Electrical installation solutions for buildings – Technical details

Light switches and socket outlets

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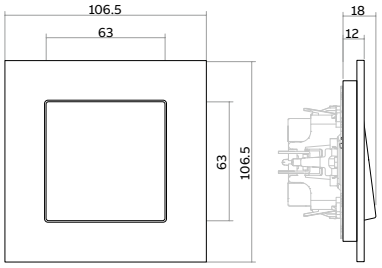
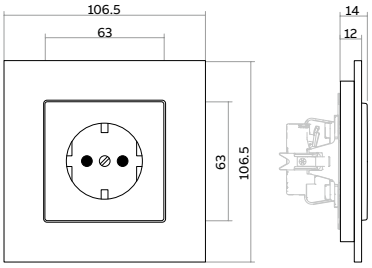
Technical details

carat®

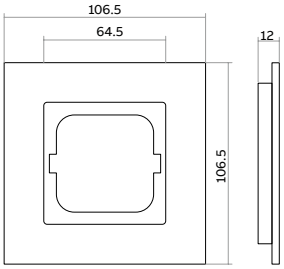
Frame dimensions



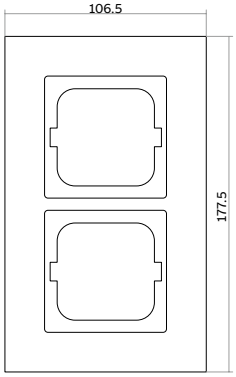
Rocker switch 1gang



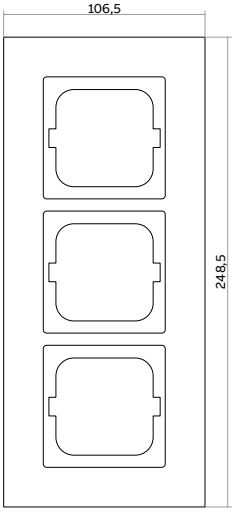
Socket outlet 1gang



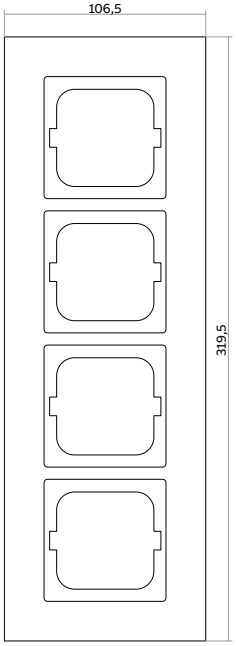
Cover frame 1gang



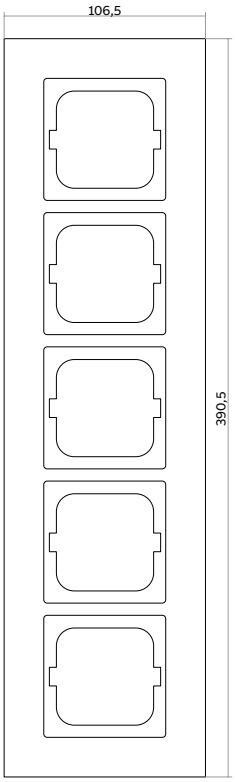
Cover frame 2gang



Cover frame 3gang



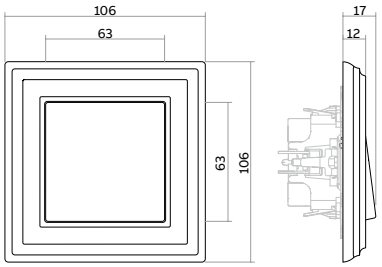
Cover frame 4gang



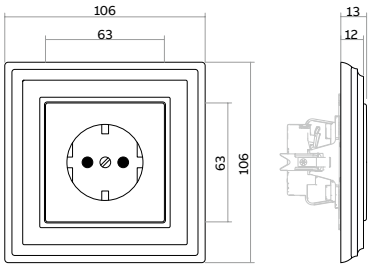
Cover frame 5gang

Technical details

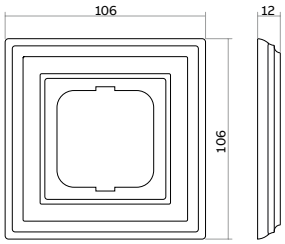
Busch-dynasty®



Rocker switch 1gang



Socket outlet 1gang



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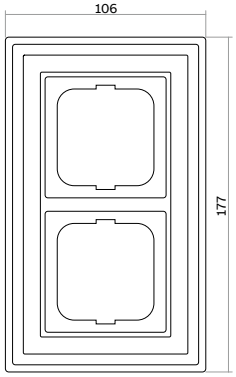

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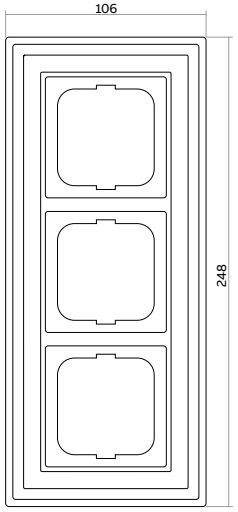
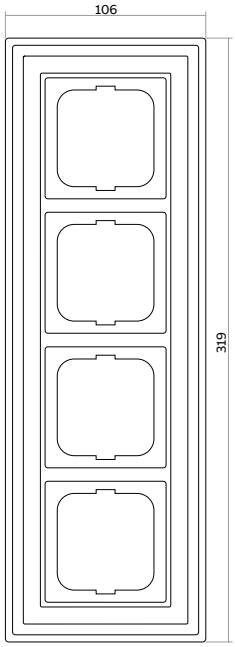
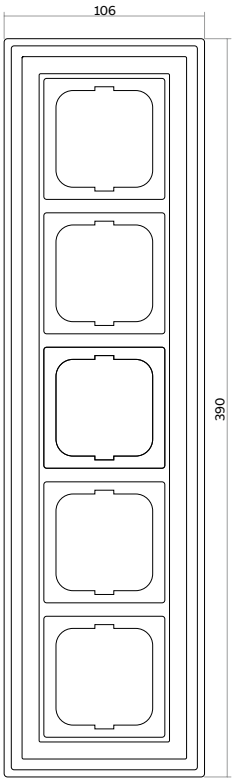


Cover frame 3gang



Cover frame 4gang

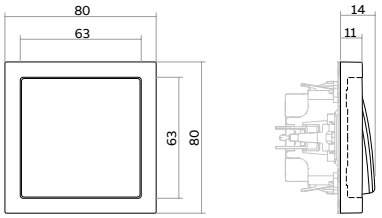


Cover frame 5gang

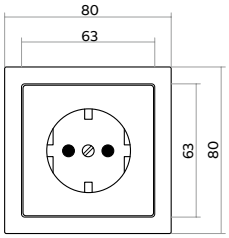
Technical details

pure stainless steel

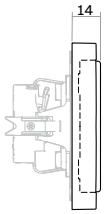
Frame dimensions

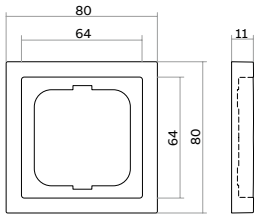


Rocker switch 1gang

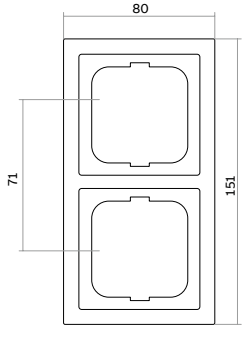


Socket outlet 1gang

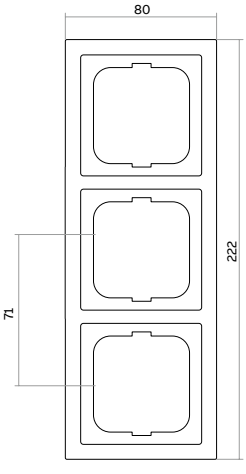




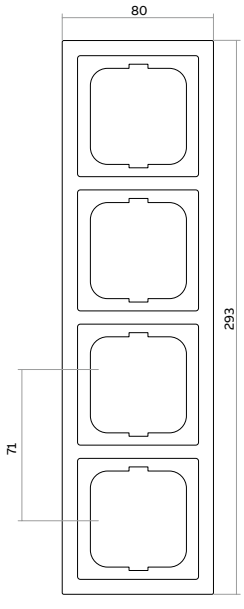
Cover frame 1gang



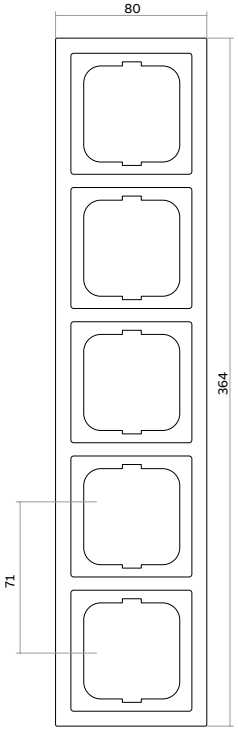
Cover frame 2gang



Cover frame 3gang



Cover frame 4gang

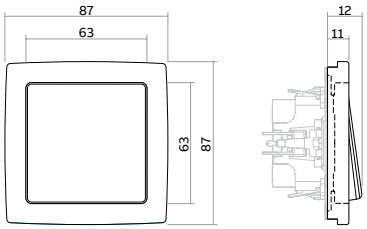


Cover frame 5gang

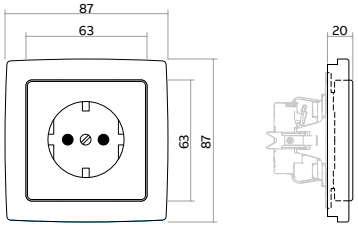
Technical details

solo®

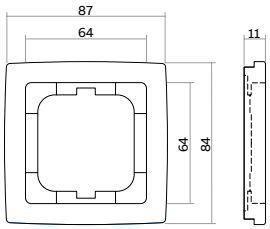
Frame dimensions



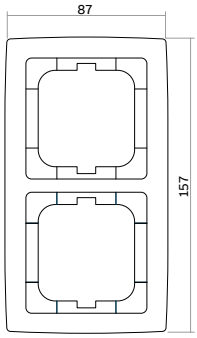
Rocker switch 1gang



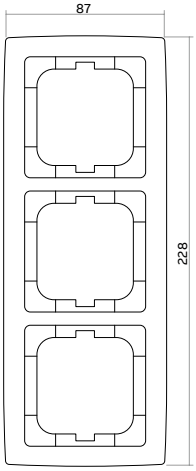
Socket outlet 1gang



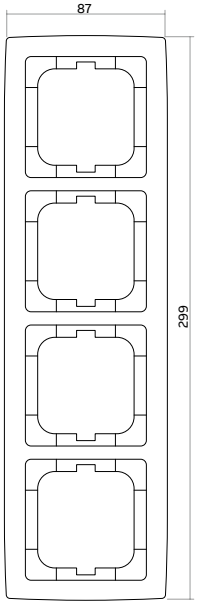
Cover frame 1gang



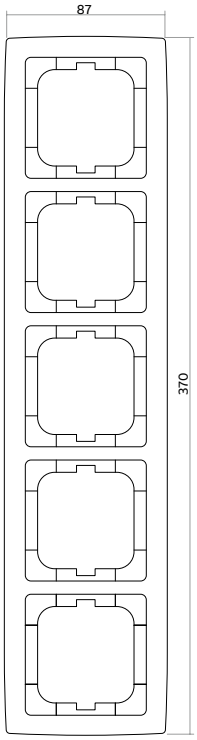
Cover frame 2gang



Cover frame 3gang



Cover frame 4gang

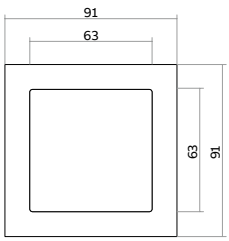


Cover frame 5gang

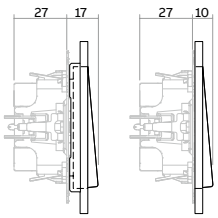
Technical details

Busch-axcent® / Busch-axcent® flat

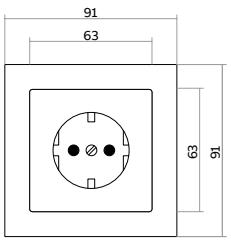
Frame dimensions



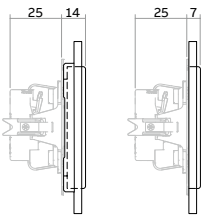
Rocker switch 1gang



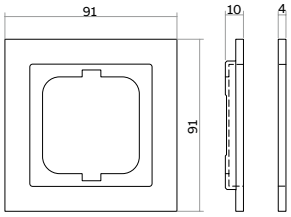
axcent flat



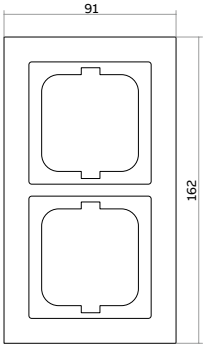
Socket outlet 1gang



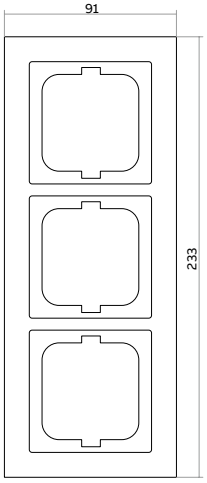
axcent flat



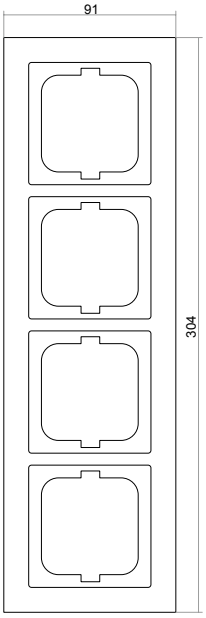
Cover frame 1gang



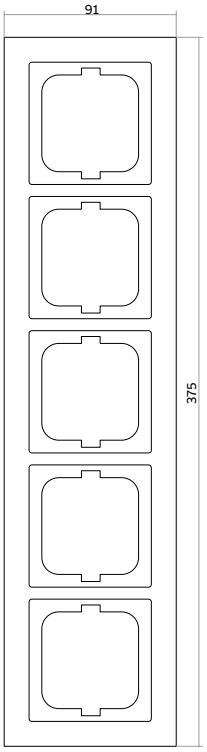
Cover frame 2gang



Cover frame 3gang



Cover frame 4gang

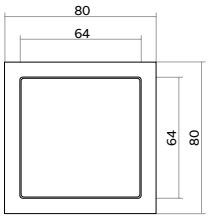


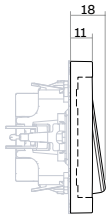
Cover frame 5gang

Technical details

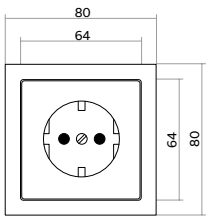
future® linear

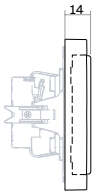
Frame dimensions



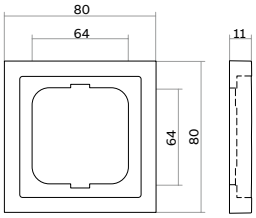


Rocker switch 1gang

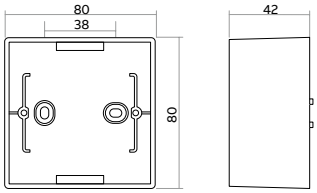




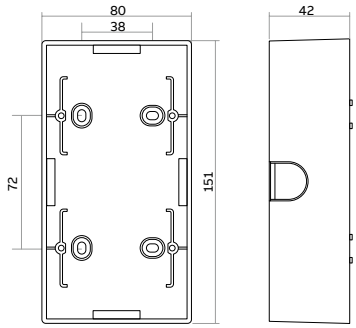
Socket outlet 1gang



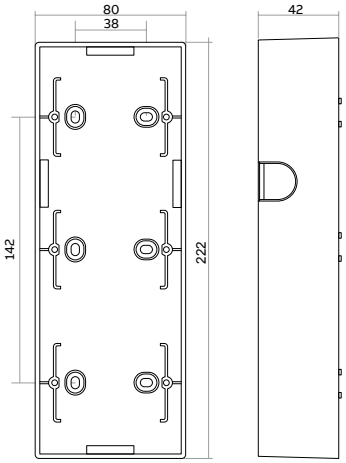
Cover frame 1gang



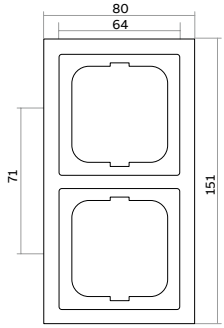
Surface mounting box 1gang

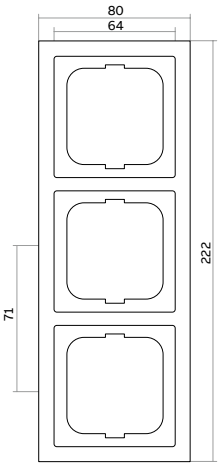


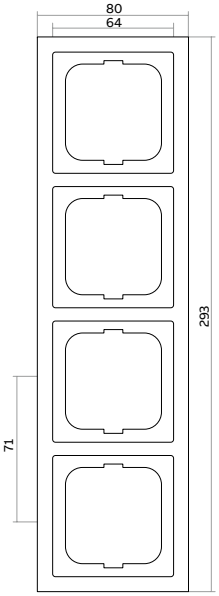
Surface mounting box 2gang

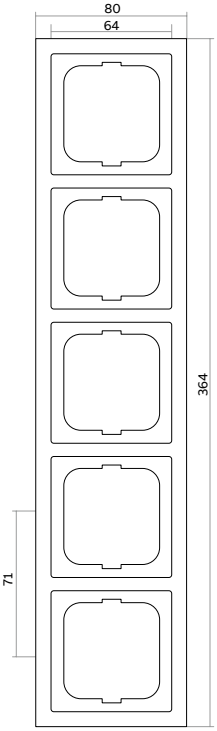


Surface mounting box 3gang







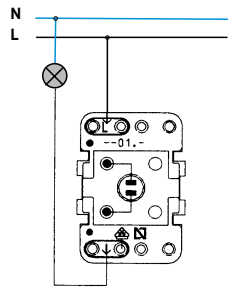


Technical details

Sky Niessen

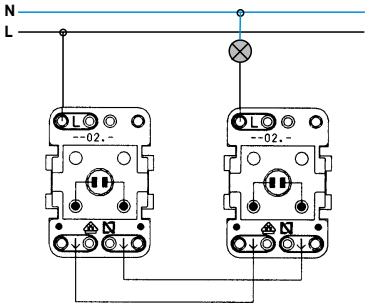
Luxury insert

Switch with night guide light



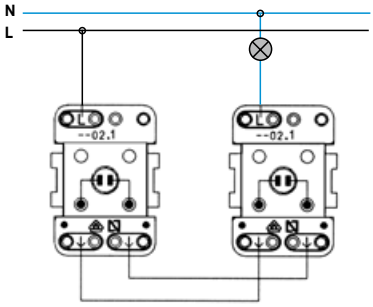
8101 & 8148

Switches with night guide light



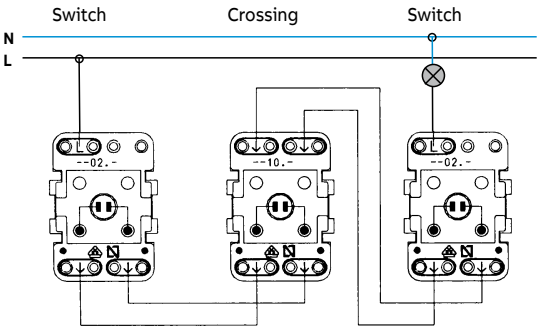
8102

Switch 16A with night guide light



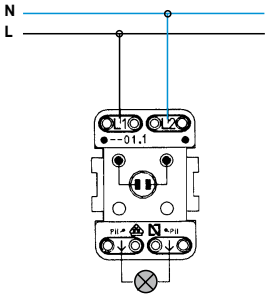
8102 8102

With night guide light



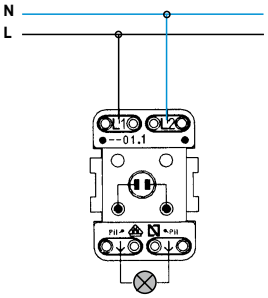
8102 8110 8102

Two-pole switch 16 A with night guide light



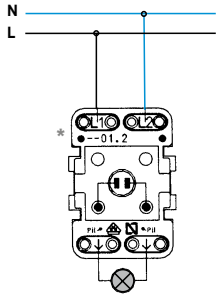
8101.1

Two-pole switch 16 A with control pilot



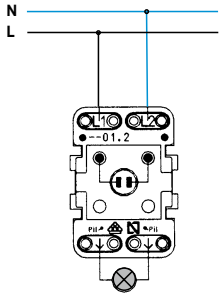
8101.1

Two-pole switch with control pilot



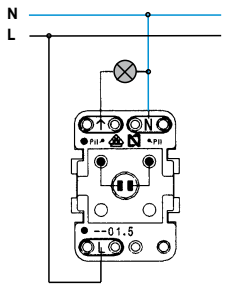
8101.2

Two-pole switch with night guide light



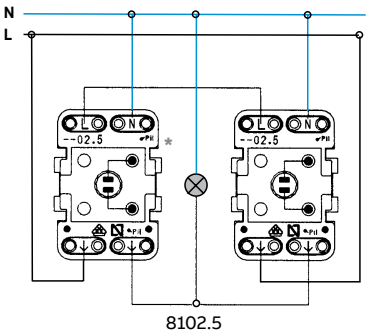
8101.2

Switch with control pilot



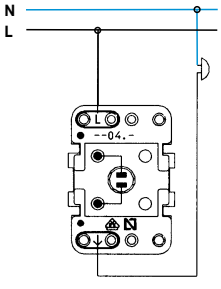
8101.5

Switches with control pilot



8102.5

Button with night guide light



8104

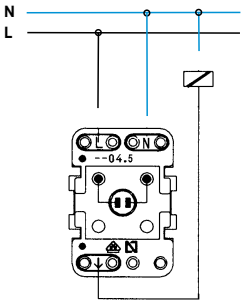
* The • indicates where the night guide lamp must be connected.
* The “pil” indicates where the control pilot lamp must be connected.

Technical details

Sky Niessen

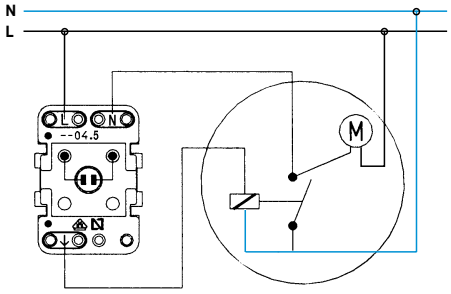
Luxury insert

Button with control pilot functioning as night guide light



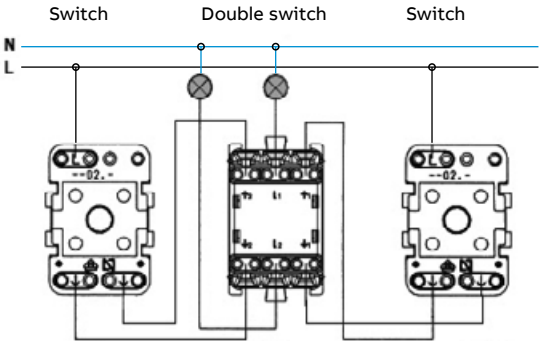
8104.5

Button with control pilot
Motor with time-delayed relay



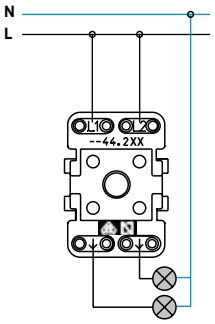
8104.5

Double switch



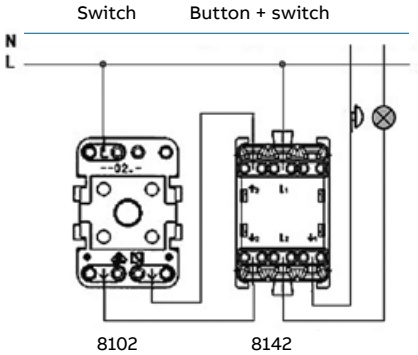
8102 8122 8102

Double button



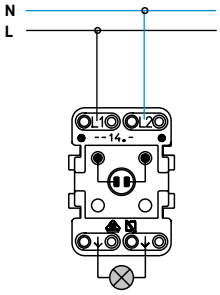
8144.2

Combination of button and switch



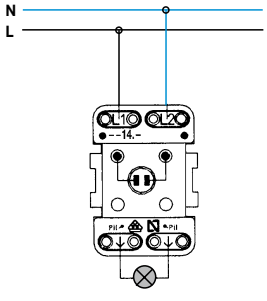
8102 8142

Two-pole card switch 10 A



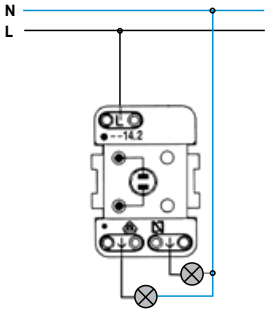
8114

Two-pole card switch 16 A



8114.1

Card switch



8114.2

Technical details

Sky Niessen

Luxury insert

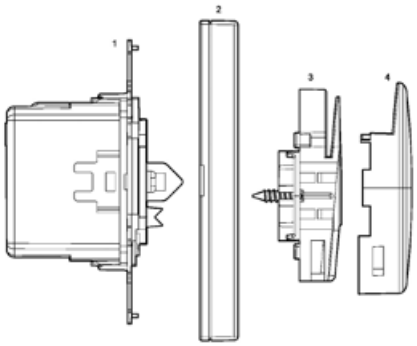
Time-delayed connection card switch. 8114.5

Technical characteristics:
- Power supply: 127 V~ / 60 Hz
  230 V~ / 50 Hz

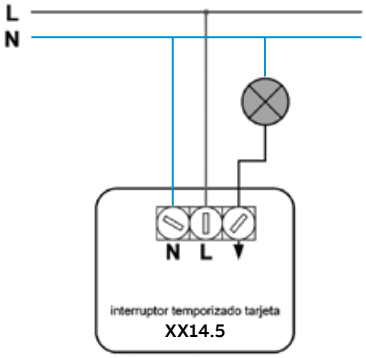
Valid for the following types of loads:
(a) Conventional incandescent lamps, halogen incandescent lamps at 230 V~ or 127 V~, low voltage halogen lamps with conventional transformer or electronic transformer and motors:
At 230 V~, 50 Hz, maximum power 3,000 W
At 127 V~, 60 Hz, maximum power 1,600 W
(b) Fluorescent lamps:
At 230 V~, 50 Hz, maximum power 1,300 W
At 127 V~, 60 Hz, maximum power 700 W

Operation
This appliance detects whether a card is present in the card slot.
(a) Whenever it detects the presence of a card, it connects the load. It will maintain the load connected for the time the card remains present.
(b) When, after having inserted a card, this is removed, the device will delay the cut-out of the load, according to the programmed time.

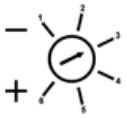
Assembly
1.- Secure the mechanism (1) in the recessed box with the screws of the box.
2.- Fit the frame (2) onto the mechanism.
3.- Secure the support (3) with the screws to the mechanism.
4.- Position the cover (4) onto the support.



Connection diagram:



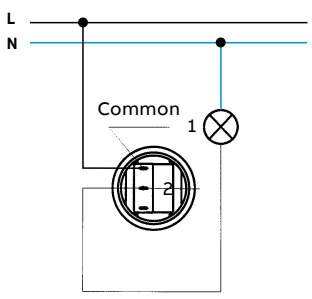
Programming the load disconnection times when the card is removed.
It is possible to select the disconnection times after the card is removed, through the rotating potentiometer for programming on the cover.

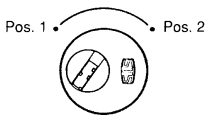


Step	Waiting time for disconnection
1.-	5 s.
2.-	10 s.
3.-	20 s.
4.-	30 s.
5.-	60 s.
6.-	90 s.

Switch-switch (code: 8153) / Push-button (8153.2) Two-position key

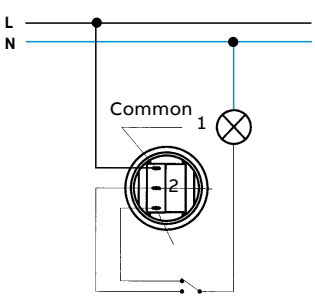
Diagram as switch/button 8153 / 8153.2





Position of the key	Active contacts
1	Common and 1
2	Common and 2

Diagram as switch

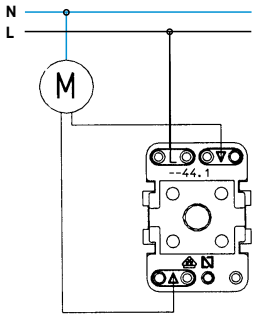


Technical details

Sky Niessen

Luxury insert

Button for blinds



8144 & 8144.1

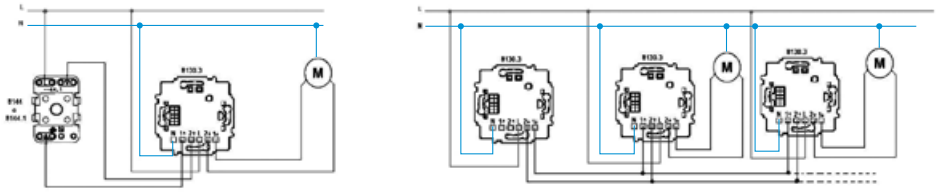
Switch for blinds

8130.3

230 V~ / 50 Hz; ±10%
Nominal power: 2 x 700 W/VA

- Allows two operating modes:
- (BLINDS): Switch for blinds.
- (SLATS): Switch for Venetian blinds with slats.
  Time to raise/lower switchable blinds (30-300 s).
- (C): Centre of an installation of a blind switch.
- Range of ambient temperature: from 0 to +35°C.
- To adapt to the Wireless system, use the buttons with the connector.
  Ref.: 8432.X (Fig. 2)
- For manual operation exclusively, use the buttons Ref.: 8430, 8230,
  5530. (Fig.2)

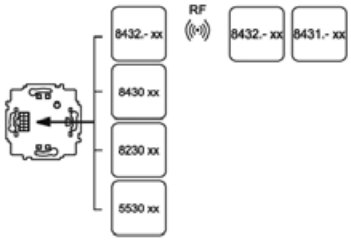
Fig. 1



8130.3 with auxiliary buttons for blinds 8144. Centralization of blinds for buttons 8430, 8230, 5530.

Centre **Switch for blinds 1** **Switch for blinds 2**

Fig. 2



Technical details

Sky Niessen

USB charger

8185

1.- Technical data:

Nom. input voltage: 100 - 240 V AC ± 10 %
Nom. input frequency: 50 - 60 Hz
Nom. input current:
8185 and N2285: 0,20Aca at max load
N2185: 0,12Aca at max load
Stand-by current: 230 V AC : <= 0,3 W
Nom. output voltage: 5 V DC +5 / -5 %
Output current:
8185 and N2285: 1500 mA at 5 V DC
N2185: 750 mA at 5 V DC
Operating temp.:
8185 and N2285: 0 °C + 35 °C
N2185: 0 °C + 45 °C
Energy efficiency:
8185 and N2285: >= 71%
N2185: >= 66%

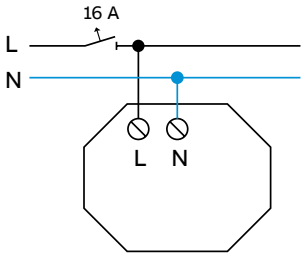
2.- Electric safety data

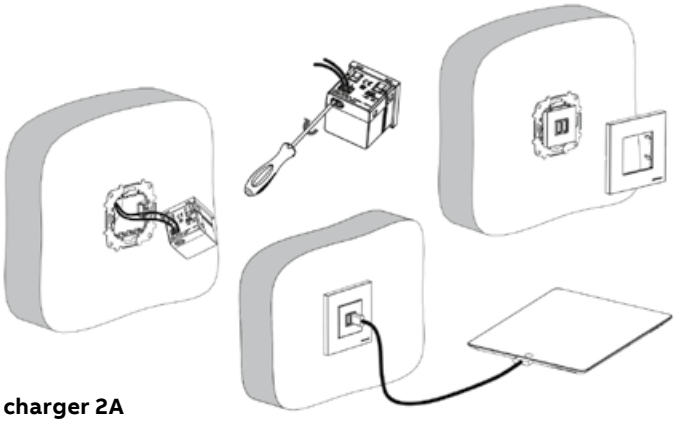
Safety standard: EN60950-I
Safety standard: II - Low voltage
Separation (prim. sec.):
Converter with galvanic insulation

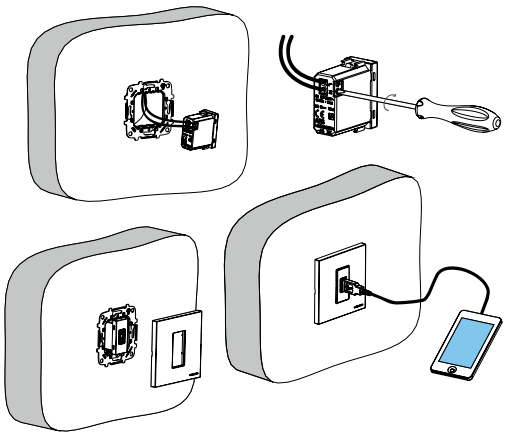
3.- Mean charge times for devices with lithium ion polymer compound batteries (for 8185 or N2285):
- 80% of the charge <1 h 15
- 100% of the charge <2 h 05

4.- Example of application: 8185

5.- Connection diagrams







USB charger 2A

8185.2 & 8185.3

1.- Technical data:
Nom. input voltage: 100 - 230 V AC ± 10 %
Nom. input frequency: 50 - 60 Hz
Nom. input current: <0,2A AC at max load
Stand-by current: <10 MW at 230 V AC, no load
Nom. output voltage: 5 V DC +5 / -5 %
Output current per outlet: 2000mA at 5V DC
Operating temp.:
0 °C to 45 °C, installing one USB charger N2185.2 or 8185.2.
0 °C to 30 °C, installing one charger 8185.3 or two N2185.2 together.
Energy efficiency: >= 79%

2.- Electrical connection diagram:

Fig. 1. Diagram 8185.2

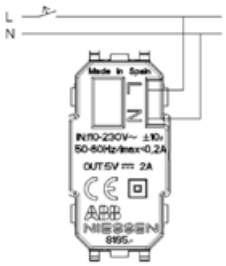
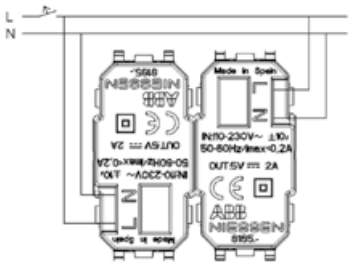
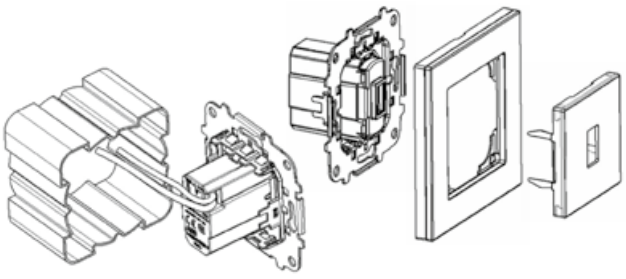


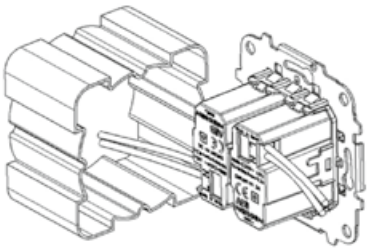
Fig. 2. Diagram 8185.3



3.- Installation:
3.2.- Installation of USB charger with one outlet 8185.2



3.3.- Fig. 5. -Installation of USB charger with two outlets 8185.3



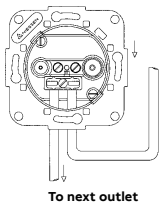
Technical details

Sky Niessen

TV / R outlets

Technical data

- Connection: Screw terminal and clamp. Coaxial cable 75 ohm.
- Shielded zamak and metal plate chassis.
- In conformity with EN 50083-1:1993, EN 50083-2:2001, EN 61000-6-1:2001, EN 61000-4-2:1995 ESD 15KV AD, 8KV CD, EN50083-4:1998
- Fits in a Ø60 mm box.

