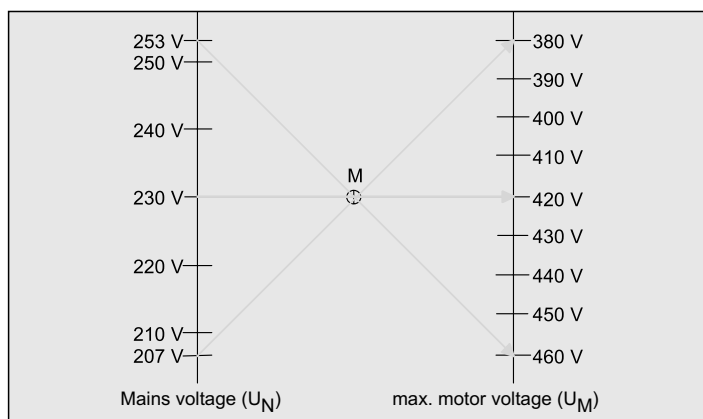
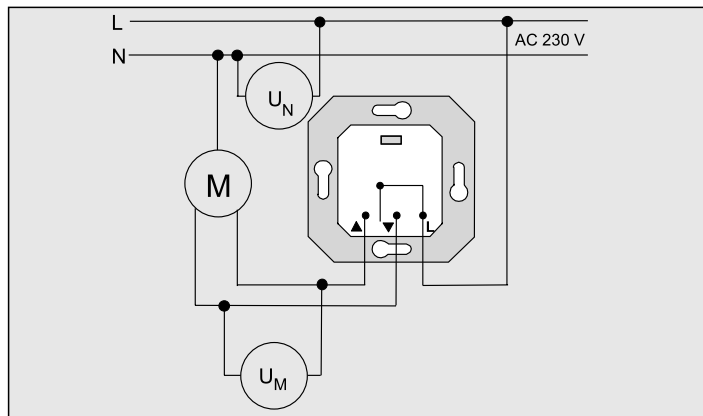
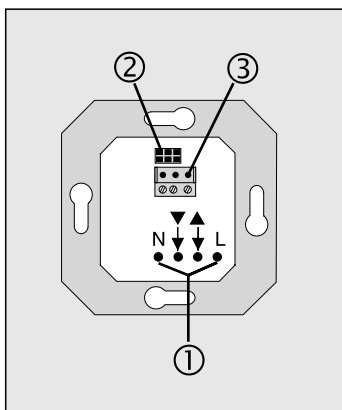


The insert has 3 connecting terminals ① and a 6-pole interface connector ② for connection of the cover.

In addition, a 3-pole terminal block ③ can be placed into the insert (supplied with inserts with sensor input).

This terminal block can be used to connect different sensors to the insert when covers with sensor input are installed:

- Sun protection / twilight sensor
- Glass breakage sensor



Instructions

Use blind/shutter motors with mechanical or electronic limit switches only.

Check the blind/shutter motor for suitability in compliance with the instructions before using it in conjunction with the motor control insert „Direct“.

Do not use isolating relays. With such relays, the blind/shutter control has no power supply through the motor winding. Risk of malfunction.

Observe the instructions of the motor manufacturers concerning the switch-over time and the maximum load factor (c.d.f.).

The electronic interlocking of the cover permits to obtain a minimum switch-over time of approx. 1 second in the continuous run mode.

Approximate values for typical maximum motor voltages U_M as a function of the mains voltage U_N are set out in the following table:

U_N	max. U_M
207 V	380 V
215 V	393 V
220 V	403 V
225 V	412 V
230 V	420 V
235 V	429 V
240 V	438 V
245 V	447 V
253 V	460 V

Checking the motors for suitability

Often, it is not known whether the motor installed is equipped with mechanical or electronic limit switches.

Therefore:

Check the motor first for suitability.

Some motors with mechanical limit switches tend to build up a high motor voltage in operation which may irreparably damage the motor control insert „Direct“. Checking is therefore effected with a conventional mechanical shutter switch and not with the motor control insert „Direct“.

Carry out the following measurement using a voltmeter:

- Measure the actual mains voltage U_N .
- Go to the measured mains voltage on the left side of the diagram opposite.
- Draw a straight line from the value found through the center M to the righthand axis. The intersection of the line and the right axis is the maximum permissible motor voltage U_M .
- Measure the motor voltage U_M in the UP and DOWN direction on the installed mechanical shutter switch. The maximum value as determined above must not be exceeded when the measurements are made.

Example

The measured mains voltage U_N is 230 V. Draw a straight line from 230 V on the left through the center of the diagram (M) to the right side with motor voltage U_M . The maximum permissible motor voltage in this case is 420 V.

The voltages measured for the UP and DOWN directions must therefore be below 420 V.

Motor with electronic limit switches

If it is certain that the motor uses electronic limit switches, the measurement described above can be dispensed with.

It is not possible to damage the insert with motors equipped with electronic limit switches if these are used in conformity with their designated use.

Technical data

Rated voltage: AC 230 V ~, 50 Hz
N-conductor not required

Switching capability: max. 1 motor with 1000 W

Relay output: 2 non-floating make contacts (mutually interlocked)

Pulse time:
cover JM 2 minutes
cover with memory function JM 2 minutes
cover with radio-control receiver JM 2 minutes
cover with timer function „Standard“ JM 2 minutes
cover with timer function JM standard value 2 minutes programmed: 1 second – 12 minutes

Switch-over in continuous run mode: min. 1 second (electronic interlock in cover)

Connecting terminals: screw terminals for 2.5 mm² max. or 2 x 1.5 mm²

Circuit-breaker: 16 A max.

Function

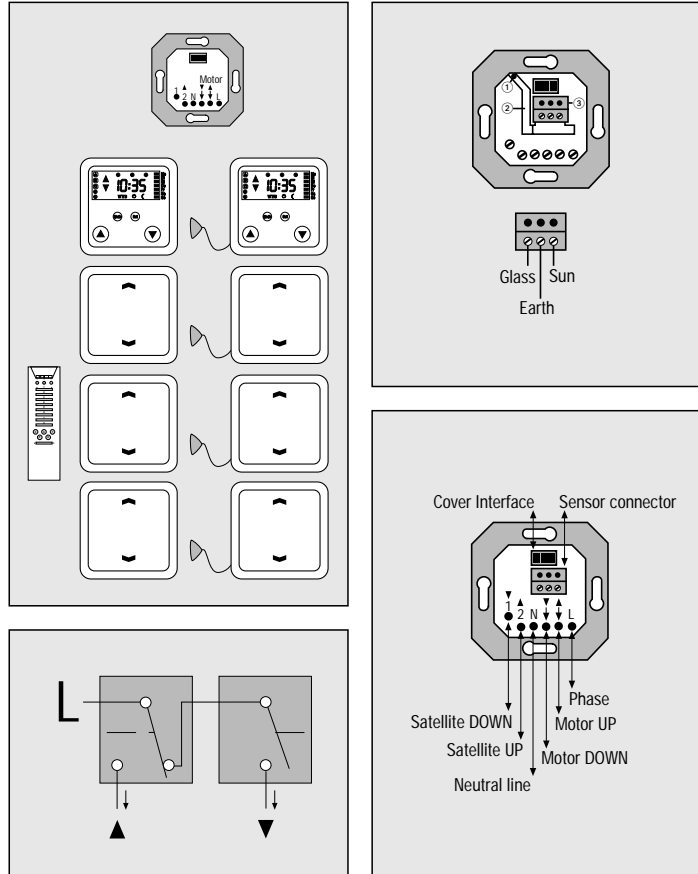
The motor controller insert is a Blinds Management component. Install it in a 60 mm flush socket (recommended: deep recess) together

- with the cover JM with timer function
- or with the cover JM with memory function
- or with cover JM with radio receiver
- or with cover JM

Changing the cover thus allows you to configure the device for manual or memory operation, convenient radio control or fully automatic timer control.

The insert is equipped with 2 high-performance, interlocked relay contacts. This safely avoids supplying power to both working directions of the blinds motor simultaneously (see figure). Satellite inputs allow you to connect the system to further mechanical push-buttons and blinds controllers. You can also use the satellite inputs for a „wind alert“ function.

Each motor controller insert controls 1 motor with limit switches up to a capacity of 1000 VA. Please observe the information provided by the manufacturer.



Installation instructions

Important: The sensor cable carries safety extra low voltage (SELV). Observe installation instructions in accordance with VDE 0100.

Choose a suitable wire for laying the sensor cable.

Recommended: telephone line J-Y(STY) 2 x 2 x 0,6 mm². Insert the individual sensor cable cores into an insulating tube. Then push cable and insulating tube through the drill hole ① of the insert then through cable conduit ② to be connected to terminal ③.

Use the schematic diagram on the left to connect the sensor cables.

Core coding

Sensors: „Earth“ = marked

Extension to coupling:

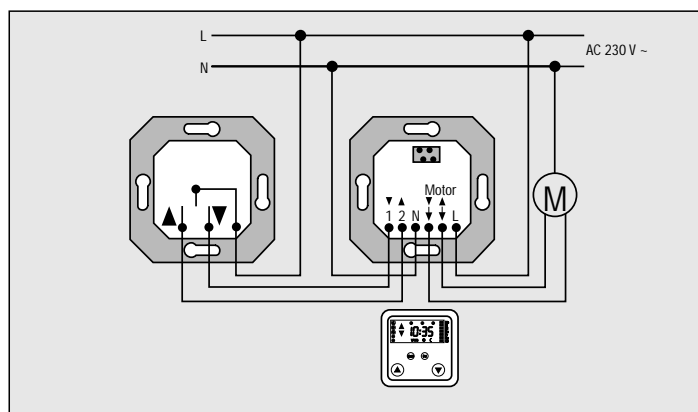
„Sun“ = marked

„Earth“ = middle wire

Use a coupling if you wish to use both the sunlight/dusk and the broken glass sensors at the same time. Connect the coupling to the 3-pole terminal of either the cover with sensor connection or the insert. The coupling is equipped with 2 connectors for the sensor wires.

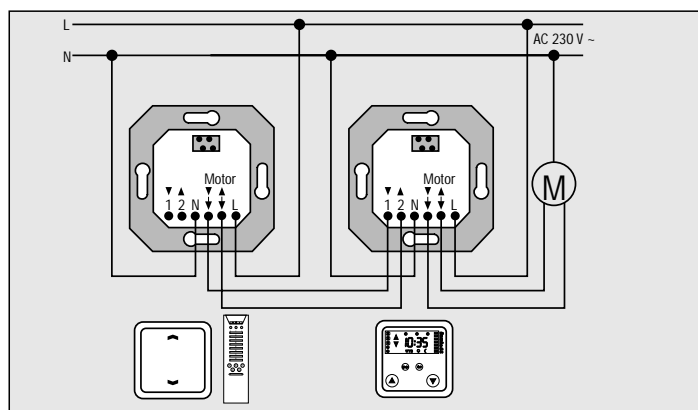
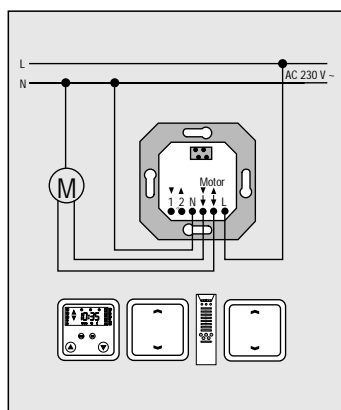
The motor controller insert JM has 6 terminals and 1 clamp junction for cover contact assignment. You can add another 3-pole terminal for operation. Use this terminal to connect the sunlight/dusk sensor (dusk sensor only in conjunction with timer cover) and/or the broken glass sensor if you are intending to flush-mount a cover with sensor connector.

Motor controller insert JM connected to a mechanical satellite (mechanically interlocked blinds push-button). If blinds push-buttons are used, motor controller insert JM will not be self-latching (continuous operation). You will have to set the blind to the desired position manually.



Recommended: Use a 5 x 1,5 mm² wire to interconnect two inserts (1, 2, phase, neutral line, earthing conductor). Connection of motor controller insert JM.

Motor controller insert JM connection



Connection diagram of motor controller insert JM with radio-controlled satellite.

Wiring diagrams

Motor controller insert „Universal“ Ref.-No. 232 ME

Converter (wind sensor) Ref.-No. 32 U

Connection of motor controller insert JM with „central controller“

Example A for 2 blinds motors:

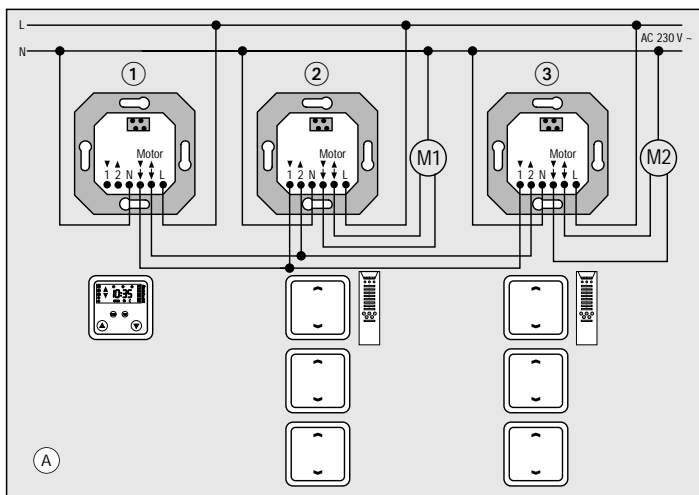
Insert ① with cover JM with timer function.

Inserts ② and ③ with cover JM with radio-controlled receiver, standard cover JM or cover JM with memory function.

Both motors are automatically and manually controlled „centrally“ via insert ① and cover JM with timer function. Switching commands for both motors are processed. This allows you to control simultaneously the UP and DOWN directions of the connected motors (e.g. central UP command in the morning and central DOWN command in the evening for all blinds motors connected).

Motors M1 (insert ②) and M2 (insert ③) can also be operated individually via cover JM with radio-controlled receiver, standard cover JM or cover JM with memory function.

Refer to the wiring diagram to learn how to add inserts. Observe power values of circuit-breakers.



Connection of motor controller insert JM with „central controller“ to 2 phases

Connecting the controller to 2 phases allows you to install the central control unit on another level or in another room.

Example for 2 blinds motors:

Inserts ①, ②, ③ with cover JM with radio-controlled receiver or standard cover JM.

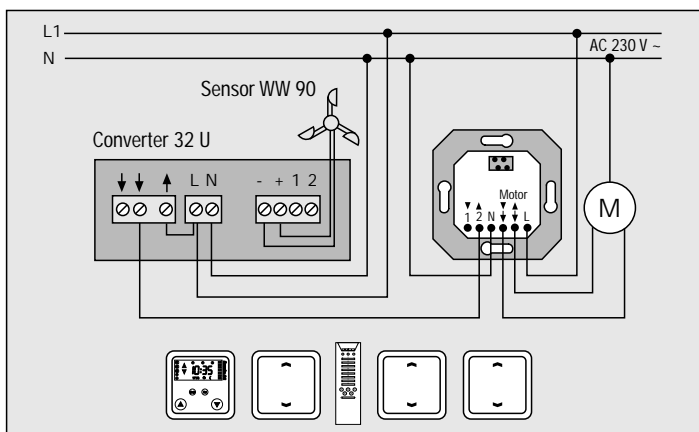
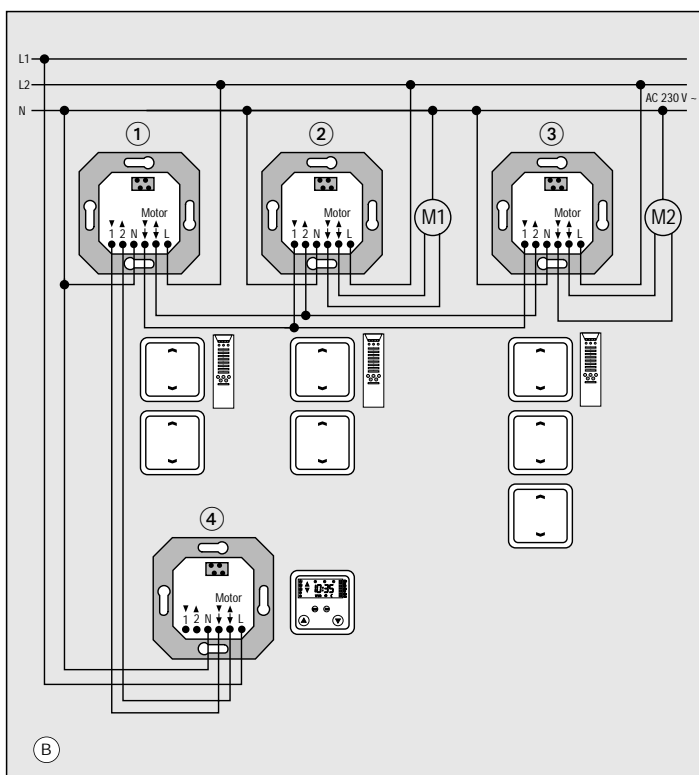
Insert ④ with cover JM with timer function.

Motors M1 (insert ②) and M2 (insert ③) are manually operated via cover JM with radio-controlled receiver or standard cover JM. Both motors are at the same time controlled via insert ④.

Both motors are automatically and manually controlled „centrally“ via insert ④ and cover JM with timer function. Switching commands for both motors are processed. This allows you to control simultaneously the UP and DOWN directions of the connected motors (e.g. central UP command in the morning and central DOWN command in the evening for all blinds motors connected).

Refer to the wiring diagram to learn how to add inserts.

Observe power values of circuit-breakers.



Technical data ref.-no. 232 ME

Nominal voltage: AC 230 V, 50 Hz, neutral conductor required

Switching capacity: max. 1 motor, 1000 VA

Relay output: 2 make contacts (interlocked)

Pulse duration:

Touch cover: 2 minutes

Memory cover: 2 minutes

Timer function cover:

default = 2 minutes
taught-in 1 second up to 12 minutes

Switchover time during continuous operation:

min. 500 ms (electronically locked by cover)

Terminals:

screw-type terminals for max. 2.5 mm² or 2 x 1.5 mm² wires
1, 2, neutral, ↓, ↓, mains

Circuit-breaker: max. 16 A

Recommendation

Use a 5 x 1.5 mm² wire to interconnect two inserts (1, 2, mains, neutral, earthing conductor).

Connection of motor controller insert JM with wind alert function

Wind alert has top priority, i.e. the blind will be rolled up in case of a wind alert and will remain locked in this position until the wind calms down.

The wind sensor enables the blind to be rolled up depending on the strength of the wind. The UP position protects sensitive blind slats and makes them secure when the wind gets up.

The wind sensor consists of two components:

- wind sensor
- evaluation unit (converter)

The wind sensor is operated in connection with the motor controller insert or with the binary input of the *instabus* system.

Wind sensor

The wind sensor is installed on the roof or on the wall of the house. It must be fixed in a favourable position for measuring the strength of the wind. Do not mount in shadow. Ensure it is attached correctly.