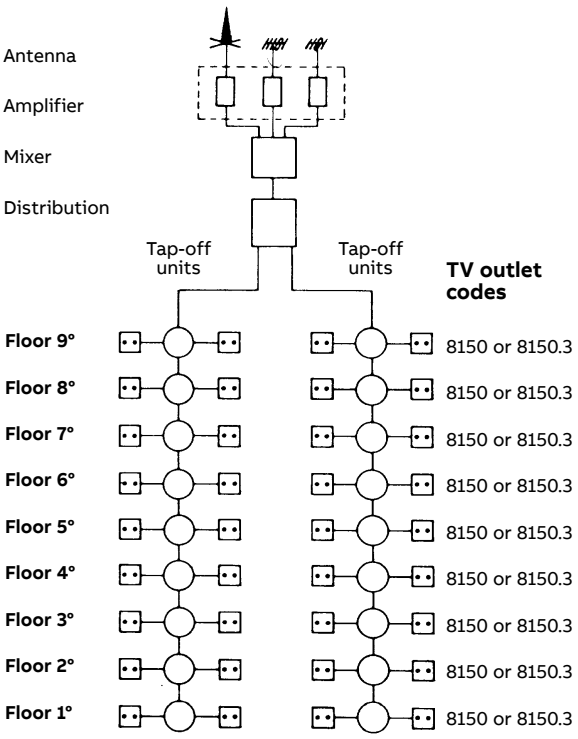


Important: the connection of the TV outlets in serial distribution must be carried out according to the figure on the left. The cable coming from the previous outlet is connected in the right terminal and the cable going to the next outlet in the left terminal.

Code			8150	8150.3	8150.7	8150.8
Installation			Final		Intermediate	
Connection			Screw terminal and clamp			
Output connectors		C1	IEC male Ø 9.52 mm			
		C2	IEC female Ø 9.52 mm			
Frequency range	MHz	I/O	5 - 862		13 - 862	5 - 862
		C1	5 - 862	5-68/118-862	13 - 862	5 - 862
		C2	5 - 862	87.5 - 108	13 - 862	5 - 862
Basic loss	dB ±TOL	FM	10,0 ±0,7	1,1 ±0,3	25,0 ±1,5	30,0 ±0,2
		DAB	10,0 ±1,5	R: 0,3 ±0,1	25,0 ±1,5	30,0 ±0,2
		VHF	4,0 ±1,5	TV: 0,9 ±0,3	8,0 ±0,7	11,0 ±1,0
		UHF	3,0 ±0,5		8,0 ±0,7	10,5 ±1,0
Through loss	dB ±TOL	FM		-	2,0 ±0,3	1,0 ±0,2
		VHF		-	2,0 ±0,5	1,1 ±0,3
		UHF		-	2,0 ±0,5	1,3 ±0,4
Directivity	dB	FM		-	>12	>25
		TV		-	>9	>13
Isolation	dB	FM	>14	>18	>16	>20
		TV	>14	>16	>15	>18
Return loss	dB	FM	>18	>16	>12	>18
		TV	>10	>18	>12	>15

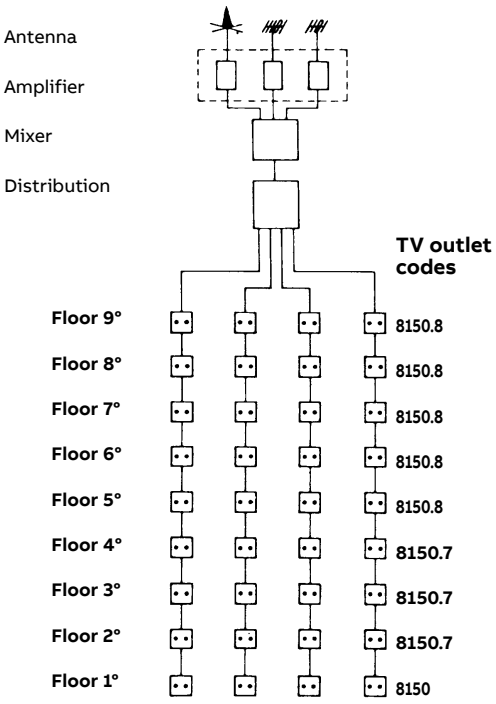
Note: reference 8150.3 compatible with CATV

MATV connection diagram
Distribution with tap-off units

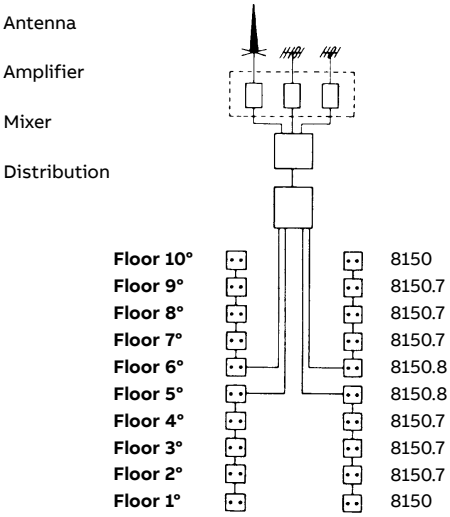


In this diagram all final outlets are the same.
References 8150 or 8150.3 can be used equally.

MATV connection diagram
Serial distribution up to 9 floors



MATV connection diagram
Serial distribution for more than 9 floors



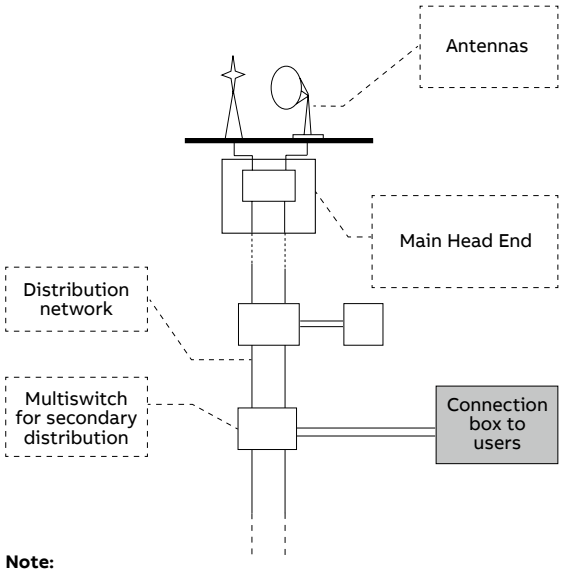
Example: 10 floors. The floors are divided in 2 groups of 5 floors each. The outlets are distributed according to the criteria shown in the MATV connection diagram for serial distribution up to 9 floors. The diagram above can be used in buildings up to 18 floors. For buildings with more than 18 floors and up to 27 floors, 3 groups have to be created and so on.

Technical details

Sky Niessen

TV-R / SAT outlets

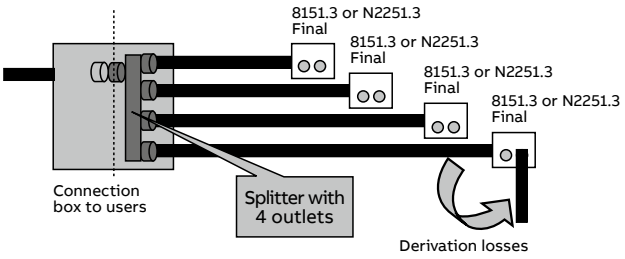
SMATV connection diagram



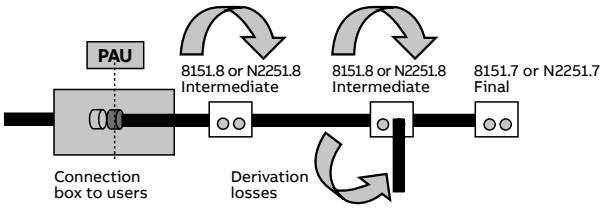
Note:

End of line impedance. If the distribution equipment requires outlets with end of line resistors, 8151.7/N2251.7 outlets must be used or add to 8151.3/N2251.3 outlets a termination resistor to close the line.

a) SMATV star connection diagram



a) SMATV star connection diagram



Note:

It is recommended to avoid installing more than 2 intermediate outlets per line.

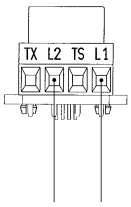
Code			8151.3 N2251.3	8151.7 N2251.7	8151.8 N2251.8	8152.7
Installation				Final	Intermediate	Final
Connection				Screw terminal and clamp		
Output connectors		C1		IEC male Ø 9.52 mm		
		C2		IEC female Ø 9.52 mm		
		C3		-		F female
Frequency range	MHz	E/S	5 - 2400	5 - 2400		5 - 2500
		C1	5 - 862	5 - 2400		5 - 68 / 125 - 862
		C2	930 - 2400	5 - 2400		87,5 - 108
		C3		-		950 - 2500
Basic loss	dB ±TOL	FM	0,2 ±0,1	3,7 ±0,3	10,0 ±1,0	2,0
		TV	1,0 ±0,5	4,0 ±0,5	10,0 ±1,0	2,7
		SAT	1,2 ±0,6	5,0 ±1,2	12,0 ±2,0	2,3
Through loss	dB ±0,5	FM		-	2,5 ±0,5	-
		TV		-	2,5 ±0,7	-
		SAT		-	3,0 ±1,0	-
Directivity	dB	FM		-	>20.0	-
		TV		-	>12.0	-
		SAT		-	>5.0	-
Isolation	dB	FM	>45	>20	>45	>24,3
		TV	>14	>20	>30	>15
		SAT	>14	>14	>28	>15
Selectivity	dB	FM	-	-		>15
		TV-R	>15	-		>15
		SAT	>15	-		>15
Return loss	dB	VR	>25	>16	>13	>7,6
		FM	>25	>16	>13	>10
		TV	>14	>16	>12	>7,6
		SAT	>10	>9	>12	>8,2
DC path	V⎓			24 max		24 max
	mA			500 max		500 max
	Tono			22 KHz/DiSEqC		22 KHz/DiSEqC

Technical details

Sky Niessen

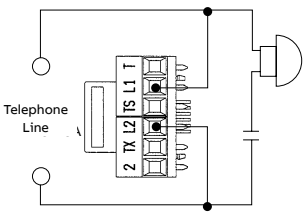
Telephone outlets

4 contacts



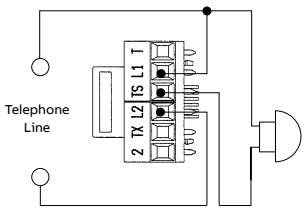
6 contacts

Supplementary bell with capacitor

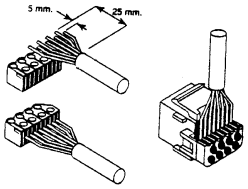


6 contacts

Supplementary bell without capacitor



8 contacts



Connections for special services:

Special services are understood to be those which need the installation of a subscriber other than the normal one, either in terms of number of wires or connections in the telephone outlet, or in both cases at the same time.

These services may be:

Reversed Call (between a main telephone and another extension), Shared Line (two subscribers per terminal), Blocked Dialing by Fee Indicator, Supplementary bell (with and without capacitor). Call transfers, Connection for Fax., Connection for Modem, etc.

Connections:

The connection of each of the appliances to the telephone outlet (either to the PRC or private outlet) must be specified by the manufacturer of the appliance in question. However, Electromechanical supplementary bell are connected according to the following diagrams.

The references Niessen 8117.3, 2117.8 XX, 2117.8 XX, 2217.8 XX, 2217.8 XX, 2017.3 (terminal access bases, TAB) are supplied with an 8-contact connector that complies with the Standard ISO 8877, without terminating resistor.
Primary ISDN access: Used as elements, cable (in point-to-point configuration), the network termination equipment at primary speed (TR1p, component supplied and owned by the ISDN service provider). If using shielded cables, the connection to the termination equipment shall be fixed with a terminal block with connection to the shield of each pair. Both shield connections can be joined. Optionally an 8-contact connector can be used.

Technical details

Sky Niessen

Female RJ45 Connector Device

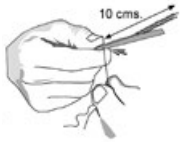
2018.6 & AM33322-AN

1.- Preparing the Cable

1.1.- Put the cable into the hole of cap.

1.2.- Cut approximately 5 cm. off the jacket

1.3.- Open approx. 10 cm of the jacket with a cutter cord or another tool.

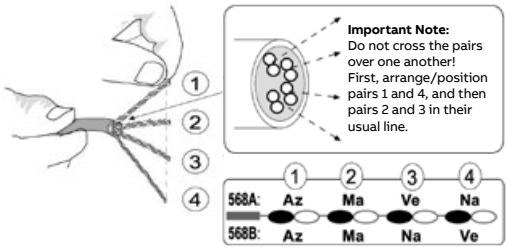


1.4.- Cut the jacket

1.5.- Cut the mesh (if it has one) and the cord at the same level of the jacket.

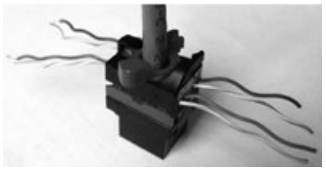
2.- Preparing the Conductors

2.1.- Select the adequate wiring scheme (568A or 568B) and place the pairs in a straight line.

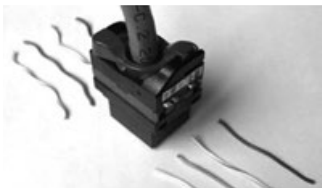


2.2.- Position each of the four pairs in the holes of the end piece.

2.3.- Set the cover to the module.



2.4.- Cut the excrescent wires.



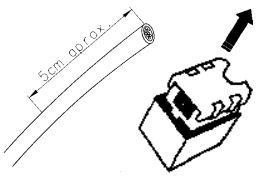
3.- Technical specifications

- Wiring sticker: T568A &T568B
- WInsertion force: 20N max. (IEC 60603-7-4)
- Retention strength: 7.7kg.
- Operating temperature: -10C° — 60C°
- In compliance with ANA/TIA/EIS 568 B-2 standard

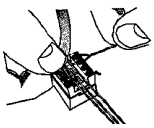
RJ45 Cat. 5E female connector

2018.5

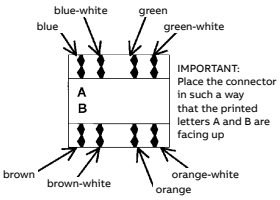
1.- Remove the back cap from the connector. Strip approx. 5cm off the jacket and discard the cable cutter cord.



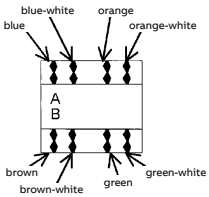
2.- Remove the back cap from the connector. Strip approx. 5cm off the jacket and discard the cable cutter cord.



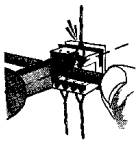
2a.- Wiring according to T568A:



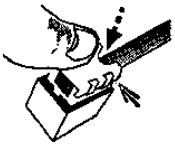
2b.- Wiring according to T568B:



3.- Push the cables against the end of the slot and cut them flush to the connector.
Use an IBDN 110, BIX, KRONE wiring tool, or a similar type 110 tool.



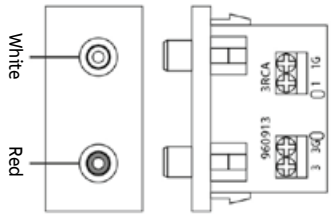
4.- Mount the connector cap.



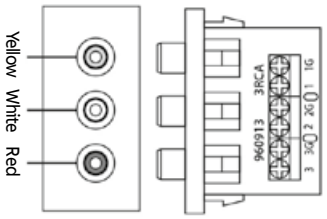
Technical details

Sky Niessen

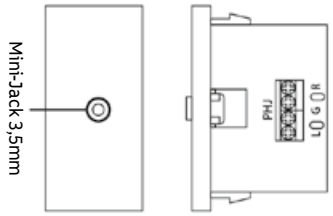
VDI connectors



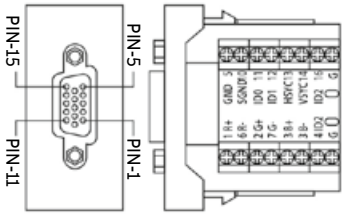
8155.2
Pin Out:
1G — W/GND } Left Audio
1B — White
3G — R/GNB } Right Audio
3R — red



8155.3
Pin Out:
1G — Y/GND } Composite Video
1A — Yellow
2G — W/GND } Left Audio
2B — White
3G — R/GND } Right Audio
3R — Red



8155.4
Pin Out:
R — Red } Left Audio
G — Ground } Right Audio
L — White

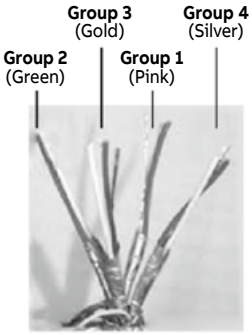


8155.5

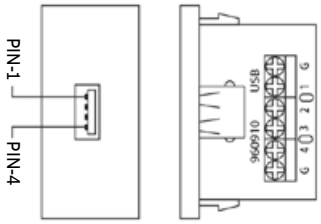
PIN	PIN
1 — 1 R+	5 — GND 5
6 — 6 R-	10 — SGND 10
2 — 2 G+	11 — ID0 11
7 — 7 G-	12 — ID1 12
3 — 3 B+	13 — HSYC 13
8 — 8 B-	14 — VSYC 14
4 — 4 ID2	15 — ID2 15
G — GND	G — GND

8155.6

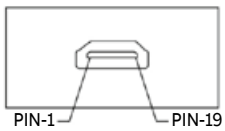
G-1	1	TMDS Data2+
	2	TMDS Data2 Shield
	3	TMDS Data2-
G-2	4	TMDS Data1+
	5	TMDS Data1 Shield
	6	TMDS Data1-
G-3	7	TMDS Data0+
	8	TMDS Data0 Shield
	9	TMDS Data0-
G-4	10	TMDS Clock+
	11	TMDS Clock Shield
	12	TMDS Clock-
	13	CEC
	14	RESERVED (N.C. on device)
	15	SCL
	16	SDA
	17	DDC/CEC Ground
	18	+5V Power
	19	Hot Plug Detect
	GND	Ground

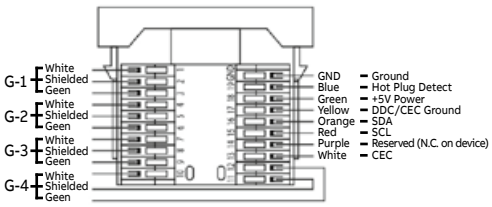


On Group included 3 wires



8155.8
Pin Out:
1 — V_{BUS}
2 — D-
3 — D+
4 — Ground
G — Shielded





Note:
Using a strap for fixing the cable to the board it is recommended to avoid disconnections. For this the plates have two through-holes at its rear end.

Technical details

Sky Niessen

Rotatory dimmer

Reference	Types of lamps					Power	Switchable
	incandescent	halogen transformer-electromechanical	halogen transformer-electronic	fluorescent lamp	LED		
2260.2	☻	☹	☹	☹	☹	60-400 W	☹
8160*	☻	☻	☹	☹	☹	20-500 W / VA	☻
8160.2	☻	☻	☻	☹	☻	2-100 W / VA LEDi 10-250 W / VA	☻
8160.3	☻	☻	☹	☹	☹	200-1000 W / VA	☻
8160.5	☻	☻	☹	☹	☹	60-400 W / VA	☻
8160.7	☻	☹	☻	☹	☹	40-420 W / VA	☻
8160.9	☹	☹	☹	☻	☹	700 W / VA	☹
8160.8	☻	☻	☻	☹	☹	60-420 W / VA	☻ Regulated with ref. 8161.8
8161.8	Auxiliary component, does not bear load. Up to 5 units connected.						☻

* Valid for small motors of 300 VA

Rotatory dimmer, RL, 20-500 W

8160

230 V~ / 50 Hz.
20-500W
20-500VA
Motors up to 300 VA

- Mechanism valid for cover and button Ref: 5560, 8260.2, 8460.2 and 8560.2
- Protection against short circuit: T3, 15H
- Protection against overload: electronic
- Range of ambient temperature: from 0 to +35°C
- Triac regulator

Fig. 1

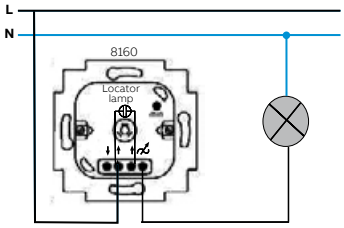
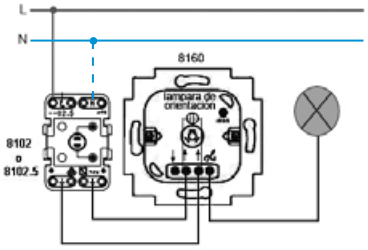


Fig. 2



* If you wish to fit a night guide light use the 8102.5

Note:
The nominal power depends on the ambient temperature. In addition, when calculating the nominal power note the transformer losses (20%).

Rotatory dimmer, LED, 2-100 W

8160.2

Fig. 1

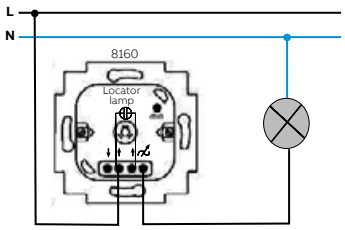
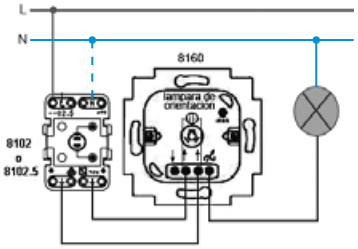
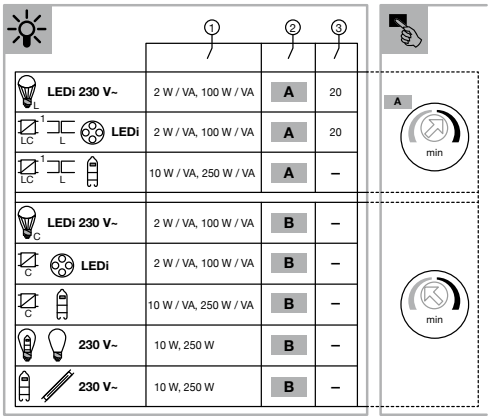


Fig. 2



- Mechanism valid for cover and button Ref: 5560, 8260.2, 8460.2 and 8560.2
- Protection against overload: Electronic
- Range of ambient temperature: from 0 to +35°C



Note:
The nominal power depends on the ambient temperature. In addition, when calculating the nominal power note the transformer losses (20%).

Technical details

Sky Niessen

Rotatory dimmer, RL, 200-700 W

(Incan. + halog. electromagnetic transformer). 8160.3

230 V~ / 50 Hz.
200-1000W
200-1000VA

- Mechanism valid for cover and button Ref: 5560, 8260.2, 8460.2 and 8560.2
- Calibrated fuse T-6.3H Time-delayed
- Protection against short circuit: T 6.3 H
- Range of ambient temperature: 0 - +35°C

Fig. 1

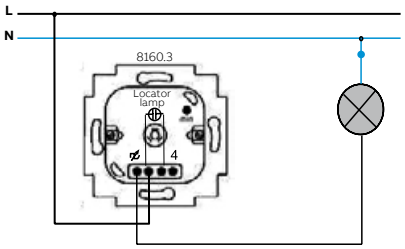
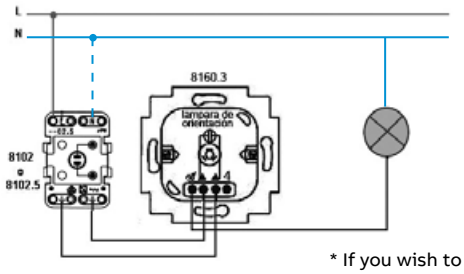


Fig. 2



Note:
The nominal power depends on the ambient temperature. In addition, when calculating the nominal power note the transformer losses (20%).

* If you wish to fit a night guide light use the 8102.5

Rotatory dimmer, RL, 60-400 W

8160.5

230 V~ / 50 Hz.
60-400 W
60-400 VA

- 6A complementary circuit switch.
- Mechanism valid for cover and button of ref. 5560, 8260.2, 8460.2 and 8560.2
- Nominal current - switch: 6 A
- Stray current protection: EN 55014
- Minimum load: 60 VA
- Protection against short circuit: T3, 15H
- Maximum protection against short circuit: 10 A
- Range of ambient temperature: from 0 to +35°C

Fig. 1

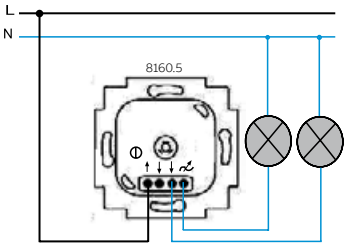
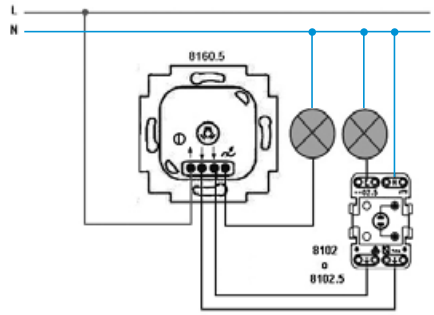


Fig. 2



Note:
The nominal power depends on the ambient temperature. In addition, when calculating the nominal power note the transformer losses (20%).

Rotatory dimmer, RC, 40-420 W

8160.7

230 V~ / 50 Hz.
40-420 W
40-420 VA

- Mechanism valid for cover and button of ref. 5560, 8260.2, 8460.2 and 8560.2
- Types of loads: incandescent and/or halogen lamps at 230V and/or halogen with electronic transformer.
- Protection against short circuit: electronic
- Protection against overload: electronic
- Range of ambient temperature: 0 - +35°C

Fig. 1

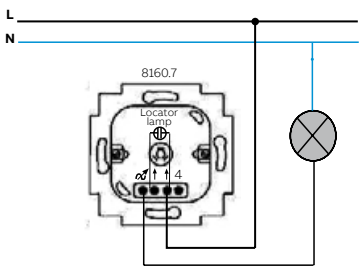
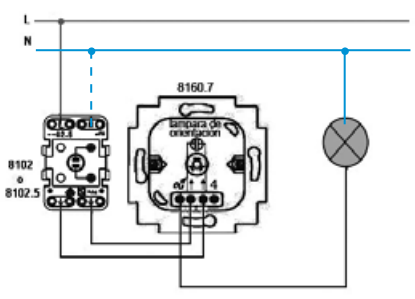


Fig. 2



Note:
The nominal power depends on the ambient temperature. In addition, when calculating the nominal power note the transformer losses.

* If you wish to fit a night guide light use the 8102.5

Technical details

Sky Niessen

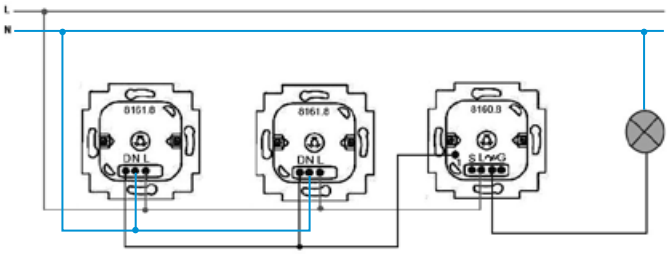
Rotatory dimmer, RLC, 60-420 W & Rotatory dimmer remote control

8160.8 & 8161.8

230 V~ / 50 Hz
60-420 W
60-420 VA
60-420 VA

- Mechanism valid for cover and button Ref: 5560, 8260.2, 8460.2 and 8560.2
- The principal mechanism (8160.8) may be connected to up to 5 auxiliary elements (8161.8) which also regulate the load.
- Range of ambient temperature: 0 to +35°C
- Maximum number of auxiliary elements with an 8160.8: 5 units
- Maximum length of cable 100 m.
- Range of ambient temperature: 0 to +35°C
- Mechanism valid for cover and button Ref: 5560, 8260.2, 8460.2

* The connection N is only necessary if a night guide light is used in the regulator.



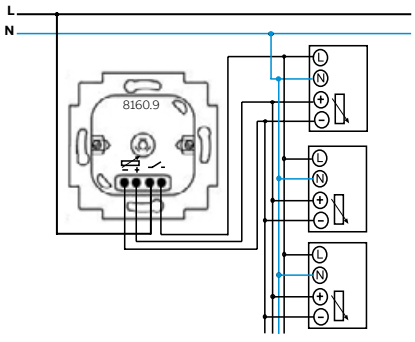
Note:
The nominal power depends on the ambient temperature.
In addition, when calculating the nominal power note the losses of the conventional (20%) and electronic (5%) transformers.

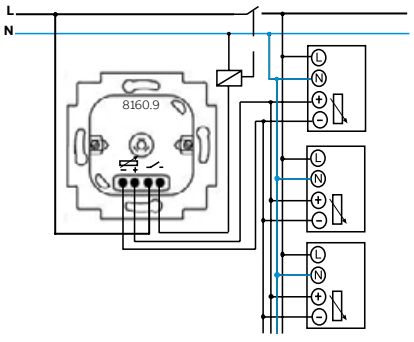
Rotatory dimmer, 1-10Vdc

8160.9

230 V~ / 50 Hz.
700 VA

- Mechanism valid for cover and button of ref. 5560, 8260.2, 8460.2 and 8560.2
- Valid for fluorescent lights with dimmable electronic ballast.
- Power: 700 VA
- Control voltage: 0/1 - 10 V DC
- Ballast control max. current: 50 m A DC.
- The night guide light must not be installed with this regulator.





Technical details

Sky Niessen

Rotatory dimmer remote control

8130

230 V~ / 50 Hz; ±10%
60-450 W
60-450 VA
60-450 VA

- Two-wire connection.
- Enables two operating modes selected with the front potentiometer: Regulator and Switch Modes.
- Range of ambient temperature: from 0 to +35°C.
- For manual operation exclusively, use the buttons Ref.: 8530, 8430, 8230 and 5530. (Fig. 2).

Fig. 1

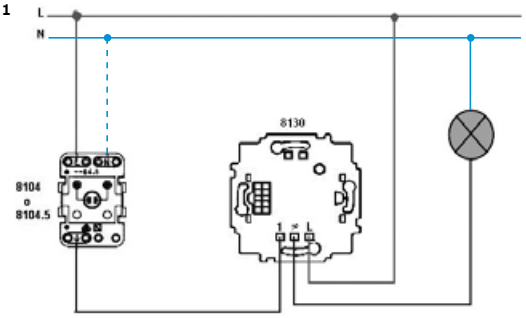
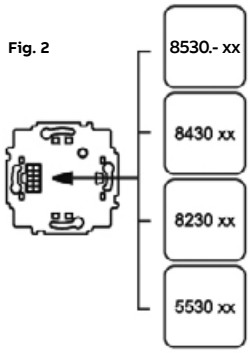


Fig. 2



* If you wish to fit a night guide light, use the 8104.5

Note:

The nominal power depends on the ambient temperature. In addition, when calculating the nominal power note the losses of the conventional (20%)and electronic (5%) transformer.

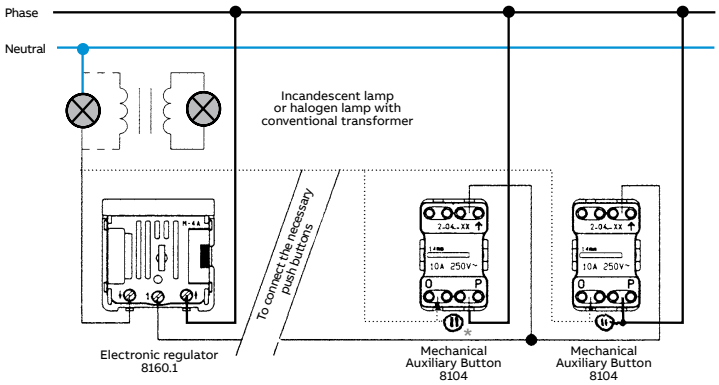
Universal push dimmer 40-450W

8160.1

Mains voltage: 127 V~ / 60 Hz
220 V~ / 50 Hz
Power: - at 220 V~ / 50 Hz: 40 - 450 W
40 - 400 VA

Its special characteristics enable convenient remote control using conventional buttons, deriving one conductor only, and thus simplifying the electrical installations as the traditional switched installations can be replaced.

Short press:
If the regulator was switched off, with a short press the maximum lighting is always connected. If the regulator is switched on, with a short press it is disconnected. A short press is understood to be between 50 ms and 400 ms.



Long press:

If the regulator was switched off, with a long press, it is connected from minimum lighting and continues the regulation until the button is released. If the regulator was switched off, with a long press, the regulation process starts from the point it was at and until the button is released. A long press is understood to be greater than 400 ms.
Protection against overcurrents: With calibrated fuse Code T-2A. It is supplied with a spare.
Protection against erroneous connections: With electronic device. From min. to max. 3.8 seconds.
Night guide display: With red LED. Operating temperature: 0 °C to 30 °C.
Suppression of interference according to Standards: UNE-20507 and UNE-21806, EN 55014 and EN 60555.

* **If you want a night guide light, use the 8104.5**

Rotatory DALI dimmer & Rotatory DALI dimmer with power supply

8161.4 & 8161.5

8161.5	
Nominal voltage (through the DALI external power supply)	9,5 – 22,5 V ⎓
Power consumption (depending on the color of the guide light)	7 – 15 mA
Connection for electronic	protection
Maximum number of DALI service units that can be connected (depending on the external power supply)	64
Service temperature	0 °C – +35 °C
Protection class	IP20
Maximum cable length in the system	300 m
Number of color of the guide light	18 + disconnected

8161.4	
Nominal voltage	230 V~ ±10 % ; 50/60 Hz
Power consumption	7 – 15 mA
Gap voltage. Output voltage	15,5 V ⎓
Maximum usable current	75 mA
Connection for electronic	protection
Maximum number of DALI service units that can be connected	37
Service temperature	0 °C – +35 °C
Protection class	IP20
Maximum cable length in the system	300 m
Number of color of the guide light	18 + disconnected

Technical details

Sky Niessen

Rotatory DALI dimmer & Rotatory DALI dimmer with power supply

8161.4 & 8161.5

Operation

1- Attenuation speed:

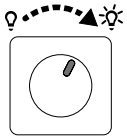


Fig. 1:

Slow rotation of the control element:
– Precision setting with up to 254 levels of luminosity.

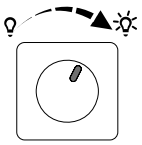


Fig. 2:

Quick rotation of the control element:
– Large changes in luminosity to reach the desired setting rapidly.

2- Adjusting the basic luminosity:

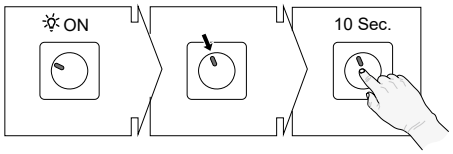


Fig. 3:

To set the basic luminosity, turn the control element slowly.
1. Switch on the lighting.
2. Adjust the lighting.
3. Press the control element for 10 seconds.
   – Once the configuration has been carried out, the load will blink once.

3- Deleting the basic luminosity:

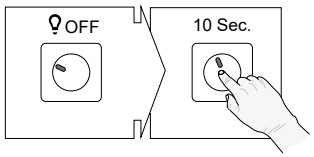


Fig. 4:

To delete the basic luminosity, turn the control element slowly.
1. Turn off the lighting.
   Press the control element for 10 seconds.
   – Once the configuration has been carried out, the load will blink once.

4- Switching on with the memory function:

The DALI potentiometers always switch on the lighting with the last value of luminosity set (memory function). This function overwrites the manual setting of the luminosity connection.

5- Modifying the connection luminosity:

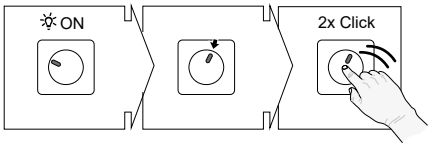


Fig. 5:

To adjust an established luminosity connection the following points must be executed:
1. Switch on the lighting.
2. Adjust the lighting.
3. Double click quickly on the control element.
   – Once the configuration has been carried out, the load will blink twice.

The memory function overwrites the luminosity connection established (connection with the last luminosity value it had before the disconnection).

Note:
If the lighting is disconnected after pressing twice is because the interval between the first and second time the button was pressed too long.

6- Deleting the connection luminosity:

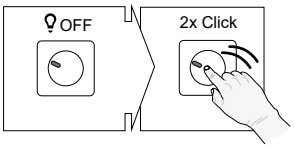


Fig. 6:

To delete an established luminosity connection the following points must be executed:
1. Switch on the lighting.
2. Double click quickly on the control element.
   – Once the configuration has been carried out, the load will blink twice.

The memory function works again after deleting the luminosity connection established (connection with the last luminosity value it had before the disconnection).

7- Adjusting the colour of the guide light:

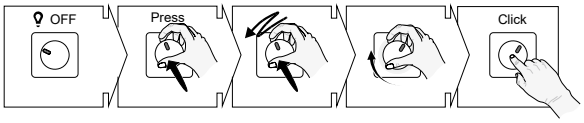


Fig. 7:

To change the color of the connection light, do the following:
1. Turn off the lighting (load).
2. Press the control element, hold it down and rotate it quickly three times from one side to the other.
3. Release the control element.
   – The guide light blinks 3 times.
4. Turn the control element to choose the color of the LED.
5. Confirm the color selected by pressing the control element briefly.
   – Once the configuration has been carried out, the guide light will blink 3 times.

8- Changing the Power On level (optional setting)

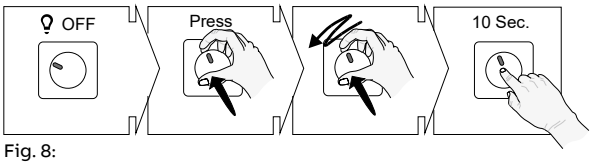


Fig. 8:

The modification of the Power On level (luminosity connection after a grid failure) achieves a standard luminosity or disconnects all the service equipment connected with the luminosity value it had before the power cut.
To modify the Power On level, do the following:
1. Turn off the lighting (load).
2. Press the control element, hold it down and rotate it quickly three times from one side to the other.
3. Release the control element.
   – The guide light blinks 3 times.
4. Press the control element for 10 seconds.
   – After the configuration has been carried out, the lighting (load) will blink once and the guide light will blink 3 times.

The DALI service units will now be connected now with the return of the grid voltage with the last luminosity value set.

9- Operation in various control stations

The DALI service units can be operated from various control stations. The luminosity is always taken from the last potentiometer used. This is valid for the rest of the configuration, such as the basic luminosity and the memory function.
The color of the guide light has to be selected individually for each DALI potentiometer in an installation.

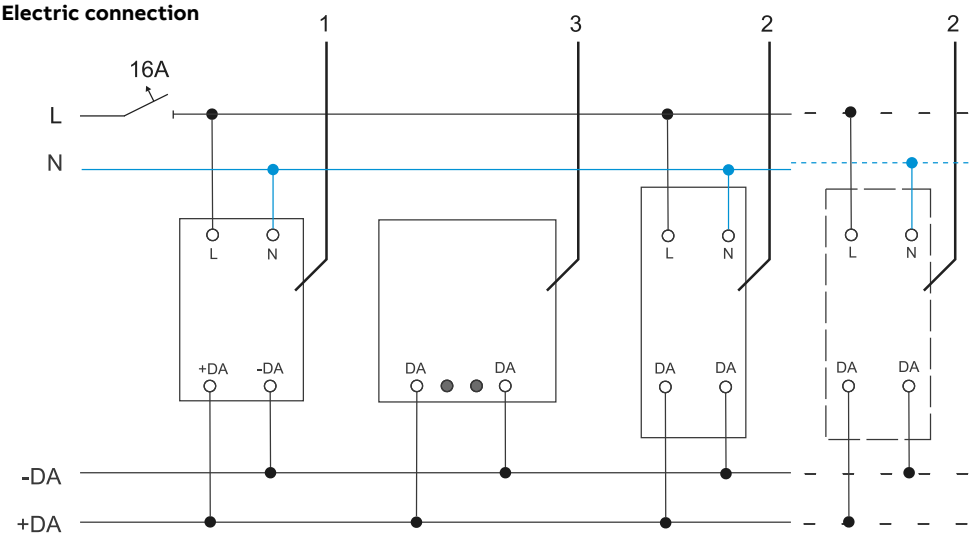
Technical details

Sky Niessen

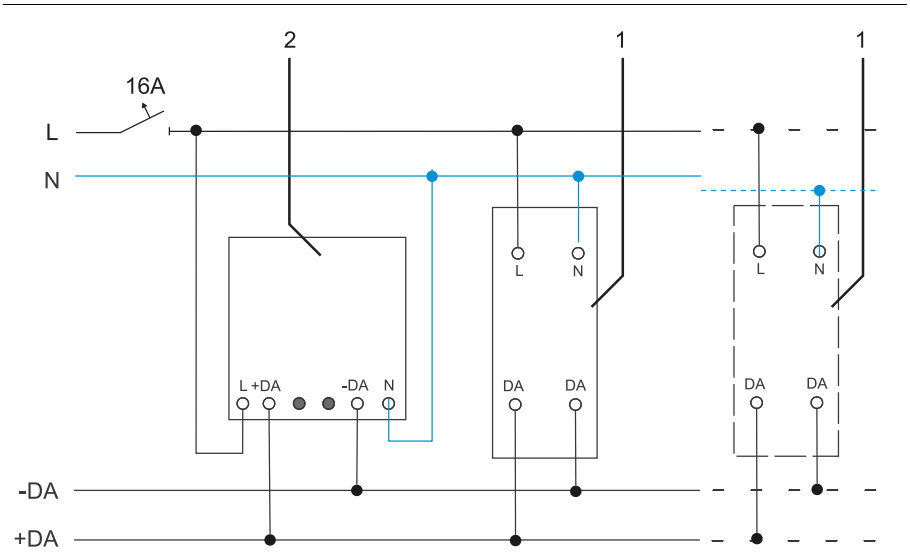
Rotatory DALI dimmer & Rotatory DALI dimmer with power supply

8161.4 & 8161.5

Electric connection



No.	Function
1	DALI power supply
2	DALI service unit
3	8161.4



No.	Function
1	DALI service unit
2	8161.5

Note:

- If the potentiometer DALI 8161.4 is used in installations with a DALI power supply, terminals L and N cannot be occupied. The device is supplied directly with current from the bus.
- Up to 3 DALI 8161.4 and 5 DALI 8161.5 potentiometers can be operated in parallel. For this purpose, observe the power consumption permitted.
- When the DALI service units e.g., EVG are connected, observe the indications of the corresponding manufacturer.
- The DALI control line and the power supply line can be found in a shared NYM cable.
- Multi-phase service is permitted.

Technical details

Sky Niessen

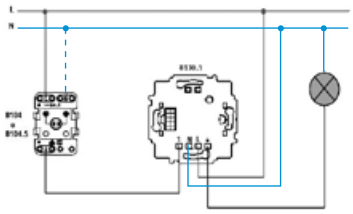
Universal single relay time delayed switch

8130.1

230 V~ / 50 Hz; ±10%
2300 W
2300 VA
2300 VA
2300 VA

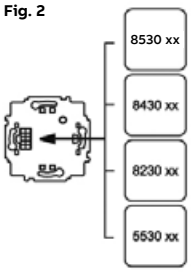
- Enables two operating modes selected with the front potentiometer: Switch Mode and Time-delayed Mode (30-300 s).
- For all types of loads.
- Range of ambient temperature: from 0 to +35°C.
- For manual operation exclusively, use the buttons Ref.: 8530, 8430, 8230 and 5530. (Fig. 2).

Fig. 1



8130.1 with auxiliary button 8104.5

Fig. 2



* If you want to fit a night guide light, use the 8104.5.

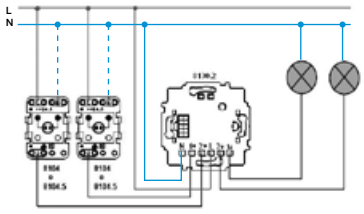
Universal double relay time delayed switch

8130.2

230 V~ / 50 Hz; ±10%
2 x 700 W
2 x 700 VA
2 x 700 VA
2 x 700 VA
2 x 700 VA

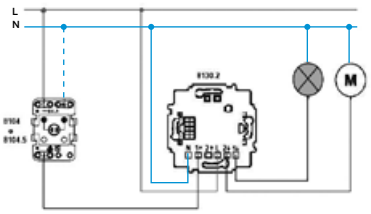
- Enables two operating modes selected with the front potentiometer: Double switch mode and time-delayed disconnection mode of load 2, after the disconnection of load 1 (30-300 s).
- For all types of loads.
- Range of ambient temperature: from 0 to +35°C.
- For manual operation exclusively, use the buttons Ref.: 8530, 8430, 8230 and 5530. (Fig. 2) for time-delayed mode only.

Fig. 1



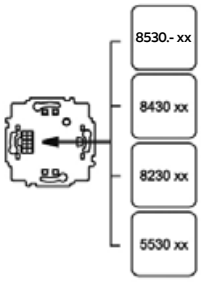
8130.2 with auxiliary buttons (8144.2, 8104.5) and two lamps.

Fig. 2



8130.2 with an auxiliary button (8104.5), a lamp and a motor. To control combinations of light and fans in bathrooms.

Fig. 3



* If you want to fit a night guide light, use the 8104.5

Technical details

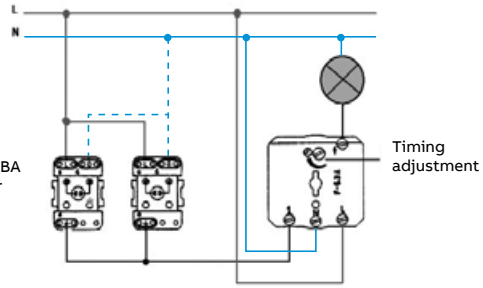
Sky Niessen

Time delayed switch with relay

8162

- Power supply: 230 V~ / 50 Hz
- Maximum power:
  1.000 W
  1.000 VA for cos φ = 0,6
  650 VA

The time-delayed switch is an electronic mechanism that automatically disconnects the component controlled, within an adjustable time interval.
It is activated manually by pressing the button directly.
Activation by remote control is with conventional auxiliary buttons.



* If you want to fit a night guide light, use the 8104.5.

- Protection against overcurrents:
  With calibrated fuse Code T5A.
  It is supplied with a spare.
- Protection against erroneous connections:
  With electronic device.
- Regulation time: From 10 s to 10 min.
- Night guide display: With red LED.
- Operating temperature: 0º to 40 °C.
- Suppression of interference according to Standards:
  UNE-20507 and UNE-21806, EN 55014 and EN 60555.

Time delayed switch with triac

8162.1

Technical data:
Power supply: 230V~ ±10% / 50Hz
Maximum power:
40-500W for
40-400VA for
40-100VA for
Protection against overcurrents: With calibrated fuse F-3, 15H.
It is supplied with a spare.

Protection against erroneous connections: with electronic device.
Regulation time: From 10 s to 10 min. (±10%).
Night guide display: With red LED.
Operating temperature: 0 to 40 °C.

Manufactured in accordance with the standards:
UNE-EN-60669-1 • UNE-EN-60669-2-1 • UNE-EN-60699-2-3

Operation:
The time-delayed switch is an electronic mechanism that automatically disconnects the component controlled, within an adjustable time interval.
It is activated by pressing the button directly.
The desired margin of time for the disconnection of the device is regulated using the adjusting screw, indicated in Figure 1. The margin of time that can be set ranges between 10 seconds and 10 minutes (±10%).

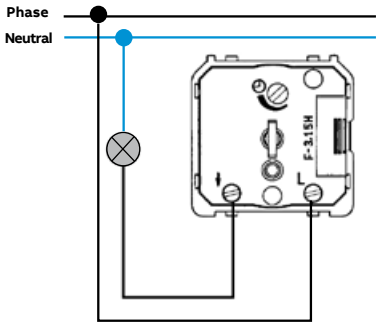


fig.1

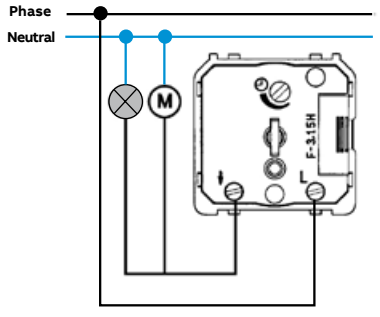


fig.2

Technical details

Sky Niessen

MOS-Fet switch for motion sensor

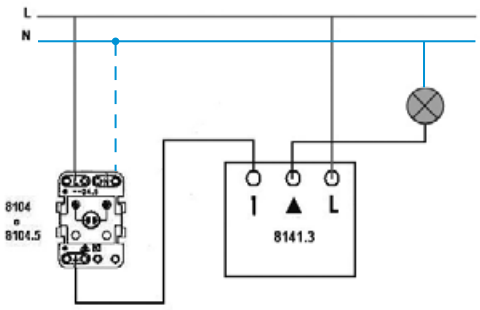
Switch 8141.3

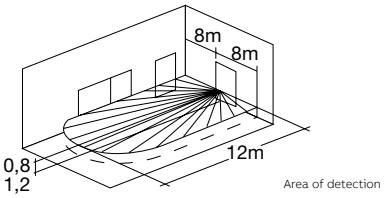
Switch 8141.3

Nominal voltage: 230 V~ 50 Hz.
Minimum nominal power: 60 W/VA
Maximum nominal power: 420 W/VA
Permitted load: incandescent lamps, halogen lamps at 230 V and halogen lamps with conventional and electronic transformers. Protected against overloads and short circuit.
Operating temperature: From 0°C to 35°C.
Protection against short circuits with fuse Code M-4 A.

Note:
Do not use the mechanism 8141.3 with contactors; in these cases use the 8141.4.
An auxiliary button (8104) can be connected, if you wish to operate the load manually.

Switch 8141.3



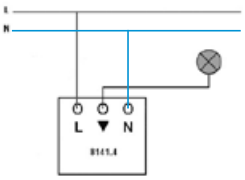


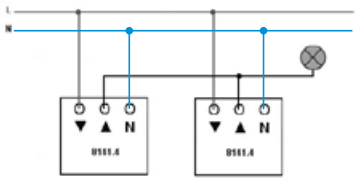
Note: To use the 8141.3 in parallel, make sure the minimum load is increased by: no. of devices x 60 W
In these applications, the light sources must be outside the detection area to prevent the disconnection due to a Sensor Switch being interpreted as a thermal variation by the other Sensor Switch, causing an unwanted connection.
* If you want to fit a night guide light, use the 8104.5.

Relay switch for motion sensor

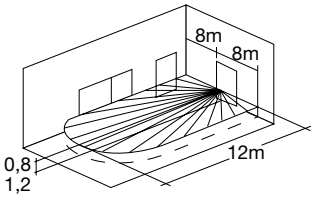
Switch 8141.4

Nominal voltage: 230 V~ / 50 Hz.
Maximum power: 700 W / VA
3 A cos φ = 0,5
Permitted load: All types of loads.
Operating temperature: From 0°C to 35°C





Area of detection



In these applications, the light sources must be outside the detection area to prevent the disconnection due to a Sensor Switch being interpreted as a thermal variation by the other Sensor Switch, causing an unwanted connection.

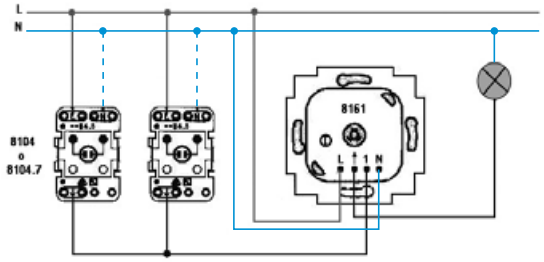
Technical details

Sky Niessen

Relay switch

8161

230 V~ / 50 Hz
For all types of loads
Power 2300 W/VA



Installation with auxiliary buttons
Device 8161 can be operated with auxiliary buttons. In these cases, the following aspects have to be taken into account:
- To avoid switching faults, the power supply lines of the motor and the auxiliary elements must not be in the same cable or next to each other (the minimum distance must be 5 cm).

The following auxiliary elements can be used:
- Conventional mechanical buttons with or without potential-free terminals.

*** Attention:**
If you want to fit a night guide light, use the 8104.5

To ensure proper operation, **separate the switching lines from the auxiliary activation lines (in different conduits).**

Can be combined with the IR button, with the programmer 8165.3 and with the presence sensor 9511.

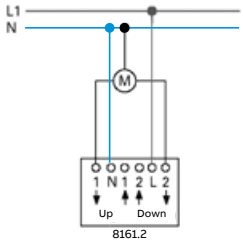
Relay switch for blinds

8161.2

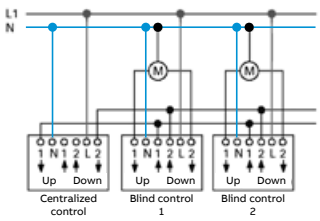
Power 700W/VA
I nominal - 3A cos φ 0.5
Power consumption ≤ 1W
Max I per aux. input ≤ 3 mA

View of the whole unit

Individual control



Centralized control



The IR button 8439.XX and the programmer 8165.3 can control a group of blind motors by operating the auxiliary inputs (“1” and “2”) of the blind control device. Using a two-pole switch for blinds, the group of blinds can be moved manually or the sensor can be activated for periods of absence.
The recessed device 8161.2 is used to control:
• Blinds with mobile slats.
• Rolling blinds.
• Awnings.
• Closures with motorised domes or vaults, etc.
In this instruction manual the term “blind” or “blinds” as synonyms of the applications mentioned in the above paragraph.
Mechanism that can be combined with the programmer 8165.3

Service modes

Normal service (N) = factory setting
Example of use: “normal” activation of the blind.
One short press activates the order of actuation that activates the blind to its final position (up or down). A long press (holding it down) activates a regulation command. The output will remain permanently connected throughout the setting using the control element/extension.
If the regulation lasts more than three minutes, the recessed application will be disconnected.

Regulation of slats (L)
Example of use: “normal” activation of the blind and regulation of slats in small stages. The short press is identical to that of normal service. The output is regulated in steps during adjustment using the control element/extension. After the eighth step or 2 seconds the adjustment ends.

“Central” (Z)
Example of use: a recessed control blind application is used as a central unit for other blinds. Each press (short or long) of this central unit is interpreted and converted into a 3-minute activation command. This ensures that all the subordinate blinds reach the final position.

Programming (P)
Example of use:
in the event of a command to lower, the blind must automatically be lowered and the slats regulated.

Technical details

Sky Niessen

Timer control element + Cover plate for timer control element

8165.31 + 8565.3

Loads that are usually automated/programmed:
• Porch lights
• Garden lights
• Lights in corridors in schools, universities, shops, etc.
• Blinds in a house
• Shop awnings
• Alarm activation
• Heating or air conditioning
• A small wake-up alarm (next to the bell)

For all these applications there are two construction types for the function:
- 8161+8165.31+8565.3: To function as a relay switch.
- 8161.2+8165.31+8565.3:
To function as a relay switch for blinds, awnings, etc. Enables slats to be regulated, all the blinds to be centralized from one point and awnings to be operated.

See diagrams of relay switches.

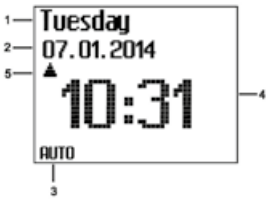
Service modes
The control element has three service modes that you can select freely.
- "**MANUAL**" (symbol)= The automatic connection intervals, and the luminosity and twilight functions (with the blinds) are not executed.
  Exclusive control with the buttons ▼ or ▲.
  RAISE blind ▲
  Short press:
  - The blind moves toward the final upper position.
  - When pressed again, the blind stops.
  Long press:
  - The blind is raised while the button is being pressed.
  LOWER blind ▼
  Short press:
  - The blind moves toward the final lower position.
  - When pressed again, the blind stops.
  Long press:
  - The blind is lowered while the button is being pressed.
- "**AUTOMATIC**" (symbol **AUTO**) = Automatic control according to the selected program: Astro, day-week, connection times.

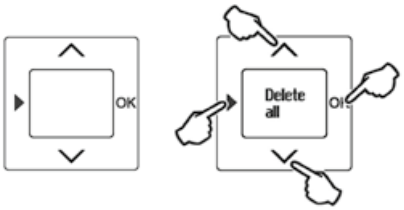
Manual control with the buttons ▼ or ▲ is also possible.

- "**HOLIDAYS**" (symbol)= control as in automatic service. A random number generator moves the connection intervals up to 30 minutes each day to simulate the presence of a person in the home. Manual control with the buttons ▼ or ▲ is also possible.

Types of connection
The control element can work with three different types of connection: **"daily clock newspaper"**, **"weekly clock"** or **"weekly clock with Astro device"**.
- **Daily clock:** When programming the connection times, the day of the week cannot be selected. Thus, the times you program are repeated every day.
- **Weekly clock:** When programming the connection times, the days of the week are available (1 for Monday up to 7 for Sunday.) Thus it can be programmed differently for each day of the week.
- **Weekly clock with Astro:** Together with the programming of the days of the week, it is possible to activate the Astro function with each connection time.

Indications on the display
1 Current weekday / info line.
2 Info line / date.
3 Operating mode.
4 Time / switching time.
5 Display on the blind insert: Arrows up down during movement time;
Display on the light insert:
OFF / light value in %;
Display on the relay insert: ON / OFF.





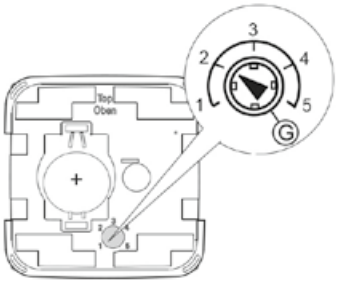
Button	Function	In setting mode	Adjusting values	Reset to factory setting
▶	Calling up menu level and switching to setting mode	Return to operating mode		In operating mode press all buttons of the rocker switch simultaneously for approx. 5 seconds.
∧	Blind UP/ Light ON (brighter)/ Electric load ON	Select menu item	Adjust values	
∨	Blind DOWN/ Light OFF (darker)/ Electric load OFF			
OK	Switching operating modes, Switching times today, Displaying sensor values, Confirmation.	Select menu	Accept value	

Link for button with battery and wireless switch actuator

8531.X & 8130.4

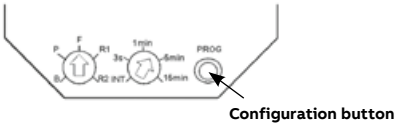
1- Selecting the functioning of the button with battery

The battery transmitter must have Switch operation mode (mode 2) selected.



2- Configuring the wireless receiver actuator

The wireless receiver actuator basically offers two operating modes:
a) Switch mode: Potentiometer position "INT"
b) Time-delayed switch mode: We can time the disconnection of the actuator to the desired time, 3 s, 1 min, 5 min, 15 min.
To select the actuator operating mode, turn the potentiometer so that it points to the corresponding position.



Technical details

Sky Niessen

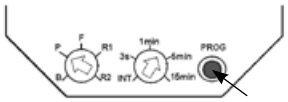
Link for button with battery and wireless switch actuator

8531.X & 8130.4

2.1.- Configuring a link between transmitter and receiver channel of the wireless actuator.

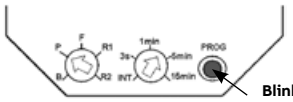
Details are provided below on the association between a transmitter (wireless button, wireless touch control, wireless motion sensor, etc.), and the receiver channel of the wireless actuator.

Turn the potentiometer of the wireless actuator to the position “P”. The LED of the configuration button will blink slowly in red.



Blinks slowly in red

2.2.- Press the configuration button; the LED of the configuration button will blink quickly in red.

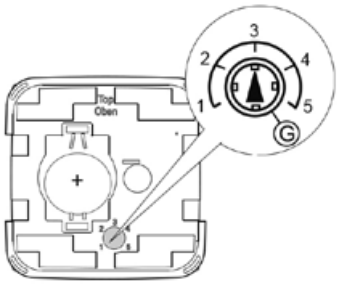


Blinks quickly in red

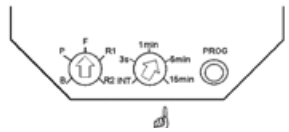
At this moment the wireless actuator is waiting to accept a link with a transmitter channel. (wireless button, wireless touch control, wireless motion sensor, etc.).

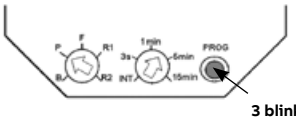
2.3.- Linking with the transmitter channel:
- to link with the button with battery, press the lower part of the button briefly. The LED of the button will remain red for a few seconds and go off.
- to link with a touch control.
- wireless motion sensor.

2.4.- Place the transmitter and receiver in operation mode:
- Turn the potentiometer of the battery to position “3”

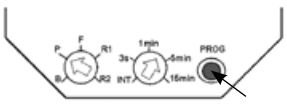


- Turn the potentiometer of the chip to position “F”





3 blinks in green

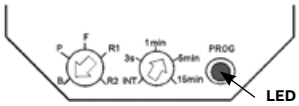


3 blinks in red

2.5.- To act on the load: Short and long presses turn on/off.

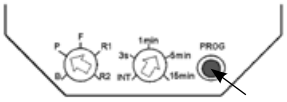
3- Deleting a link from the receiver channel of the wireless actuator

3.1.- Turn the potentiometer of the wireless actuator to the position “Rst 1”, link erase mode.



LED in red

3.2.- Press the configuration button for approximately 8-10 seconds; The LED of the configuration button will blink quickly in red.

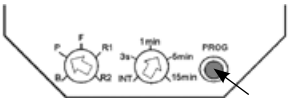


Blinks quickly in red

3.3.- Turn the potentiometer of the wireless actuator to the position “Rst 2”, link erase mode. If the link has been deleted successfully, the wireless actuator will leave configuration mode and the configuration button will blink in green 3 times.

3.4.- Press the configuration button for 4 seconds; The LED of the configuration button will blink quickly in red.

3.5.- If the link has been deleted successfully, the wireless actuator will leave configuration mode and the configuration button will blink in green 3 times.



3 blinks in green

If the link has not been deleted successfully, the wireless actuator will leave configuration mode and the configuration button will blink in red 3 times.

3 blinks in red

Similarly if after one minute there is no attempt to establish an association for the deleted link, the wireless actuator will leave configuration mode automatically.

Technical details

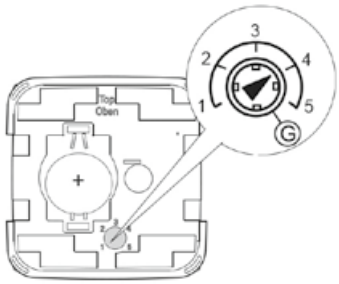
Sky Niessen

Link for button with battery and wireless dimming actuator

8531.X & 8130.5

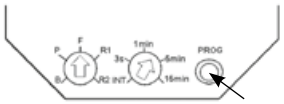
1- Selecting the functioning of the button with battery

The battery transmitter must have regulation operation mode (mode 4) selected.



2- Configuring the wireless receiver actuator

The wireless receiver actuator basically offers two operating modes:
a) Switch mode: Potentiometer position “INT”
b) Time-delayed switch mode: We can time the disconnection of the actuator to the desired time, 3 s, 1 min, 5 min, 15 min.
To select the actuator operating mode, turn the potentiometer so that it points to the corresponding position.

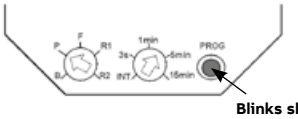


Configuration button

2.1.- Configuring a link between transmitter and receiver channel of the wireless actuator.

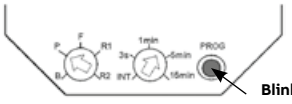
Details are provided below on the association between a transmitter (wireless button, wireless touch control, wireless motion sensor, etc.), and the receiver channel of the wireless actuator.

Turn the potentiometer of the wireless actuator to the position “P”. The LED of the configuration button will blink slowly in red.



Blinks slowly in red

2.2.- Press the configuration button; the LED of the configuration button will blink quickly in red.



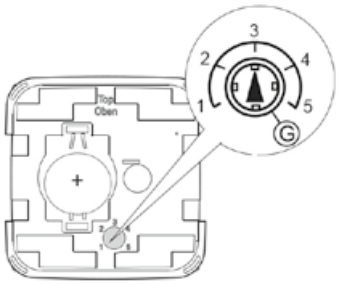
Blinks quickly in red

At this moment the wireless actuator is waiting to accept a link with an transmitter channel. (wireless button, wireless touch control, wireless motion sensor, etc.).