Use unshielded cable (JY-ST-Y 2x0.6 is recommended) for installing the wind sensor. The cable may not be laid together with 230 V ~ cables (danger of crosstalk).

The evaluation unit is equipped with floating make contacts. If using the same phase, install a jumper between L and ↑ according to the wiring diagram.

When connecting low voltage circuits to floating make contacts, observe the relevant regulation VDE 0100.

Note

Glass breakage sensors may not be used together with the wind sensor. The wind protection function (blind is rolled up) is disabled after glass breakage, the blind or slats remain closed.

If there is an UP command at satellite input 2 of the unit, the blind cannot be operated manually or automatically.

Function ref.-no. 230 ME

The motor control insert standard JM is a component of the Blinds Management and is installed in a box as per DIN 49073 (recommendation: deep box) in conjunction with

- an JM timer cover,
- or the JM push-button cover.

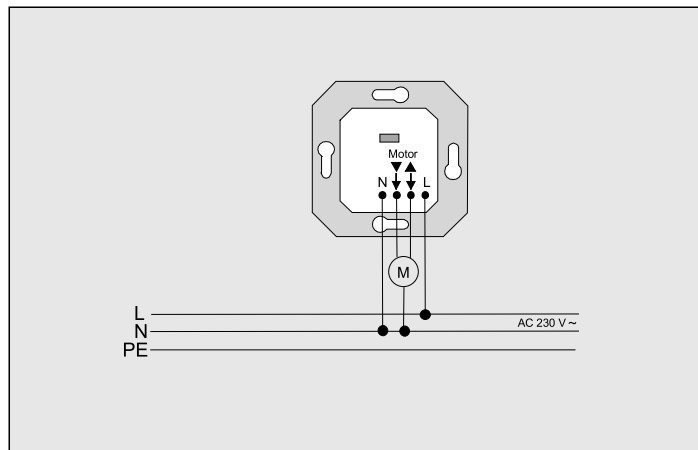
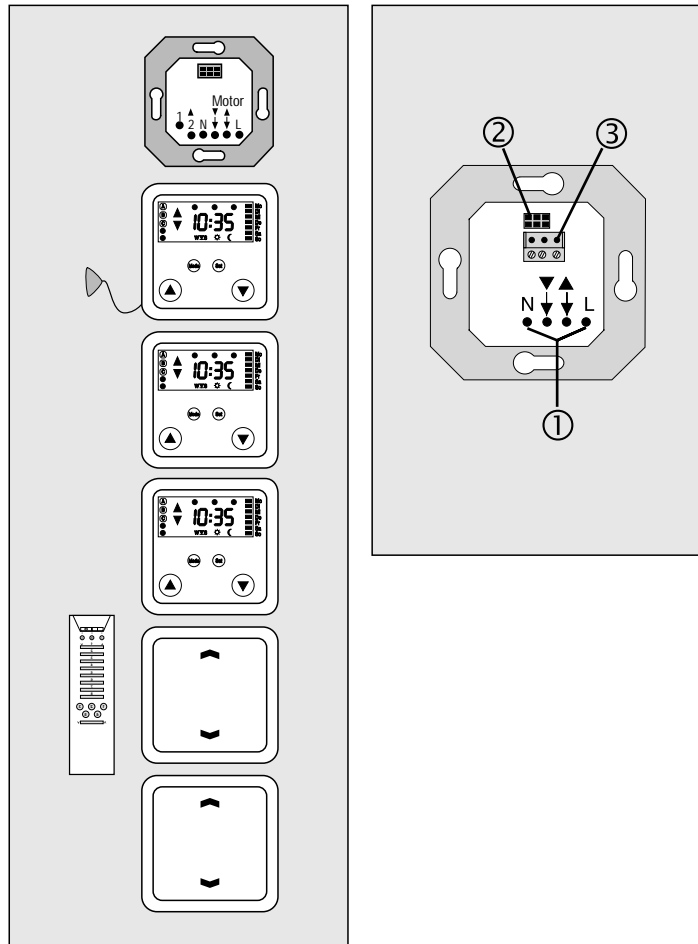
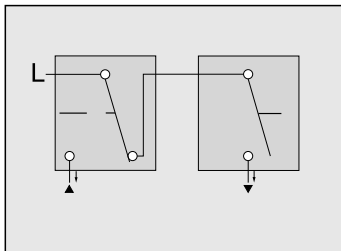
By replacing the cover, the user has the choice between manual operation, comfortable operation by radio remote control or fully automatic time-controlled operation.

The motor control insert JM can only be used in conjunction with one of the following covers of the Blinds Management system:

- JM push-button cover
- JM radio receiver cover
- JM push-button cover with memory function
- JM timer cover standard
- JM timer cover universal

The insert is equipped with 2 high-power relay contacts interlocked with each other. Simultaneous activation of both running directions in the shutter motor with resulting damage to the motor is therefore excluded.

Each insert can control 1 motor with limit switches and a rating up to 1000 VA maximum. Observe the instructions of the motor manufacturers.



The JM motor control insert standard has 4 terminals ① (N, ▼, ▲, L) and a connector ② for connection of the cover.

An additional 3-pole terminal ③ (supplied with the cover with sensor connection) can be placed in the insert. This terminal is needed for embedded wiring and a cover with sensor evaluation to connect the sun protection / twilight sensor (twilight switching function only in conjunction with the JM timer cover) and/or the glass breakage sensor.

Important

If the user desires to operate a louver-blind/shutter motor in addition to local switching also from a master control (e.g. central control system) it is necessary to use the motor control insert universal (ref.-no. 232 ME) which is equipped with extension inputs.

Technical data

Rated voltage:	AC 230 V ~, neutral conductor required
Switching capacity:	1 motor max. 1000 VA
Relay output:	2 potential-carrying make contacts (interlocked)
Pulse duration:	2 minutes
Timer function cover:	2 minutes standard, 1 second – 12 minutes learned
Switch-over time for cont. running:	1 second min. (electronic locking by cover)
Connecting terminals:	screw-type for 2.5 mm ² or 2 x 1.5 mm ²
Circuit breaker:	max. 16 A

Connection

The JM motor control insert is connected as shown in the figure on the left.

Wiring diagrams

Motor control insert 24 V DC Ref.-No. 224 ME

The JM motor control insert 24 V DC is a component of the Blinds Management system permitting the control of blind/shutter motors operating on 24 V DC.

The insert is installed in combination with a JM cover in a flush-mounting box in acc. with DIN 49073 (deep box recommended).

For the supply of the 24 V DC motor control insert and the control of the extension inputs, a power supply unit providing 24 V DC SELV must be used to ensure safety separation between the primary and the secondary side.

Do not connect this 24 V insert to 230 V extension units.

Do not connect the wind sensor to the 24 V DC Blinds Management. In the event of faults, there is otherwise the risk of electric shocks from 230 V – transferred into the 24 V system.

The insert works on the 'polarity-exchange principle', i.e. the sense of rotation of the blind/shutter motor is determined by changing the polarity of the motor outputs.

Extension inputs permit the connection of further 24 V DC motor control inserts. The JM motor control insert 24 V DC permits controlling one or more motors (parallel connection) with a maximum total current consumption of 3 A. Observe the instructions of the motor manufacturers.

Combinations of Motor control insert 24 V DC and cover

The Motor control insert can at present be used in combination with the center plate for motor control inserts with

- terminal for sensor
- radio receiver
- radio receiver and terminal for sensor
- memory function
- memory function and terminal for sensor
- timer function "standard"
- timer function "universal"
- timer function "universal" and terminal for sensor

Technical Data

Rated voltage: DC 24 V, +/-10 % incl. ripple

Switching capacity: 3 A max.

Power consumption insert + cover: max. 30 mA in standby mode, max. 100 mA with relay activated

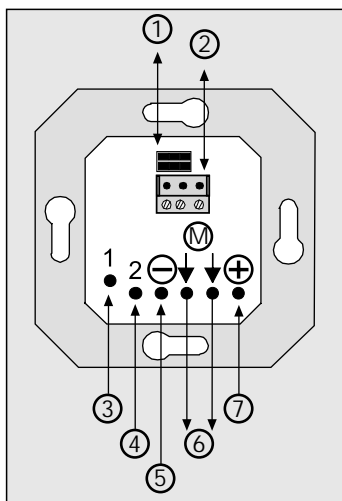
Relay output: 2 change-over relays in polarity-exchange configuration

Pulse duration: dependent on cover, standard is 2 minutes

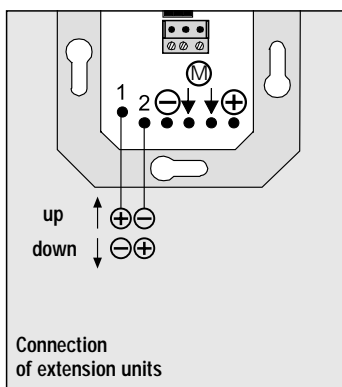
Change-over time: min. 1 Second (electronic interlock in cover)

Connecting terminals: screw terminals for 2.5 mm² max. or 2 x 1.5 mm²

Max. length of sensor line: typically 20 m, see fitting instructions



- ① Cover interface connector
- ② Sensor connection
- ③ Extension unit 1
- ④ Extension unit 2
- ⑤ Negative supply „-“
- ⑥ Motor connection
- ⑦ Positive supply „+“



Connection of extension units

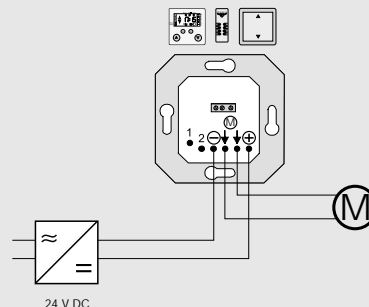
Connection of extension inputs

Extension inputs '1' and '2' may only be connected to 24 V DC SELV.

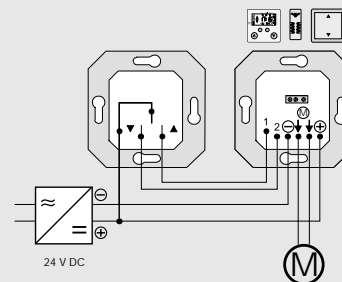
The sense of running of the blind/shutter motors is dependent on the polarity of the extension input connection.

As long as an UP signal is present on the extension input with terminal '1' and terminal '2', the blind/shutter cannot be operated manually on the device itself or by automatic control.

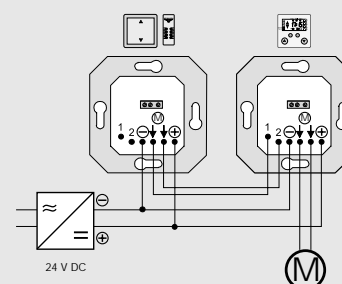
Connection: general



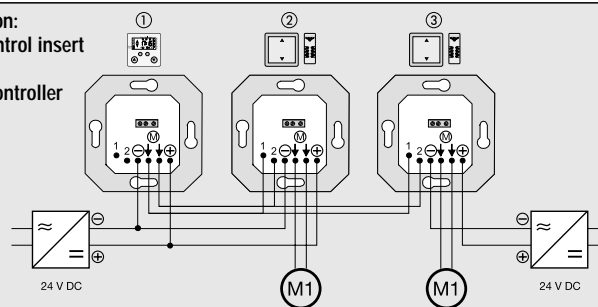
Connection: Motor control insert with mechanical satellite



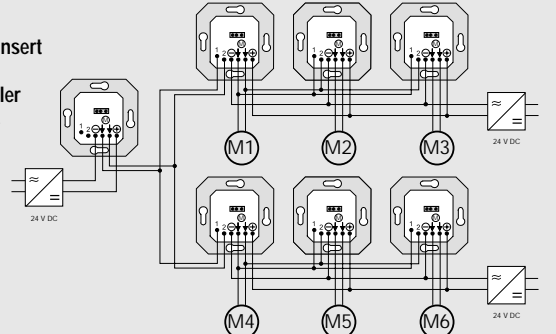
Connection: Motor control insert with motor control satellite



Connection: Motor control insert with central controller



Connection: Motor control insert with central controller for two groups



Center plate "standard" for motor control inserts

Ref.-No. ..5232 (S)..

Function

The standard cover is a component of the blind/shutter management system JM and can only be used in conjunction with the motor control insert.

A press on the ▲ button raises the blind/shutter while a press on the ▼ button lowers the blind/shutter.

The moving time of the blind/shutter can be individually selected between 4 seconds and 2 minutes (preset value = 2 minutes).

The cover is additionally equipped with a locking function to prevent any inadvertent automatic lowering of the blind/shutter.

Operation

Brief press on the button (less than 1 second)

A pulse corresponding in length to the duration of the press is generated. This function is used for the adjustment of the slats of blinds.

Press on the ▲ button (longer than 1 second)

The shutter control is in the self-locking mode ("continuous move").

From the upper limit position, the programmed moving time is executed; from all other positions, the moving time executed is 2 minutes.

Press on the ▼ button (longer than 4 seconds) individual moving time setting

If shutter is to be prevented from moving down completely to the lower limit position („ventilation function"), a shorter moving time can be programmed.

Before doing this, the blind/shutter must be moved in the „continuous mode" (moving time = 2 minutes) to the upper limit stop.

The individual moving time can be set only after 2 minutes have elapsed.

Depress the ▼ button until the blind/shutter has reached the desired position.

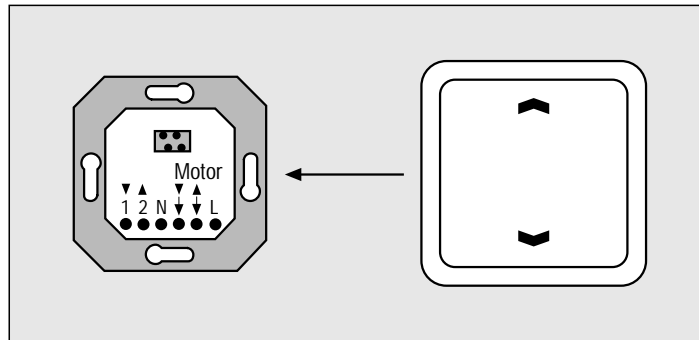
When the button is released, the blind/shutter stops and the new moving time is programmed.

To execute the programmed moving time, the blind/shutter must be moved in the „continuous mode" up to the upper limit position.

Reprogramming the moving time replaces the old value by the new one.

Press on the ▲ button (longer than 1 second)

The shutter control is in the self-sustaining mode. The moving time executed is 2 minutes.



Press on the ▼ button longer than 3 seconds Lockout protection

The LED in the middle of the cover is lit up.

The shutter moves to the upper limit stop and the lock-out protection is active.

Commands from the central unit, extension units and the sensors are disregarded.

This function can be deactivated with a press on the ▲ or ▼ buttons.

After a mains failure, the lock-out protection is deactivated and the individual moving time is erased.

Fitting

The standard cover is installed together with a motor control insert (ref.-nos. 230 ME, 232 ME, 220 ME, 224 ME) in a flush-mounting box in acc. with DIN 49073 (deep box recommended).

Standard cover with sensor input

Sun protection function

A sun sensor permits automatic lowering of the blind/shutter in strong sunshine. To execute this function, the blind/shutter must be raised in the „continuous mode" to the upper limit position.

The cover activates the sun protection function after 2 minutes. Any manual operation deactivates the sun protection function.

The sun protection function begins ca. 2 minutes after the preset brightness level has been exceeded (level presettable ca. 5.000 – 80.000 lux) and the blind/shutter moves down.

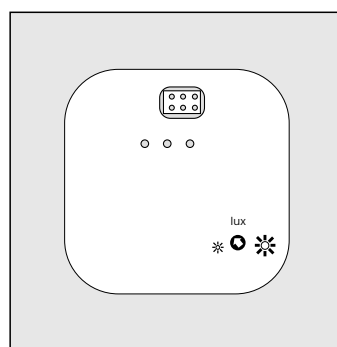
When the ambient brightness has been below the preset threshold for at least 15 minutes, the blind/shutter is raised again (short brightness variations have no effect).

The cover distinguishes between an inside or outside sun sensor.

To determine the type of sensor installed, the blind/shutter performs an initialization move when the sun protection function is activated for the first time.

The sensor installed is identified as an outside sensor, if no shading of the sensor is detected.

Otherwise, the sensor is an inside type.



Sun sensor on the inside

The sun sensor is installed on the window pane.

The installation height on the window determines the position to which the blind/shutter moves when the brightness threshold is exceeded.

Sun sensor on the outside

After the initialization move, the blind/shutter is raised again and then lowered again with the programmed moving time. From now on, the cover always executes the programmed moving time when in the sun protection mode.

With glass breakage sensor

The glass breakage sensor is attached to the window pane. When the pane breaks, the shutter moves down to the lower limit stop. Application: protection against the weather in the event of glass breakage.

The glass breakage message is reset by pressing the ▲ button and the shutter moves up again.

Important

When the lock-out protection is active, the signal from the glass breakage sensor is disregarded.

Glass breakage sensors must not be used in combination with the wind sensor.

The wind protection function via the extension input ▲ (shutter moving up) is disabled after a glass breakage. The blind or shutter remains closed.

Setting the brightness threshold for the standard cover with sensor input:

The brightness level at which the shutter is to be lowered can be adjusted with potentiometer (1) at the back of the standard cover within a range of ca. 5.000 to 80.000 lux.

✱ setting: ca. 80.000 lux

✶ setting: ca. 5.000 lux

The potentiometer is factory-adjusted to a value of ca. 15.000 lux (position as shown in fig. B).

Technical data

Connection: by plugging onto the motor control insert

Moving time: 4 to 120 seconds

Switch-over time: 1 second

Ambient temperature: 0 ... +45 °C

Storage temperature: –10 °C ... +60 °C

Brightness setting range: ca. 5.000 to 80.000 lux (sensor model only)

Wiring diagrams

Center plate with memory function for motor control inserts

Ref.-No. ..5232 M (S)..

Motor controller insert and center plate with memory function

In this combination, the automatic controller is operated with one UP and/or DOWN time at 24 hour intervals.

The following additional functions are supported:

- satellite connection
- wind alert

If a cover with sensor connection is used:

- broken glass alert
- sun protection function

Push-button mode

Center plate JM with memory function acts like a blinds control button. Push-button ▲ to roll the blinds up and button ▼ to roll them down.

Press button briefly (max. 1 second):

Generates an impulse of the same duration as the actuation signal. Use this function to adjust the blind's slats.

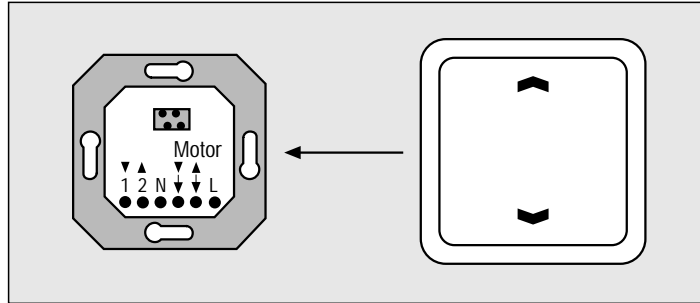
Press and hold button (min. 1 sec/max. 3,5 sec):

The blinds controller changes into self-latching mode („continuous operation“).