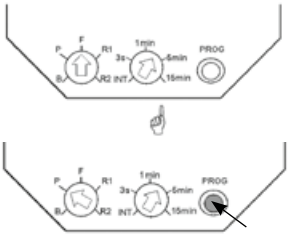
2.3.- Linking with the transmitter channel:
-to link with the button with battery, press the lower part of the button briefly. The LED of the button will remain red for a few seconds and go off.
- to link with a touch control.
- wireless motion sensor.

2.4.- Place the transmitter and receiver in operation mode:

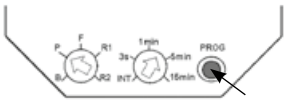
- Turn the potentiometer of the battery to position “3”



- Turn the potentiometer of the chip to position “F”



3 blinks in green

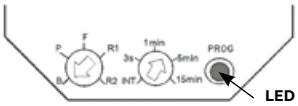


3 blinks in red

2.5.- To act on the load:
- Short press up, turn on
- Short press down, turn off
- Long press up, regulate upward
- Long press down, regulate upward

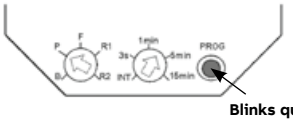
3- Deleting a link from the receiver channel of the wireless actuator

3.1.- Turn the potentiometer of the wireless actuator to the position “Rst 1”, link erase mode.



LED in red

3.2.- Press the configuration button for approximately 8-10 seconds; The LED of the configuration button will blink quickly in red.



Blinks quickly in red

3.3.- Press the configuration button for 4 seconds; The LED of the configuration button will blink quickly in red.

Technical details

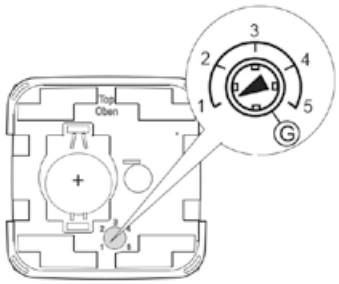
Sky Niessen

Link for button with battery and wireless blind actuator

8531.X & 8130.7

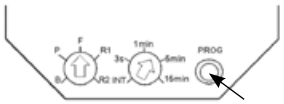
1- Selecting the functioning of the button with battery

The battery transmitter must have blinds operation mode (mode 1) selected.



2- Configuring the wireless receiver actuator

The wireless receiver actuator basically offers two operating modes:
a) Switch mode: Potentiometer position “INT”
b) Time-delayed switch mode: We can time the disconnection of the actuator to the desired time, 3 s, 1 min, 5 min, 15 min.
To select the actuator operating mode, turn the potentiometer so that it points to the corresponding position.

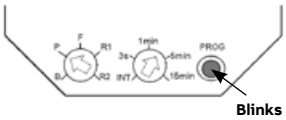


Configuration button

2.1.- Configuration of a link between transmitter and receiver channel of the wireless actuator.

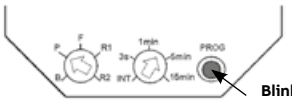
Details are provided below on the association between a transmitter (wireless button, wireless touch control, wireless motion sensor, etc.), and the receiver channel of the wireless actuator.

Turn the potentiometer of the wireless actuator to the position “P1”.
The LED of the configuration button will blink slowly in red.



Blinks slowly in red

2.2.- To link with the button with battery, press the upper part of the button briefly. The LED of the button will remain green for a few seconds and go off.

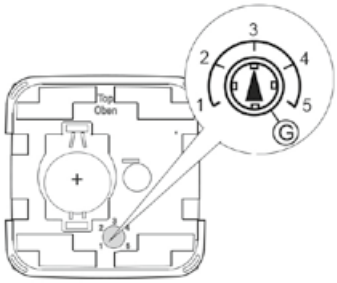


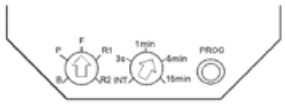
Blinks quickly in red

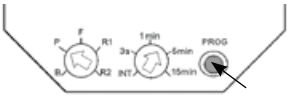
At this moment the wireless actuator is waiting to accept a link with an transmitter channel. (wireless button, wireless touch control, wireless motion sensor, etc.).

2.3.- Turn the potentiometer of the wireless actuator to the position “P2”. The LED of the configuration button will blink slowly in red.

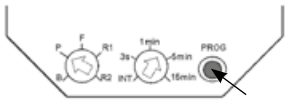
2.4.- To link with the button with battery, press the lower part of the button briefly. The LED of the button will remain green for a few seconds and go off.







3 blinks in green



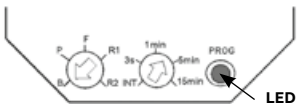
3 blinks in red

2.5.- Place the transmitter and receiver in operation mode:

- Turn the potentiometer of the battery to position “3”
(image of dial instructions)
- Turn the potentiometer of the chip to position “F”
(image of chip) 2.5-To act on the load:
Short press: If the blind is moving, it will stop. And if the blind is stopped, it will be raised/lowered one step or the slats rotated.
Long press: Raises/lowers the blind for the programmed time, with the selector with the electronic mechanism.

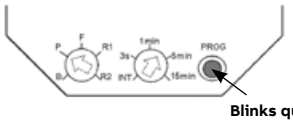
3- Deleting a link from the receiver channel of the wireless actuator

3.1.- Turn the potentiometer of the wireless actuator to the position “Rst 1”, link erase mode.



LED in red

3.2.- Press the configuration button for approximately 8-10 seconds; The LED of the configuration button will blink quickly in red.



Blinks quickly in red

3.4.- Press the configuration button for 4 seconds; The LED of the configuration button will blink quickly in red.

Technical details

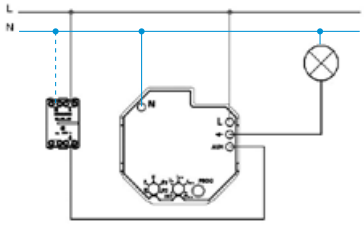
Sky Niessen

Wireless switch actuator

8130.4

230 V~ / 50 Hz
2300 W / VA
2300 W / VA
2300 W / VA
1000 VA

- Transmission frequency: 868 MHz.
- Allows two operating modes:
  - Switch and time-delayed from 3 s to 15 min.
- One auxiliary input and one relay output.
- It has a potentiometer to select the operating modes and for configuration.
- Dimensions: 47 mm. x 48 mm. x 22 mm.

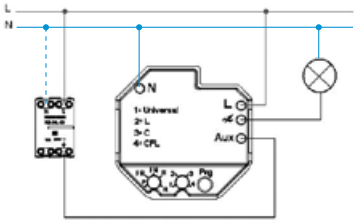


Wireless dimming actuator

8130.5

230 V~ / 50 Hz ±10%
25-350 W / VA
25-350 W / VA
25-350 W / VA

- Transmission frequency: 868 MHz.
- Allows 4 operating modes:
  - Universal, type C loads, L loads and ESL loads.
- An auxiliary input and adjustable output.
- It has a potentiometer to select the operating modes and for configuration.
- Dimensions: 47 mm x 48 mm x 30 mm
- Suitable for most low consumption LED lamps with phase-cut dimmers.



Wireless blind actuator

8130.7

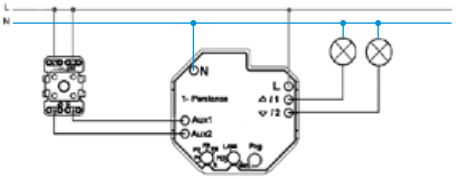
230 V~ / 50 Hz ±10%

- Allows two operating modes:
  - 2 independent relays:
    - 2 x 700 W/VA.
    - Nominal current 3AX.

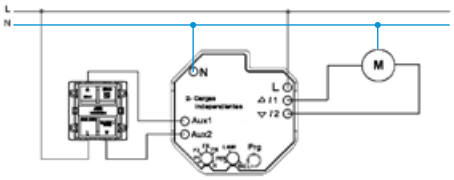
Use of contactors in installations with fluorescents is recommended.

- Blinds: - 700 W/VA
  - 3AX

Installation of 2 Loads



Installation of Blinds

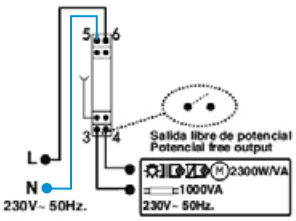


Wireless DIN-rail actuator

8130.6

230 V~ / 50 Hz
2300 W / VA
2300 W / VA
2300 W / VA
1000 VA

- Transmission frequency: 868 MHz.
- Allows two operating modes:
  - Switch and time-delayed from 3 s to 30 min.
- It has a potentiometer to select the operating modes and for configuration.

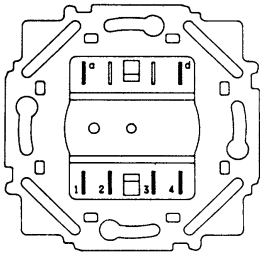


4 position rotatory switch

8154

4 positions and 4 circuits.

The connection must be made with “Faston” type terminals.



SEQUENCE OF CONNECTIONS				
POSITIONS	0	1	2	3
CIRCUITS				
0-1		●	●	●
0-2		●		
0-3			●	
0-4				●

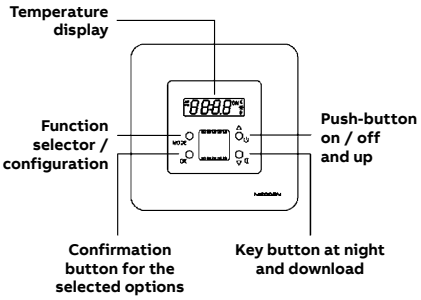
Technical details

Sky Niessen

Digital room thermostat

8140.5

Technical data:
Power supply: 230 V~ ± 10%, 50 Hz for ref. 8140.5
127 V~ ± 10%, 60 Hz for ref. 8840.5
Consumption: < 1 W
Usage temperature: From 0 °C to 50 °C.
• Accuracy of the measurement: ± 2 °C (± 1 °C with calibration)
• Resolution: 0.1 °C.
Control output: Voltage-free relay contacts (NO)
• Maximum load: 3 A cos φ = 0.5
Operating mode of the output relay:
• Hysteresis: 0.5 °C.
• Pulse width modulation: With a difference of ± 4 °C compared to the setpoint temperature, variable from 100% to 0% modulation.
This control makes it possible to control heating and cooling devices (not simultaneously) using its internal electronic thermostat.
The thermostat can be calibrated in situ.
• **Nocturnal operating mode " ☾ ":**
Based on establishing a difference between day and night temperatures (from 0 °C to 5 °C) with the purpose of saving energy.



Floor thermostat

8140.9

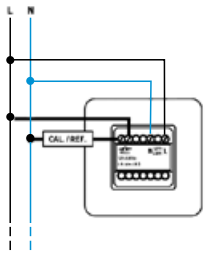
1. Technical data
Voltage: 230V~ +/-10% 50-60Hz
Load power: 2 300 W
Load type: floor heating resistor.
Control temperature: +5 °C to +45 °C (Set point).
OFF state: at OFF position, the thermostat is off, so that it does not address the temperature measured by the floor temperature probe.
The relay output contact is open.
Temperature accuracy: 0,5 °C.
Hysteresis: 0,5 °C.
Floor temperature sensor: NTC, 10KΩ at 25 °C, -40°C to 80 °C.
Double isolated cable, 4m length.
LED light indication: red and green
Ambient temperature: -20 °C to 45 °C

2. Installation
In order to get the better temperature measurement performance possible at the floor thermostat installation, it is recommended:
- Install the thermostat higher than 1m height from the floor.
- Do not install the thermostat near other heat or cold sources.
- Keep the floor temperature sensor away from interference sources or power circuits.
- Check the floor temperature sensor is correctly connected.

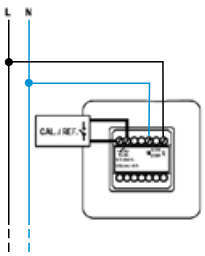
3. Connection
Important: Disconnect the mains voltage power when installing.
Work on the 230 V supply system may only be performed by specialist staff! Disconnect main power supply prior to installation and/or disassembly!

Connection diagram:

For heating and cooling installations with non-potential-free input.



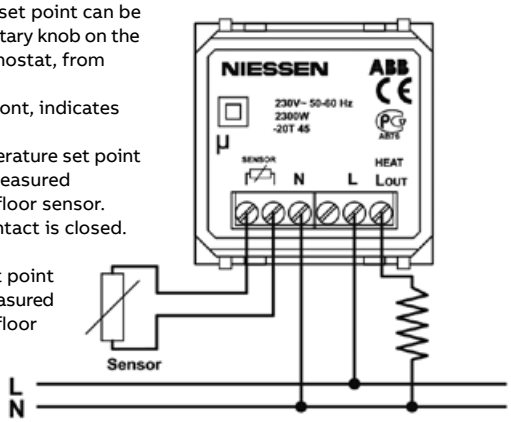
For heating and cooling installations WITH potential-free input.



• **Winter mode** "☼":
Selected when the unit controlled is a heating unit.
• **Summer mode** "❄":
Selected when the unit controlled is an air conditioning unit.
• **Temperature regulation by hysteresis:**
In this operating mode of the output, the unit to be controlled is working constantly until it reaches the setpoint temperature, at which point it is disconnected and will not be re-activated until the ambient temperature is more than 0.5 °C from the setpoint.
• **Temperature regulation by pulse width:**
With this configuration of the output type, the unit to be controlled is working constantly up to ± 4 °C of the setpoint temperature. From this moment, a cyclical series of switching the unit on/off (varying the ratio of time ON-OFF) until the setpoint temperature is reached. The use of pulse width regulation is especially recommended for electrical heating, heat pumps and electrothermic actuators.
Attention: To regulate between hysteresis and pulse width, the thermostat must not be on, in other words the "**ON**" must not be shown on the display.

In cases in which it is important to avoid a frequent change between switching on and off, for example in gas boilers, temperature regulation by hysteresis should be used, which is selected by default in the thermostat.

4. Operation
The temperature set point can be adjusted by the rotary knob on the front of the thermostat, from +5 °C to +45 °C.
LED light in the front, indicates the following:
- Red color: Temperature set point is higher than measured temperature at floor sensor. Relay output contact is closed.
- Green color: Temperature set point is lower than measured temperature at floor sensor. Relay output contact is open.



- LED off:
Thermostat is OFF state (disconnected).
- Blinking red color: (a) The floor temperature sensor would not be connected or (b) the temperature read by the floor temperature sensor is below.
- 40°C. Relay output contact is closed.

5. Guarantee
This product is subject to the guarantee offered in the selling general terms of ABB in each country.

Technical details

Sky Niessen

LED signaling light

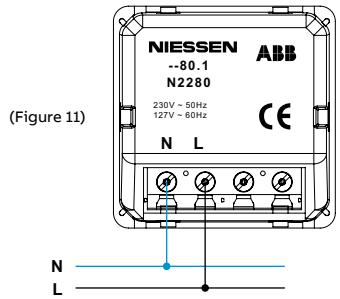
8180.1

230 V~ / 50 Hz.
• Suppression of interference according to standards UNE-21806 and EN-55014
• At a distance of 1 meter, it provides a light flux greater than 2 lumen.
The indicators will light up provided they are connected to the grid voltage and this maintains its nominal voltage value. These electronic mechanisms do not have rechargeable batteries or auxiliary energy sources, for cases in which the grid voltage falls below the nominal value or 0 V.

The device is installed with a universal box for recessed mounting, with the same electrical connections shown in the figure.
Disconnect the grid voltage while installing the device.

Connection of the Indicator light.

(Figure 11)



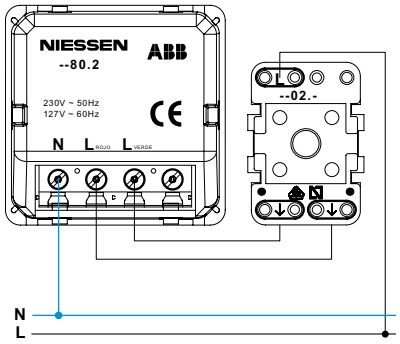
LED DND/MUR signaling light

8180.2

230 V~ / 50 Hz.
• Suppression of interference according to standards UNE-21806 and EN-55014
• At a distance of 1 metre, it provides a light flux greater than 2 lumen.
The pass/wait indicator is a device that is connected to the grid voltage and is able to indicate with a green or red LED light, the wait or pass where it is located. Installed in conjunction with a conventional switch, it makes it possible to have an indicator to indicate free or restricted passage, as relevant at any time (Figure 1).
In addition it can be installed with a switch that has three possibilities, thus allowing standby status, signaling free passage, and restricted passage (Figure 2).

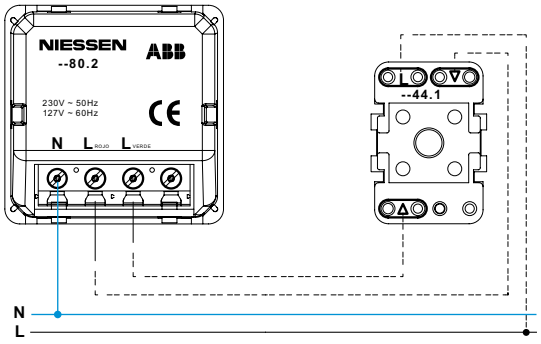
Connection of pass/wait indicator.

(Figure 1)



Connection of pass/wait indicator.

(Figure 2)



Beacon LED light

8181.2

1.- Introduction
The standard marker light is an autonomous indication device, with a battery for accumulating electrical energy, which guarantees the correct indication lighting of the communication routes of buildings in the event there is a power cut or when this falls below 70% of its nominal value (230 V).

2.- Technical Specifications 230 V~ / 50 Hz.
• Alert indication: This can be selected with the selector.
  a) lighting in blue or
  b) lighting in white
• Emergency lighting: high luminosity white.
• Nickel-Metal Hydride (NI-MH) battery, which currently have the lowest environmental impact.
• Autonomy: 3 hours, of which 1 h at maximum lighting. 2 h at lower lighting.

Remote control: Allows any type of component standardized regarding voltages.
• Compliant with the following regulations:
  RD 2816/1982 (BOE 6-11-92): General regulation of the police. Art. 15.2
  RD 314/2006 (BOE 28-03-06) Technical Building Code Section SU4.
  Sec. 2.2 Position and characteristics of lights.
  Sec. 2.3 Installation characteristics.
  REBT 2002, ITC-BT-28, section 5-g.
  UNE-EN60598-2-22
• Suppression of interference according to standards UNE-21806 and EN-55014.
• At a distance of 1 meter, it provides a light flux greater than 2 lumen.

Technical details

Sky Niessen

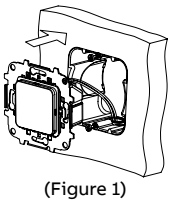
Beacon LED light

Autonomous LED marker light. 8181.2

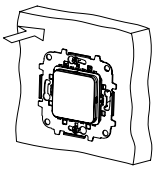
3.- Installation

- Connect, fit and secure the marker lights to the box (square or circular with 60 mm between screws).
- For greater protection in public premises, the external part of the unit can be affixed with two screws, thus the external parts of the unit are secured more firmly, thus protecting against vandalism.

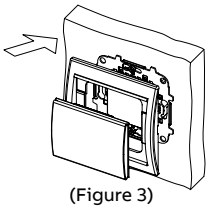
See assembly in Figures 1, 2 and 3:



(Figure 1)



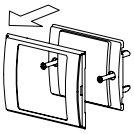
(Figure 2)



(Figure 3)

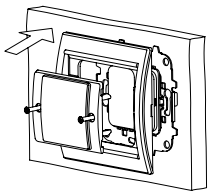
- Separate the diffuser support from the cover to be able to secure it to the marker light with the screws.

(Figure 4)



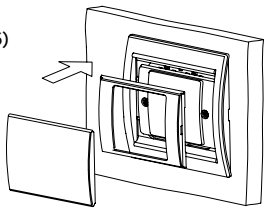
- Once the beacon has been secured to the box, position the frame and secure the diffuser support to the marker light.

(Figure 5)



- Fit the cover and the trim onto the diffuser support.

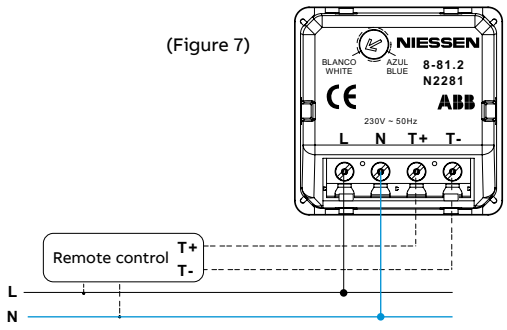
(Figure 6)



4.- Connection

The device is installed with its universal box for recessed mounting, with the same electrical connections shown in the figure.
Disconnect the grid voltage while installing the device.

(Figure 7)



Connection of the device

* The voltage of the remote controls may be 9, 13 or 24 Vdc.

Electronic bell

N2224.-XX

1. Technical data

Power Supply

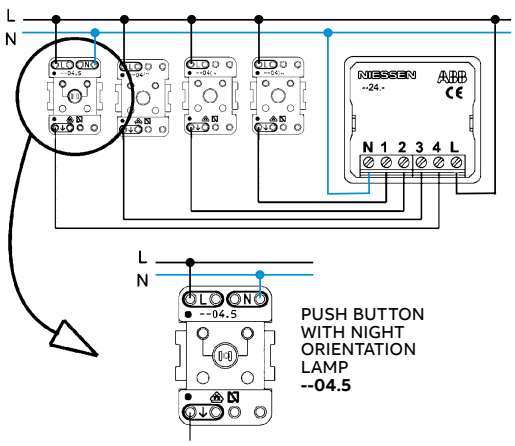
- N2224.1: 127V~ ; 60Hz
- N2224: 230 V~ ; 50-60 Hz

2. Mounting and connection scheme

2.1. Connection

Important: Disconnect the mains when installing.

Connection with Niessen push buttons



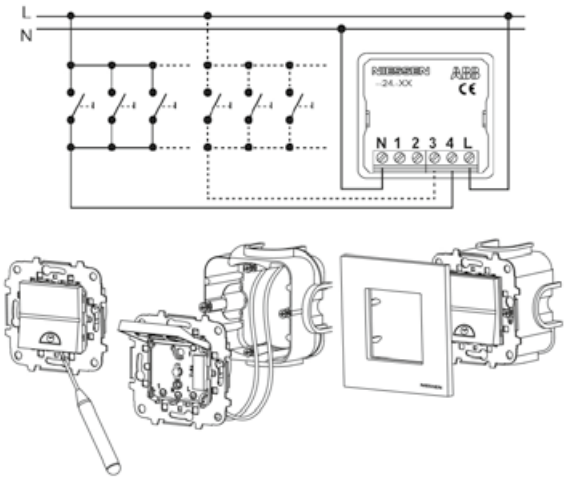
3. Operation

The bell can be connected to 4 push buttons maximum, with a different melody for each one of them.

4. Warranty

This product is subject to the warranty offered in the general conditions of sale of ABB in each country.

Connection with conventional push buttons



Technical details

Sky Niessen

FM stereo receiver with alarm module

9368 & 9368.7

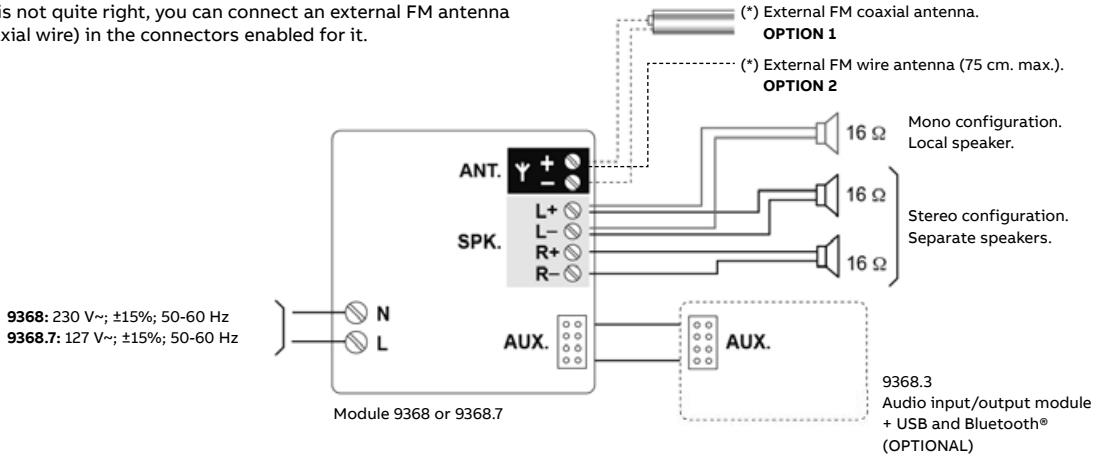
1. Technical data

Rated voltage:
- 9368: 230 V~; ±15%; 50-60 Hz
- 9368.7: 127 V~; ±15%; 50-60 Hz

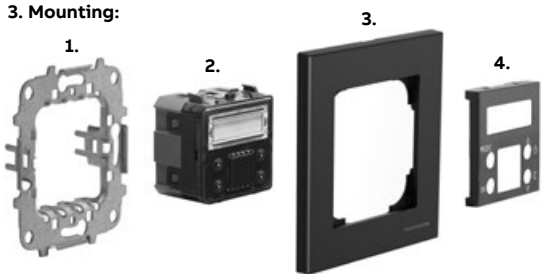
Max. consumption: 100 mA
Stand-by consumption ref. 9368 and 9368.7 (*): 0,2 W.
Stand-by consumption ref. (9368 or 9368.7) + 9368.3 (*): 0,5 W.
(*) With the display illumination at minimum.
Maximum output power: 2+2 W; <1% distortion (16 W)
Speaker impedance: 16 W (2+2 W audio)

2. Wiring diagram:

(*) FM RECEPTION
The FM indoor antenna that incorporates the module 9368 or 9368.7, uses the electrical network to improve reception.
If the reception is not quite right, you can connect an external FM antenna (thin wire or coaxial wire) in the connectors enabled for it.



3. Mounting:



1.- Mounting plate
2.- Insert 9368/9368.7
3.- Frame
4.- Cover plate - 8586

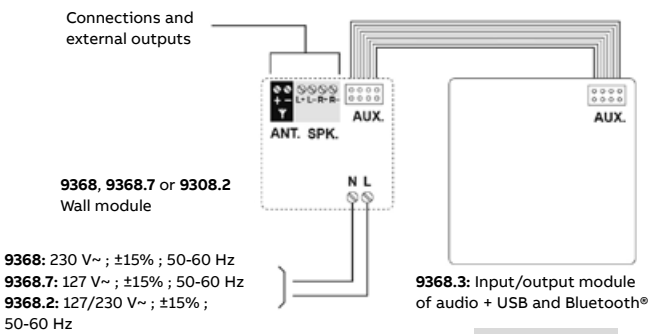
Auxiliary module

9368.3

1. Technical data

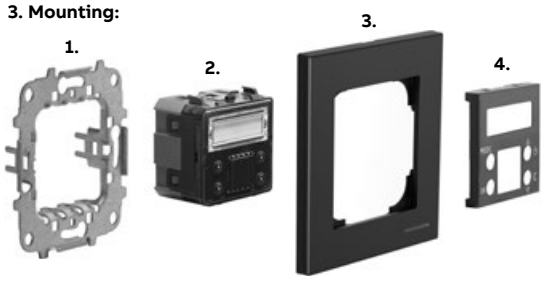
Power supply through AUX.: 9 V
Maximum consumption: 175 ~ 200 mA
Consumption stand-by: 0.4 W
Headphones impedance: 16 ~ 600 Ω (25 + 25 mW audio phones)
Bluetooth®: Bluetooth® v2.1 2.4GHz IEEE 802.15.1
Maximum reach from the module 9368.3 to user's Bluetooth® device: 10 m.

2. Wiring diagram:

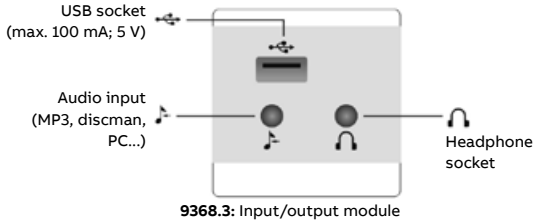


REAR VIEW

3. Mounting:



1.- Mounting plate
2.- Insert 9368.3
3.- Frame
4.- Cover plate - 8586.3



FRONT VIEW

Technical details

Sky Niessen

Radio & Bluetooth multiroom module + Remote control module

9368.1 & 9368.2

1. Technical Data

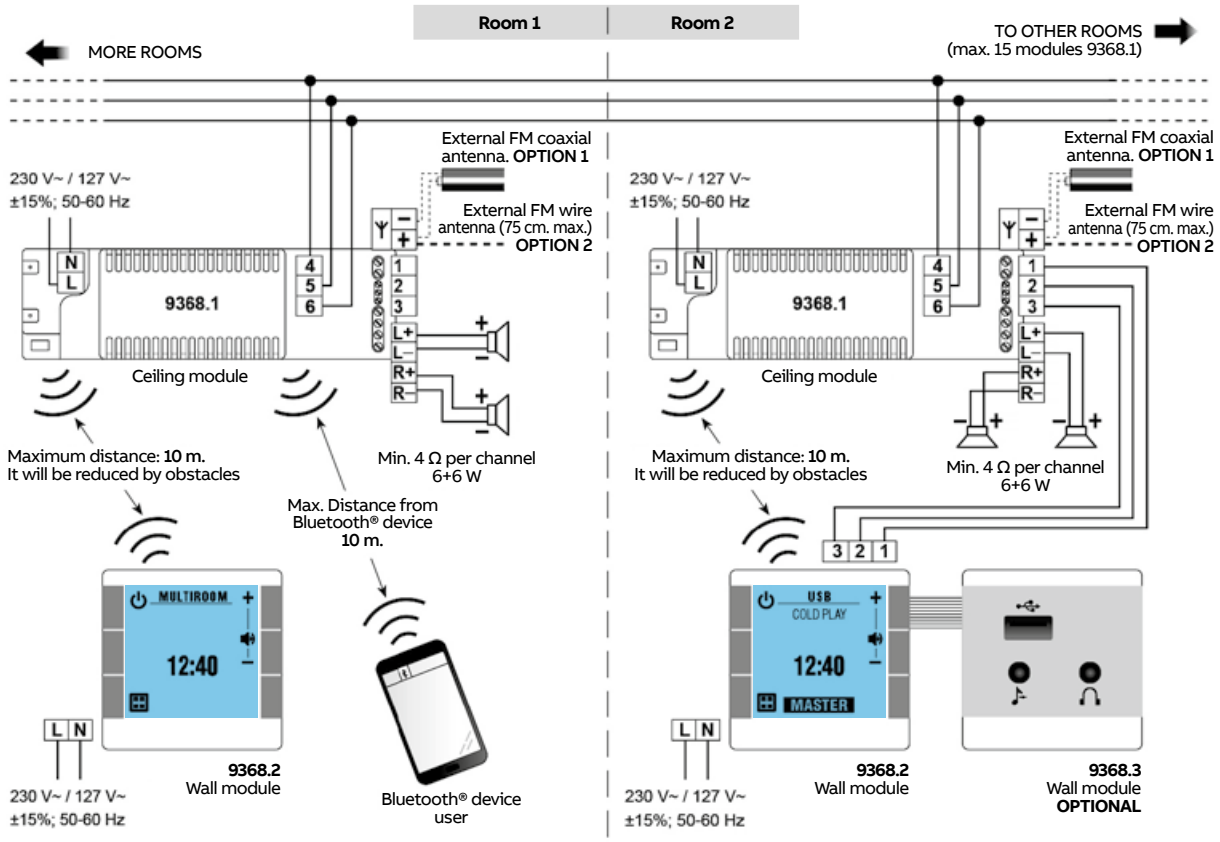
Power supply:
230 V~ / 127 V~; ±15%; 50-60 Hz
Bluetooth®:
Bluetooth® v2.1 2.4GHz IEEE 802.15.1
Maximum reach from the ceiling module 9368.1 to user's Bluetooth® device: 10 m.

Maximum power consumption:
200 mA
Consumption stand-by:
0.3 W
Communication data:
ZigBee 2.4GHz IEEE 802.15.4

Antenna impedance:
75 Ω
Maximum power headphone output
6+6 W; <1% distortion (4 Ω)
Minimum impedance of headphones:
4 Ω (6+6 W audio)

2. Wiring diagram:

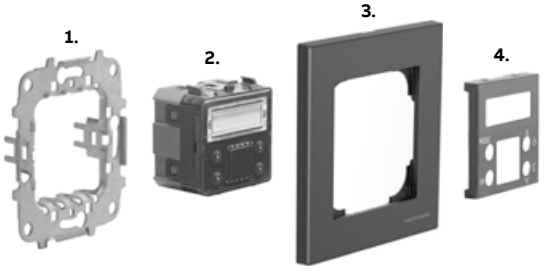
BUS MULTIROOM is only necessary if there is more than one room in the house and/or you want to connect the rooms in the house.



Basic example | **Example with auxiliary input 9368.3 (USB, input and phones)**

NOTE: Because these devices are radio frequency and to avoid interference, you should not install modules of the same reference or any other RF equipment that could interfere less than 1 m. away. It should be noted that any obstacle between the devices, can significantly reduce the distance range between them.

3. Mounting:



1. Mounting plate
2. Insert - 9368 / 9368.7
3. Frame
4. Cover plate - 8586

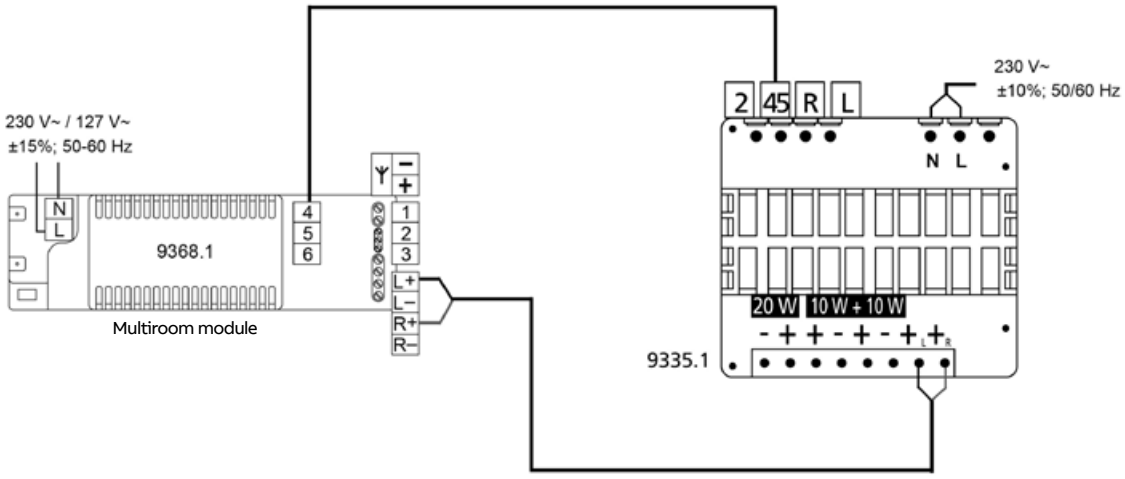
Technical details

Sky Niessen

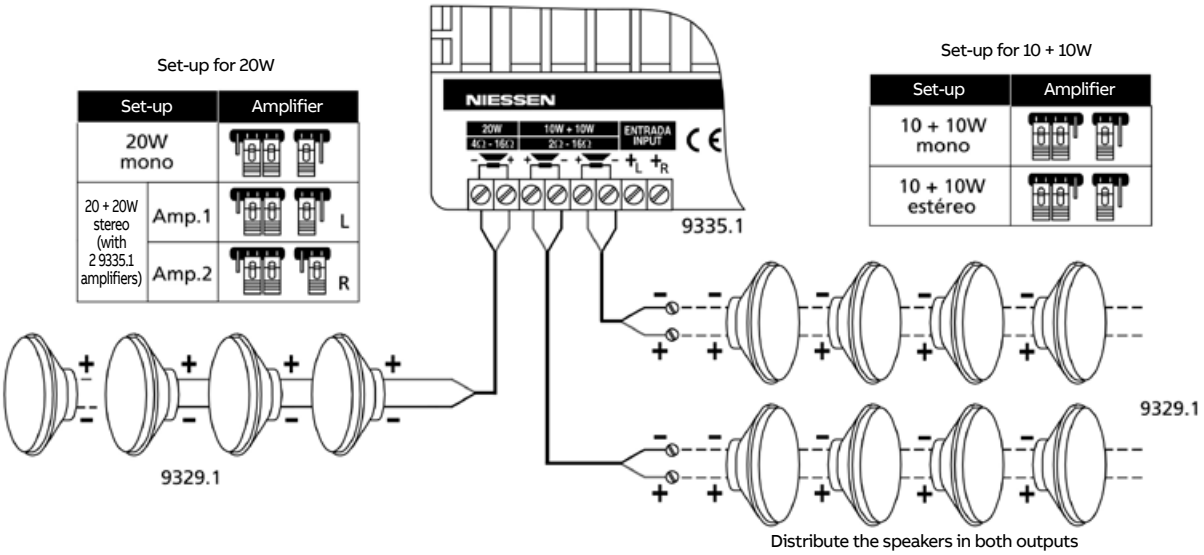
Sound amplifier - Connection to multiroom module

9335.1 - 9368.1

Wiring diagram of 9368.1 module to 9335.1 sound amplifier



Wiring diagram for 9329.1 loudspeakers to 9335.1 sound amplifier



Power per speaker	
No. of speakers	9329.1 16Ω
3	5.5W
4	5W

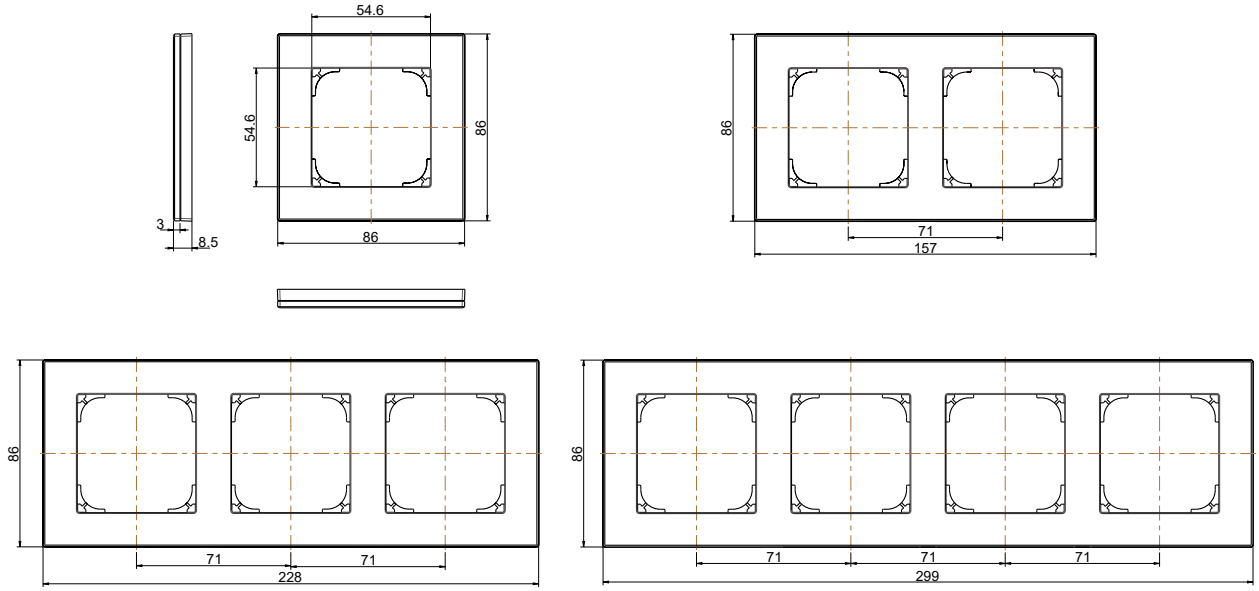
Power per speaker			
No. of speakers	Power per speaker 4Ω	8Ω	9329.1 16Ω
2	7W	4W	2W
4	5W	3.5W	2W
6 / 8	Þ	2.5W	1.7W

Technical details

Sky Niessen

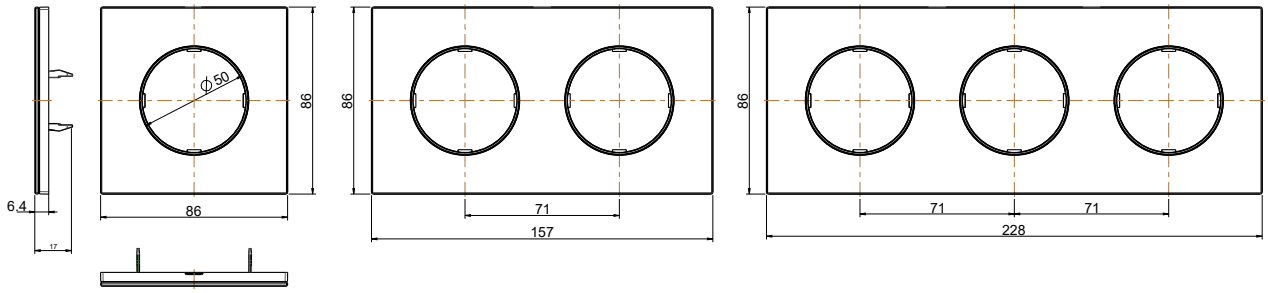
Dimensions

Sky Niessen



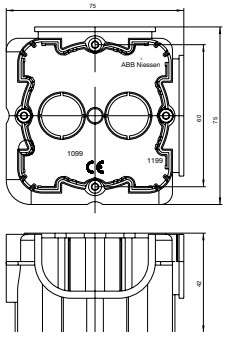
Dimensions

Skymoon

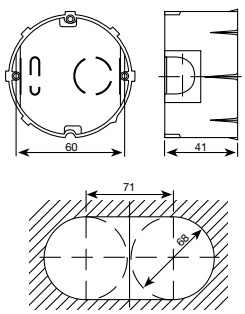


Boxes for flush mounting

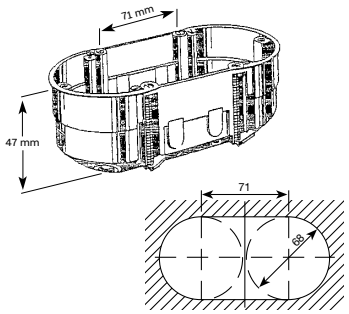
1099/1199



999



999.2



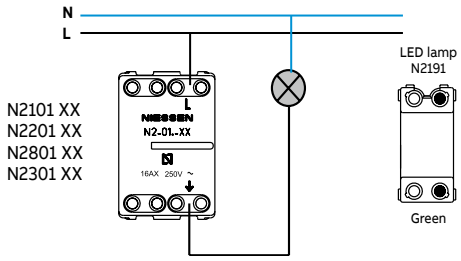
Technical details

Zenit

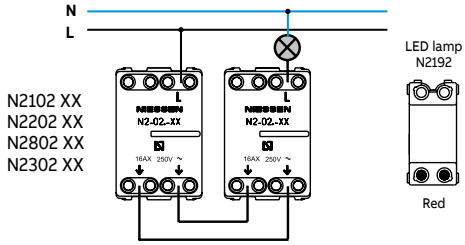
Switches

Optional: locator light

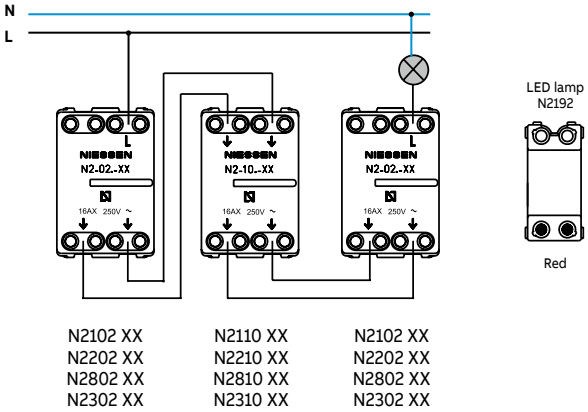
1-way switch



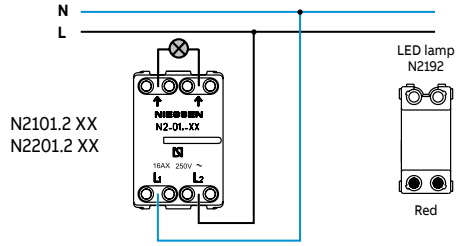
2-way switch



2-way switch - Intermidiate switch - 2-way switch



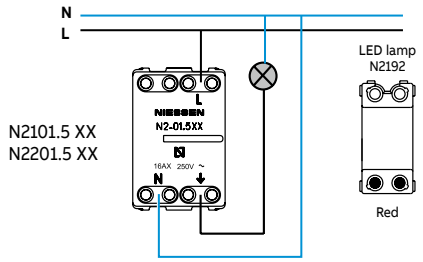
1-way double pole switch



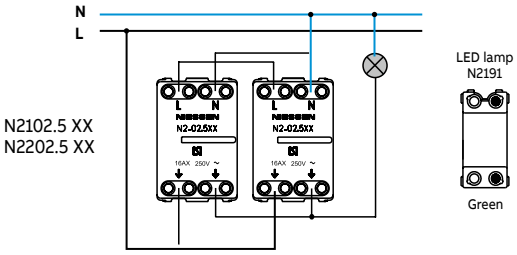
Switches

With indicator light

1-way switch with indicator light



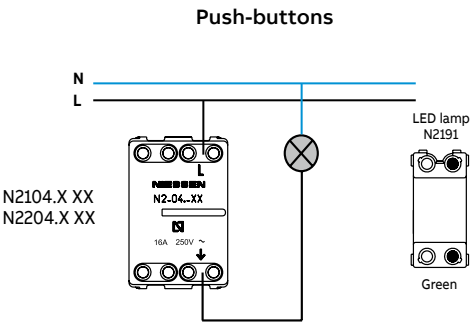
2-way switch with indicator lamp



Push-buttons

Optional: locator light

Push-buttons



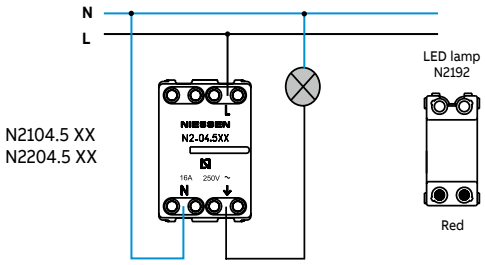
Technical details

Zenit

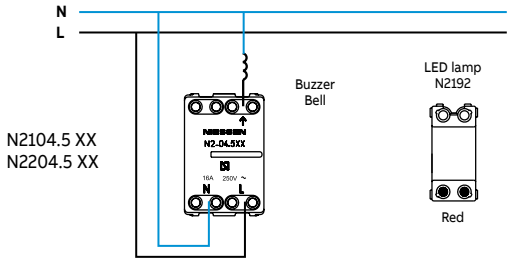
Push-buttons

With locator or indicator light

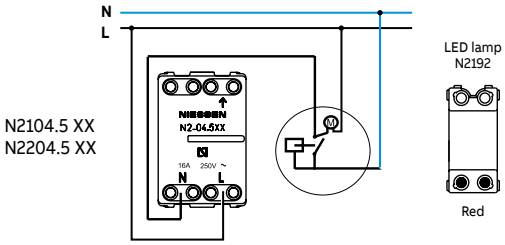
Push-button with indicator lamp



Push-button for buzzer / bell with locator lamp



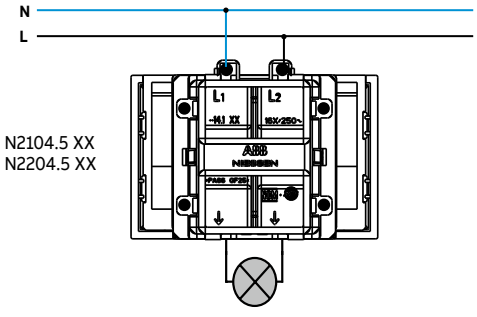
Push-button for relay with locator lamp



Card switch

With locator light

Card switch



Card timer switch

With locator light

1- Technical Data

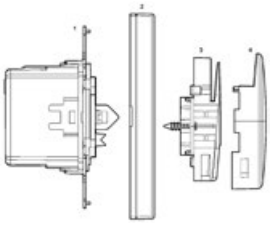
Power Supply: 127 V~ / 60 Hz
230 V~ / 50 Hz

Night orientation: By a red LED
Operating T°: 0° C +40° C

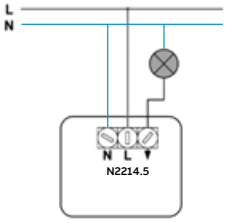
Maximum power:
127 V~ / 60 Hz:
1600 W, 1600 W, 1600 W, M 1600 W, 700 W
230 V~ / 50 Hz:
3000 W, 3000 W, 3000 W, M 1600 W, 1300 W

2.- Mounting and connection scheme

2.1.- Mounting



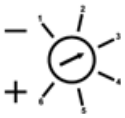
2.2.- Connection



Important: Disconnect the electrical power when installing.

3.- Operation

Time selector for disconnection: The load time disconnection, after removing the card, can be programmed by the user through the rotary programme selector on the device cover.

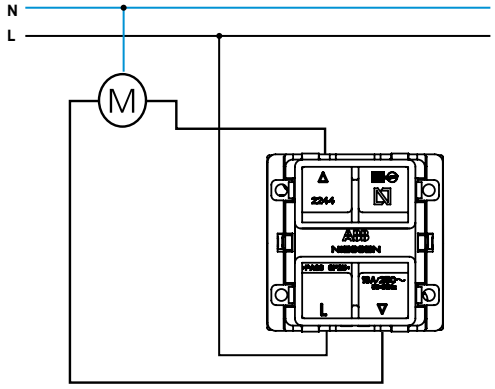


Disconection time selector

Option	Time until disconnection 50Hz	60Hz	Previous status	Current Status	Action
1.-	5 s.	4 s.	No card	Card detected	Connects load
2.-	10 s.	8 s.			
3.-	20 s.	16 s.			
4.-	30 s.	25 s.	Card detected	No card	Disconnects the load at preset time
5.-	60 s.	50 s.			
6.-	90 s.	75 s.			

Blind switch & push-button

Blind switch & push-button



Technical details

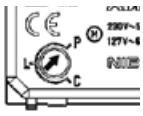
Zenit

Electronic blind switch

N2261.2

Technical data:

- Power Supply: 230V~ 50Hz / 127V~ 60Hz
- Maximum power:
  - 230V~ 50Hz blind motors: 2x 700VA persianas (cos φ = 0,5)
  - 127V~ 60Hz blind motors: 2x 350VA persianas (cos φ = 0,5)
- Room temperature for operation: 0°C to 40°C
- According to: UNE-21806 y EN-55014



Functional features:

The electronic blind switch includes 3 modes of operation
(to be selected in the rotatory switch):
- P: standard blinds control. Optionally other N2244 inserts can be connected to the N2261.2 to control the blind from other locations.
- V: venetian type blinds control. Optionally other N2244 inserts can be connected to the N2261.2 to control the blind from other locations.
- C: centralization. One N2261.2 can control all the N2261.2 centrally.

Wiring diagram:

- Direct blind control with a N2261.2 (Fig. 1).
- Remote control of the N2261.2 lectronic blind control by using a blind push-button N2244 (Fig. 2).
- Centralized control of all the blind from one point by using a electronic blind switch N2261.2 as master of the rest electronic blind switches N2261.2 (Fig. 3).

Fig. 1

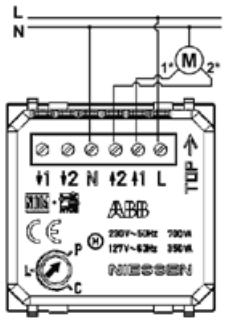


Fig. 2

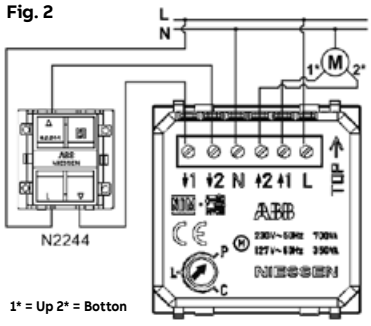
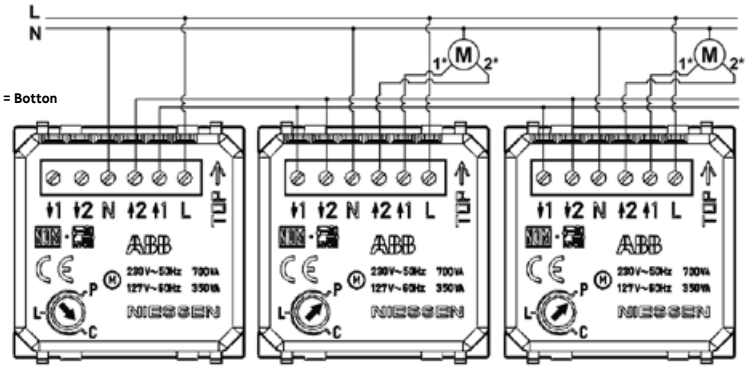
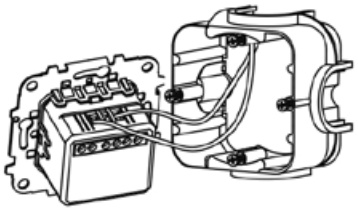


Fig. 3

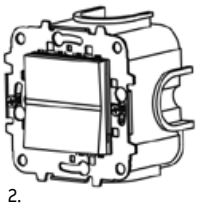


Mounting:

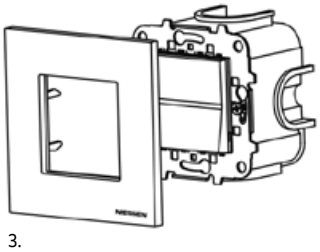
Follow the steps below to install the mechanism:
1. Connect the device according to the connection schemes. Figure 1, 2 or 3.
2. Assemble the device on the flush mounting box.
3. Then, place the plate.



1.



2.



3.

Operation: Blind operating mode. Slats or Venetian blinds operating mode. Centralized operating mode.

Pulsation	Action	Action	Action
Short pulsation ▲ < 300ms	It raises the blind (3 min.), which was previously stationary. It stops the blind, which was previously moving.	It raises the blind (3 min.) which was previously stationary. It stops the blind, which was previously moving.	It raises the blinds (of those inserts connected), which were previously stationary. It stops the blinds, which were previously moving.
Short pulsation ▼ > 300ms	It lowers the blind (3 min.), which was previously stationary. It stops the blind, which was previously moving.	It lowers the blind (3 min.), which was previously stationary. It stops the blind, which was previously moving.	It lowers the blinds (of those inserts connected), which were previously stationary. It stops the blinds, which were previously moving.
Long pulsation ▲ < 300ms	Raises the blind while the pulsation lasts, which was previously stationary . It stops the blind, which was previously moving.	The slats rotates upwards in a pulsed way while the pulsation lasts, if the blind was previously stationary. If the pulsation lasts longer, the blind will raise for as long as the pulsation lasts. It stops the blind, which was previously moving.	It raises the blinds (of those connected mechanisms), which were previously stationary. It stops the blinds, which were previously moving.
Long pulsation ▼ > 300ms	It lowers the blind while the pulsation lasts, if it was previously stationary. It stops the blind, which was previously moving.	The slats rotates downwards in a pulsed way while the pulsation lasts, if the blind was previously stationary. If the pulsation lasts longer, the blind will raise for as long as the pulsation lasts. It stops the blind, which was previously moving.	It lowers the blinds (of those connected mechanisms), which were previously stationary. It stops the blinds, which were previously moving.

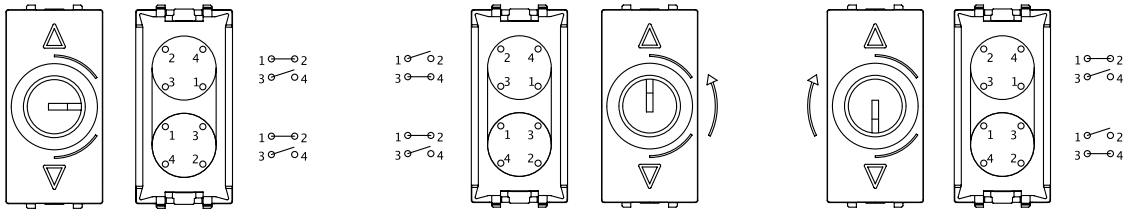
Technical details

Zenit

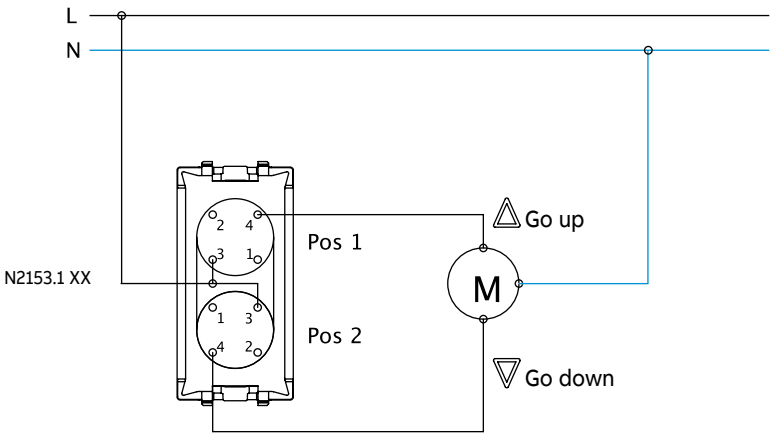
Key switches

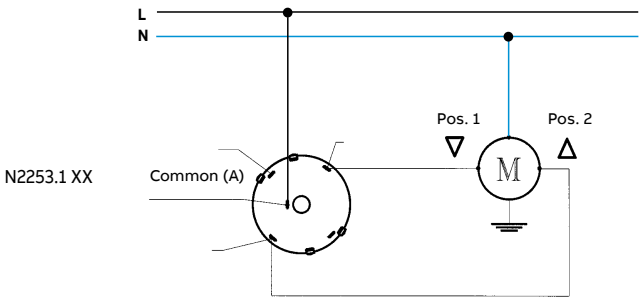
2-way / 3 positions

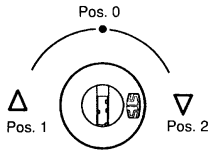
Position 0 **Position 1** **Position 2**



Example for a blind control:





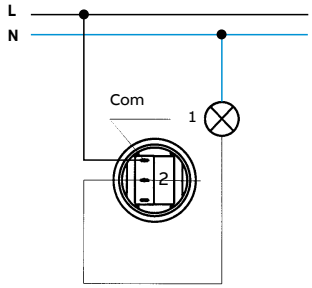


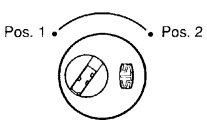
Position of the key	Active contacts
0	Common and 1
1	Common and 10
2	Common and 4

Key switches & push-buttons

1 or 2-way / 2 positions

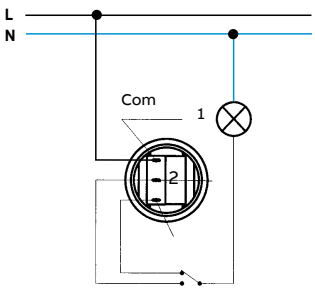
Diagram as switch / push button 8153, N2253 / 8153.2, N2253.2





Position of the key	Active contacts
1	Common and 1
2	Common and 2

Scheme as a switch



Technical details

Zenit

USB chargers

N2185, N2285 & N2185.2

1. Technical data:

Rated input voltage:
100 - 240 V AC ± 10 %

Rated input frequency:
50 - 60 Hz

Rated input current:
N2185.2: 0,20Aac@max load
N2285: 0,20Aac@max load
N2185: 0,12Aac@max load

Consumption in standby:
N2185.2: <10 mW@230 VAC
N2185 & N2285 : <= 0,3W@230 VAC

Rated output voltage:
5 V DC +5 / -5 %

Rated output current:
N2185.2: 2000 mA a 5 V DC
N2285: 1500 mA a 5 V DC
N2185: 750 mA a 5 V DC

Operating temperature:
N2185.2: 0°C to 45°C, when installing a N2185.2. 0°C to 30°C, when two N2185.2 chargers together
N2285: 0° C + 35° C
N2185: 0° C + 45° C

Energy efficiency:
N2185.2: > 79%
N2285: >= 71%
N2185: >= 66%

2. Electrical safety data:

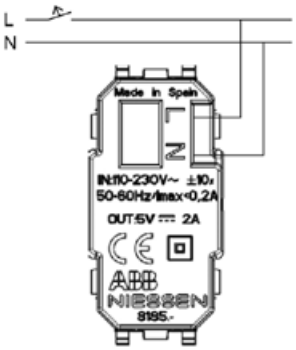
Safety standard:
EN60950-I - Low Voltage Directive

Protection class:
II - Low voltage

Isolation (primary-secondary):
Transformer with galvanised isolation

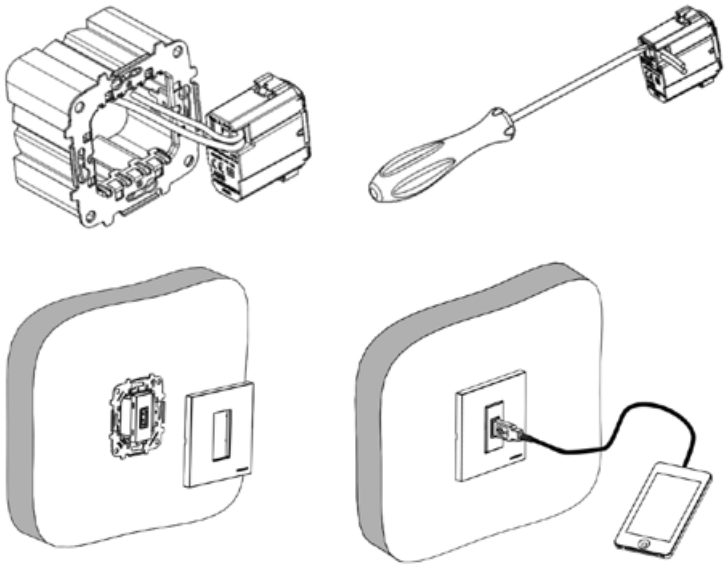
EMC Directive:
EN 55022, EN 55024

3. Wiring diagram:

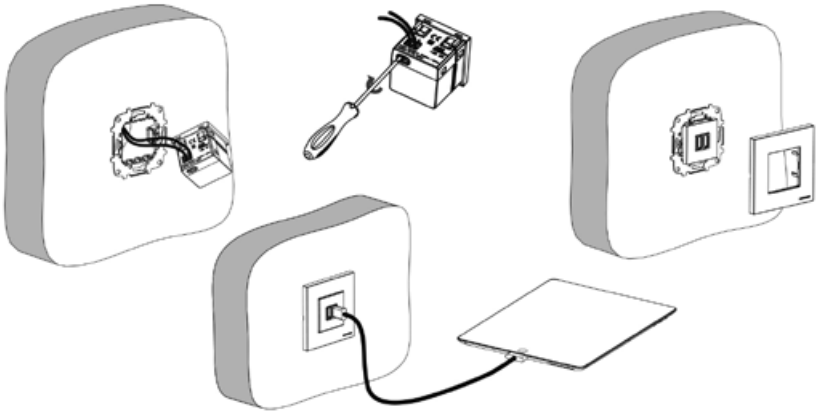


4. Installation

N2185.2 & N2185



N2285



Technical details

Zenit

Circuit breaker 6/10/16A & RCD

N2234.1, N2234.2 & N2234.3

1.- Technical data:

Rated voltage:
120 - 230 Vac

Rated frequency:
50 - 60 Hz

Rated current (In):
N2234.1: 6 Aac
N2234.2: 10 Aac
N2234.3: 16 Aac

Breaking capacity:
N2234.1: 1,5 kA
N2234.2 & N2234.3: 3 kA

Residual current (sensitivity) - IΔn:
10 mA

Magneto-thermic action:
C type (see diagram)

Number of poles:
Two-pole (1P + N) with 1 protected pole

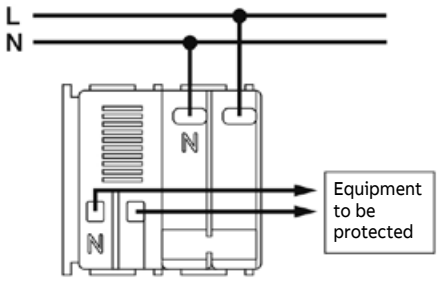
2.- Standards:

EN 61009 / 1 / 1994
EN 61009 / 2 / 1 / 1994
IEC 1009 / 2 / 2 / 1991
IEC 1009 / 1 Amd 1 1995

Low Voltage Directive:
CEE 73/23 & 93/66 CEE

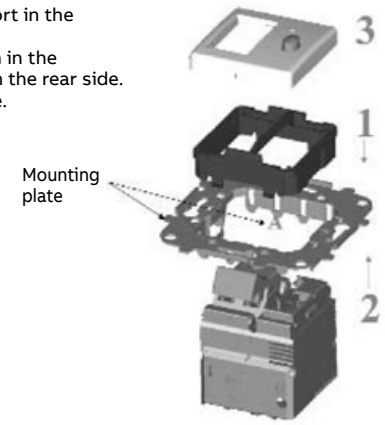
EMC Directive:
CEE89/336, 92/31 CEE & 93/68 EEC

3.- Wiring diagram:

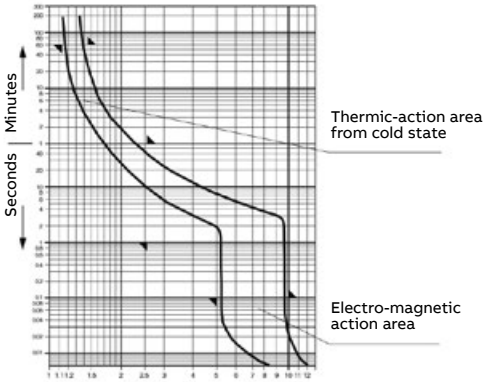


4.- Installation

1. Fix the plastic support in the mounting plate.
2. Insert the mecanism in the mounting plate from the rear side.
3. Place the cover plate.



4.- Current-Time tripping diagram

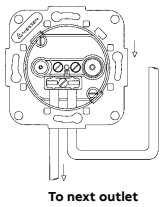


Technical details
Zenit

TV / R outlets

Technical data

- Connection: Screw terminal and clamp. Coaxial cable 75 ohm.
- Shielded zamak and metal plate chassis.
- In confirmity with EN 50083-1:1993, EN 50083-2:2001, EN 61000-6-1:2001, EN 61000-4-2:1995 ESD 15KV AD, 8KV CD, EN50083-4:1998
- Fits in a Ø60 mm box.