Memory mode

The blinds are operated like a blinds control button.

Additionally, the two stored operating times (one UP time and/or one DOWN time) will be reproduced at 24 hour intervals to give the impression that someone is in.



Example: stored times are 7 a.m. UP, 8 p.m. DOWN.

The blinds will be daily rolled up at 7 a.m. and rolled down at 8 p.m. until you store other times.

Each operation will comprise a complete process, taking about 2 min.

Both stored operating times will be repeated at 24 hour intervals. This provides you with a convenient, automatic blinds control mechanism which you can use, for example, to give the impression that you are in.

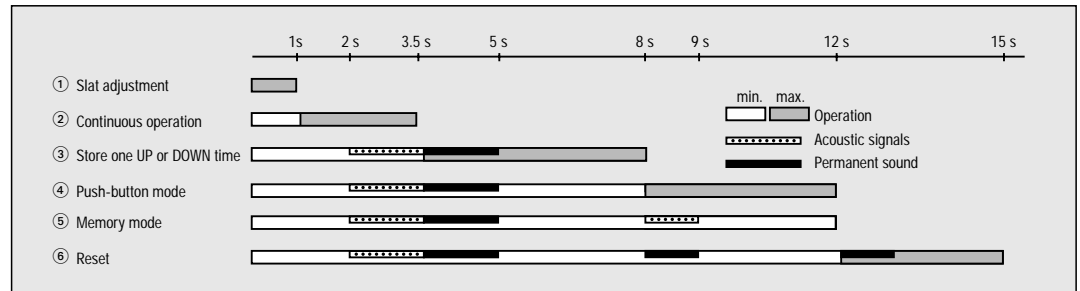
The different functions are selected by the duration of touch activation.

Function

- ① Slat adjustment
- ② Continuous operation
- ③ Store one UP or DOWN time mode (④ push-button mode, ⑤ memory mode)
- ⑥ Reset

Approx. operating time

- max. 1 s
- > 1 s - < 3.5 s
- 3.5 s - < 8 s
- 8 s - < 12 s
- > 12 s



Center plate with radio receiver

Ref.-No. ..5232 F., ..5232 FS..

Functions

The center plate with radio receiver is a component of the Blinds Management system.

In connection with the motor controller insert, it makes it possible to control a shutter motor by radio remote control and manually. The blinds is raised with the push-button ▲ and lowered with the push-button ▼.

Short switch operation (up to 1 sec.)

The blind is in motion for the duration of the push-button action.

This function is used to adjust the louvres of the blind.

Long operation (at least 1 sec.)

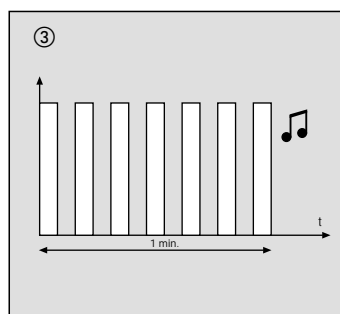
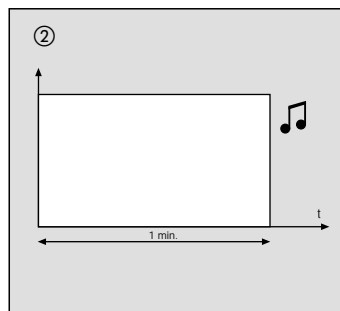
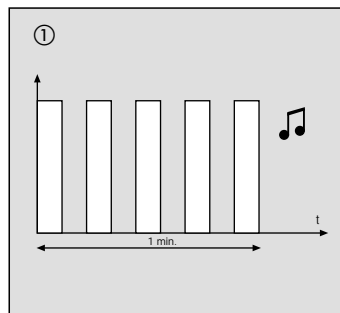
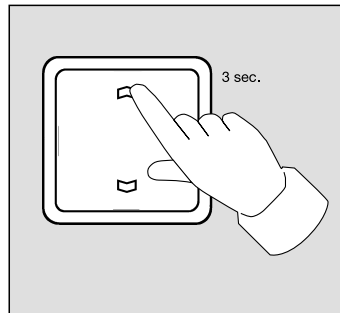
Shutter control remains locked in for approx. 2 minutes i.e. 'continuous operation'.

Up to 30 radio transmitters can be taught, thus the following radio remote control operations can be used: radio-controlled hand-held transmitter, radio-controlled wall-mounted transmitter and radio-controlled universal transmitter.

The limit positions of a blind (right at the top or right at the bottom) can be integrated into light scenes.

Due to the electronic locking of the center plate, a minimum changeover period of approx. 1 second on change in direction is implemented.

Observe the instructions from the motor manufacturer regarding the changeover time and max. operating time.



Note:

The distance away from electrical loads (e.g. electronic transformer, devices with electronic ballast, TV) must be at least 0.5 m.

The center plate with radio receiver can only be put into operation when combined with the motor controller insert.

Technical data

Power supply: from the flush-mounted insert

Changeover time on change in direction of travel: approx. 1 sec.

Transmission frequency: 433.42 MHz (ASK)

Temperature range: 0° C up to +55° C

Teaching in a radio transmitter

In order to be able to operate the center plate with radio receiver with remote control, this remote control must be taught into the center plate.

The distance between the center plate and the radio transmitter that is to be taught in may not exceed 5 m.

The learning process cannot be activated if mains voltage is applied at satellite station input 2 ▲ of the motor controller insert.

Learning process

1. Press a push-button on the center plate for at least 3 seconds.

The transmitter signals its readiness to learn (duration approx. 1 min.) by a long pulsing tone ①. During this period a radio channel can be taught in.

2. The required radio transmitter must trigger a radio transmission.

Teaching in a radio channel:

Press the required channel push-button for at least 1 sec.

Teaching in a light scene push-button:

Press the required light scene push-button for at least 3 sec.

Teaching in the ALL OFF/ALL ON button:

Press the ALL OFF or ALL ON button for at least 10 sec.

3. A successful learning process is confirmed by a continuous tone ② (duration approx. 1 min.).

You can interrupt the learning process at any time by pressing a push-button on the center plate.

Note

If all 30 memory locations are occupied, you must delete an already taught-in radio transmitter.

Deleting a radio transmitter

The deletion of a taught-in radio transmitter is carried out by a new learning process.

All the channels and light scene push-buttons must be deleted individually.

A successful deletion process is confirmed by a short pulsing tone ③ (duration approx. 1 min.).

You can interrupt the learning process at any time by pressing a push-button on the center plate.

Light scene

The limit position of a blind can be integrated into a light scene. This light scene can be changed at any time by storing it again.

A light scene push-button of the radio transmitter must be taught in before storing or retrieving a light scene.

Storing a light scene

1. Put the blind in the required limit position.

2. Press the required light scene push-button of the radio transmitter for at least 3 sec.

3. A short signal (approx. 1 sec.) sounds as confirmation that this light scene has been stored.

Note

If the blind is not in the limit position during the learning of a light scene, this blind is not stored in this light scene.

Wiring diagrams

Center plate with timer function standard

Ref.-No. ...5232 ST..

Function

The center plate with timer function is a component of the Blinds Management and is installed together with a motor control insert in a mounting box in acc. with DIN 49073 (deep box recommended). The device permits pre-programmed and time-controlled switching of louver-blind/shutter motors with a maximum rating of 1000 VA. The motor must be equipped with limit switches.

Product features

- easy operation with 4 keys
- programming without insert possible
- switching time blocks
 - Mo – Fr 1 x UP, 1 x DOWN
- switching time blocks
 - SA – SO 1 x UP, 1 x DOWN
- fast programming function
- factory-programmed switching times
- running reserve > 6 hrs. with charge storage capacitor

Installation

The center plate with timer function is plugged onto a motor control insert (Ref.-no. 230 ME or 232 ME). After about 30 minutes, the storage capacitor for the running reserve is completely charged.

Programming

When the storage capacitor is charged, the control module can be removed from the insert for easier programming and then be programmed independent of the insert for about 6 hours.

Important: Before programming for the first time, the device must be reset to the factory settings:

Resetting: Depress the AUTO/MAN and PROG keys at the same time until the display is blank.

The timer now displays: Mo, 12:00, MAN and is blinking.

The factory-programmed switching times are active:

- Switching time 1: ▲ 07:00, Mo – Fr
- Switching time 2: ▼ 20:00, Mo – Fr
- Switching time 3 : ▲ 09:00, Sa – So
- Switching time 4: ▼ 20:00, Sa – So

Mode change

Depress the AUTO/MAN key for one second.

The control changes between manual operation (MAN displayed) and time-controlled automatic operation (AUTO displayed). Manual operation is possible at any time also in the automatic mode (AUTO):

General operating instructions

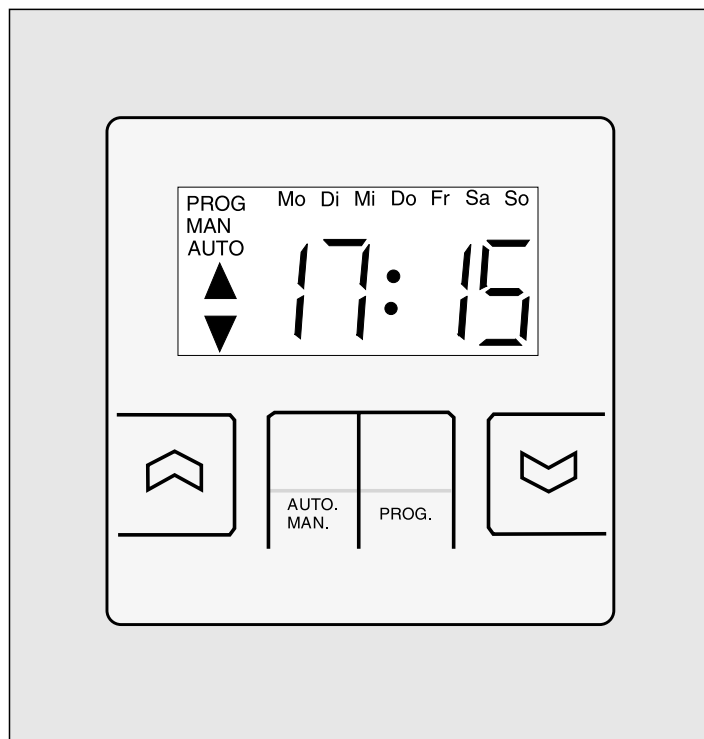
- Short depression of key (less than 1 sec): inching operation for louver adjustment with blinds.
- Long depression of key (more than 1 sec): 2 minute long continuous run; can be stopped with the ▲ or ▼ key.
- To quit the programming mode: Kepp the PROG key depressed for more than 2 seconds.
- To erase switching times: Select the switching time, set to 00:00 and store by depressing the PROG key. The switching time is then not executed.

This means that the execution of switching commands at time 00:00 h is generally not possible.

- In the event of manual operation in the automatic mode, the display shows for about 4 seconds the UP and DOWN times programmed for this day.

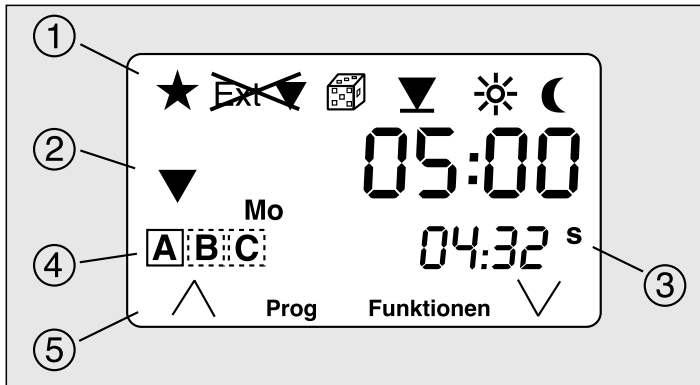
Technical data

Contact rating:	see insert operating instructions
Switch-over delay during:	at least 1 second
Accuracy:	± 1 minute per month
Running reserve:	> 6 hrs.
Switching times:	max. 4 (in 2 blocks)
Pulse duration:	approx. 2 minutes
Ambient temperature:	0°C ... +45°C
Storage temperature:	–10°C ... +60°C



Center plate with timer function "universal"

Ref.-No. ..5232 T3 (TS3)..



Display unit

- ① Activated functions
- ② Next moving event with the time, the day of the week and the moving direction
- ③ Current time with indication of summer/ winter time
- ④ Active program memory
- ⑤ Key assignments

If you see the symbols below in the display the following functions will be activated

- ★ The astro function is ON.
- ↖ Extension signals in the DOWN direction will not be evaluated.
- ⊞ The random function is ON.
- ⏴ The individual motor running time is being executed.
- ☀ The sun protection function is ON*
- ★ ☾ The twilight function is ON*
- ☾ The delay function is ON*

* This function will only be displayed for a cover with sensor connection.

Calling the Programming Menus

You can press the keys below to call the following menus:

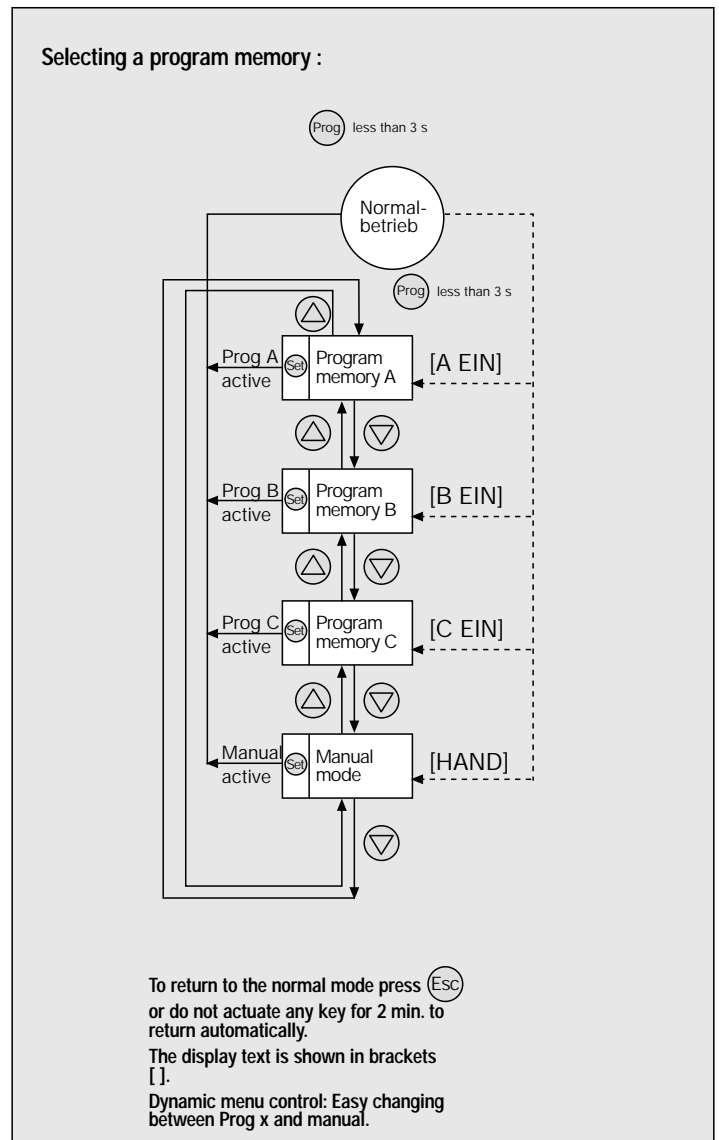
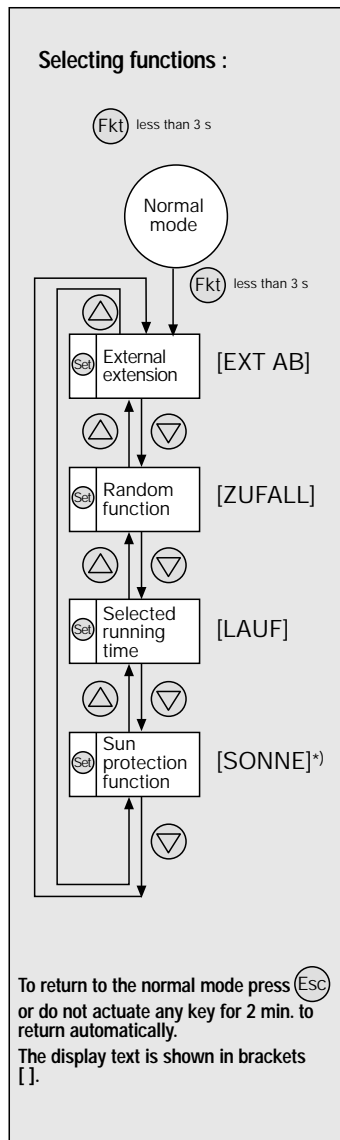
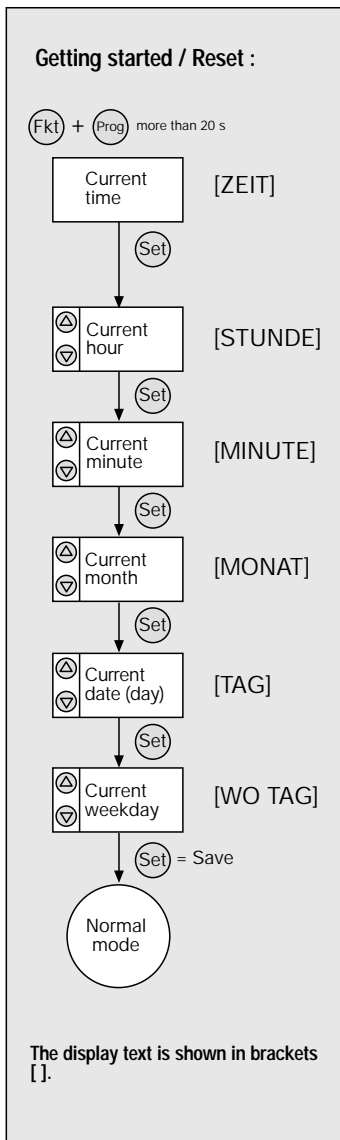
- "Prog" for less than 3 seconds
⇒ to select the program memory (A, B, C or manual).
- "Prog" for more than 3 seconds
⇒ to program moving events (see overleaf).

- "Funktionen" for less than 3 seconds
⇒ to activate and deactivate functions.
- "Funktionen" for more than 3 seconds
⇒ to program any functions (see overleaf).

In the menus, the "Set" and "Esc" key functions are available:

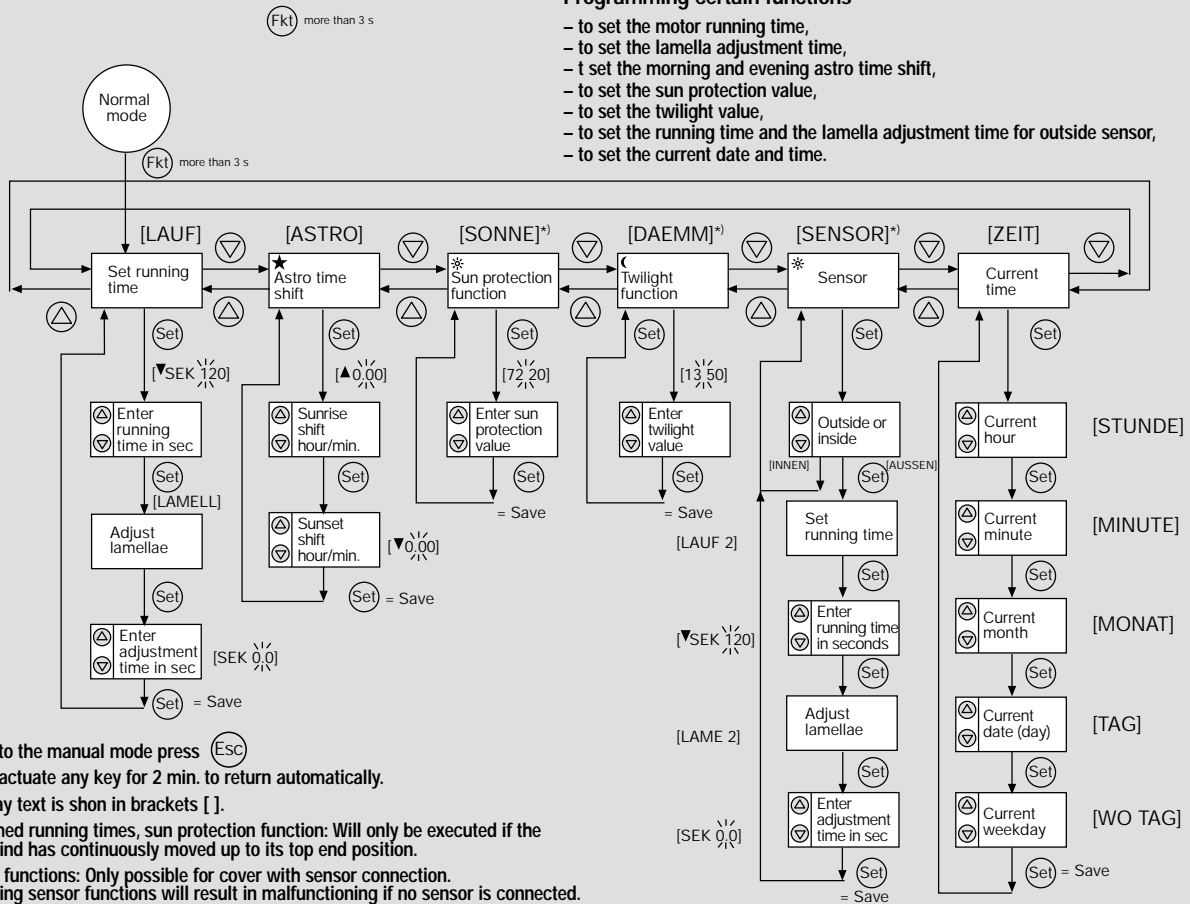
- press "Set"
⇒ to accept your entry. Any changes will be saved when you exit the submenu.

- press "Esc"
⇒ to abort editing. Changes will not be saved. The display will go to its normal mode.



Programming certain functions

- to set the motor running time,
- to set the lamella adjustment time,
- to set the morning and evening astro time shift,
- to set the sun protection value,
- to set the twilight value,
- to set the running time and the lamella adjustment time for outside sensor,
- to set the current date and time.



To return to the manual mode press [Esc] or do not actuate any key for 2 min. to return automatically. The display text is shown in brackets [].

Programmed running times, sun protection function: Will only be executed if the shutter/blind has continuously moved up to its top end position.

*) Sensor functions: Only possible for cover with sensor connection. Activating sensor functions will result in malfunctioning if no sensor is connected.

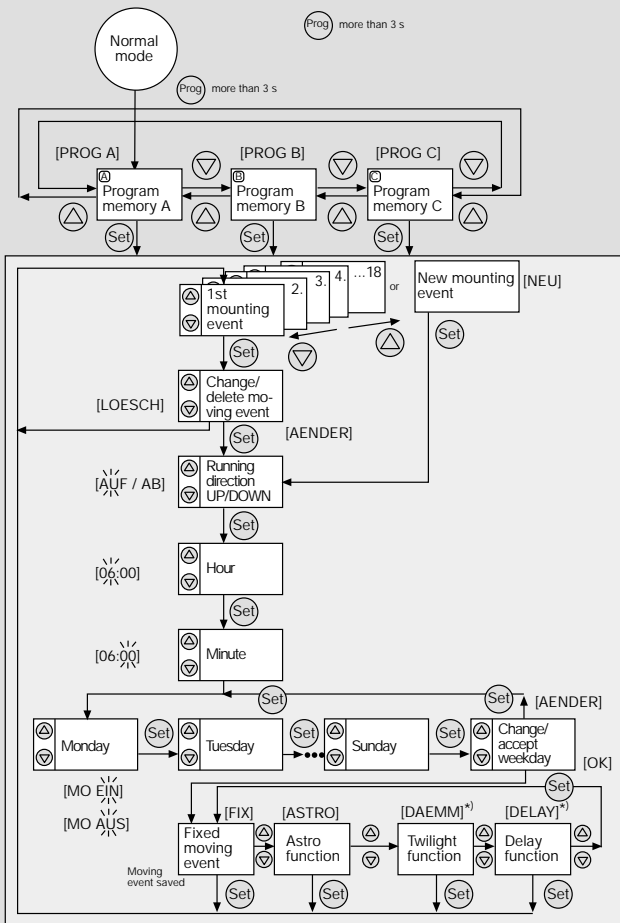
Programming moving events

- Programming new moving events,
- changing or deleting moving events,
- activating astro, twilight and delay functions for individual moving events.

18 different moving events are available.

You can distribute them over memory A or B or C in any order.

If the display reads "Voll" all 18 moving events will be occupied. In such case, delete or overwrite those switching events you do not need any longer.



To return to the manual mode press [Esc] or do not actuate any key for 2 min. to return automatically. The display text is shown in brackets [].

*) This function will only be displayed for a cover with sensor connection.

Sunlight/dusk sensor Ref.-No. 32 SD

Glass-break sensor Ref.-No. 32 G

Coupling Ref.-No. 32 K

Decoupling relay Ref.-No. TR-S, TR-S REG

Sunlight/dusk sensor

Use the suction pad to attach the sunlight/dusk sensor (Diagram ①) to the window pane.

The sunshade function allows you to automatically roll the blinds down when the brightness exceeds a set value. Place the sensor anywhere on the window pane to determine the blind's limiting position.

Application: sunshade for computer workstations, sunshade for flowers on windows sills or in greenhouses etc.

The dusk function allows you to automatically roll the blinds down when the brightness falls below a set value. The blinds will be rolled down to their bottom limiting position. You can place the dusk sensor anywhere on the window pane.

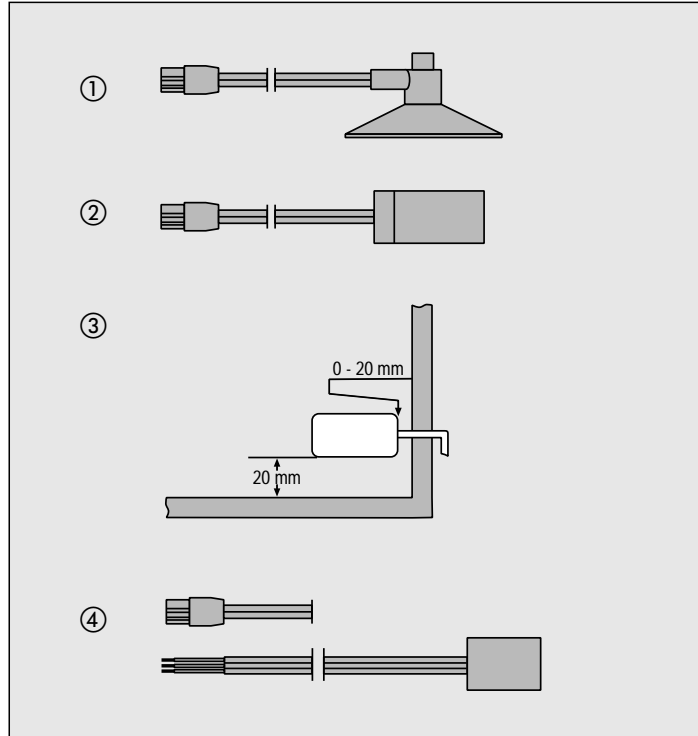
Application: rolling down the blinds when darkness falls. Only available in conjunction with the timer cover.

Technical data Sunlight/dusk sensor

Max. sensitivity of photodiode:	approx. 850 nm for λ
Max. amount:	1
Temperature range:	-30 °C to +70 °C
Type of protection:	IP 54

Coupling

Connect the coupling (Diagram ④) to the 3-pole terminal located on the cover with sensor connector or on the insert. The coupling has two female connectors into which you plug the male sensor connectors of sunlight/dusk sensor and/or broken glass sensor.



Technical data Coupling

Number of sensors: to be connected to the plug-in connector	max. 1 sunlight/dusk sensor and max. 1 broken glass sensor
---	--

Note

Glass-break sensors may not be used together with the converter (wind sensor). The wind protection function via the satellite input ▲ (blind is rolled up) is disabled after glass breakage, the blind or slats remain closed.

Glass-break sensor

Glass-break sensors (Diagram ②) monitor flat glass surfaces within a radius of up to 2 m (depending on glass thickness, frame, putty etc.). Mechanical vibrations that are too weak to reach the sensor will not be detected (e.g. scratching the glass). Window panes with uneven surfaces (textured or wired glass) and laminated glass panes muffle vibrations too much and may therefore not be monitored by means of broken glass sensors.

Glass-break sensors are very sensitive devices. Knocking on it or any other improper treatment may destroy them.

Use a suitable glue (e.g. Loctite Glass-to-Metal Glue Kit) to attach the glass-break sensor to the window pane.

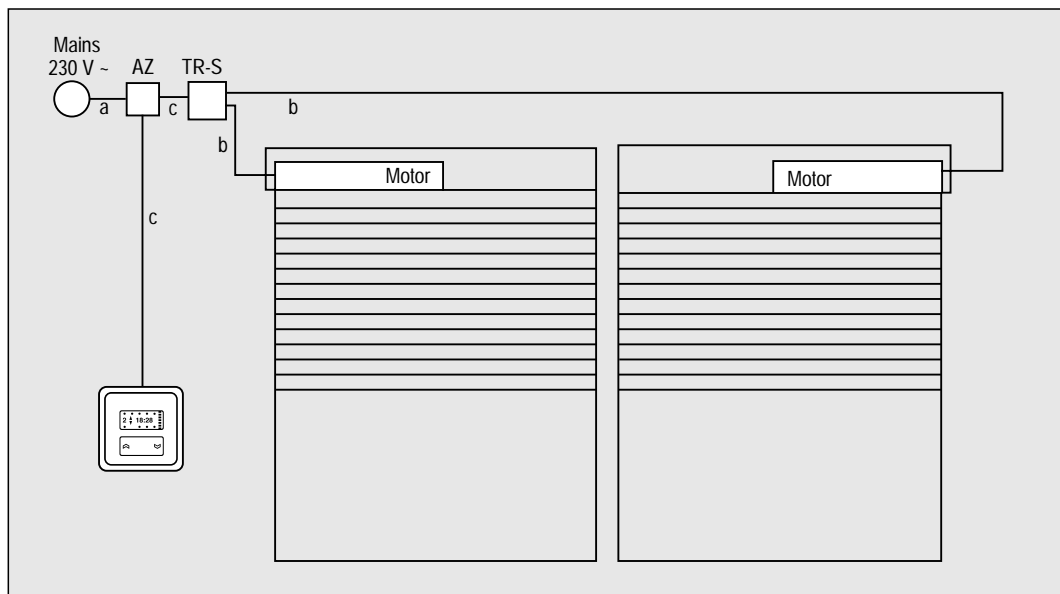
Observe the specified distances to the window frame (Diagram ③).

The blinds will be rolled down to their bottom limiting position when the glass gets broken.

Application: weather protection if the glass gets broken.

Technical data Glass-break sensor

Contact:	1-pole break contact
Switching capacity:	max. 350 mW
Transitory resistance:	
Idle mode	max. 30 Ohm
Alert mode	min. 1 MOhm
Alert signal duration:	approx. 0.5 – 5 s
Supply line:	LIYY 2 x 0.14 mm ²
Temperature range:	-30°C to +70°C
Type of protection:	IP 67
Max. amount:	10 (series-connected)



Decoupling relay TR-S with separate mains connection

Application example:

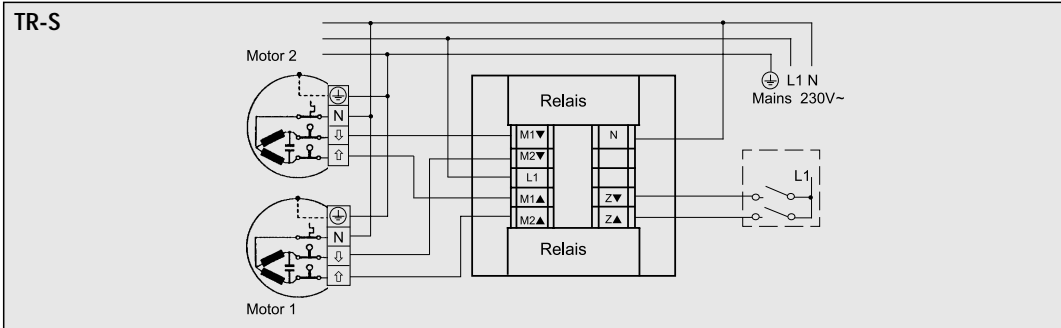
Decoupling relays are required if you wish to use one single blinds controller to operate several drive units because it is not possible to connect electrical shutter drives in parallel. JUNG TR-S can be installed in any 60 mm wall or junction box.

- a = 3 x 1.5 mm², 230 V ~
- b = 4 x 1.5 mm², 230 V ~
- c = 5 x 1.5 mm², 230 V ~
- AZ = junction box

Wiring diagrams

Decoupling relay

Ref.-No. TR-S, TR-S REG



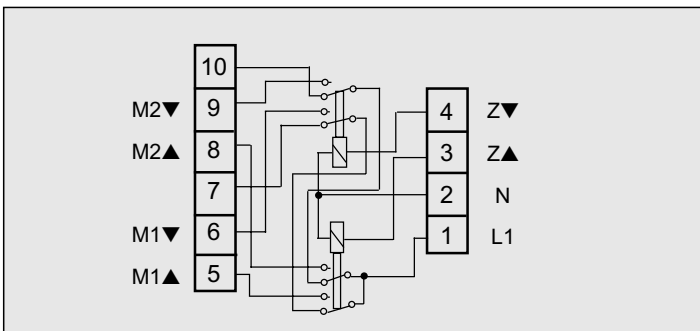
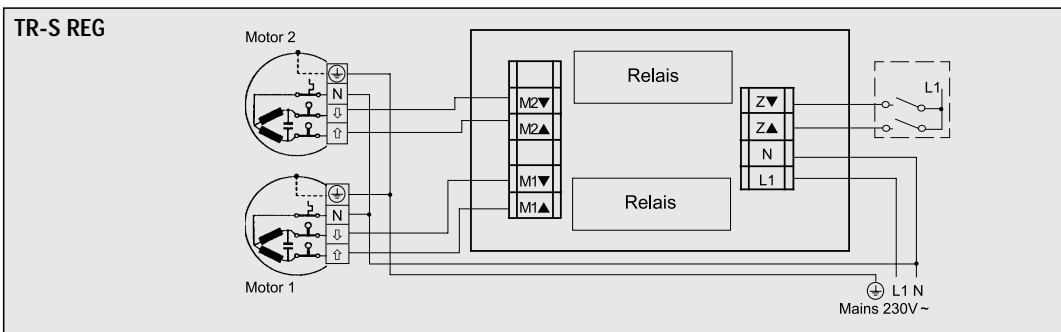
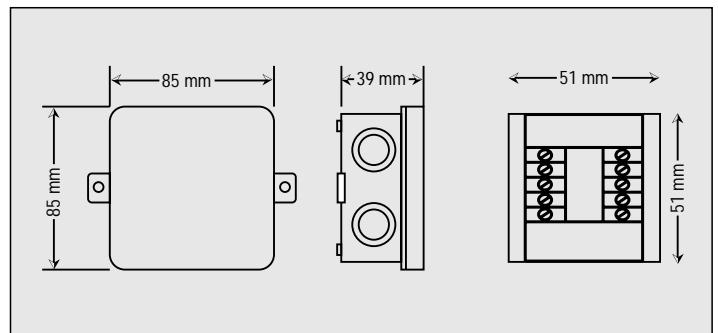
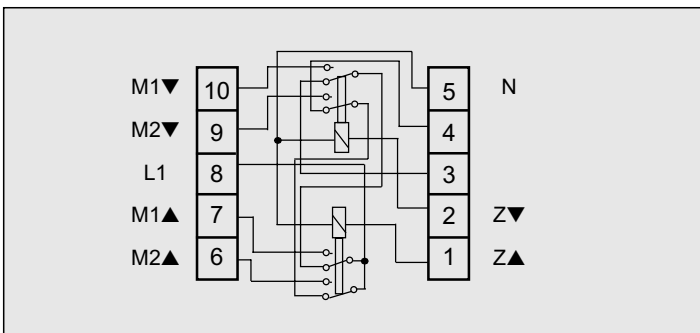
Operation

The TR-S or the TR-S REG is used for the simultaneous operation of two drives.

For the control all mechanical blinds push-buttons as well as the motor control inserts can be used.

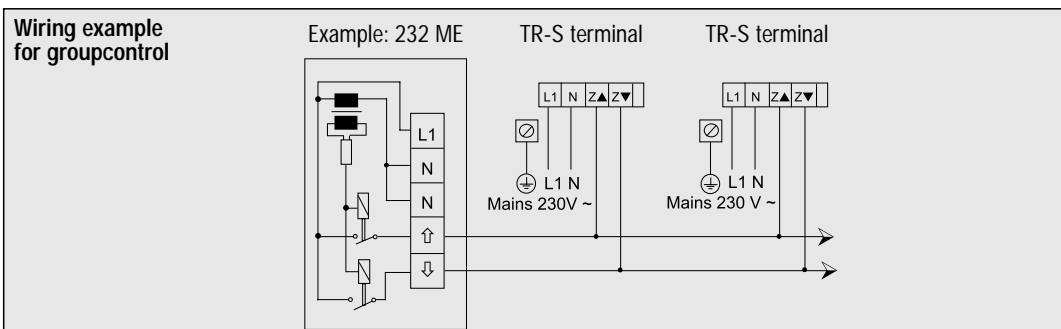
Mounting

The TR-S can be installed in a standard junction wall box.