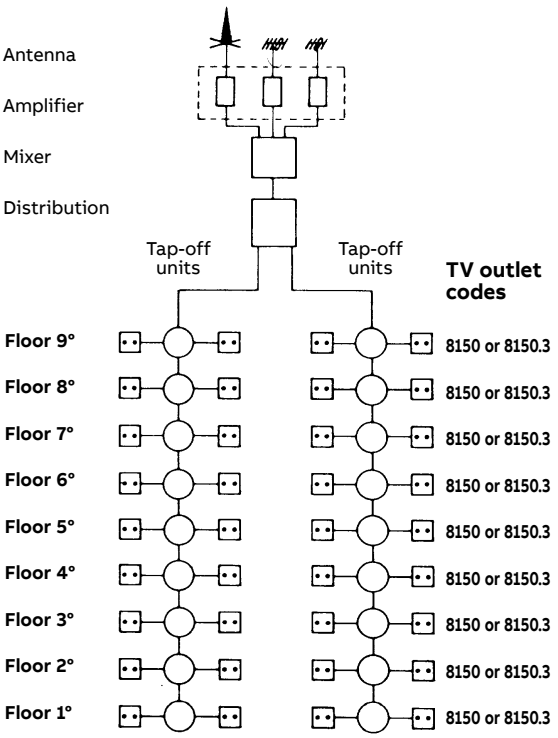


Important: the connection of the TV outlets in serial distribution must be carried out according to the figure on the left. The cable comming from the previous outlet is connected in the right terminal and the cable going to the next outlet in the left terminal.

Code			8150	8150.3	8150.7	8150.8
Installation			Final		Intermediate	
Connection			Screw terminal and clamp			
Output connectors		C1	IEC male Ø 9.52 mm			
		C2	IEC female Ø 9.52 mm			
Frequency range	MHz	I/O	5 - 862		13 - 862	5 - 862
		C1	5 - 862	5-68 / 118-862	13 - 862	5 - 862
		C2	5 - 862	87.5 - 108	13 - 862	5 - 862
Basic loss	dB ±TOL	FM	10,0 ±0,7	1,1 ±0,3	25,0 ±1,5	30,0 ±0,2
		DAB	10,0 ±1,5	R: 0,3 ±0,1	25,0 ±1,5	30,0 ±0,2
		VHF	4,0 ±1,5	TV: 0,9 ±0,3	8,0 ±0,7	11,0 ±1,0
		UHF	3,0 ±0,5		8,0 ±0,7	10,5 ±1,0
Through loss	dB ±TOL	FM	-		2,0 ±0,3	1,0 ±0,2
		VHF	-		2,0 ±0,5	1,1 ±0,3
		UHF	-		2,0 ±0,5	1,3 ±0,4
Directivity	dB	FM	-		>12	>25
		TV	-		>9	>13
Isolation	dB	FM	>14	>18	>16	>20
		TV	>14	>16	>15	>18
Return loss	dB	FM	>18	>16	>12	>18
		TV	>10	>18	>12	>15

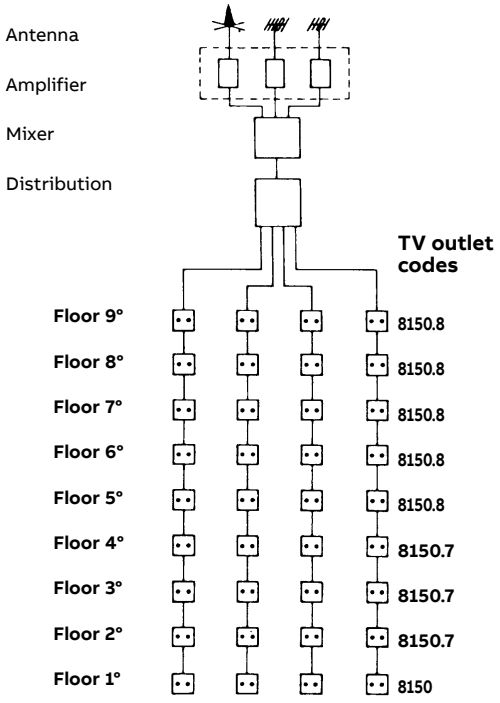
Note: reference 8150.3 compatible with CATV

MATV connection diagram
Distribution with tap-off units

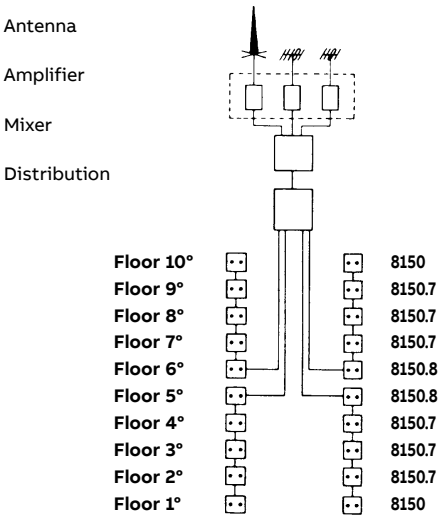


In this diagram all final outlets are the same.
References 8150 or 8150.3 can be used equally.

MATV connection diagram
Serial distribution up to 9 floors



MATV connection diagram
Serial distribution for more than 9 floors



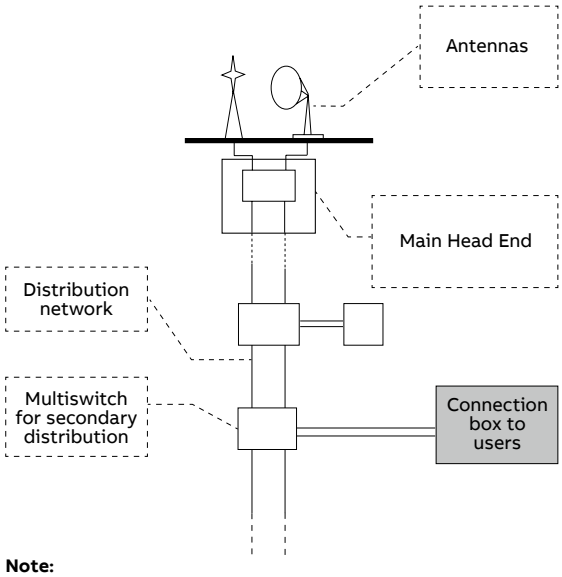
Example: 10 floors. The floors are divided in 2 groups of 5 floors each. The outlets are distributed according to the criteria shown in the MATV connection diagram for serial distrubution up to 9 floors. The diagram above can be used in buildings up to 18 floors. For buildings with more than 18 floors and up to 27 floors, 3 groups have to be created and so on.

Technical details

Zenit

Tomas de TV-R / SAT

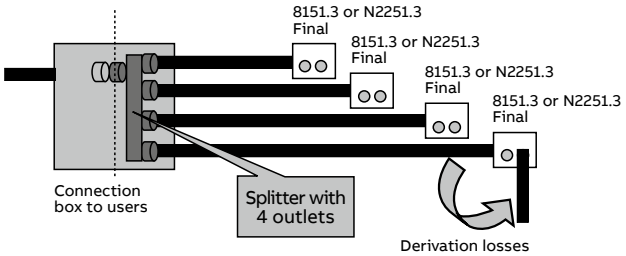
SMATV connection diagram



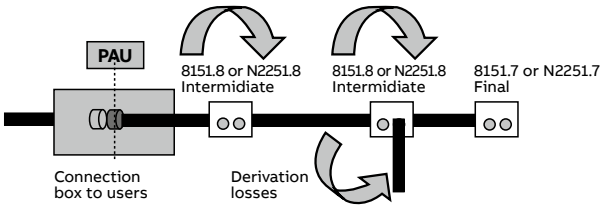
Note:

End of line impedance. If the distribution equipment requires outlets with end of line resistors, 8151.7/N2251.7 outlets must be used or add to 8151.3/N2251.3 outlets a termination resistor to close the line.

a) SMATV star connection diagram



a) SMATV star connection diagram



Note:

It is recommended to avoid installing more than 2 intermidiate outlets per line.

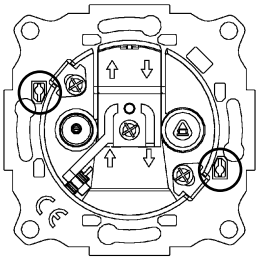
Code			**8151.3 N2251.3**	**8151.7 N2251.7**	**8151.8 N2251.8**	**8152.7**
Installation			Final		Intermediate	Final
Connection			Screw terminal and clamp			
Output connectors		C1	IEC male Ø 9.52 mm			
		C2	IEC female Ø 9.52 mm			
		C3	-			F female
Frequency range	MHz	E/S	5 - 2400	5 - 2400		5 - 2500
		C1	5 - 862	5 - 2400		5 - 68 / 125 - 862
		C2	930 - 2400	5 - 2400		87,5 - 108
		C3	-			950 - 2500
Basic loss	dB ±TOL	FM	0,2 ±0,1	3,7 ±0,3	10,0 ±1,0	2,0
		TV	1,0 ±0,5	4,0 ±0,5	10,0 ±1,0	2,7
		SAT	1,2 ±0,6	5,0 ±1,2	12,0 ±2,0	2,3
Through loss	dB ±0,5	FM	-		2,5 ±0,5	-
		TV	-		2,5 ±0,7	-
		SAT	-		3,0 ±1,0	-
Directivity	dB	FM	-		>20.0	-
		TV	-		>12.0	-
		SAT	-		>5.0	-
Isolation	dB	FM	>45	>20	>45	>24,3
		TV	>14	>20	>30	>15
		SAT	>14	>14	>28	>15
Selectivity	dB	FM	-		-	>15
		TV-R	>15		-	>15
		SAT	>15		-	>15
Return loss	dB	VR	>25	>16	>13	>7,6
		FM	>25	>16	>13	>10
		TV	>14	>16	>12	>7,6
		SAT	>10	>9	>12	>8,2
DC path	V⎓		24 max			24 max
	mA		500 max			500 max
	Tono		22 KHz/DiSEqC			22 KHz/DiSEqC

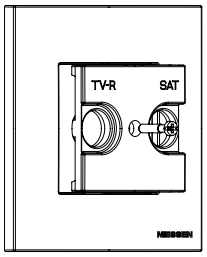
Technical details

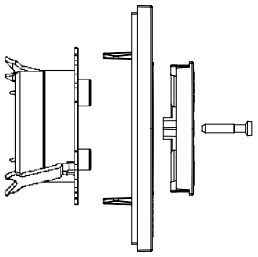
Zenit

N2250.X & N2252 covers for TV outlets

1. In some cases the TV outlets have too small holes for frame's clamps.



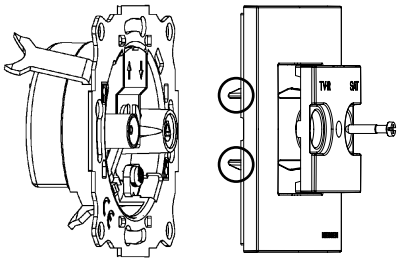


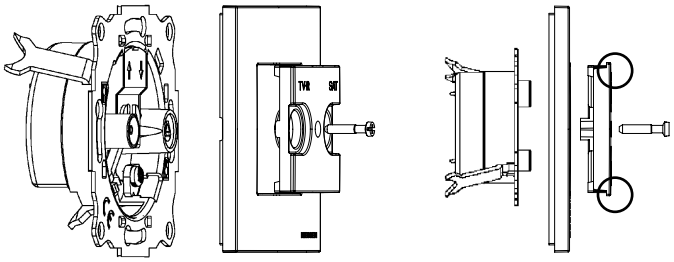


2. There are two options of mounting the cover plates: a) cut the clamps that are facing the small holes.

b) Cut all the clamps of the frame.

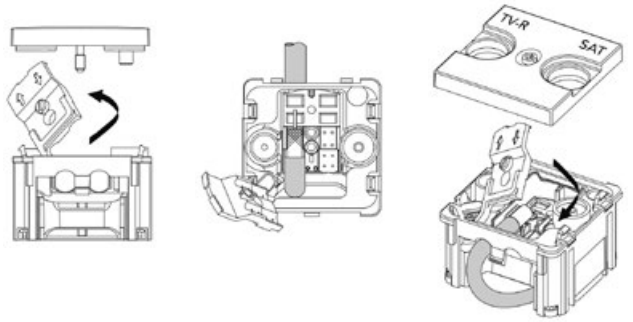
3. When the cover plate is screwed to the insert, the 4 parts that stick out from the cover, will fix the frame to the wall.

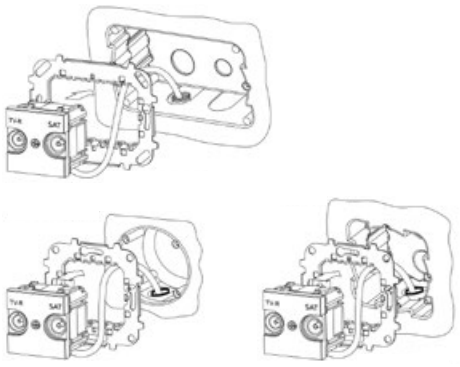




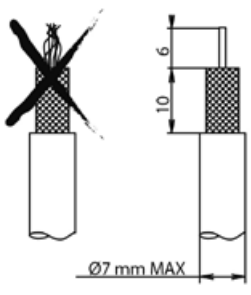
N2251.3 TV-R/SAT outlet single, N2251.7 TV-R/SAT outlet dead-end and N2251.8 TV-R/SAT outlet loop through

Mounting diagram



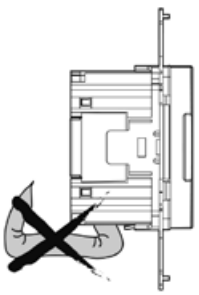


Cable to use



- Use coaxial cable with 75Ω impedance.

Cable to use



- Avoid small bending radius.

Technical details

Zenit

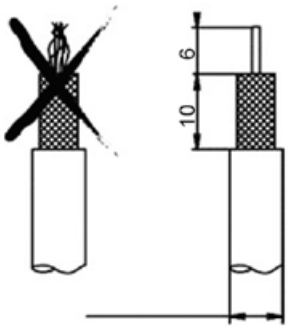
N2150.7 & N2250.7 - TV outlet dead-end

Connector characteristics

N2150.7 N2250.7

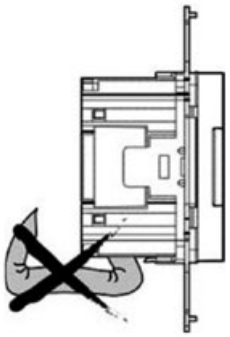
- TV output: 9,52 mm male.

Cable to use



- Use coaxial cable with 75Ω impedance.

Warning



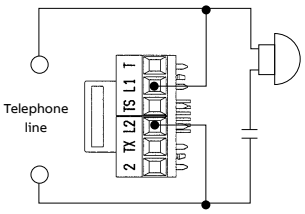
- Avoid small bending radius.

Name			TV outlet dead-end
Frequency range	MHz	TV	5 - 2400
Connection loss	dB	TV	1
Isolation	dB	TV	>16
Return loss	dB	TV	>7,6
Bypass DC current	V mA		34 (max.) 500 (max.) 22Khz / DiSEqC

Telephone outlets

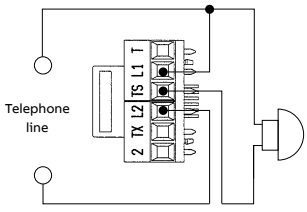
6 contacts
N2117.6 / N2217.6

Additional bell
with capacitor

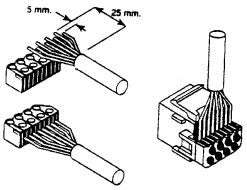


6 contacts
N2117.6 / N2217.6

Additional bell
without capacitor



8 contacts
2017.3



Technical details

Zenit

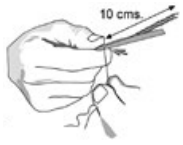
RJ45 Cat. 6 female connector

2018.6

1 Preparing the Cable

1.1 Cut approximately 5 cm. off the jacket.

1.2 Open approx. 10 cm. of the jacket with a cutter cord or another tool.

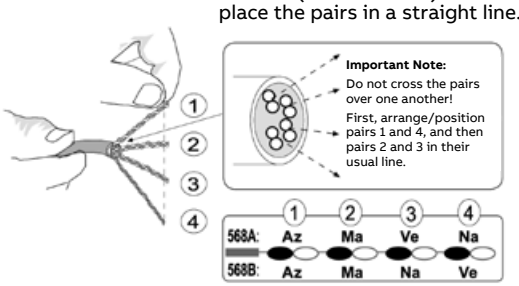


1.3 Cut the jacket.

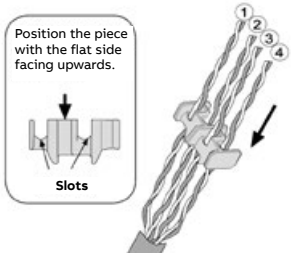
1.4 Cut the mesh (if it has one and the cord at the same level of the jacket).

2 Preparing the Conductors

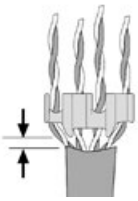
2.1 Select the adequate wiring scheme (568A or 568B) and place the pairs in a straight line.



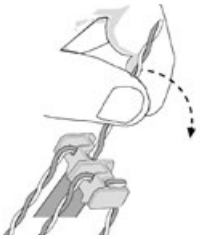
2.2 Position each of the four pairs in the holes of the end piece.



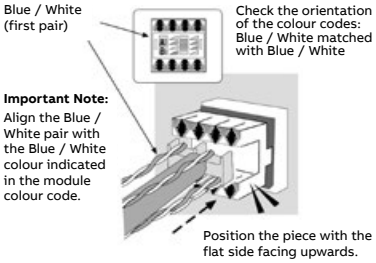
2.3 Ensure the end piece is located as close as possible to the edge of the jacket.



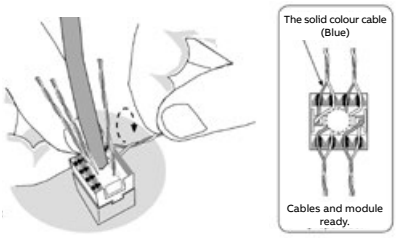
2.4 Place the pairs in the direction of the end piece slots.



2.5 Insert the end piece into the module.

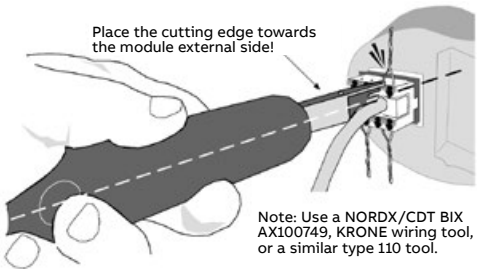


2.6 Unbraid the pairs, position and insert the cable in the module slots. Place the **solid colour cable in the first slot of the pair.**



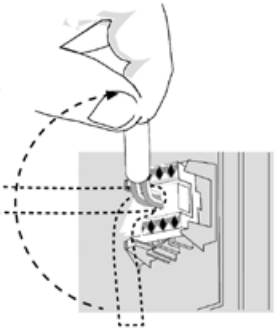
3 Conductor Terminations

3.1 Place the tool perpendicular to the module and finish cutting the cables.



4 Placing the Cable

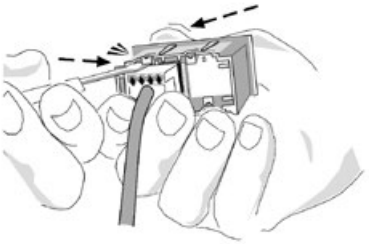
4.1 Place the cable in **the upper, perpendicular, or lower position** so that it is easy to insert the module in the box for attachment.



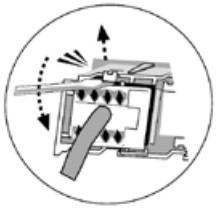
5 Disassembling the module from the supporting piece

Use a...

5.1 Push the front of the module in with your thumb releasing the hooks.



5.2 Pry upwards to release **the upper hook.**



5.3 Pry downwards to release **the lower hook.**

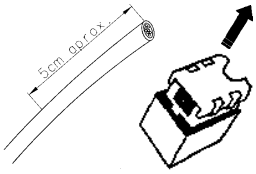
Technical details

Zenit

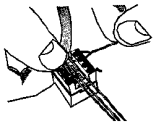
RJ45 Cat. 5E female connector

2018.5

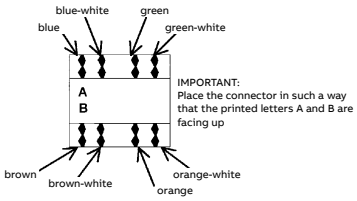
1 Remove the back cap from the connector. Strip approx. 5cm off the jacket and discard the cable cutter cord.



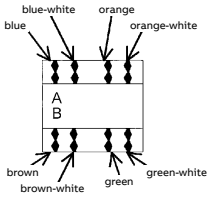
2 Bring the cable close to the connector, with the jacket at approx. 6 mm from the connector. Insert the cables into the corresponding slots as indicated by the cable colour-wiring configuration for T568A or T568 B (as shown in Figures 2A and 2B).



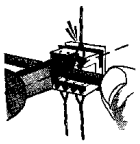
2a Wiring according to T568A:



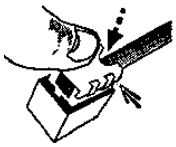
2b Wiring according to T568B:



3 Push the cables against the end of the slot and cut them flush to the connector.
Use an IBDN 110, BIX, KRONE wiring tool, or a similar type 110 tool.



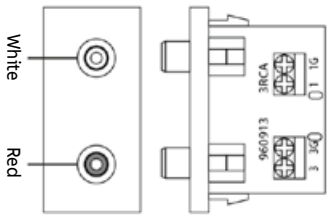
4 Mount the connector cap.



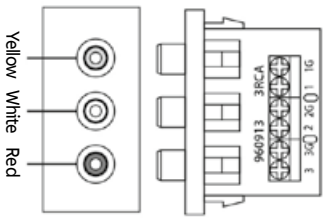
Technical details

Zenit

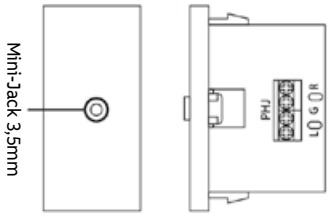
VDI connectors



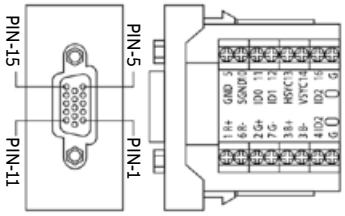
N2155.2
Pin Out:
1G — W/GND ┐ Left Audio
1B — White ┘
3G — R/GNB ┐ Right Audio
3R — red ┘



N2155.3
Pin Out:
1G — Y/GND ┐ Composite Video
1A — Yellow ┘
2G — W/GND ┐ Left Audio
2B — White ┘
3G — R/GND ┐ Right Audio
3R — Red ┘



N2155.4
Pin Out:
R — Red ┐ Left Audio
G — Ground ┘
L — White ┐ Right Audio

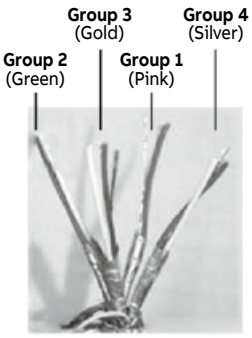


N2155.5

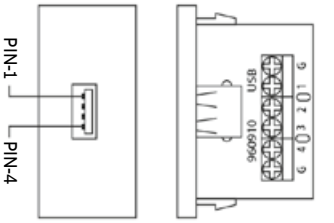
PIN		PIN	
1	1 R+	5	GND 5
6	6 R-	10	SGND 10
2	2 G+	11	ID0 11
7	7 G-	12	ID1 12
3	3 B+	13	HSYC 13
8	8 B-	14	VSYC 14
4	4 ID2	15	ID2 15
G	GND	G	GND

N2155.6

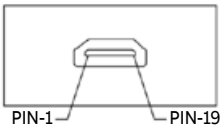
G-1	1	TMDS Data2+
	2	TMDS Data2 Shield
	3	TMDS Data2-
G-2	4	TMDS Data1+
	5	TMDS Data1 Shield
	6	TMDS Data1-
G-3	7	TMDS Data0+
	8	TMDS Data0 Shield
	9	TMDS Data0-
G-4	10	TMDS Clock+
	11	TMDS Clock Shield
	12	TMDS Clock-
	13	CEC
	14	RESERVED (N.C. on device)
	15	SCL
	16	SDA
	17	DDC/CEC Ground
	18	+5V Power
	19	Hot Plug Detect
	GND	Ground

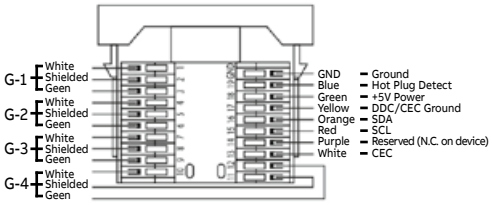


On Group included 3 wires



N2155.8
Pin Out:
1 — VBUS
2 — D-
3 — D+
4 — Ground
G — Shielded





Note:
Using a strap for fixing the cable to the board it is recommended to avoid disconnections. For this the plates have two through-holes at its rear end.

Technical details

Zenit

Resistive rotatory/push dimmer - N2260.2

1. Technical data
Electrical data:
- **Power supply:** 230 V~ ; 50 Hz
- **Minimum power:** 60 W / VA
- **Maximum power:**
  500 W incandescent lamps.
  500 VA halogen lamps with electronic transformer.
  400 VA halogen lamps with ferromagnetic transformer.
- Room temperature for operation: 0 to 30 °C.

Features:
- Dimming control by means of a local push button (N2260.1 and N2260.2) and a dimmer switch (N2260.2).
- Control capability through auxiliary push buttons (N2X04.X).
- LED indicator pilot.

Detecting the type of load
- After wiring the device to the power supply, the dimmer assesses the type of the load connected.

Overload
- If the device overloads above the maximum rated power, or if the operating temperature exceeds the maximum, the regulator will automatically stop working as a safety measure.

Short Circuit
In case of short circuit, the device will stop working as a safety measure.
Note: Disconnect the device from the power supply if you are making changes to the load.
2. Assembly/Connection
2.1. Connection
Important: disconnect the power supply when installing.

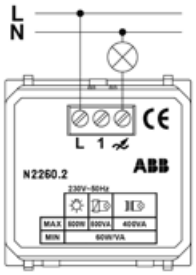


Figure 1:
Basic wiring diagram

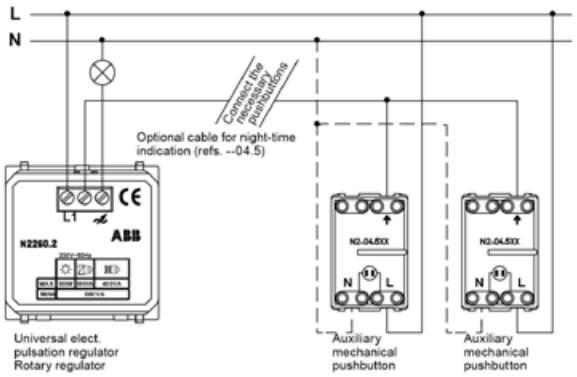


Figure 2: Special wiring diagram

Wiring for direct control
The electrical wiring for these devices is performed according to the wiring diagram shown in Figure 1.
The terminal marked “L” shows the phase wire of the installation.
The terminal indicated with ⏚ represents the conductor wiring terminal returning from the load, which is also connected to the neutral conductor of the installation. See Figure 1.
The terminal marked “1” is used to exercise control from several points by means of conventional push buttons. See Figure 2.
If the device is installed individually, follow the instructions indicated in Figure 1.

Wiring for remote control option
The special characteristics of these dimmers enable the remote control using conventional auxiliary push buttons (N2X04.X), making it possible to control the turning on and off and dimming features from different points using only one electronic dimmer and any number of conventional push buttons as desired.
In case it is required to exercise control from several points, refer to the diagram below. Any number of auxiliary conventional push buttons may be used as needed.
The outputs of these push buttons are connected to terminal “1”.
See Figure 2.
Note: pay special attention to the device input and output conductors, according to the previous description.
3. Mounting
To install the device follow these steps:
1. Connect the device based on the corresponding wiring scheme. Figure 1 and Figure 2.
2. Mount the device on the wall box.
3. Then, position the plate.

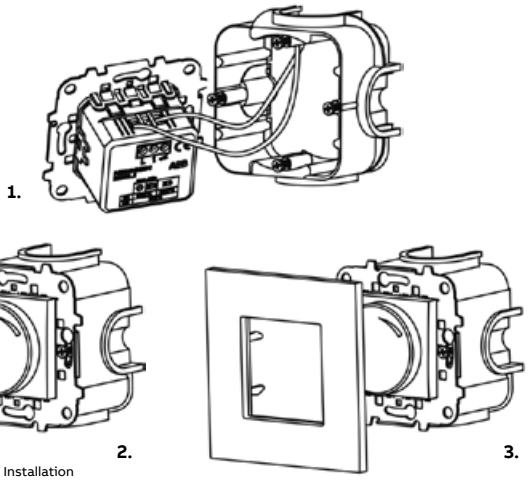


Figure 3: Installation

4. Operation
The operation of the dimmer during the set up, disconnection or regulation is as follows:
Short pulsation
If the dimmer is off, upon receiving a short pulsation it will turn on using always the maximum level of light.
If the dimmer is on, upon receiving a short pulsation it will turn off.
A short pulsation refers to any pulsation lasting between 50 ms and 400 ms.
Long pulsation
If the dimmer is off, upon receiving a long pulsation it will turn on using the minimum level of light. Then it will increase it until the pulsation stops, or until it reaches the maximum level of light.
If the dimmer is on, upon receiving a long pulsation the dimming direction will reverse: if the level of light has increased up to a certain point, it will diminish, and vice versa. Whenever the maximum (or minimum) level of light is reached during a long pulsation, the dimming will stop in the maximum (or minimum) level, even if pulsation continues.
A long pulsation refers to any pulsation lasting for more than 400 ms.
Turning the knob clock-wise:
- If the load is off, or in the maximum intensity level, it will not perform any action.
- If the load is in a specific dimming point, it will increase the load intensity.

Turning the knob anti-clockwise:
- If the load is off, it will not perform any action.
- If the load is in a specific dimming point, or in the maximum level, it will diminish the load intensity.

Once the load reaches the maximum or minimum intensity level, if we keep turning the knob anti-clockwise or clockwise, the load will continue in its maximum/minimum intensity level.

Technical details

Zenit

LED rotatory/push dimmer - 2M

N2260.3 & N2260.8

1. Technical data

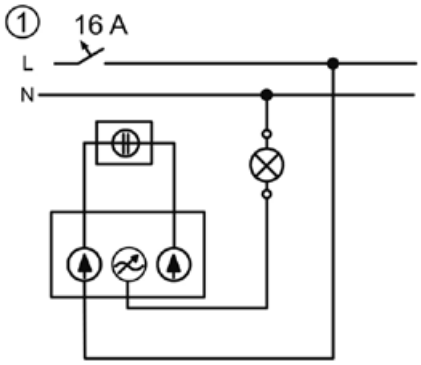
Rated voltage / max. power:
- N2260.3: 230 V~ ±10%, 50 Hz / 250 W/VA
  230 V~ ±10%, 60 Hz / 200 W/VA
- N2260.8: 127 V~ ±10%, 60 Hz / 140 W/VA
- **Room temperature for operation:** 0 to 35 °C.

Protection:
- Back-up fuse: Electronic
- Overload protection: Electronic

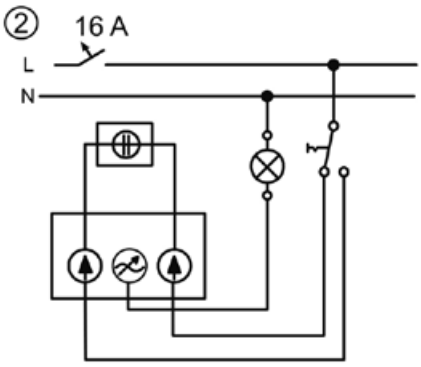
N2260.3 - Rated min./max. power (230 V~):
- LEDi: 2 W/VA / 100W/VA (max. 10 lamps).
- Dimmable energy saving lamps: 2 W/VA / 100W/VA (máx. 10 lamps).
- LV LEDi with transformer: 4 W/VA / 100W/VA (max. 10 lamps).
- Incandescent lamps: 10 W/VA / 250W/VA.
- Halogen lamps: 10 W/VA / 250W/VA.
- LV halogen lamps with transformer: 10 W/VA / 250W/VA.

N2260.8 - Rated min./max. power (127 V~):
- LEDi: 2 W/VA / 55W/VA (max. 10 lamps).
- Dimmable energy saving lamps: 2 W/VA / 55W/VA (máx. 10 lamps).
- LV LEDi with transformer: 4 W/VA / 55W/VA (max. 10 lamps).
- Incandescent lamps: 10 W/VA / 140W/VA.
- Halogen lamps: 10 W/VA / 140W/VA.
- LV halogen lamps with transformer: 10 W/VA / 140W/VA.

2. Wiring diagram



Standard operation

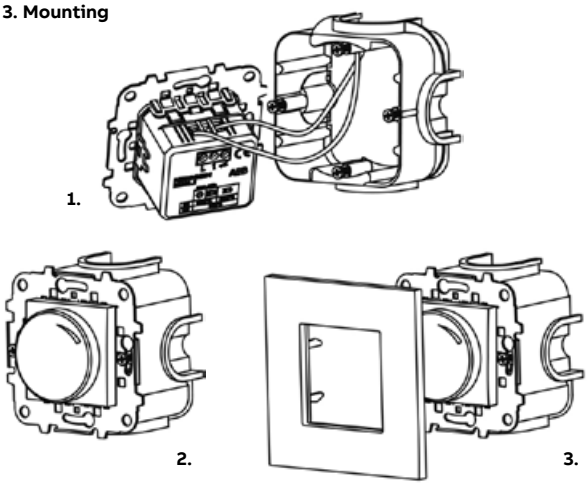


Operation in a two-way circuit

Warning:

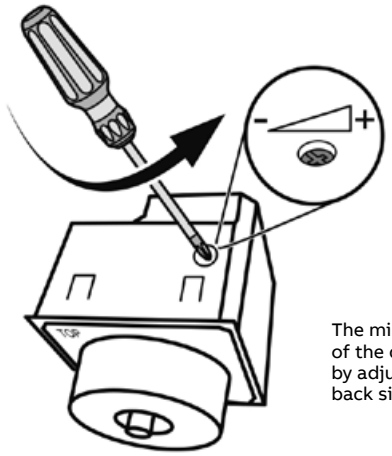
Disconnect the mains power supply prior to installation and/or disassembly! Permit work on the 230V/127V supply system to be performed only by specialist staff.