Mounting

The TR-S REG is a panel mounted device for a 35 mm DIN rail.



Technical data

Mains	AC 230 V ~, 50 Hz
Control	AC 230 V ~, 50 Hz
Capacity	4A, AC 230 V ~, $\cos \varphi \geq 0,8$

Room temperature controller inserts

Ref.-No. TR 231 U, TR 241 U, TR 236 U, TR 246 U

Area of application

The room temperature controller is used to regulate the temperature in closed rooms such as flats, schools, function suites, work-shops etc.

Notes

- Avoid outside walls and draughts from windows and doors.
- Ensure that the normal air circulation in the room reaches the controller without any obstacles.
- External heat sources influence the accuracy of the controller. Avoid direct sunlight and do not place heat-emitting devices in the vicinity of the room temperature controller (heaters, lamps etc.).
- Dimmer also generate heat. If a controller is installed in a common switch frame with a dimmer, the distance between them should be as great as possible.
- When arranging them on top of each other, the controller must be installed underneath the dimmer.

Mount the room temperature controller on an internal wall opposite the heat source if possible.

Mounting height

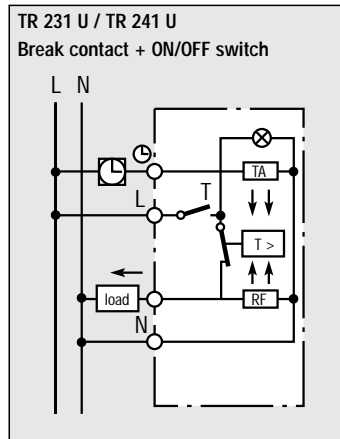
approx. 1.5 m above the floor

Connection

Connect all the cables according to the respective wiring diagram.

Ensure that the neutral conductor N is connected to terminal N.

Considerable fluctuations in the temperature may otherwise occur.



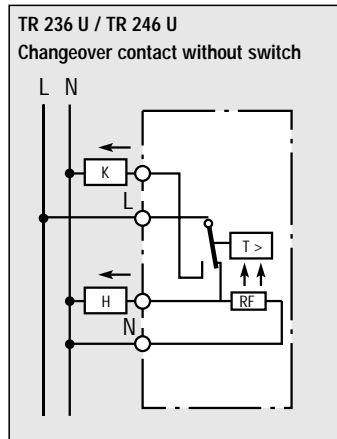
Technical data ref.-no. TR 231 U

Temperature range: 5 ... 30 °C
 Nominal voltage: AC 250 V ~
 Nominal current*: 10 (4) A
 Switching capacity: 2.2 kW
 Differential of functioning temperature: approx. 0.5 K
 Temperature reduction: approx. 4 K

Technical data ref.-no. TR 241 U

Temperature range: 5 ... 30 °C
 Nominal voltage: AC 24 V ~
 Nominal current*: 1 (1) A
 Switching capacity: 24 W
 Differential of functioning temperature: approx. 0.5 K
 Temperature reduction: approx. 4 K

* The value in brackets indicates the inductive load at a $\cos \phi$ of 0.4.



Technical data ref.-no. TR 236 U

Temperature range: 5 ... 30 °C
 Nominal voltage: AC 250 V ~
 Nominal current*: 5 (2) A
 Switching capacity: 1.1 kW
 Differential of functioning temperature: approx. 0.5 K
 Temperature reduction: approx. 4 K

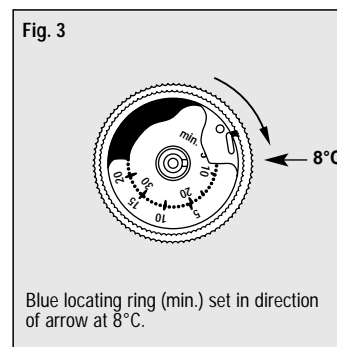
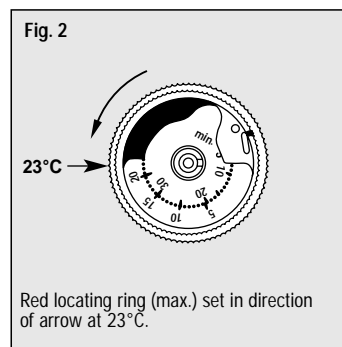
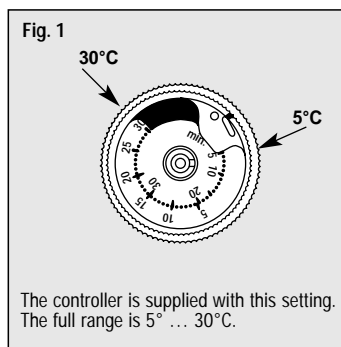
Technical data ref.-no. TR 246 U

Temperature range: 5 ... 30 °C
 Nominal voltage: AC 24 V ~
 Nominal current*: 1 (1) A
 Switching capacity: 24 W
 Differential of functioning temperature: approx. 0.5 K
 Temperature reduction: approx. 4 K

* The value in brackets indicates the inductive load at a $\cos \phi$ of 0.4.

Abbreviations used in the wiring diagram

- L = Outer conductor (phase)
- N = Neutral conductor
- ⊕ = Connection for clock signal to reduce the temperature
- ← = Load connection
H = Heat / K = Cool
- RF = Resistor for thermal feedback
- TA = Resistor for night reduction of the room temperature



Number dials for setting the temperature

- 1 = approx. 5°C
- 2 = approx. 10°C
- 3 = approx. 15°C
- = approx. 20°C
- 5 = approx. 25°C
- 6 = approx. 30°C

Symbols

- ON
- | OFF
- ⊕ Continuously selected temperature
- ⊖ Continuously selected reduced temperature
- ⊕⊖ Toggling between day and night temperature controlled via a time switch

Restricting the temperature setting range

The room temperature controller is set ex works to the maximum setting range of 5° to 30°C. See Fig. 1

2 adjustment rings are located in the setting knob.

You can use these rings to restrict the temperature setting range required e.g. between 8° and 23°C.

Procedure

1. Select the temperature limits.
 Example:
 Max.: 23°C
 Min.: 8°C

2. Caution!

First position the setting knob roughly in the centre of the required setting range.
 Example:
 The centre point between 8° and 23°C is approximately 15°C.

3. Now remove the setting knob.

4. Set the red locating ring to the max. temperature limit.

Example:
 23°C
 Rotate anti-clockwise.
 The numbers on the outer dial apply. Insert the tip of a pen in the hole and turn the red ring to the left until reaches 23°C (max. scale). See Fig. 2.

5. Set the blue locating ring to the min. temperature limit.

Example:
 8°C
 Rotate clockwise.
 The numbers on the inner dial apply. Insert the tip of a pen in the hole and turn the blue ring to the right until reaches 8°C (min. scale). See Fig. 3.

6. Clip on the setting knob.
 The pointer must be roughly in the centre of the new setting range, see point 2.
 Example:
 Approximately 15°C.

Wiring diagrams

Floor thermostat insert

Ref.-No. FTR 231

Area of application

Used in domestic electrical installations to regulate electrical floor heating controllers and temperature stabilisers.

Function

The floor heating controller consists of 2 parts:

- Control device for setting the required underfloor temperature
- Remote sensor in the floor to monitor the set temperature

Control device

Using the setting knob, you set the temperature that you require for the floor.

The number dial * - 6 on the knob corresponds to a temperature range of 10 - 50°C.

If the temperature in the floor falls below the value you have set, the control device requests heat. This state is indicated by the red LED located above the setting knob.

It is also possible to restrict the range in the setting knob. The operating state of your underfloor heating is switched on or off using the mains switch 0 - 1.

You can also program a temperature reduction e.g. during the night via an external time switch. If such a time switch is installed, the interval for starting the temperature reduction is indicated by the green LED above the setting knob.

The temperature reduction is approx. 5°C.

Sensor

The sensor is installed in the floor.

It monitors the floor temperature that you have set on the control device and issues the command for switching the underfloor heating on and off.

Installation of the control device

Mounted in a switch box in accordance with DIN 49073.

Technical data of the control device

Operating voltage: AC 230 ~ V 50/60 Hz
Tolerance range: AC 195...253 V ~ 50/60 Hz

Temperature setting range (number dial): *...6 (= 10 ... 50 °C)

Switching current at AC 250 V: 10 A at $\cos \varphi = 1$
Switching capacity: 2,3 kW

Switch: Mains "ON/OFF"
Red display LED: Control device requests heat (heating mode)

Green display LED: Temperature reduction "ON"

Contact (relay): 1 make contact (for heating) (not floating)

Temperature reduction (TA): approx. 5 K

Differential of functioning temperature: approx. 1 K

Operating temp.: 40 °C

Remote sensor

Sensor element: NTC
Sensor cable: PVC, 2 x 0,75 mm², 4 m

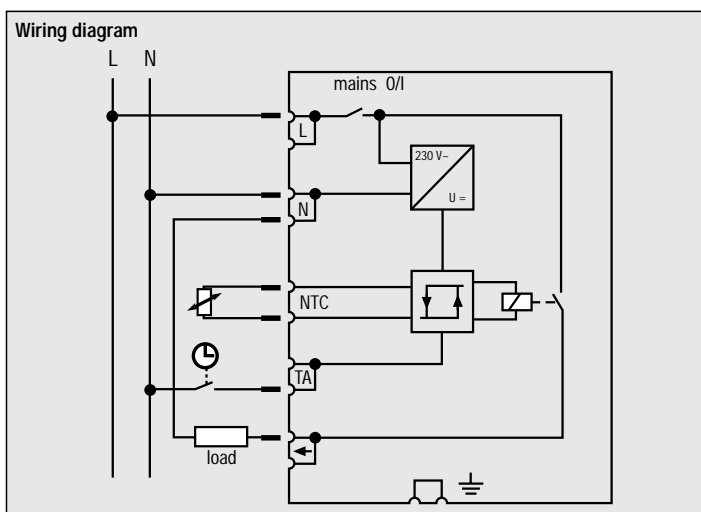
Type of protection in accordance with EN 60529: IP 67

The sensor cable can be extended up to 50 m if required using a 2-core cable with a cross-section of 1.5 mm², without influencing the accuracy of the controller.

A shielded cables should be used when laying the cable in cable trunking or in the vicinity of power cables.

Sensor

The sensor must be laid in a protective tube. It is thereby protected against humidity and can easily be replaced if it should need repairing.



Characteristic values of sensor

Measuring device $R_i > 1 \text{ M}\Omega$

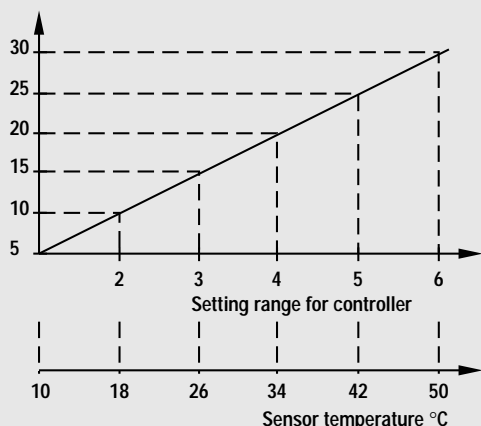
Temperature °C	Resistance kΩ
5	85,279
10	66,785
15	52,330
20	41,272
25	33,000
30	26,281
35	21,137
40	17,085
45	13,846
50	11,277

The resistance values can only be measured when the sensor is disconnected.

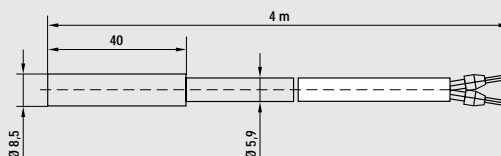
Abbreviations used in the wiring diagram

- L = Outer conductor
- N = Neutral conductor
- TA = Connection for clock signal to reduce the temperature
- ← = Load connection
- NTC = Connection for remote sensor

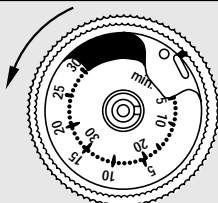
Restricting the range in the setting knob



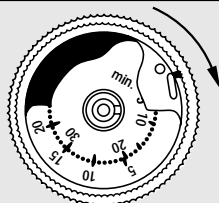
Dimension drawing of the remote sensor



°C max.



°C min.



Restricting the temperature setting range

The controller is set ex works to the maximum setting range of * to 6.

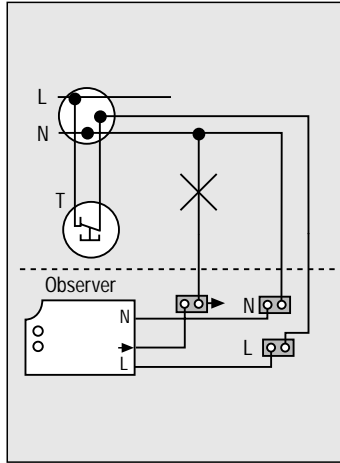
2 adjusting rings are located in the setting knob with a setting range of 5° to 30°C. The restriction is carried out according to the diagram.

Automatic Observer 70°

Ref.-No. W 70 ..

Technical data

Nominal voltage:	AC 230 V ~, 50 Hz
Switch contact:	relay, μ contact
Switching capacity:	
Incandescent lamps	1000 W
230 V halogen lamps	1000 W
12 V halogen lamps standard transformer:	750 VA
min. nominal load of std. transformer = 85 % TRONIC	
transformer	750 W
Fluorescent lamps not compensated	500 VA
parallel compensated (47 μ F)	400 VA
lead-lag circuit	1000 VA
Power consumption:	1.1 W
Ambient temperature:	- 25°C to +55°C
Operating time:	continuously adjustable, 10 s to 5 min
Brightness sensor:	continuously adjustable, daytime and night-time operation
Distance:	3-stage variation
Mounting height:	2.40 m
Type of protection:	IP 55
Interference suppression:	VDE 0875 T 14

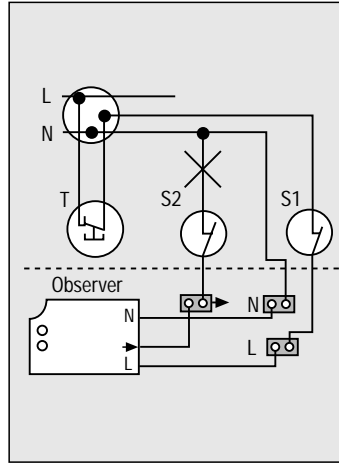


Connection of the Observer

(push-button „T“ = break contact)

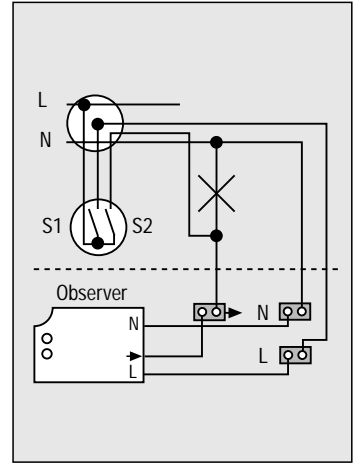
Independent of the light intensity, the circuit will be closed if the push-button has been activated for at least 1 sec. Several push-buttons (break contact) can be series-connected. Connect Observers in parallel if you wish several Observers to control a shared load.

Max. switchable load is not increased in parallel circuits.



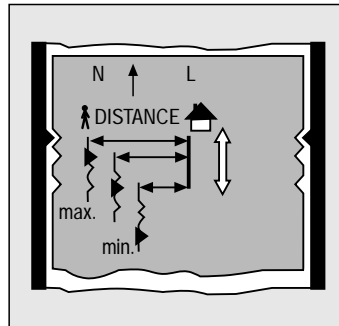
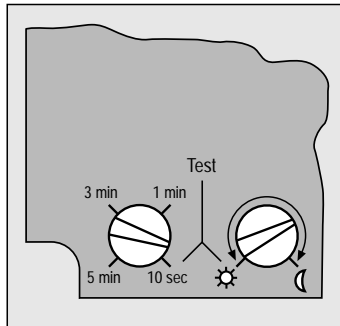
Disabling the Observer

Use switch S1 or switch S2 to switch off the Observer. When the Observer is switched back on, S1 will actuate a switching operation while S2 will not.



Automatic/manual operation

S1: automatic operation on/off
S2: manual operation on/off



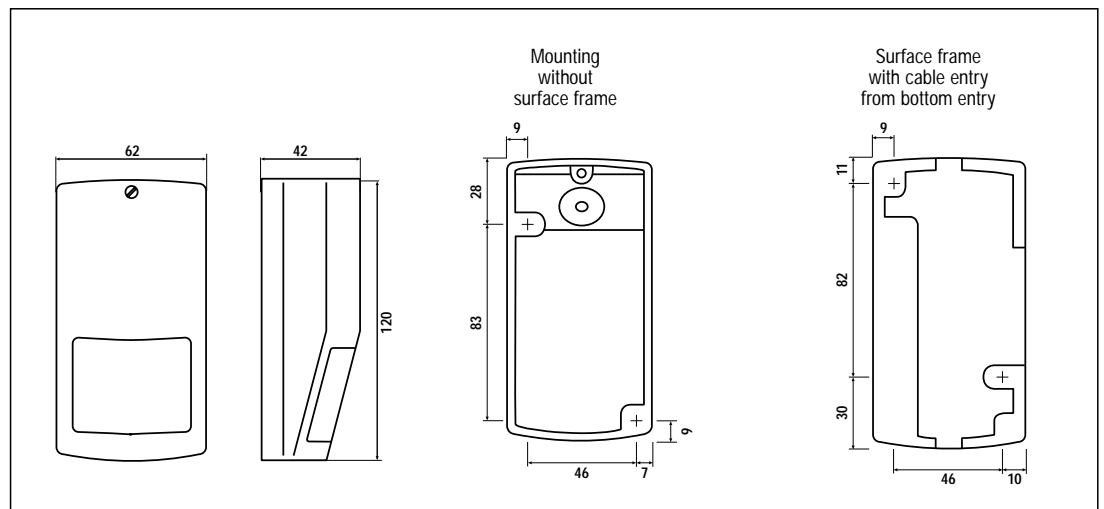
To set the distance

Move enclosure until latch slots into desired notch position:

Top: max. distance

Middle: medium distance

Bottom: min. distance



Wiring diagrams

Automatic Observer

Ref.-No. W 220 WW

The detector remains on as long as movements are detected. In all other cases, the 220° Automatic detector switches off after the preset retention time.

In addition, the short-time mode can be selected. This mode facilitates the activation of acoustic signalling devices for monitoring of entrance doors (door-bell/door-chime).

The device can be adapted to local conditions by turning it to the desired direction. Possibly existing thermal signal sources leading to undesired switching events can be eliminated by adjusting the sensitivity and by using self-adhesive masking segments.

The detector is highly insensitive to scattered light. During the transition from night to day, the detection of movements is stopped only after the preset brightness level has been exceeded for at least 10 minutes.

Manipulation of the device e.g. by using a pocket flashlight to illuminate the detector and to prevent it from responding is thus excluded.

By actuating a mechanical push-button (normally closed contact) several times, you can change among the different modes.

- Detector mode.
- Light ON for four hours.
- Light OFF for four hours.
- Test mode.

Settings

Time setting (retention time) ①

Within the range from 2 seconds to 30 minutes.

Brightness setting ②

Within the range from approx. 1 to 1000 lux and for daytime operation.

Recommendation: A setting of 10 lux – as shown in the illustration – will activate the device at the beginning of dusk.

Sensitivity setting ③

Sensitivity: approx. 20 % – 100 %.

Adjust the sensitivity depending on the tilt of the sensor head.

Reduce the sensitivity for a short detection range. Begin with selecting the highest sensitivity level and then make a function test by walking through the detection range to determine and set the desired value.

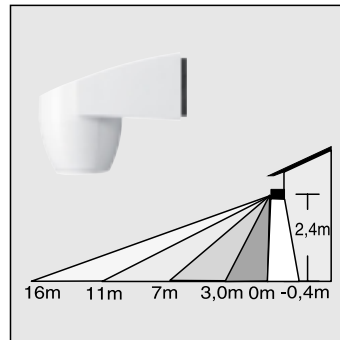
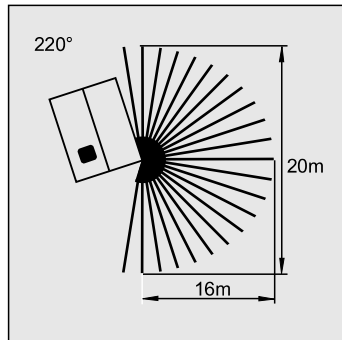
Parallel operation

If more than two detectors are connected in parallel, a minimum resistive load of 10 W will be required.

All detectors connected in parallel must be operated on the same phase.

Parallel connection will not increase the maximum connected load.

The microcontrollers of the detectors connected in parallel measure the voltage on the load line, thus detecting the lights switched on by them.

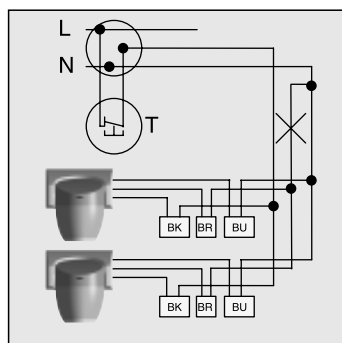
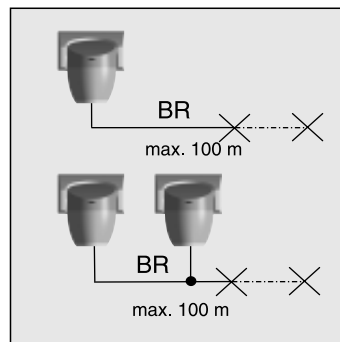
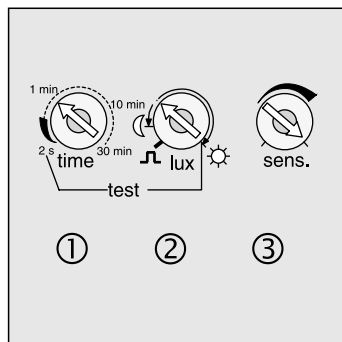


Electrical connection

The manufacturer has provided push-lock terminals for the connections.

Terminal assignment:

- (BK) black L (phase)
- (BU) blue N (neutral)
- (BR) brown μ (relay, lamp wiring)



As long as movements are detected by a detector, the light will remain on, with the retention time being restarted in the respective detector. The retention time ends only after no more movements are detected.

The detector with the longest remaining retention time determines the time the lamps remain on.

Important

The length of the load line should not exceed 100 m.

All connection wiring between the detectors and the lamps should be taken into account.

Field of detection

The 220° Automatic detector has a very dense, horseshoe-shaped field of detection of 220° consisting of four levels with more than 580 switching segments and additional protection against undercrawling.

Detection field: 16 m x 20 m, refer to illustration.

Technical data

Nominal range:	16 m
Installation height:	approx. 2.40 m
Detection field:	220° with separate undercrawling protection
Rated voltage:	230/240 VAC, 50/60 Hz
Switching contact:	relay at mains potential
Starting current:	20 A max. for 4 seconds at 10 % duty cycle
Automatic cut-out:	execute in acc. with local guidelines max. however 16 A
Load line length:	100 m max. in total
Switching capacity:	Incandescent lamps 2300 W HV halogen lamps 2300 W LV halogen lamps with Tronic transformers 1200 W conv. transformers 1200 W 85 % transformer minimum loading
Fluorescent lamps	uncompensated 1200 W shunt-compens. 920 W twin-lamp circuit 2300 W

Fluorescent lamps uncompensated 1200 W
shunt-compens. 920 W
twin-lamp circuit 2300 W

Fluorescent lamps uncompensated 1200 W
shunt-compens. 920 W
twin-lamp circuit 2300 W

Important

When switched on 'energy-saving lamps' produce very high inrush currents which may cause the switch contact to get stuck. Be careful with high switch-on peak currents with 'energy saving lamps'. Check the lamps for suitability prior to using them.

Power consumption: approx. 1.1 W
Temperature range: -20°C to 55°C

Retention time: approx. 2 sec up to 30 min, infinitely adjustable, short-time pulse 0.5 sec

Immunity time: approx. 2 sec up to 10 min

Brightness sensor Day-time and night-time operation: approx. 1 – 1000 lux infinitely adjustable

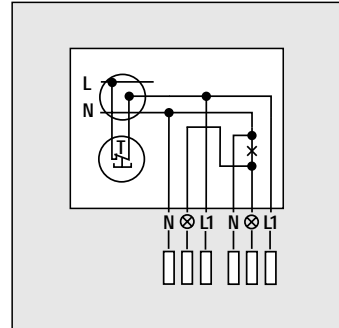
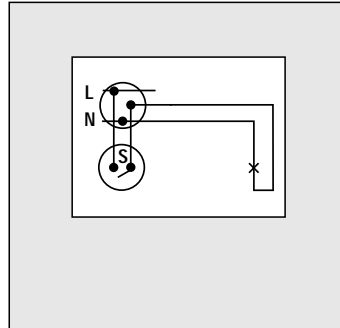
Sensitivity: approx. 20 – 100 % infinitely adjustable

Modes of operation: detector mode
4 hours ON
4 hours OFF
test mode
short-time mode

Protective system: IP 55, jet-proof

Connections: L, N, μ (relay) wiring up to 2.5 mm²

Existing installation

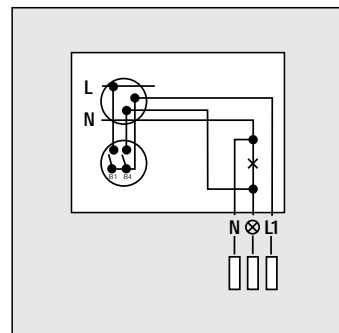
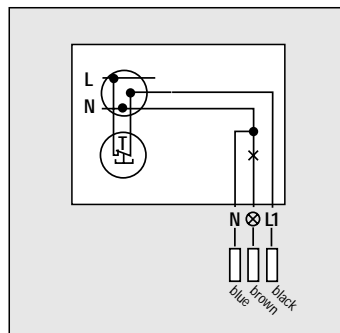


Installing several Observers

(Installation in parallel) push-button „T“ (break contact) only for ref.-no. W 220 WW.

Connection

Replace existing switch „S“ by push-button „T“ (break contact).

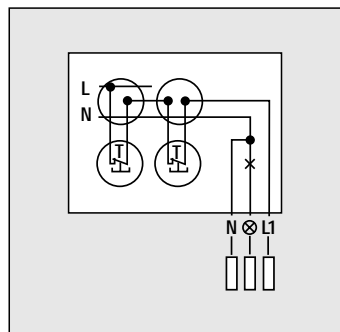


Automatic or manual operation with 2-gang switch

S1 open, S2 open: all off
 S1 closed, S2 open: normal automatic operation
 S1 closed, S2 closed: switched on constantly, manual operation

2-way switching

Existing 2-way switches can be replaced by push-button „T“ (break contact).



Technical data 222 WW

Mains voltage: AC 230 V ~, 50 Hz
 Temperature: -35°C to +50°C
 Switching capacity: max. 2200 VA/230 V, halogen 500 W
 Switching current: max. 10 A
 Inrush peaks: max. 16 A
 Operating time:
 Normal mode 12 s to 12 min, continuously adjustable
 Test mode 1.2 s, fixed
 Dusk sensor: 5 to 300 lux – and day-time operation – continuously adjustable
 Sensor: passiv infrared twin element
 Detection angle: max. 110°
 Distance: max. 16 m

Optics: Fresnel lens
 Rang: 18 zones (rays) – divided into 3 levels
 Level 1: 8 lang zones
 Level 2: 7 medium zones
 Level 3: 3 short zones
 Entry window: Special filter foil
 Mounting height: Recommended: 2.3 – 2.5 m
 Adjustment:
 Rotating 180° horizontal
 Tilting 180° vertical
 Swivelling 90°
 Interference suppression: acc. to VDE 0875/6.77
 Type of protection: IP 54

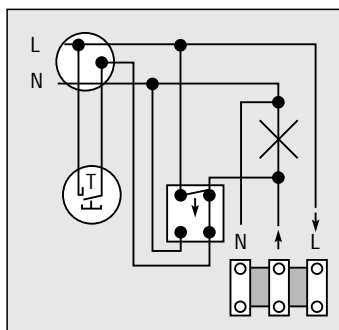
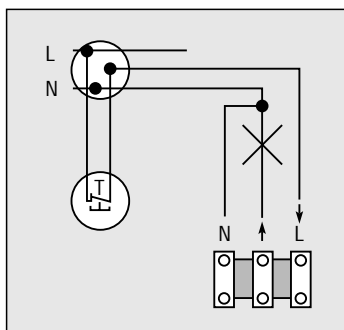
Wiring diagrams

Observer and Observer system

Connecting the Observer or system performance unit

Replace existing switch by push-button „T“ (break contact, e.g. 533 U).

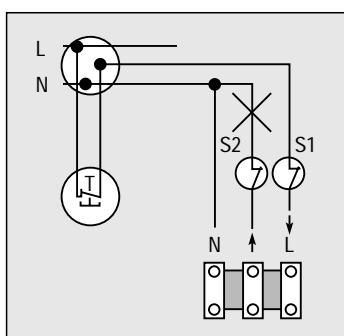
By actuating the push-button for at least 1 second the Observer is activated.



Parallel connection with automatic staircase lighting switch or time pulse relay
Lighting is switched on either by the automatic staircase lighting switch or by the Observer.

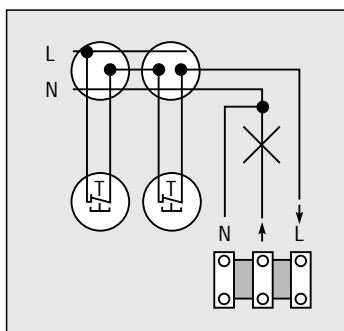
Switching off the Observer or system performance unit

Use switch S1 or switch S2 to switch off the Observer. When the Observer is switched back on, S1 will actuate a switching operation while S2 will not.



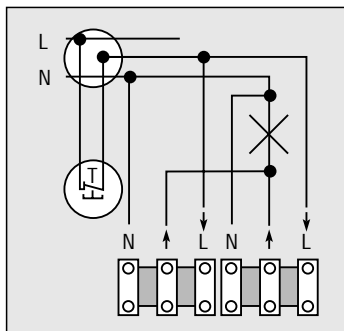
2-way switching

Existing 2-way switches can be replaced by push-button „T“ (break contact, e.g. 533 U).



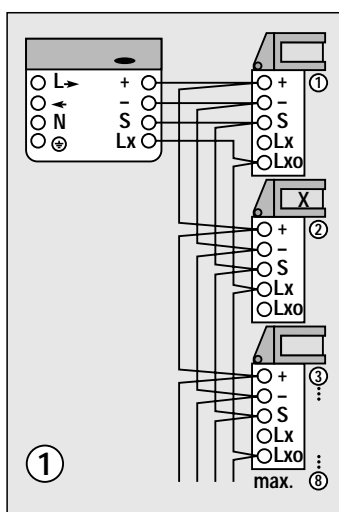
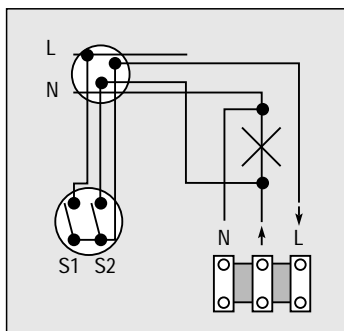
Installing several Observers

(Installation in parallel) push-button „T“ (break contact, e.g. 533 U).



Automatic or manual operation with 2-gang switch

S1 open, S2 open: all off.
S1 closed, S2 open: normal automatic operation.
S1 closed, S2 closed: switched on constantly, manual operation, Observer not effective.



Connecting system sensors

Connect in parallel acc. to fig. 1 or in Y connection acc. to fig. 2. A combination of these is also possible.

We recommend using telecommunication cables to connect the system sensors, e.g. JY-Y 2 x 2 x 0.8 or YR 4 x 0.8

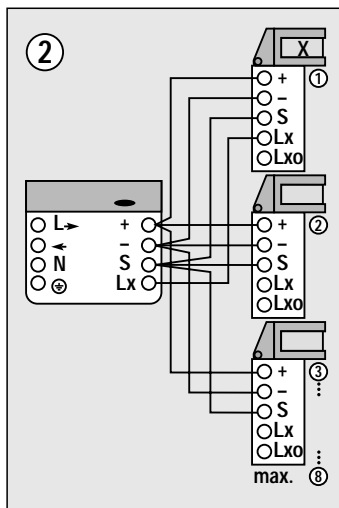
Terminal markings

+, -: System sensors are supplied with 20 V.

S: Switch signal of system sensors.

Lx: Output signal of the brightness sensors within the system sensors.

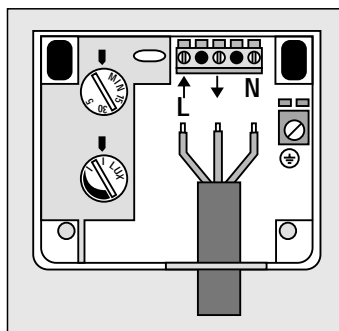
Lxo: Terminal which has not been connected and which can be used to put through the Lx signal



Important

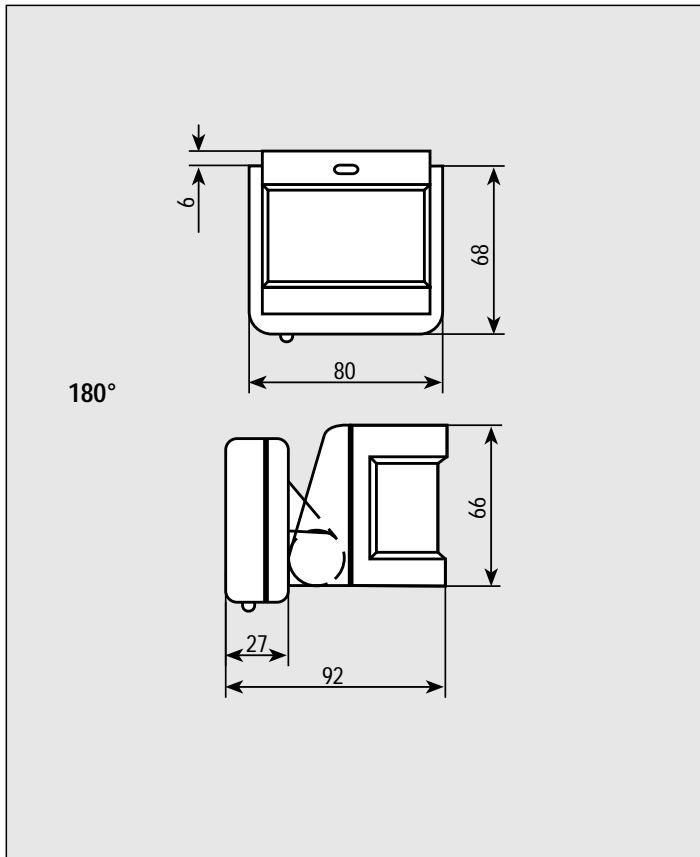
Each system sensor is equipped with a brightness sensor, but within one set only the brightness sensor of one system sensor may be connected, i.e. the Lx terminal of one system sensor is the only one to be assigned. Only this system sensor measures brightness and relays this value to the system performance unit for evaluation. In figures 1 and 2 the sensor with activated brightness sensor is marked „X“.

Both the operating time and the light intensity which will activate the system if it falls below the specified value can be adjusted inside the system performance unit.



System sensor

Ref.-No. WS 180 WW



System sensor

Nominal voltage: 15 V DC
 Power consumption: approx. 60 mW
 Ambient temperature: -25°C up to 55°C

Covered area

System sensor 180°: 16 x 32 m

Sensitivity

adjusted at our works

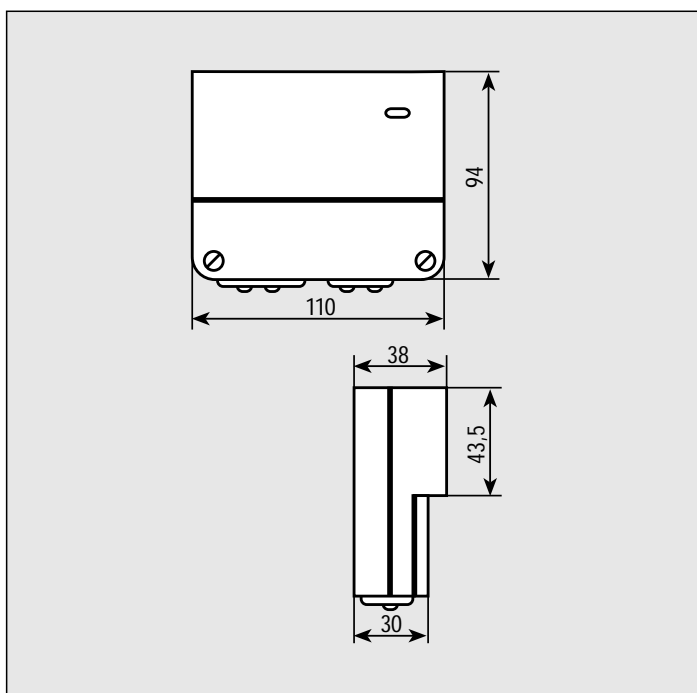
Mounting height: approx. 2.40 m

Wiring: e.g. JY-ST-Y
 2 x 2 x 0.6,
 JY-ST-Y 2 x 2 x 0.8
 or YR 4 x 0.8,
 max. length 100 m

Type of protection: IP 55

System performance unit

Ref.-No. WL 2200 WW



Technical data

System performance unit

Nominal voltage: AC 230 V \sim ,
 $+6\%$ / -10% ,
 50 Hz

Switch contact: relay

Breaking capacity

Incandescent lamps: 2500 W

230 V halogen lamps: 2500 W

Fluorescent lamps

not compensated: 1200 W

parallel compensated: 920 W

lead-lag circuit: 2400 W

Power consumption: 1.1 W

Ambient temperature: -25°C up to 55°C

Peak load: max. 20 A

Operating time
 standard mode: 4 sec. up to
 15 min. continuously
 adjustable

Brightness sensor: continuously adjust-
 able with day and
 night operation

Type of protection: IP 55

Interference
 suppression: acc. to VDE 0875,
 part 1/12.88

Wiring diagrams

System performance unit

Ref.-No. WL 2200 REG

WL 2200-2 REG

Functional overview

The 1-channel and 2-channel system performance units REG are further components of the Observer system. The devices are designed for installation in the distribution board and allow the switching commands from the Observer's system sensors to be evaluated centrally.