3. Mounting



Turn the device in the correct installation position. The marks on the back side of the device, orients the correct top position.

4. Set-up



The minimum brightness of the dimmer can be set by adjusting the on the back side of the device.

5. Operation

The LED dimmer is a phase-angle dimmer and is used to switch and dim all lamps listed in “Types of load”, especially LEDi loads (LED lamps with an integrated ballast). The LED dimmer serves as light controller in connection with rotary dimmer control elements.

Notes:

1) Use only L or LC transformers. Pure C transformers are not permitted. If transformers are used, the specifications of the respective manufacturers must be observed. In particular, observe the information regarding the minimum load.

Connection load for LEDi

2) Above a connection load of 25 W/VA, suitable measures must be taken to increase the connection load to a maximum of 100 W/VA (230 V supply) or 55 W/VA (127 V supply) when connecting LEDi according to IEC 61000-3-2, for example, through the use of harmonic wave filters.

3) Maximum number of LEDi lamps is 10.

Technical details

Zenit

LED/Universal rotatory dimmer - 1M

N2160.3 & N2160.8

1. Technical data

			max	N1160.3 N2160.3 AMD60322 max W. 230V~50/60Hz	N1160.8 N2160.8 max W. 127V~60Hz	Mode
Leading-Edge	I.	LEDi L	10	4 - 60 W	4 - 30 W	T L
	II.	LED LC	10	4 - 60 W	4 - 30 W	
	III.	HALOGEN. 12V LC	-	4 - 60 W	4 - 30 W	
Trailing-Edge	IV.	LEDi C	-	4 - 250 W	4 - 125 W	T L
	V.	LED C	-	4 - 250 W	4 - 125 W	
	VI.	HALOGEN. 12V C	-	4 - 250 W	4 - 125 W	
	VII.	INCANDESDEN. C	-	4 - 250 W	4 - 125 W	

Types of load supported (see table 1)

Leading-edge dimmable loads:

I. LED lamps at 230V/127V type L
II. LED lamps at 12V with electronic transformer
III. Halogen lamps at 12V with electronic transformer

Trailing-edge dimmable loads (recommended):

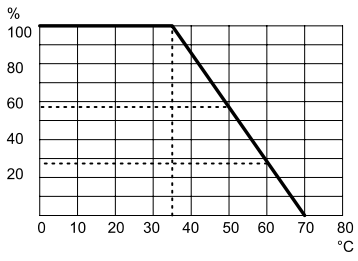
IV. LED lamps at 230V/127V type C
V. LED lamps at 12V with electronic transformer
VI. Halogen lamps at 12V with electronic transformer

Traditional loads:

VII. Incandescent and halogen lamps.

Technical data

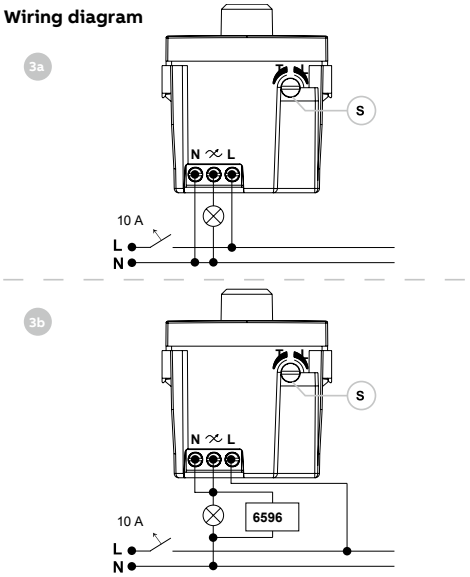
Nominal input voltage	(see tables 1)
Nominal input frequency	50 / 60Hz
Operating temperature	-5ºC... +35ºc
Maximum power supported:	(see tables 1 and 2)
Load type selector	Yes
Off position	Yes
Possible extension for ON/OFF	No
Connection wires	2 o 3
Short-circuit & overload protection	Yes
Temperature protection	Yes
IP protection	IP20
Safety standard	IEC 60669-2-1



Performance

The dimmer's nominal power will decrease according to ambient temperature in line with the graph.
If 2 regulators are installed adjacent, reduce max. power to 50%. If 3 adjacent regulators are installed, reduce max. power to 25%.

2. Wiring diagram



3. Connection

3 WIRES (recommended):

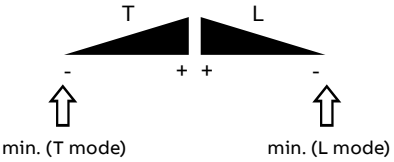
Figure '3a' shows an example of a 3-wire connection.

2 WIRES:

Figure '3b' shows an example of a 2-wire connection. This connection is subject to load compatibility, and correct functioning in all cases cannot be guaranteed (see note above). The minimum load installed must exceed 14W and it must be complemented with a 6596 compensation filter in parallel.

4. Set-up

1. Check the voltage is disconnected.
2. Configure the dimmer functioning mode using the adjust-ment dial, according to the type of load (see table 1)
3. Place the arrow at the bottom end (-) of the selector dial 'S'
4. Connect all wires through the rear terminals.
5. Make sure that the wires are correctly installed and free of potential short-circuits.
6. Restore the general power supply.
7. Switch on the lamps by turning the dimmer switch.
8. Adjust the minimum threshold by placing the arrow of the selector dial 'S' at the lowest point at which the lamps emit light without flashing.
9. Insert the mechanism in the recess box.



Make sure that the proper functioning mode has been configured (L or T) according to the type of load. Otherwise, the dimmer and the lamp could be damaged.

Note

Given the heterogeneity of the lamps and manufacturers in the market, some LED lamps may not be compatible with the dimmer resulting in persistent flashing problems. To avoid these problems, we recommend using the lamps of recognised manufacturers, avoiding the mixture of models and types whenever this is possible.

Technical details

Zenit

Rotary dimmer 1-10 Vdc for fluorescent or LED drivers - N2260.9

1. Technical data

- **Power supply:**
  230V 50-60Hz 700VA
  127V 50-60Hz 350VA
- **Load type:** Dimmable electronic ballast with 1-10V control input.

2. Assembly/Connection

2.1. Connection

Follow the steps below to install the mechanism:

1. Connect the device according to the connection schemes. Figure 2 and Figure 3.
2. Assemble the device on the flush mounting box.
3. Then, place the plate.

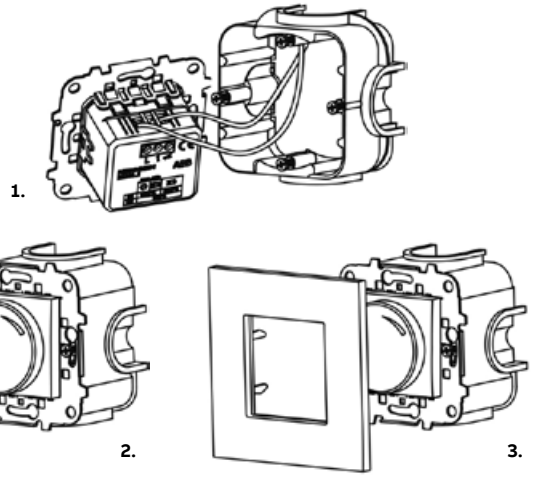


Figure 1: Installation

Important: Disconnect the power supply when installing.

2. Connection

The fluorescent lighting dimmer N2260.9 may be connected to dimmable electronic ballasts with a control input of 1-10 V as shown in Figure 2:

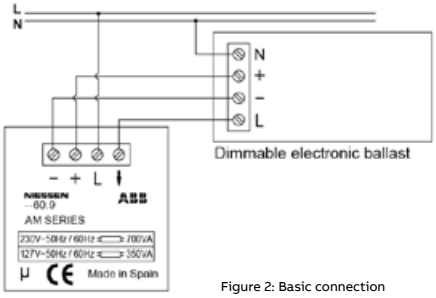


Figure 2: Basic connection

The maximum charge to be connected to the control terminals +/– should not exceed 50 mA.

See technical specifications of the dimmable electronic ballast to be installed.

Electronic ballasts generate a very high instantaneous peak current at connection, therefore it is recommended not to connect more than 6 ballasts to the N2260.9 fluorescence regulator.

In installations where it is required to connect more than 6 electronic ballasts to the same regulator mechanism, it is recommended to use a contactor to protect the mechanism contacts. See Figure 3.

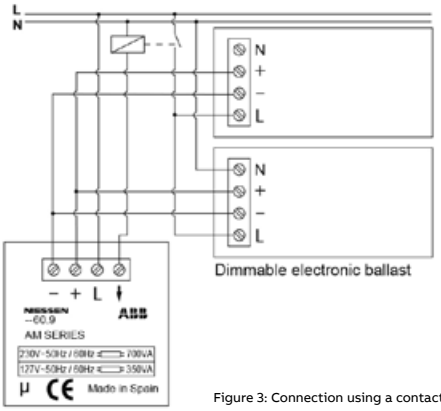


Figure 3: Connection using a contactor

3. Operation button turns in the clockwise direction

If the charge is disconnected, i.e. the rotatory button is completely turned counter-clockwise, when turning right the charge will turn on (a “click” will be heard) and the intensity level will increase as we turn the button in the clockwise direction.

If the charge is at a given point of regulation, the charge intensity will increase as we turn the button in that direction.

If we turn the button completely in the clockwise direction, this will stop in a limit, which will coincide with the maximum regulation intensity level.

Operation button turns in the counter-clockwise direction

Intensity level will reduce as we turn the button in the counter-clockwise direction.

If we turn the button completely in the counter-clockwise direction, a “click” will be heard and the button will stop in a limit, the charge will be disconnected.

WARNING: This product should only be used with the compatible loads defined in the compatibility table above.

Any installation outside the declared power range could cause damage to the product that could result in malfunction or even accidents.

Technical details

Zenit

1 Module dimmer - N2160.E

1. Technical Data

Voltage:
N2160: 127 V~ ; 60 Hz
N2160.1: 230 V~ ; 50-60 Hz

Power:
N2160: 50-500 W
N2160.1: 50-700 W

Operating temperature:
0 – 30° C

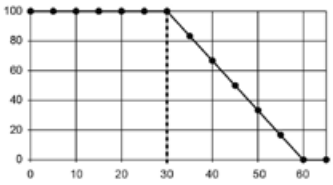
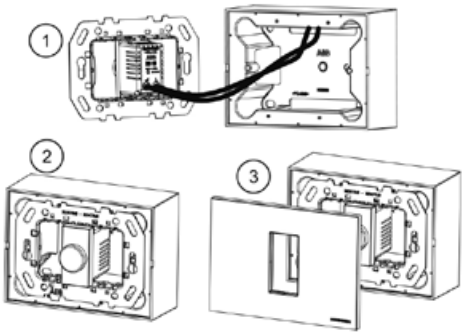


Table 1:
Power reduction (%) as a function of temperature (°C)

2. Assembly/Connection

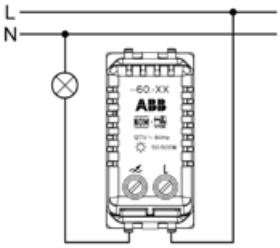
2.1. Assembly

Important:
If the dimmer is installed next to another electronic device that can produce heat, the maximum power must be reduced in half.
If it is installed between two electronic devices that can produce heat, the maximum power must be reduced to the fourth.



2.2. Connection

Important:
Disconnect the power supply when installing.



3. Operation

Do not exceed the maximum shown in Table 1, since the dimmer has a NON-resettable thermal fuse. If the fuse is triggered, the electronic dimmer is useless for further use. In case of exceeding the maximum load, the fuse could not trig but it may happen that the load will not turn off.

Push dimmer - N2260

1. Technical Data

Power supply:
127 V~ ; 60 Hz / 230 V~ ; 50 Hz

Minimum power:
40 W / VA

Maximum power:
For 230 V~ ; 50 Hz:
450 W incandescent lamps.
400 VA halogen lamps with transformers.

For 127 V~ ; 60 Hz:
250 W incandescent lamps.
250 VA halogen lamps with transformers.

Protection against overcurrent:
Using a calibrated fuse ref. T-2A.

Protection against faulty connections:
Using an electronic device.

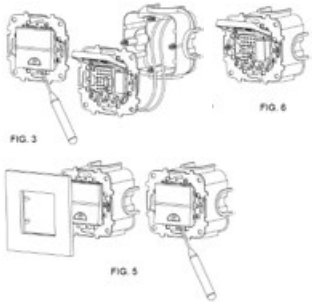
Regulation time: from minimum to 3.8 secs.

Nighttime indicator display: LED.

Temperature for operation: 0 to 30 °C.

Interference suppression:
UNE-21806 and EN 55014 Standards.

3. Mounting:



1. To connect the device, lift the switch (Fig. 3).
2. Connect the dimmer based on the wiring scheme (Figs. 1 and 2).
3. Mount the device on the wall box, and then position the plate.
4. To change the fuse, lift the switch, pulling softly along its edge (Fig. 5) and remove the fuse holder (Fig. 6).

2. Wiring diagram:

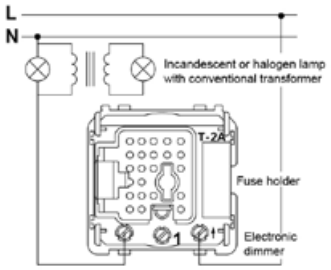


Figure 1

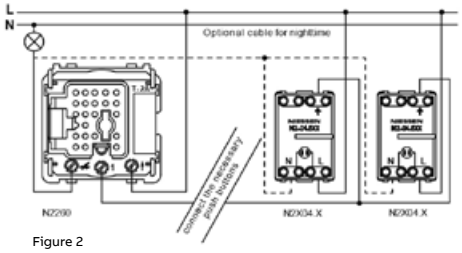


Figure 2

The electrical wiring for these devices is performed according to the wiring diagram shown in Figure 1.
The incoming arrow indicates the phase/line wire of the installation and the outgoing arrow indicates the wiring towards the receptor/load according to Figure 1.
The terminal “1” is used to enable the remote control from several points using conventional pushbuttons, refer to the Figure 2.
If the device is to be installed individually, follow the instructions indicated in Figure 1.

This dimmer allows the remote control using conventional auxiliary pushbuttons, making it possible to control the turning on and off and dimming features from different points by means of only one electronic device and any number of conventional pushbuttons as desired. In case it is required to allow control from several points, refer to the Figure 2. Any number of auxiliary conventional pushbuttons may be used as needed. The outputs of these pushbuttons are connected to terminal “1”. See Figure 2.
NOTE: Pay special attention to the device input and output conductors, according to the previous description.
Make sure to disconnect the power supply before manipulating the device.

4. Operation:

The operation of the regulator during set up, disconnection or regulation is as follows:
SHORT PULSATION:
If the regulator is off, upon receiving a short pulsation it will turn on using always the maximum level of light.
If the regulator is on, upon receiving a short pulsation it will turn off.
A short pulsation refers to any pulsation lasting between 50 ms and 400 ms.
LONG PULSATION:
If the regulator is off, upon receiving a long pulsation it will turn on using the minimum level of light; then it will increase it until the pulsation stops, or until it reaches the maximum level of light. If the regulator is on, upon receiving a long pulsation the regulation direction will reverse: if the level of light has increased up to a certain point, it will diminish, and vice versa. Whenever the maximum level of light is reached during a long pulsation, the regulation will stop in the maximum level, even if pulsation continues. However, when the minimum level is reached, it does not stop and it starts increasing.
A long pulsation refers to any pulsation lasting for more than 400 ms.

Technical details

Zenit

Movement detector - N2241

1. Introduction

This motion detector device senses the movement of people in an area of 5m (maximum) and in a 110° angle.
Depending on the level of light detected by the light sensor and the motion detected in the covered area, the device determines if the load connected to it should be activated or not, thus lighting the area in which it is connected whenever someone passes.
White it is detecting movement, the device maintains the load activated. When it stops detecting motion it disconnects the loads in the preset time.
The device enables remote control through conventional push buttons with the use of only one conductor and thus simplifying electrical installations with the possibility to substitute the traditional switched installations.

2. Technical Characteristics:

Power supply: 230 V~ ; 50 Hz
127 V~ ; 60 Hz

Maximum power:

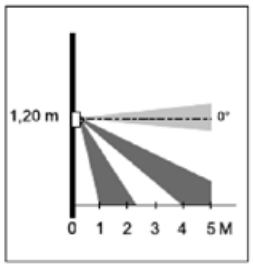
Incandescent lamps: 1,800 W (230 V~ 50 Hz)
1,000 W (127 V~ 60 Hz)

Halogen lamps with electronic transformer, or halogen lamps with ferromagnetic transformer:
750 VA (230 V~ ; 50 Hz)
400 VA (127 V~ ; 60 Hz)

Fluorescent lamps or motors: 400 VA (230 V~ ; 50 Hz)
200 VA (127 V~ ; 60 Hz)

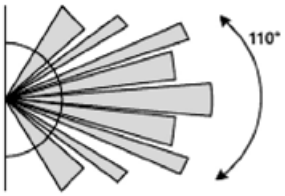
Voltage free relay output: 2 terminals:

- Control capability throught auxiliary push buttons (N2X04.X).
- Timer adjustment: Between 10 sec. and 10 minutes.
- Adjustment of light set point level for detection.
- Room temperature for operation: -10° C to 40° C.
- Detection range of the IR motion sensor: Max. 5 metres in a 110° angle.



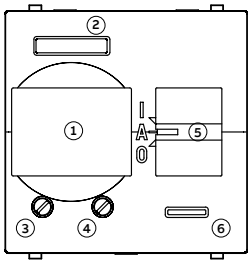
Cross section diagram showing the detection area

Figure 1. Sensor detection diagram



Horizontal view diagram showing the detection area

Front device description



1. Detection lens
2. Light sensor
3. Light set point selector
4. Timer selector
5. Operating mode selector
   (3 positions):
   I – Always on
   A – Automatic (central position)
   0 – Always off
6. Red LED, indicator of automatic operating mode. It does not light when operating in modes I and 0.

Fig 2.- Front view of the device

3. Wiring

Pre-installation recommendations

Install the device away from heat sources or draughts.
The sensitivity of this detection device depends on several factors such as temperature, ambient humidity, as well as speed and direction of people´s movement.
Before installing the device, it is important to determine where to install it so that it adequalety convers the desired detection area.

Basic wiring

The electrical wiring of these devices is performed according to the wiring diagram shown in Figure 3.
The terminal marked “L” shows the phase wire of the installation.
The terminal marked “N” shows the neutral wire of the ins tallation.
The terminals marked ⌐¬ represent the two terminals of the relay output (voltage free).

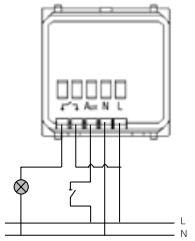


Figure 3: Basic wiring diagram

The terminal marked “aux” (control terminal) is used in case it is desired to control the device (optional) from different points through conventional push buttons (auxiliary pushbuttons). See wiring diagram in Figure 4.
It is possible to use the device as a crepuscular switch if a switch is connected to the control terminal to a pushbutton.
Note: Pay special attention to the device input and output conductors, according to the previous description.
Make sure to disconnect the power supply before manipulating the device.

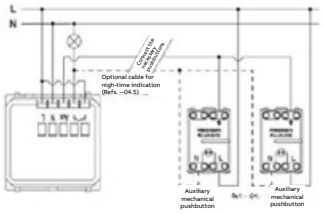


Figure 4: Special wiring diagram

Wiring of several devices in parallel

The detection area in a zone can be increased by installing more than one motion detector device.
To ensure that the detection of movement by any of the devices installed activates the load controlled by all of them, their outputs should be wired in parallel to the load. See wiring diagram in Figure 5.

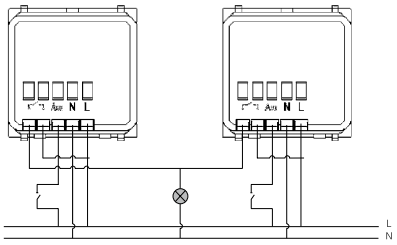


Figure 5: Parallel wiring diagram

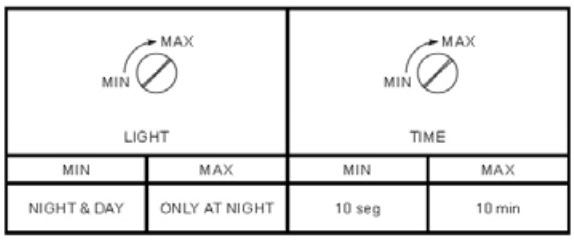
Selection of the light and time threshold

Once the device is wired and installed, based on the type of application, it is important to determine the light value below which the device should activate the load while in Automatic Mode, either by the detection of movement or by pressing the auxiliary pushbutton.
The light set point selector (see Figure 6) enables the selection of the light threshold below which the detector will activate the load.
- If the potentiometer is turned to the left (anti-clockwise), the device will activate the load whenever it detects movement, regardless of the light value, during either day or night.
-If, on the contrary, the potentiometer is turned to the right (clockwise), the device will activate the load when it detects movements under low light conditions, i.e. almost in the dark.

Technical details

Zenit

Movement detector - N2241



MIN	MAX	MIN	MAX
NIGHT & DAY	ONLY AT NIGHT	10 seg	10 min

Figure 6: Exploded view of the selection potentiometers for the selection of light and time thresholds.

The load disconnection time is another important parameter that needs to be chosen. The set value will be based primarily on the type of application and the detector installed. The time can be chosen easily by turning the time selector potentiometer (see Figure 6).

4. Installation

To install the device follow these steps:
1. Connect the device based on the wiring scheme. Figures 3, 4 and 5.
2. Mount the device on the wall box.
3. Then, position the plate.

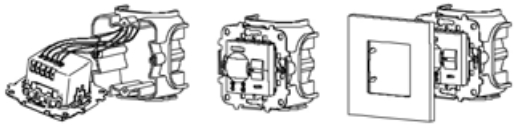
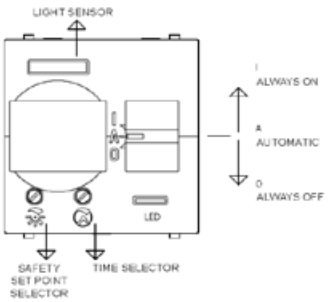


Figure 7: Installation for N2241

The load disconnection time is another important parameter that needs to be chosen. The set value will be based primarily on the type of application and the area in which the detector is installed. The time can be chosen easily by turning the time selector potentiometer (see Figure 6).

5. Operation

The motion detector device has 3 different operating modes that the user can select at any time using the selector located at the front of the device. The available operating modes are the following:
I – Always on
A – Automatic (central position)
0 – Always off



Operating Mode "I": Always On
How to select the operating mode "Always On"
- The operating selector is in position I: Always On
- The front red pilot is off

In this operating mode, the load is always activated, regardless of the light
level or the movement detected within the covered area.
While in this mode, the device does not respond to the auxiliary push button that may be connected to the control terminal.

Operating Mode: Automatic (A). Motion detector.

How to select the operating mode "Automatic"

- The operating selector is in position A: Automatic.
- The device indicates it is in the Automatic operating mode by lighting the front red pilot.
- Optionally, the auxiliary push buttons wired to the control terminal can be used.

This operating mode enables the independent activation and deactivation of the load, based on the movement detected within the covered area and on whether the light level is above or below the set threshold.

When the device detects movement of people and the light level sensed is below the set point, then it activates the load. With the conditions described above and while the device detects movement, the load will be activated.

Once the device stops detecting movement, it will deactivate the load based on the time set for deactivation; in this way, the device will be on standby until it detects another movement within the covered area.

When one of the auxiliary push buttons that may be connected to the control terminal is pushed, the device will behave as if it had detected movement. It will activate the load whenever the light level in the covered area is below the set point and will deactivate the load if no movement is detected within the time set.

Operation as Crepuscular Switch

The device can be operated as a crepuscular switch, i.e. it can activate the load when the light level is below the set threshold, no matter if there are people moving in the area or not. In the same way, the device may deactivate the load when the light level goes above the selected threshold.
How to select the operating mode "Automatic" when the device works as a crepuscular switch.
- The operating selector is in position A: Automatic
- The device indicates it is in the Automatic operating mode by lighting the front red pilot.
- Instead of using auxiliary push buttons, wire a switch to the control terminal and then, wire the terminal to the phase wire. When the switch is closed, the device operates as a crepuscular switch.

This operating mode is a well defined application derived from the device Automatic operating mode. In this mode, the device operates as a crepuscular switch, so that when the front light sensor detects a decrease in the light level below the set threshold, the switch activates the load, regardless whether there is movement of people or not within the covered area.
Once the light in the room collected by the sensor exceeds the set light threshold, it disconnects the load.
Note 1: For the correct operation of the device as a crepuscular switch, the device should be kept away from the light source (load) it controls. In this way, the purpose is that the device's light sensor only collects the room light (not artificial) that will determine if the light loads automatically controlled by the device should be turned on or off.

Note 2: This operating mode automatically decides whether to connect or disconnect the loads, based solely on the light collected by the device's light sensor. Therefore, the operation of the device does not rely on or respond to the movement of people within the covered area, if the switch connected to the control terminal is closed to the phase wire.

Technical details

Zenit

Time delay switch

N2262.1

1. Technical data

- Rated Voltage: 230 V~ ; 50 Hz
- Maximum power:

40 - 500 W for incandescent lamps.

40 - 400 VA for halogens with conventional transformers.

40 - 100 VA for motors.

Protection against overcurrents:
Through calibrated fuse F-3,15H. It is supplied with a replacement.

Protection against faulty connections:
Through electronic device.

Time delay: from 10 sec. to 10 min. (±10%).

Night vision device: red LED.

Operating temperature: from 0 to 40 °C.

2. Wiring diagram:

The electric connection of these articles is carried out in conformity with the presentation of the following Figures. The «L» terminal indicates the connection with the installation phase wire, and the arrow exiting the device indicates the connection to the receptor.

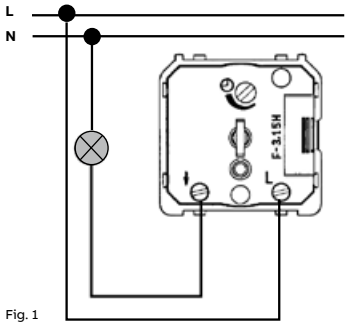


Fig. 1

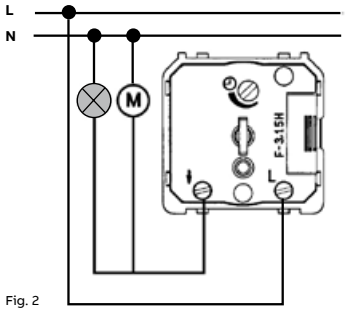


Fig. 2

NOTE:
Pay particular attention to the connection of exit/entry device conductors, as shown in the diagrams.
When manipulating the device, make sure it is disconnected from the power grid.

For the applications requiring the timing of an engine of less than 40VA power, for example a small air-extractor engine with 13VA in a bathroom, the connection will be possible if you connect another load to the latter, so as to make sure the addition of both power loads results in a power output which is greater than 40VA, the minimum load required for the correct operation of the device.
If an engine is connected to another load (a halogen or incandescent lamp), the maximum power load of the latter has to equal the maximum power output value of the engine.

3. Mounting:

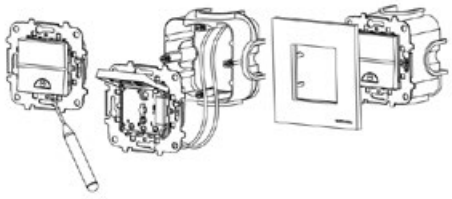


Fig. 3

1. Connect the device according to the instructions cited in the subsection on connection systems. **Do not manipulate the device when connected to the power grid.**

2. Introduce the mechanism in the flush-mounting box holding it with the screws of the box (or with fixation claws, if the box is equipped with them).

3. Set the time delay.

4. Mount the frame.

5. When mounting the other series, insert the frame between the support and the body and screw the support to the body. Mount the key on the support.

6. The time deleyed switch is ready to use.

4. Operation:

The time deleyed switch is an electronic operation mechanism mak-ing the automatic disconnection of the controlled element, within an adjustable time interval.
The manual operation is carried out by pressing the key.
Setting the desired time margin for disconnecting the device, is carried out by using an adjusting screw, as indicated on Figure 4. The time range is adjustable from 10 seconds to 10 minutes (±10%).

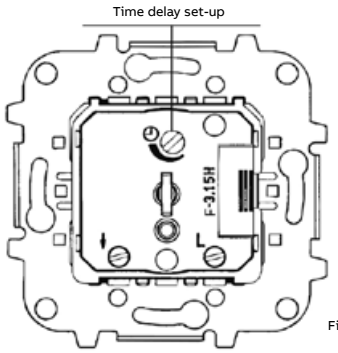


Fig. 4

Technical details

Zenit

Rotatory thermostat with remote sensor

N2240.3

1. Technical data

Voltage: 230V~ +/-10% 50-60Hz

Load power: 2.300W.

Load type: floor heating resistor.

Control temperature: +5°C to +45°C (Set point).

OFF state: at OFF position, the thermostat is off, so that it does not address the temperature measured by the floor temperature probe. The relay output contact is open.

Temperature accuracy: 0,5°C.

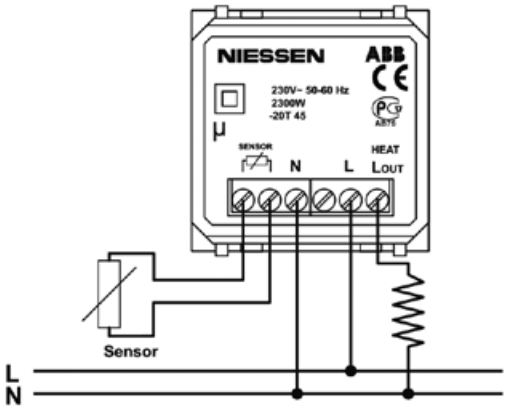
Hysteresis: 0,5°C.

Floor temperature sensor: NTC, 10KΩ at 25°C, -40°C to 80°C. Double isolated cable, 4m length.

LED light indication: red and green

Ambient temperature: -20°C to 45°C

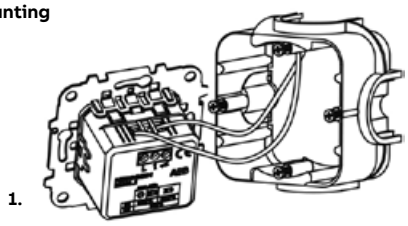
2. Wiring diagram:



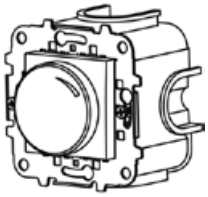
In order to get the better temperature measurement performance possible at the floor thermostat installation, it is recommended:
- Install the thermostat higher than 1m height from the floor.
- Do not install the thermostat near other heat or cold sources.
- Keep the floor temperature sensor away from interference sources or power circuits.
- Check the floor temperature sensor is correctly connected.

Important: Disconnect the mains voltage power when installing.
Work on the 230 V supply system may only be performad by specialist staff!
Disconnect main power supply prior to installation and/or disassembly!

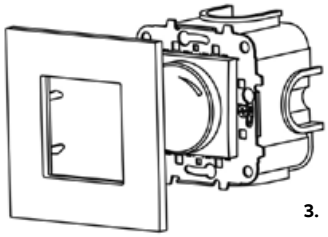
3. Mounting



1.



2.



3.

4. Operation:

The temperature set point can be adjusted by the rotary knob on the front of the thermostat, from +5°C to +45°C.
LED light in the front, indicates the following:
- Red color: Temperature set point is higher than measured temperature at floor sensor. Relay output contact is closed.
- Green color: Temperature set point is lower than measured temperature at floor sensor. Relay output contact is open.
- LED off: Thermostat is OFF state (disconnected).
- Blinking red color: (a) The floor temperature sensor woul not be connected or (b) the temperature read by the floor temperature sensor is below.
- 40°C. Relay output contact is closed.

Technical details
Zenit

Digital thermostat
8140.5 + N2240.5

1. Technical data

Voltage: 230 V~ ; 50 - 60 Hz

Power consuption: < 1W

Control temperature: +0°C to +50°C

Temperature accuracy: ±2°C (±1°C with calibration)

Resolution: 0,1°C

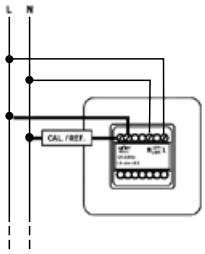
Control output: potential-fre relay contacts (NA).

Maximum load: 3A cos φ = 0,5.

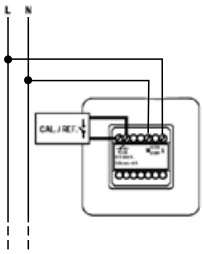
Hysteresis: 0,5°C

Pulse-width modulation: ±4°C difference with the set-point temperature, variable from 100% to 0% modulation.