1-channel system performance unit REG

Control and load circuits can be separated with the floating contact. This contact can be operated with extra-low voltage as well as linked with other functions (e.g. time switch).

2-channel system performance unit REG

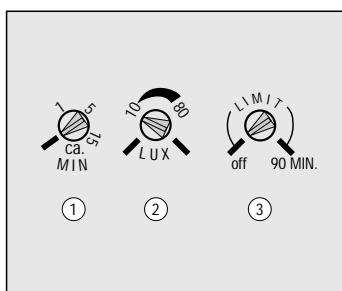
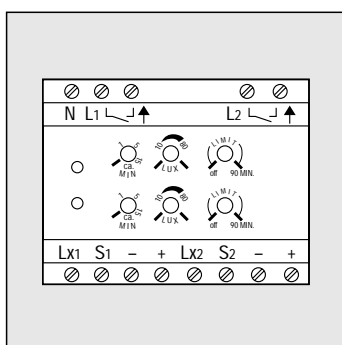
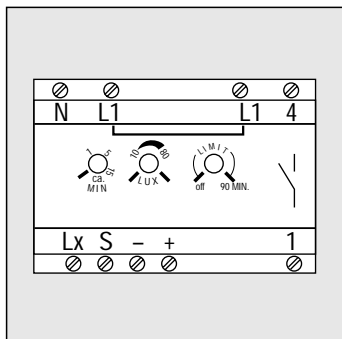
The device is equipped with 2 circuit-breakers (relays). One of the circuit-breakers has a non-floating contact, the other has a contact for carrying out switching of any phases.

This enables e.g. the connection of a 230 V time switch.

Warning: do not use extra-low voltage!

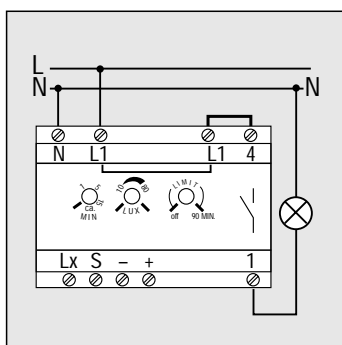
Note:

Pay attention to high inrush peaks when using "energy-saving lamps".
Check suitability of the lamps before using!

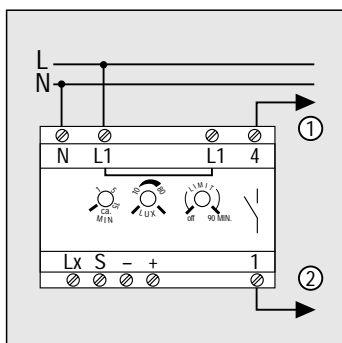


Connection of the 1-channel system performance unit REG, ref.-no. WL 2200 REG

Jumper between L1 and 4 using the same phase.



Use for switching extra-low voltage floating contact.
Connect extra-low voltage circuit ① and ②.



Technical data

Nominal voltage: AC 230 V ~, + 6 % / -10%, 50 Hz

Switching capacity per channel

Incandescent lamps: 2500 W

High voltage halogen lamps: 2500 W

Fluorescent lamps: not compensated 1200 W

parallel compensated 920 W

lead-lag circuit: 2400 W

Nominal current per channel: 10 A

Peak load per channel: max. 20 A

Temperature range: -25°C up to 55°C

Operating time: approx. 4 sec. to 15 min, post-triggering accuracy ± 10 %

Brightness setting: approx. 3 to 80 lux accuracy ± 35 %

Limit: positive disconnection after max. 90 min.

Interference suppression: nach VDE 0875, part 1/12.88

System sensor cable: e.g. JY-ST-Y 2 x 2 x 0.6, JY-ST-Y 2 x 2 x 0.8 or YR 4 x 0.8, max. 100 m long

Time setting ①

Setting of the minimum operating time: from approx. 4 seconds up to 15 minutes.

Brightness setting ②

Selecting the setting of 10 lux – as in the example in the diagram – activates the device as dusk falls.

Limit ③

Two switching positions are possible: „Off“ or „90 min.“

Width: 4 modules

Type of protection: IP 20

1-channel system performance unit

Switch contact: relay floating contact
When using direct voltage, the corresponding load relay is required.

Minimum load: 12 V AC/100 mA

Power consumption: approx. 1,1 W

Number of system sensors: max. 8

2-channel system performance unit

Switch contact: 1x relay switched phase

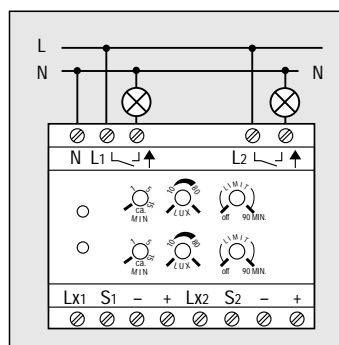
1 x relay floating contact for any phase
safety extra-low voltage channel cannot be switched

Power consumption: approx. 1,8 W

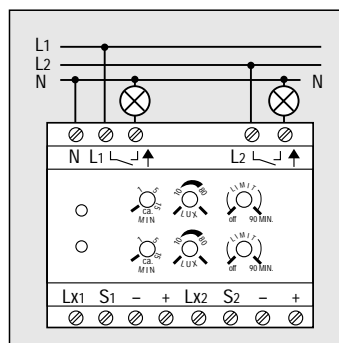
Number of system sensors: max. 16
8 system sensors per channel

Connection of the 2-channel system performance unit REG, ref.-no. WL 2200-2 REG

Connection of both channels to the same phase.
Maximum connected load per channel is 2500 W.



Connection to different phases.
Maximum connected load per channel is 2500 W.



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LS 995 KO5MP LG	362
LS 995 KO5MP WW	362
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Terms and Conditions of Sale and Supply

I. General provisions

1) The mutual written declarations shall determine the scope of the supplies and services (hereinafter: supplies). However, General Terms and Conditions of Business on the part of the customer shall only apply insofar as we have expressly approved the same in writing.

2) We shall unrestrictedly reserve our exploitation rights under proprietary right and copyright law to cost estimates, drawings and other documents (hereinafter: documents).

Such documents may only be rendered accessible to third parties with our prior consent and, upon request, shall, in the event that we should not be awarded the commission, be returned to us without delay. Sentences 1 and 2 shall apply mutatis mutandis to the customer's submissions, though such submissions may be rendered accessible to third parties to whom we have admissibly assigned responsibility for supplies.

3) Partial supplies shall be admissible insofar as the customer may be reasonably expected to accept the same.

II. Prices and Terms and Conditions of Payment

1) Prices shall be understood to be ex-works excluding packaging and plus the statutory sales tax obtaining at any given time.

2) Packaging shall be invoiced at the lowest possible prices and shall not be taken back.

3) Insofar as nothing is agreed to the contrary, payment shall, irrespective of the receipt of the goods involved, be made to us net within thirty days of the invoice date or within eight days with a 2 % discount. In the event that the payment deadline should be exceeded interest shall, without a reminder being required, be calculated pursuant to § 288 German Civil Code.

4) We shall be entitled to request advance payments in respect of the invoice amounts at any time prior to the dispatch of goods insofar as we deem such a step to be necessary. Should the customer default on the fulfillment of payment obligations or should the information pertaining to a customer no longer be satisfactory, we shall be entitled to request security for delivered goods or, once a payment deadline has been set, withdraw from the purchase contract.

5) The customer may only offset receivables which are undisputed or have been established on a legally binding basis.

III. Reservation of title

Goods shall be supplied subject to reservation of title involving the following extensions:

1) All supplied goods shall remain our property until such time as our claims vis-à-vis the customer, including any such claims which may arise from the business link in the future, are settled in full and for such time as the account, including the bill and cheque commitments, has not been settled. This shall also apply in the event that the purchase price for certain deliveries of goods specified by the customer is to be paid. In the case of a current account, the reserved title shall constitute security for our balance claim.

2) The customer shall be revocable and, as long as they fulfil their obligations vis-à-vis ourselves and affording consideration to the following provisions, entitled to sell and process during the normal course of business goods which are encumbered with reservation of title. However, the customer shall be forbidden from pledging or assigning as security goods subject to reservation of title which are supplied or processed. The customer shall, insofar as this is compatible with commercial practices, likewise undertake only to resell reserved goods which we have supplied in conjunction with reservation of title. Upon justified request and in the case of default, the customer shall be obliged to apprise us of the name of the third party customer.

3) Insofar as goods encumbered with reservation of title are processed, such processing shall, though without any guarantee on our part, be effected for us. In the event of processing by the customer in conjunction with goods which are not our property, we shall be entitled to co-ownership of the new object at the ratio of the value of the reserved goods to the other processed goods on the processing date.

4) In the event that goods which we have supplied should be combined with other goods, we shall acquire co-ownership of the amount of the ratio of the value of the reserved goods in the combination date.

5) Should the customer sell reserved goods which we have supplied or should such goods be supplied to a third party – irrespective of what value or in which condition – or should such goods be installed within the framework of a work,

work performance or a construction contract, the customer shall, until such time as the claims stipulated in sub-section 1) are settled in full, hereby assign to us, to the amount of the invoice value of our deliveries, the claim, together with all ancillary rights, including the compensation claims accruing to them from the legal transaction involving the resale or installation, accruing to them vis-à-vis their customer or buyer from such sale, delivery or instalment.

In the event of an assignment being obtained in such work, work performance or construction contract and in the event of payment default, the customer shall undertake to apprise their third party customers of the advance assignment.

6) In the event that reserved goods which we have to supply should be sold to third parties in conjunction with other goods, we shall be assigned that proportion of the total asking price corresponding to the invoice value of our deliveries.

7) The reservation of title with the extensions pursuant to the above provision shall also remain in force in the event of individual claims against their customer on the part of the customer being included in the current account. In this case, the customer shall, at this early juncture, assign to us the balance obtaining to their credit. The customer shall, upon request and particularly in the event of payment default on the part of the purchaser, be obliged to facilitate the direct assertion of the claims involved and apprise the third party debtor of the assignment.

8) We shall be apprised without delay of any attachment and every kind of restriction which obtain in respect of our property. In the event that the value of the overall collateral stemming from the business link with which we have been furnished should exceed our delivery claims by more than 20 %, we shall, at the request of the purchaser, be obliged to reassign the assigned claims to such extent.

9) In the event of any incidence of damage or other impairment to the equipment supplied on the basis of our terms and conditions, the purchaser shall, at this early juncture, assign to us in advance the compensation claim accruing to them vis-à-vis the insurer from their insurance to the amount of the incidence of damage in question to our reserved property.

IV. Deadline for deliveries; default

1) The deadline for deliveries or services shall commence on the day on which written agreement pertaining to the order in question obtains between the customer and ourselves. The observance of such deadline shall presuppose the prompt receipt of all the documents, requisite licences and releases to be furnished by the customer, the prompt clarification and approval of the plans and the observance of the agreed Terms of Conditions of Payment and other obligations. Should these prerequisites not be fulfilled on time, the delivery deadline shall be extended by an adequate period of time; this shall not apply in the event that we should be responsible for a delay.

2) Should the non-observance of deadlines be attributable to force majeure, such as mobilization, war civil commotion or similar occurrences, e.g. strike or lockout, delivery deadlines shall be extended by adequate periods of time.

3) In the event that dispatch or delivery should, at the behest of the customer, be delayed by more than one month following notification of dispatch readiness, the customer may, for every started month, be invoiced storage costs to the amount of 0.5 % of the price of the delivery objects, though no more than a total of 5 %. The contracting parties shall be at liberty to prove that lower or higher storage costs have accrued.

V. Transfer of risk

The risk shall also pass to the customer in the event that carriagepaid delivery should have been agreed. In the absence of a written arrangement to the contrary, dispatch shall always be effected according to our best judgement. We shall not assume any responsibility for transportation at market prices. We shall only arrange transport insurance policies the costs of which are borne by the purchaser upon express, written agreement.

VI. Acceptance

The customer may not refuse to accept deliveries on the grounds of the existence of minor defects.

VII. Material defects

1) The prerequisite for the assertion of material defects liability shall be the submission to us or our authorized representative of proof of acquisition

(delivery note, invoice, etc.). The warranty entitlement may not be transferred to third parties without our consent.

- 2) All those components or services shall, as we see fit, be repaired, resupplied or refurbished which feature a material defect within the limitation period – irrespective of operating life – insofar as the origin of the same obtained at the point in time of transfer of risk.
- 3) Material defects claims shall lapse after twelve month. This shall not apply insofar as the law pursuant to §§ 438, paragraph 1, no. 2 (constructions and objects for constructions), 479, paragraph 1 (claim under a right of recourse) and 634a, paragraph 1, no. 2 (construction defects) German Civil Code makes provision for longer periods of time, in instances of injury to life, body or health, in the event of a wilful or grossly negligent breach of duty on our part and in the event of the malicious non-disclosure of a defect. The statutory provisions pertaining to the suspension of the running of a period, suspension and commencement of periods shall remain unaffected.
- 4) The customer shall submit complaints pertaining to material defects to us in writing without delay.
- 5) In the event of notifications of defects, payment on the part of the customer may be withheld on a scale which is in a reasonable ratio to the material defects which have occurred. The customer may only withhold payments should a complaint be asserted the justification of which is beyond doubt. Should a complaint have been submitted without justification, we shall be entitled to request the that customer reimburse the costs which we incurred.
- 6) In the first instance, we shall be granted the opportunity to effect subsequent fulfillment within a reasonable period of time.
- 7) Should such subsequent fulfillment be unsuccessful, the customer – any compensation claims pursuant to sub-section IX notwithstanding – may withdraw from the contract or reduce the amount of payment.
- 8) Claims arising from defects shall not obtain in respect of a minor deviation from an agreed quality, a minor impairment to usefulness, natural wear and tear or incidences of prejudice which arise subsequent to the risk transfer in consequence of faulty or negligent handling, excessive strain, unsuitable operating facilities, faulty construction operations, unsuitable subsoil and, in particular, any external influences which are not presupposed by the contract, as well as in respect of non-reproducible software defects. In the event that modifications or maintenance operations should be improperly performed by the customer or any third parties, it shall likewise be the case that no claims arising from defects shall obtain for such modifications and maintenance operations or any resulting consequences.
- 9) Any claims on the part of the customer for expenditure which it is necessary to incur for subsequent fulfillment purposes, particularly transport, travelling, labour and material costs, shall be excluded insofar as such expenditure increases due to the fact that a delivery object has been subsequently transported to a location other than the customer's business premises unless such transportation is in line with the normal utilization of such object.
- 10) Claims under rights of recourse vis-à-vis ourselves on the part of the customer pursuant to § 478 German Civil Code (contractor's recourse) shall only obtain insofar as the customer has not agreed any arrangements with their customer exceeding the scope of the statutory claims arising from defects. No. 9 shall additionally apply mutatis mutandis to the scope of the customer's claim under a right of recourse vis-à-vis ourselves pursuant to § 478, paragraph 1 German Civil Code.
- 11) It should be noted that sub-section IX (other compensation claims) shall apply to compensation claims. Any more far-reaching claims for a material defect against us and our vicarious agents on the part of the customer and any claims for a material defect against us and our vicarious agents on the part of the customer other than those stipulated in sub-section VII shall be excluded.

VIII. Impossibility, contractual revision

- 1) Insofar as a delivery is impossible the customer shall be entitled to claim compensation unless we are not responsible for such impossibility. However, the customer's entitlement to compensation shall be restricted to 10 % of the value of that component of the delivery which cannot be put into appropriate operation in consequence of such impossibility. This entitlement shall not apply insofar as, in cases of wilful intent, gross negligence or injury to life, body or health, compulsory liability obtains; this shall not entail a change in the burden of proof to the detriment of the customer.

The right of the customer to withdraw from the contract shall remain unaffected.

- 2) Insofar as any unforeseeable occurrences within the purport of sub-section IV, no. 2 considerably alter the economic importance or the object of a delivery or exercise a major influence on our operations, the contract shall be suitably revised in compliance with the principle of good faith. Insofar as this is not economically justifiable, we shall be entitled to withdraw from the contract. In the event that we should wish to exercise this right of withdrawal, we shall apprise the customer accordingly without delay upon becoming cognizant of the implications of the occurrence in question, including in the event that an extension of the delivery period should initially have been agreed with the customer.

IX. Other compensation claims

- 1) Claims for compensation and claims for the compensation of expenses (hereinafter: compensation claims), irrespective of on which legal grounds, particularly for a breach of the duties arising from the contractual obligation and for tortious acts, shall be excluded.
- 2) This shall not apply insofar as compulsory liability obtains, e.g. pursuant to the Product Liability Act, in cases of wilful intent, gross negligence, injury to life, body or health and a breach of major contractual obligations. However, a claim to compensation for a breach of major contractual obligations shall be restricted to the contractually typical, foreseeable prejudice insofar as wilful intent or gross negligence do not obtain or liability obtains due to injury to life, body or health. The above stipulations shall not entail a change in the burden of proof to the detriment of the customer.
- 3) Insofar as the customer is entitled to compensation claims pursuant to sub-section IX, such claims shall lapse upon the expiry of the limitation period pursuant to sub-section VII, no. 3 applying to claims for material defects. In the case of compensation claims pursuant to the Product Liability Act, the prevailing statutory limitation provisions shall apply.

X. Diagrams, measurements and weights

Diagrams, measurements and weights shall always be regarded as approximate.

XI. Place of performance, place of jurisdiction and applicable law

- 1) Insofar as nothing to the contrary is agreed, the place of performance shall be Schalksmühle.
- 2) In the event of the customer being a businessman, the sole place of jurisdiction for all disputes arising directly or indirectly from the contractual relationship shall be Hagen. However, we shall also be entitled to institute legal proceedings at the place of domicile of the customer.
- 3) German substantive law shall, to the exclusion of the UN Convention on Contracts pertaining to the International Sale of Goods (CISG), apply to the legal relations obtaining in connection with this contract.

XII. The remaining provision of the contract shall continue to have binding force even in the event of the legal invalidity of any of the individual provisions contained in the same.

This shall not apply in the event of adherence to the contract constituting unreasonable hardship for one of the contracting parties.

Display-boards



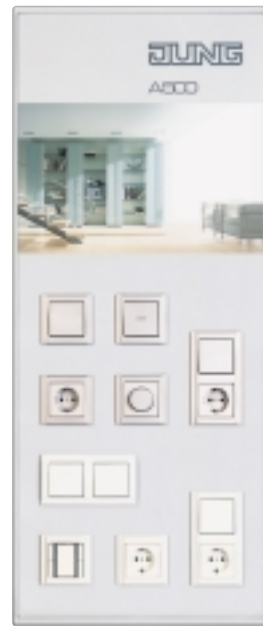
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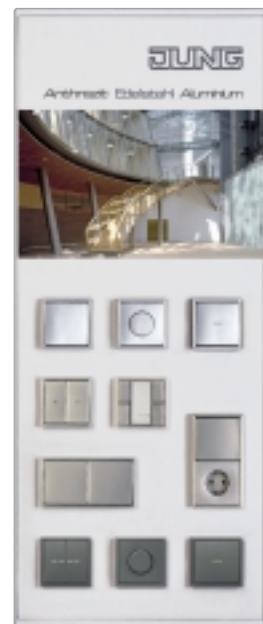


GP 80100

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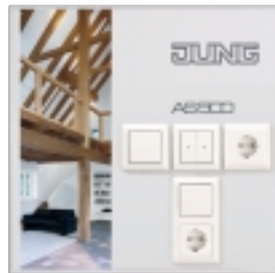


LS 40100



LSM 40100

Dimension: 40 x 100 x 4 cm



AS 5050

Display boards for our various JUNG product ranges are available with original center plates and frames. These are ideally suitable for show- and/or salesrooms.

Please contact our sales agents for further details such as availability, terms, etc.



SL 5050

AS 40100



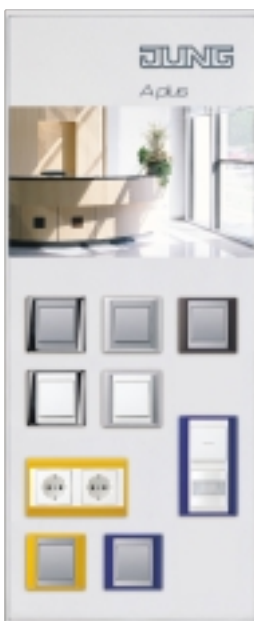
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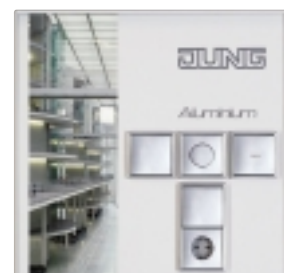
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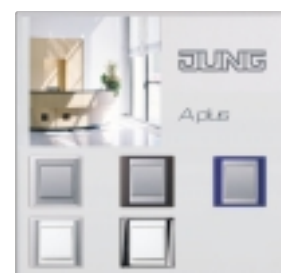
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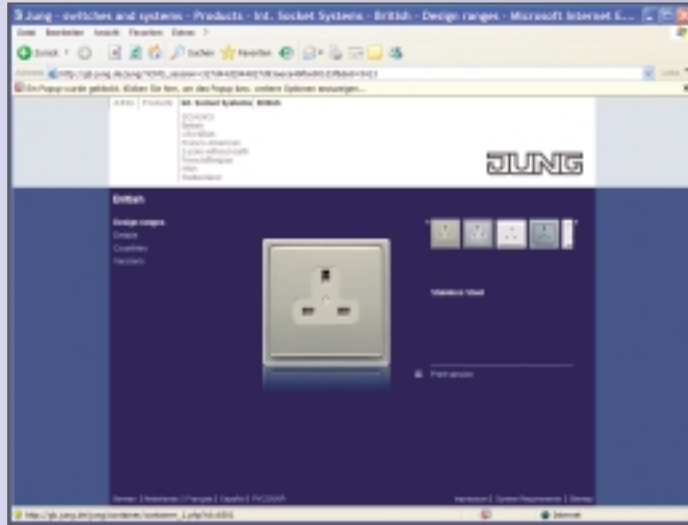
WC 5050-800



www.jung.de

www.jung.de – Always keep up-to-date

The new design of the website www.jung.de offers simple menus for quick access to all the information. Thanks to the user-friendly operation, you always maintain an overview. A comprehensive download area is available. The input options "Item number", "Designation" or "Category" are available as search options. When a PDF file is found, it can be opened to "View" or saved directly via the "Download" option.



JUNG Labelingservice

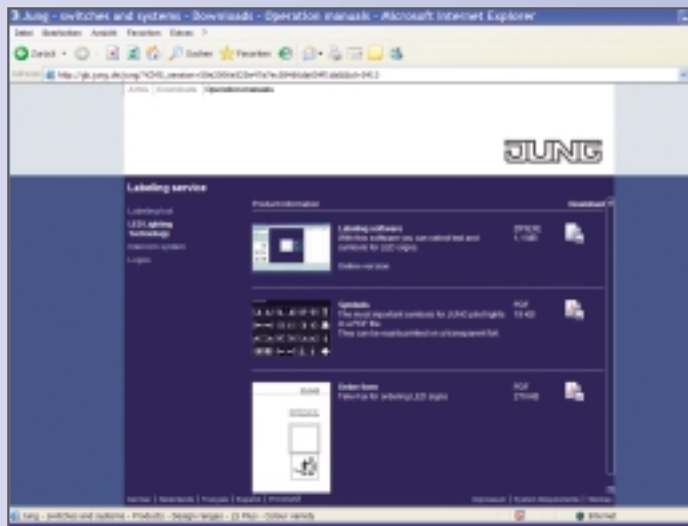
www.jung-label.de

Under this domain, you can find all the labelling possibilities for the JUNG products with the labelling field provided.

Software and symbol templates are available there for downloading. The universal labelling software contains all the labelling options: text, images, graphics and symbols are placed in the area previously specified via the item number. The new software thus offers all the current labelling options.

It is also possible to convert date information in various formats or consecutive numbering that has been created automatically.

Special labelling software is available for LED lighting management. It is ready for downloading next to the online variant. Symbols and text for LED signs can thus be selected and ordered. Pictograms are available at the same time as a download in PDF format.

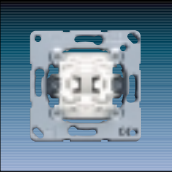
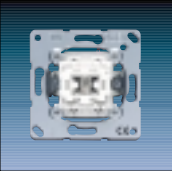
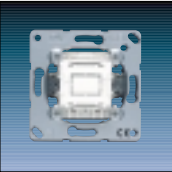

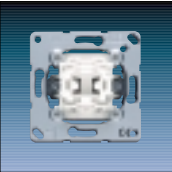
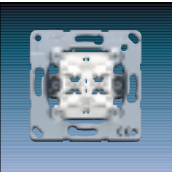
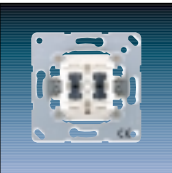
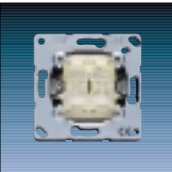
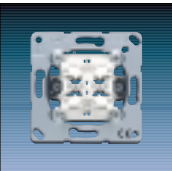
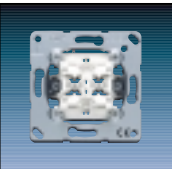


Under the menu item "LED Lighting Technology", there are special labelling software and templates in PDF format

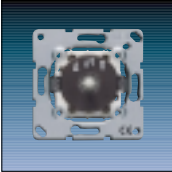

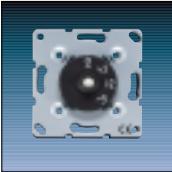
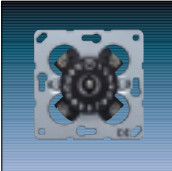
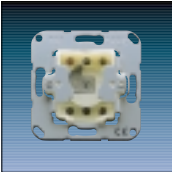
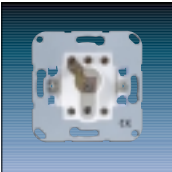






Text and symbols can be selected with the labelling software and aligned on the LED signs.


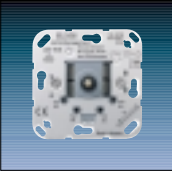

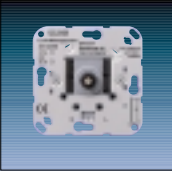







Mechanical inserts

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	1-gang switch insert 1-pole, 1-way, 10 AX/250 V 2-pole, 1-way, 10 AX/250 V 1-pole, 2-way, 10 AX/250 V Intermediate, 10 AX/250 V 3-pole, 1-way, 16 AX/400 V	501 U 10 502 U 10 506 U 10 507 U 10 503 U 10
	1-gang switch insert with indicator light 2-pole, 1-way, 10 AX/250 V 1-pole, 2-way, 10 AX/250 V 3-pole, 1-way, 16 AX/400 V	502 KOU 10 506 KOU 10 503 KOU 10
	1-gang push switch insert 2-pole, 1-way, 10 AX/250 V 1-pole, 2-way, 10 AX/250 V Intermediate, 10 AX/250 V 1-gang push switch insert with indicator light 2-pole, 1-way, 10 AX/250 V 1-pole, 2-way, 10 AX/250 V	502 TU 10 506 TU 10 507 TU 10 502 KOTU 11 506 KOTU 11
	1-gang switch insert 1-pole, 1-way, 20 AX/250 V 1-pole, 2-way, 20 AX/250 V Intermediate, 20 AX/250 V 1-gang push switch insert with indicator light 1-pole, 1-way, 20 AX/250 V 2-pole, 1-way, 20 AX/250 V 1-pole, 2-way, 20 AX/250 V	501-20 U 11 506-20 U 11 507-20 U 11 501-20 KOU 11 502-20 KOU 11 506-20 KOU 11
	1-gang push button insert 10 AX/250 V 1-pole, 1-way (make contact) 1-pole, 2-way (make+break contact) 1-pole, 1-way (make contact) 2-pole, 2-way (make+break contact)	531 U 11 533 U 11 534 U 11 533-2 U 11
	2-gang switch insert 10 AX/250 V 1-pole, 1-way 1-pole, 2-way	505 U 12 509 U 12
	2-gang switch insert 10 AX/250 V 1-pole, 1-way (with lamp) 2-gang switch insert 10 AX/250 V with indicator lights 1-pole, 1-way 1-pole, 1-way with mechanical interlocking	505 U 5 12 505 KOU 5 12 505 KOVU 5 12
	2-gang push switch insert 10 AX/250 V 1-pole, 1-way 1-pole, 2-way	505 TU 12 509 TU 12
	2-gang push button 10 AX/250 V 1-pole, 1-way (make contact) 1-pole, 2-way (make+break contact) 1-pole, 1-way (make contact) with lamps Multi switch 10 A 250 V	535 U 12 539 U 12 535 U 5 13 534-1 U 13
	2-gang venetian blind insert 10 A/250 V 1-pole switch 1-pole push-button	509 VU 13 539 VU 13

Mechanical inserts

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	Rotary switch insert 20 A/250 V without pilot light with pilot light 2-pole rotary switch insert, 32 AX/250 V	101-20 14 101-20 KO 14 101-32 14
	Multiple contact switch (0 - 1 - 2 - 3) 16 AX/250 V 20 AX/250 V, depth 45 mm	101-4 14 101-4-20 14
	Time delay switch insert 16 AX/250 V 15 min., 2-pole 15 min., 1-pole/2-way 30 min., 2-pole 60 min., 1-pole/2-way 2 hours, 1-pole/2-way	1015 14 1015-20 14 1030 14 1060-20 14 1120-20 14
	Key switch/push-button inserts 10 AX/250 V Venetian blind switch, 2-pole Venetian blind push-button, 1-pole Venetian blind push-button, 2-pole Push-button, 1-pole, 2-way Push-button, 2-pole Key switch inserts 16 AX/250 V, 2-pole, 2-way	104.28 15 134.18 15 134.28 15 133.18 15 138.18 15 106.28 15
	Key switch/push-button inserts 10 AX/250 V Venetian blind switch, 1-pole Venetian blind push-button, 1-pole Push-button, 1-pole, 2-way Key switch inserts 16 AX/250 V, 1-pole, 2-way	104.15 15 134.15 15 133.15 15 106.15 15
	Key switch/push-button inserts 10 AX/250 V Waterproof version (IP 44) Venetian blind switch, 1-pole Venetian blind push-button, 1-pole Push-button, 1-pole, 2-way Key switch inserts 16 AX/250 V, 1-pole, 2-way	CD 104.18 WU 15 CD 134.18 WU 15 CD 133.18 WU 15 CD 106.18 WU 15
	Modular Jack sockets 1-gang, 8-pole, 1 Terminal 2-gang, 8-pole, 1 Terminal 2-gang, 8-pole, 2 Terminals 2-gang, 8-pole, 2 Terminals, unshielded	UAE 8 UPO 16 UAE 2 x 8 UPO 16 UAE 8-8 UPO 16 UAE8-8UPOK5US 16
	Modular Jack sockets 1-gang, 8-pole, Cat. 5e 2-gang, 8-pole, Cat. 5e 1-gang, 8-pole, Cat. 6 2-gang, 8-pole, Cat. 6	UAE 8 UPOK5 16 UAE 8-8 UPOK5 16 UAE 8 UPOK6 16 UAE 8-8 UPOK6 16
	TV-FM socket insert Single, terrestrial Through, terrestrial Single, satellite Through, satellite SAT-TV-FM	FS 1 D 17 FS 12 D 17 EDU 04 F 17 GEDU 15 17 EDU 3902 F 17

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	Universal dimmer insert with incremental control for incandescent lamps, halogen lamps, conventional transformers, TRONIC transformer 50 – 420 W, 230 V ~ 254 UDIE1 50 – 340 W, 127 V ~ 254 UDIE-110	47 48
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Electronics

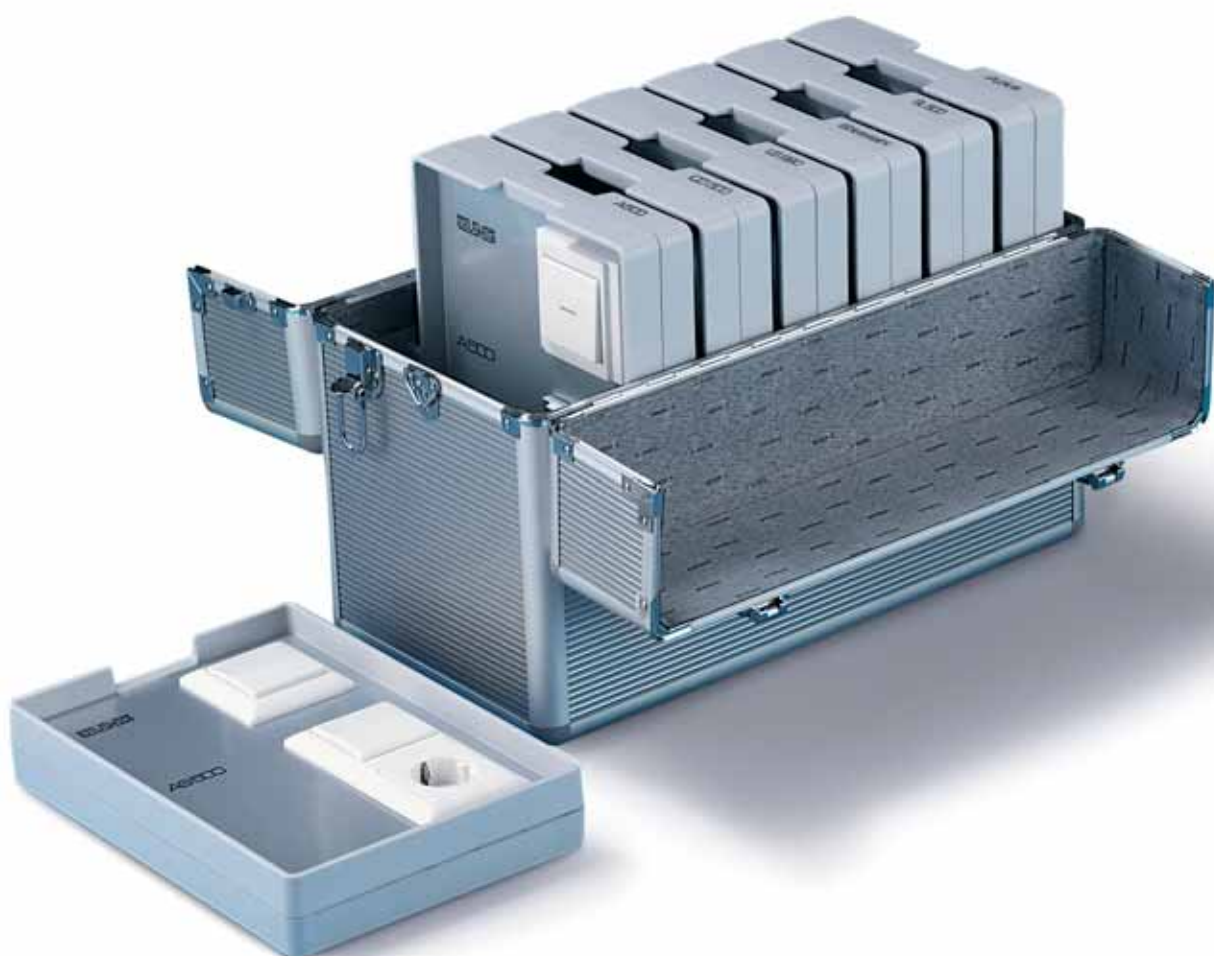
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	Universal relay switch insert 1201 URE 1-channel switch 230 V ~, max. 2300 W	61
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	TRONIC switch insert 1254 TSE for soundless switching 50 – 420 W, 230 V ~	63
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	Satellite inserts for standard center plate for automatic switches 1220 NE 1223 NE	64 64
	Pulse unit 1208 UI to realise a Staircase automatic switch circuit	65
	Power unit 208 REG for series-embodiment installation	65
	TRONIC transformer 10 – 40 W SNT 40 20 – 70 W SNT 70 Q 20 – 70 W SNT 70 F 20 – 105 W SNT 105 F 35 – 105 W SNT 105-35 20 – 150 W SNT 150 50 – 200 W SNT 200	53 53 53 53 54 54 54
	Built-in amplifier for TRONIC, 60 – 700 W 247 EB for conventional, 100 – 600 W 246 EB	51 51
	Universal dimmer UD 1255 REG 50 – 500 W Universal amplifier ULZ 1215 REG 200 – 500 W	52 52

Sample case MK 4

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The presentation concept with removable displays. The new sample case MK 4 is available on request. The design ranges with original covers are presented on six displays with eleven presentation areas.



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