2. Wiring diagram:



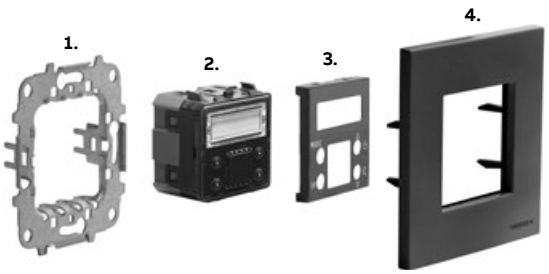
For hating or cooling installations
WITHOUT potential free input



For heating or cooling installations
WITH potential free input

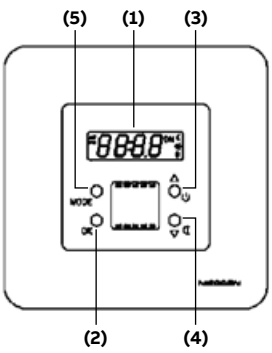
Important: Disconnect the mains voltage power when installing. Work on the 230 V supply system may only be performad by specialist staff!
Disconnect main power supply prior to installation and/or disassembly!

3. Mounting



1. Mounting plate
2. Insert - 8140.5
3. Cover plate - N2240.5
4. Frame

4. Operation:



This command allows you to control heating and cooling devices (not simultaneously) from its internal electronic thermostat. Also, thanks to the night mode, allows to maintain a temperature differential (from 0°C to 5°C, also programmable) to save energy with just one keystroke.

Night operating mode ☾ :
It is based on setting a temperature differ-ence (in °C) between day and night, in order to save energy.

Winter mode ❄ :
To be selected when the equipment under control is a heating equipment.

Summer mode ☼ :
To be selected when the equipment under control is an air-conditioning equipment.

Temperature control by hysteresis:
Thermostat's default type of control. The use of hysteresis control is particularly suitable for gas boilers.

Pulse-width temperature control:
The use of pulse-width control is particularly recommended for electric heaters, heat pumps or electrothermal actuators.

ATTENTION:
To select between hysteresis and pulse-width, it is necessary that the thermostat is off mode, i.e. the **"ON"** is not displayed on the screen.

(1) TEMPERATURE DISPLAY
Displays the set-point temperature.

(2) PUSH BUTTON FOR CONFIRMATION OF SELECTED OPTIONS
Confirms the selected values.

(3) ON/OFF AND UP PUSH BUTTON
Turns the control on and off. The display will show "**ON**" if it is turned on and will turn off when it is off. It serves to increase the temperature displayed on screen.

(4) NIGHT AND DOWN KEY PUSH BUTTON
Selects between day and night modes. The display will show ☾ in night mode and in day mode it will disappear. It serves to decrease the temperature displayed on screen.

(5) FUNCTIONS/CONFIGURATION SELECTOR
By pressing "we will adjust the set-point temperature" and, if we press successively, we will choose "winter/summer", "night temperature", "thermometer calibration" and "output relay action mode".

- **1 press** on "**MODE**" to adjust the set-point temperature.

While the set-point temperature and the symbol "**°C**" flash on the display, set the desired value with "▲ and ▼ " and press "**OK**".

- **2 presses** on "**MODE**" to choose between winter and summer.

While the symbols ❄ / ☼ flash on the display, set the desired value with "▲ and ▼ " and press "**OK**".
- **3 presses** on "**MODE**" to choose the night temperature differential.

While the night temperature differential and the symbol ☾ flash on the display, set the de-sired value with "▲ and ▼ " and press "**OK**".

- **4 presses** on "**MODE**" to calibrate the thermometer.

The temperature indicator flashes and with "▲ y ▼ " we select the appropriate ambient temperature. It will be set by pressing "**OK**".

- **5 presses** on "**MODE**" to choose the "output relay action mode". The "**STD**" or "**INC**" will be illuminated on the display when pressing "▲ or ▼". We select the right one and we press "**OK**".

"**STD**" indicates the operating mode by hysteresis.

"**INC**" indicates the operating mode by pulse-width modulation.

In all the cases the setting is validated pressing "**OK**". Failure to do so, the control returns to the previous settings in 5 seconds without saving the new ones.
With the control turned off, it behaves as a thermometer, showing the current temperature.

ATTENTION:
In the first implementation it is advised to wait **8 hours** before calibration. After an off voltage, the control requires **30 minutes** before showing an accurate temperature.

Technical details

Zenit

Rotatory fan control

N2254.1

1. Technical data

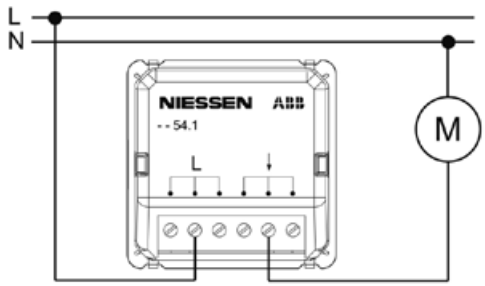
Voltage: 127 V~ ; 60 Hz

Load power: 190 W

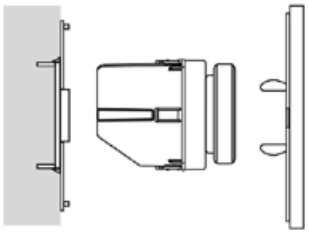
Load type: ceiling fan.

Operating temperature: +0°C to +40°C

2. Wiring diagram:



3. Mounting:



4. Operation:

Speed / Button position: 0 Disconnected.
I Maximum speed.
II Medium speed.
III Minimum speed.

Important: Disconnect the mains voltage power when installing.
Work on the power supply system may only be performad by specialist staff!
Disconnect main power supply prior to installation and/or disassembly!

Electronic doorbell

N2224 & N2224.1

1. Technical data

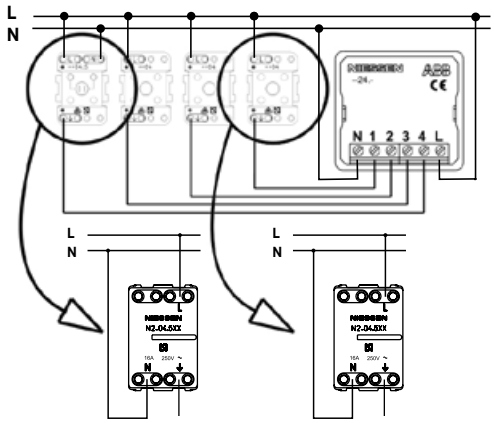
Voltage:

- N2224: 230 V~ ; 50-60 Hz
- N2224.1: 127V~ 60Hz

4 melodies available.

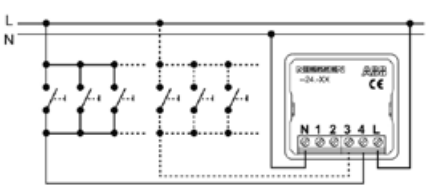
Acoustic power at 1 meter with cover plate: 72 dB.

2. Wiring diagram:



PUSH BUTTON WITH NIGHT ORIENTATION LAMP
N2104.5 or N2204.5 **N2104.X or N2204.X**

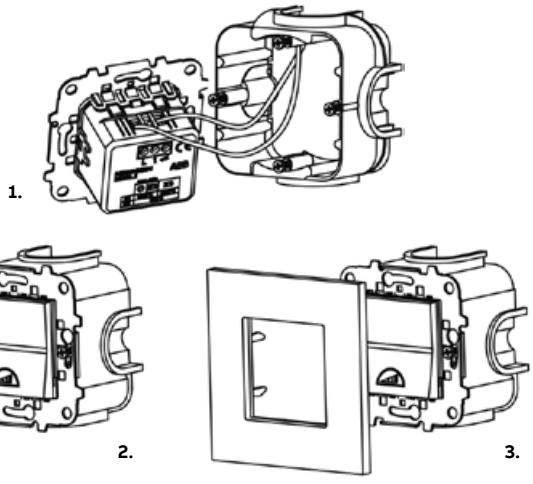
Connection with more than one push-button per melody.



3. Mounting

To install the device follow these steps:

1. Connect the device based on the corresponding wiring scheme.
2. Mount the device on the wall box.
3. Then, position the plate.



4. Operation:

The bell can be connected to 4 push buttons maximum, with a different melody for each one of them.

Important: Disconnect the mains voltage power when installing.
Work on the power supply system may only be performad by specialist staff!
Disconnect main power supply prior to installation and/or disassembly!

Technical details

Zenit

Buzzer

N2119 & N2219

1. Technical data

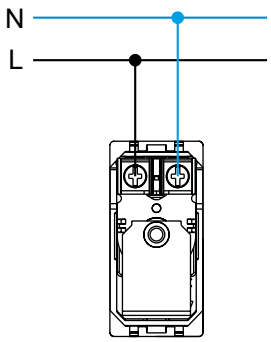
Rated voltage: 127-230 Vac / 50-60 Hz.

Rated power: 8 VA.

Adjustable tone.

Acoustic power at 1 meter with cover plate: 75 dB.

2. Wiring diagram:



LED signaling light

N2180 BL/RJ/VD, N2180.1 BL, N2280 BL & N2280.2 RJ/VD

1. Technical data

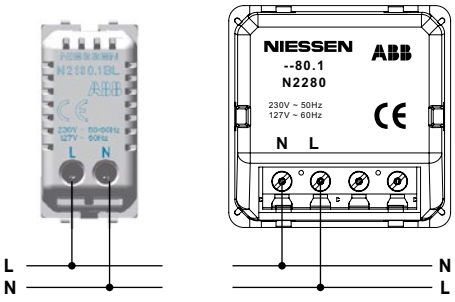
Rated voltage: 127-230 Vac / 50-60 Hz.

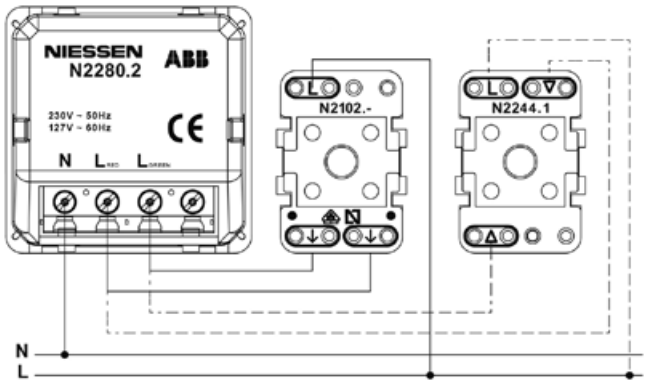
Lamp:
- N2180 BL/RJ/VD / N2180.1 BL / N2280 BL: white LED.
- N2280.2 RJ/VD: red and green LED.

Luminous flux:
- N2180 BL/RJ/VD / N2280 BL / N2280.2 RJ/VD: > 2 lumen at 1 meter.
- N2180.1: < 0,5 lumen at 0,3 meter.

Diffuser:
- N2180 BL / N2180.1 BL / N2280 BL / N2280.2 RJ/VD: white.
- N2180 RJ: red.
- N2180 VD: green.

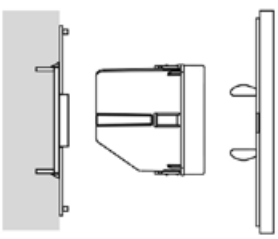
2. Wiring diagram:





Important: Disconnect the mains voltage power when installing.
Work on the power supply system may only be performad by specialist staff!
Disconnect main power supply prior to installation and/or disassembly!

3. Mounting:



Technical details

Zenit

LED beacon light

N2281

1. Technical data

Rated voltage: 230V~, 50-60Hz (optional 127 Vac version available)

Alert signals: it can be selected by the selector:
(a) - blue color light or
(b) - high brightness white light

Autonomy: 2 hours; 1h at maximum illumination and 1h at lower illumination.

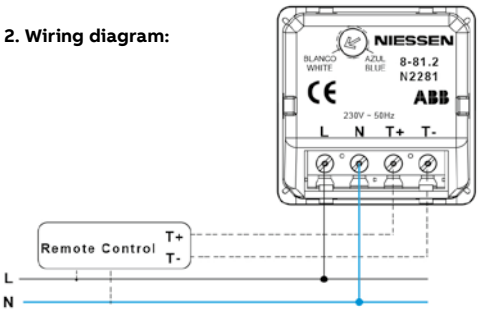
Remote control: supports any standard remote control over voltages.

Standard: UNE-EN60598-2-22 Interference suppression according to norms UNE-21806 y EN-55014.

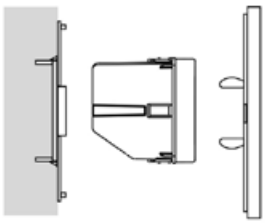
Brightness: more than 2 lumens (lm) at 1 meter distance.
Battery Nickes-Metal Hydride (Ni-MH), with less environmental impact.

Note: Ni-MH batteries have an estimated life of 4 years. Beacon Pilots correct operation should be verified periodically. In the absence of voltage and previously to have been connected to voltage for more than 24 hours, the mechanism should provide a minimum of one hour beacon lighting, if not, replace the mechanism.

2. Wiring diagram:



3. Mounting:



4. Operation:

The stairs beacon pilot is an autonomous signaling device, equipped with an electric energy storage battery, which ensures the correct building pathways signaling lighting in the event of a power outage or when it drops below 70% of its nominal value (230V~).
Once connected to mains voltage the device can remain in the following operation situations:
(1) Alert (signaling)
(2) Operation (beacon)
(3) Standby (remote control)

Alert (signaling)
The device remains on alert (signaling), provided that the value of the power supply exceeds 70% of the power supply nominal voltage (230V~ 50-60Hz).

Emergency operation
It comes into an emergency operating condition when the power supply voltage is less than 70% of rated voltage (230V~ +/-10%). The device is illuminated with high brightness white color.
Note: The time necessary to recharge the device batteries is 24 hours.

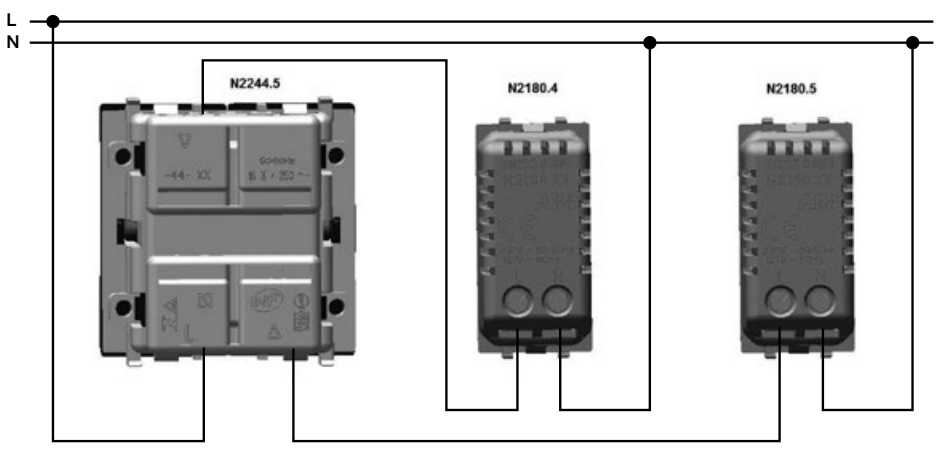
Standby (remote control)
Situation in which the device remains off, even when the power supply voltage is interrupted. This action is achieved by using a remote control connected to the equipment, as shown in figure “Device connection”.
This way you can select certain number of appliances, from the total installed drivers, to remain off in a power failure, thereby reserving the batteries charge in case of a possible need for further use if the power outage is prolonged.
This is achieved by acting on the remote control that generates a continuous control signal or low voltage pulses, which acts on the pilot/s by placing it/them at standby or running again (beacon), as desired.
When achieving this type of installation, make sure of the correct connection of the different drivers.

Select the color of the device signaling light in alert situation (signaling).
No need to disconnect the supply voltage of the device to select the alert light through the potentiometer. Although the remote control inputs were connected, these should not be active at the time of selecting the alert light through the potentiometer.

Important: Disconnect the mains voltage power when installing. Work on the power supply system may only be performad by specialist staff! Disconnect main power supply prior to installation and/or disassembly!

Make Up Room / Do Not Disturb system

N2180.4, N2180.5 & N2244.5



Technical details
Zenit

Zenit elastic claws

Mounting the claws on the metal mounting plate

The elastic claws are inserted into the metal support of the mechanisms. For this, there is a guide where at the end of the path the claws are clipped and are perfectly secured, making a block with the mounting plate.

Fig. 1

Once the claws are assembled, place the screwdriver in the mounting plate to level it and mount it correctly in the box.

Fig. 2

Fig. 3

The assembly is pressed into the housing.

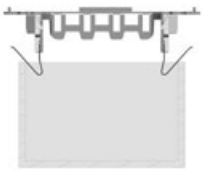


Fig. 4

The claws, when interconnected with the inner part of the box, flex by introducing the whole set into the box.

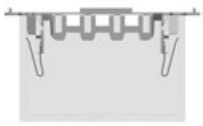


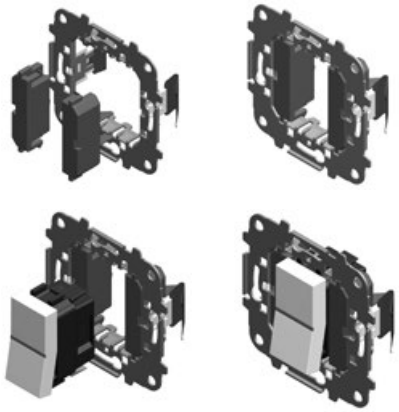
Fig. 5

Once the support is carried to the top of the box, the claws press against the inner walls of the box holding the support so that it is fixed to be able to mount the mechanisms.

The system is effectively fixed without the need for any additional elements. It supports the stresses to which the elements inserted in the ring can be subjected, in their habitual use.
(insertion of plugs, rocker pressing, etc.)

Insertion of a 1-module mechanism in a mountin plate with elastic claws.
1- Insert the additional parts (elastic claw insert ref. N2071.8).
2- Insert the 1-module mechanism into the metal bracket.

Fig. 6



Removing the mounting plate and claws from the box

In order to be able to disassemble the entire set, simply insert a tool (screwdriver) and press on each of the claws until they are released from the mechanism support, they fall into the inside of the box and it is now possible to remove all the system. To reassemble it you have to restart the whole process explained before.

Fig. 7

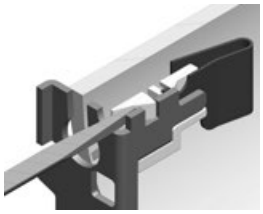


Fig. 8

Technical details

Zenit

FM stereo receiver with alarm module - 9368

1. Technical data

Rated voltage:
- 9368: 230 V~; ±15%; 50-60 Hz
- 9368.7: 127 V~; ±15%; 50-60 Hz

Max. consumption: 100 mA

Stand-by consumption ref. 9368 and 9368.7 (*): 0,2 W.

Stand-by consumption ref. (9368 or 9368.7) + 9368.3 (*): 0,5 W.
(*) With the display illumination at minimum.

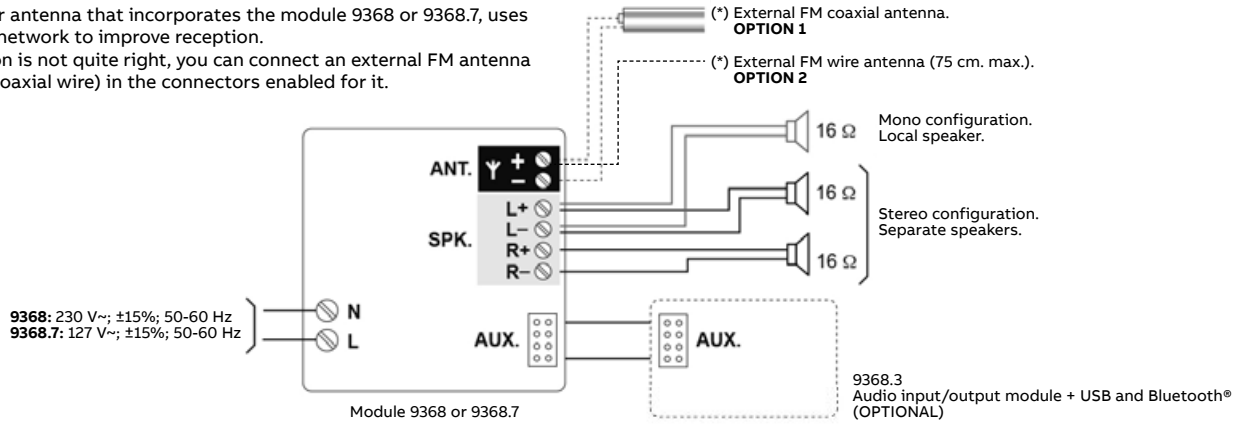
Maximum output power: 2+2 W; <1% distorsion (16 W)

Speaker impedance: 16 W (2+2 W audio)

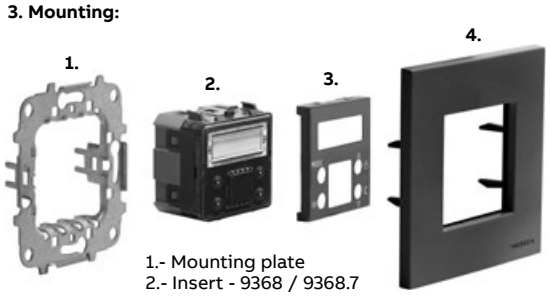
2. Wiring diagram:

(*) FM RECEPTION

The FM indoor antenna that incorporates the module 9368 or 9368.7, uses the electrical network to improve reception.
If the reception is not quite right, you can connect an external FM antenna (thin wire or coaxial wire) in the connectors enabled for it.



3. Mounting:



1.- Mounting plate
2.- Insert - 9368 / 9368.7
3.- Cover plate - N2268
4.- Frame

Auxiliary module – 9368.3

1. Technical data

Power supply through AUX.: 9 V

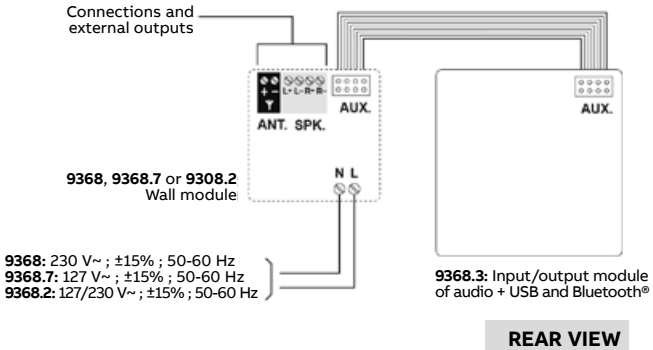
Maximum consumption: 175 ~ 200 mA

Consumption stand-by: 0.4 W

Headphones impedance: 16 ~ 600 Ω (25 + 25 mW audio phones)

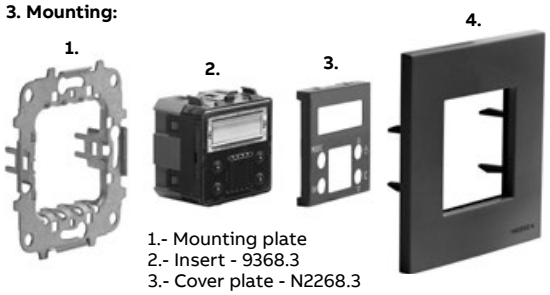
Bluetooth®: Bluetooth® v2.1 2.4GHz IEEE 802.15.1
Maximum reach from the module 9368.3 to user's Bluetooth® device: 10 m.

2. Wiring diagram:

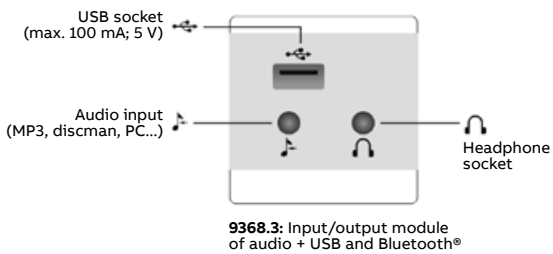


REAR VIEW

3. Mounting:



1.- Mounting plate
2.- Insert - 9368.3
3.- Cover plate - N2268.3
4.- Frame



FRONT VIEW

Technical details

Zenit

Radio & Bluetooth multiroom module + Remote control module

9368.1 & 9368.2

1. Technical Data

Power supply:
230 V~ / 127 V~; ±15%; 50-60 Hz

Bluetooth®:
Bluetooth® v2.1 2.4GHz IEEE 802.15.1
Maximum reach from the ceiling module 9368.1 to user's Bluetooth® device: 10 m.

Maximum power consumption:
200 mA

Consumption stand-by:
0.3 W

Communication data:
ZigBee 2.4GHz IEEE 802.15.4

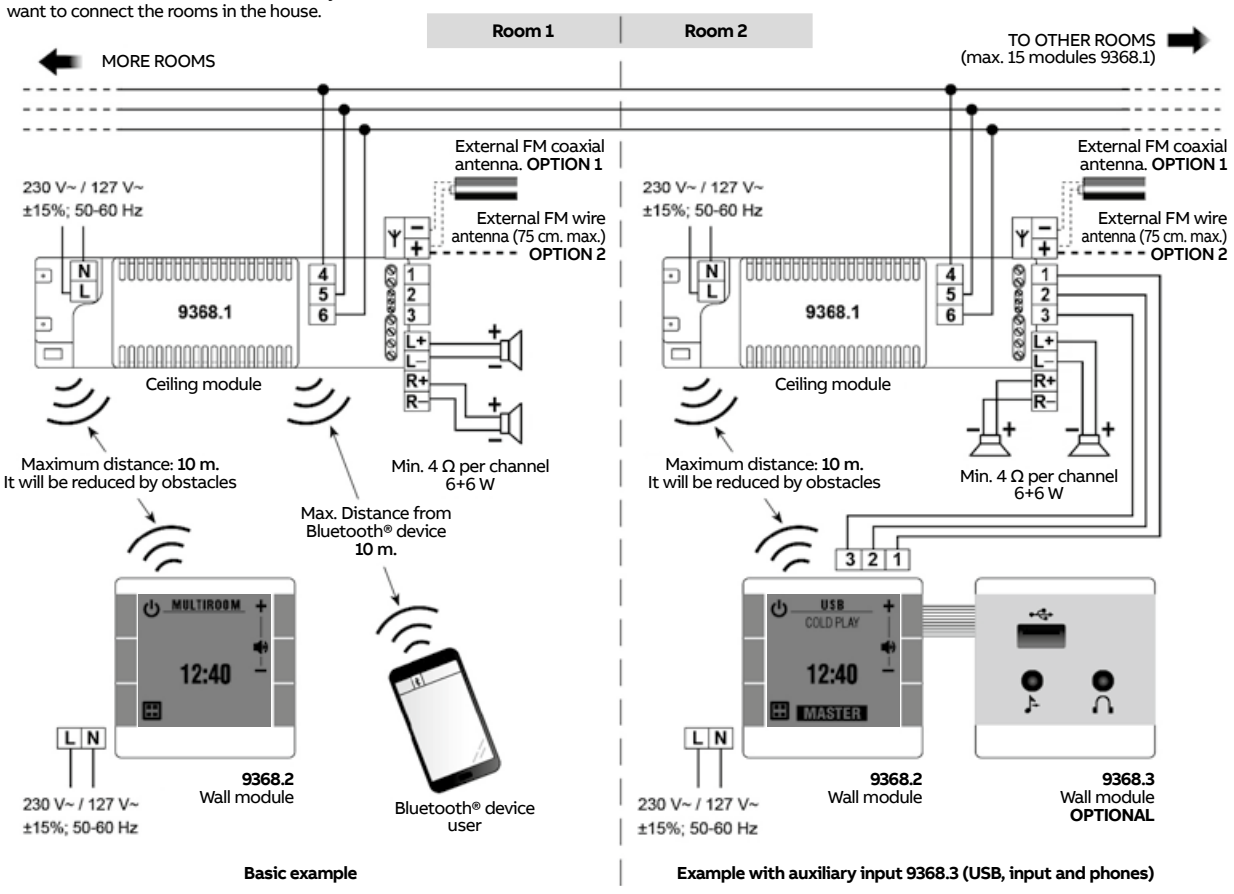
Antenna impedance:
75 Ω

Maximum power headphone output
6+6 W; <1% distortion (4 Ω)

Minimum impedance of headphones:
4 Ω (6+6 W audio)

2. Wiring diagram:

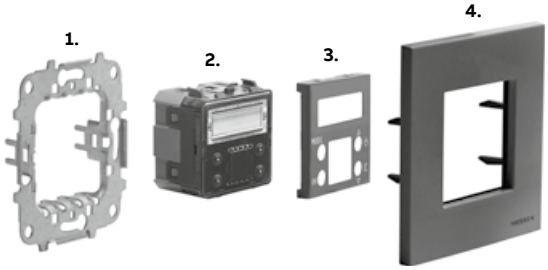
BUS MULTIROOM is only necessary if there is more than one room in the house and/or you want to connect the rooms in the house.



Basic example **Example with auxiliary input 9368.3 (USB, input and phones)**

NOTE: Because these devices are radio frequency and to avoid interference, you should not install modules of the same reference or any other RF equipment that could interfere less than 1 m. away. It should be noted that any obstacle between the devices, can significantly reduce the distance range between them.

3. Mounting:



1. Mounting plate
2. Insert - 9368 / 9368.7
3. Cover plate - N2268
4. Frame

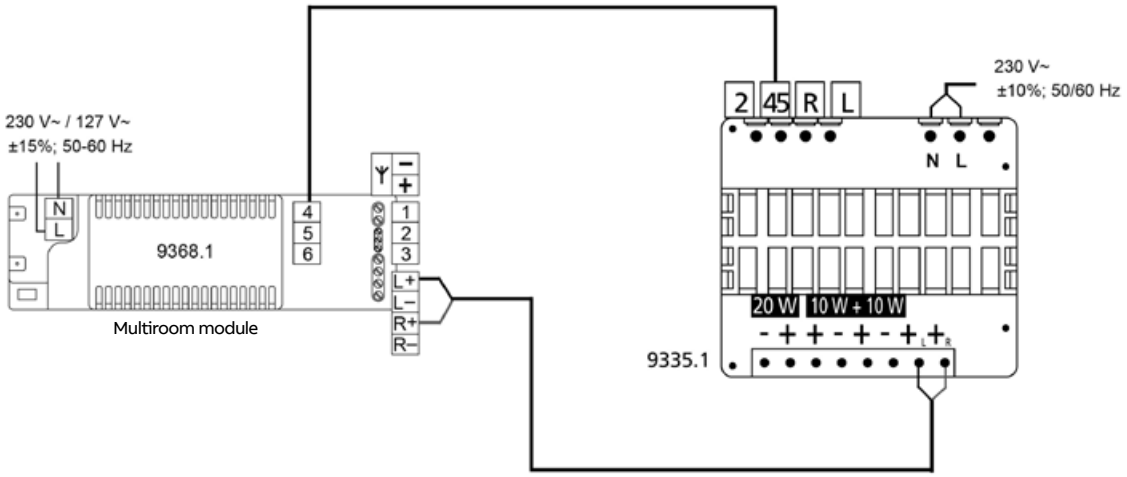
Technical details

Zenit

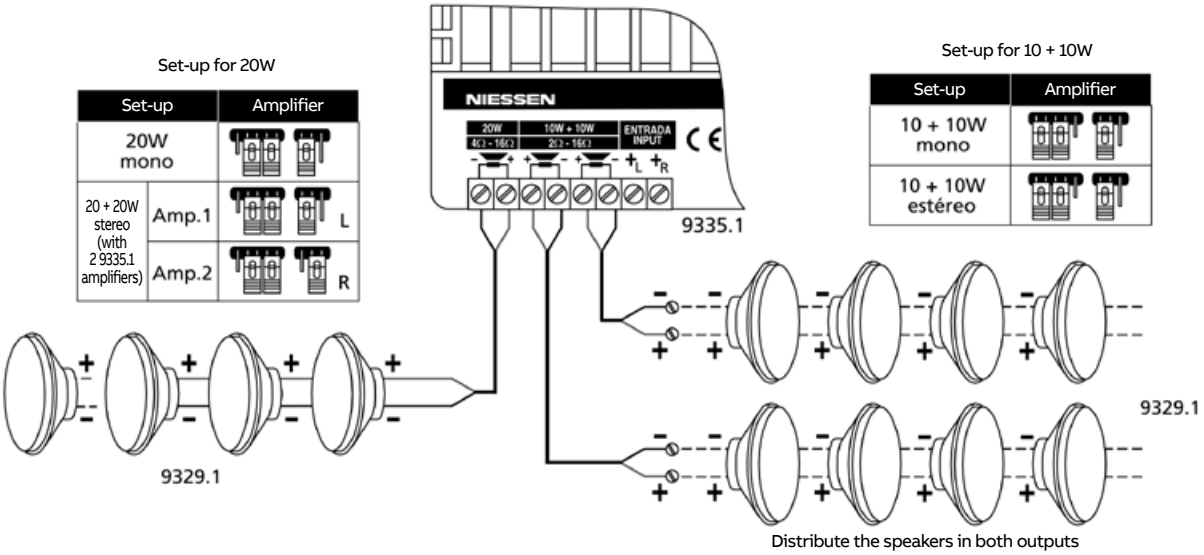
Sound amplifier - Connection to multiroom module

9335.1 - 9368.1

Wiring diagram of 9368.1 module to 9335.1 sound amplifier



Wiring diagram for 9329.1 loudspeakers to 9335.1 sound amplifier



Power per speaker	
No. of speakers	9329.1 16Ω
3	5.5W
4	5W

Power per speaker			
No. of speakers	Power per speaker 4Ω	8Ω	9329.1 16Ω
2	7W	4W	2W
4	5W	3.5W	2W
6 / 8	Þ	2.5W	1.7W

Technical details

Zenit

Bluetooth sound module with amplifier

9368.4

1. Technical Data

Power supply:
230 V~ / 127 V~; ±15%; 50-60 Hz

Bluetooth®:
Bluetooth® v2.1 2.4GHz IEEE 802.15.1
Maximum reach from the ceiling module 9368.1 to user's Bluetooth® device: 10 m.

3 audio inputs:
Bluetooth, AUX (front), TV (rear)

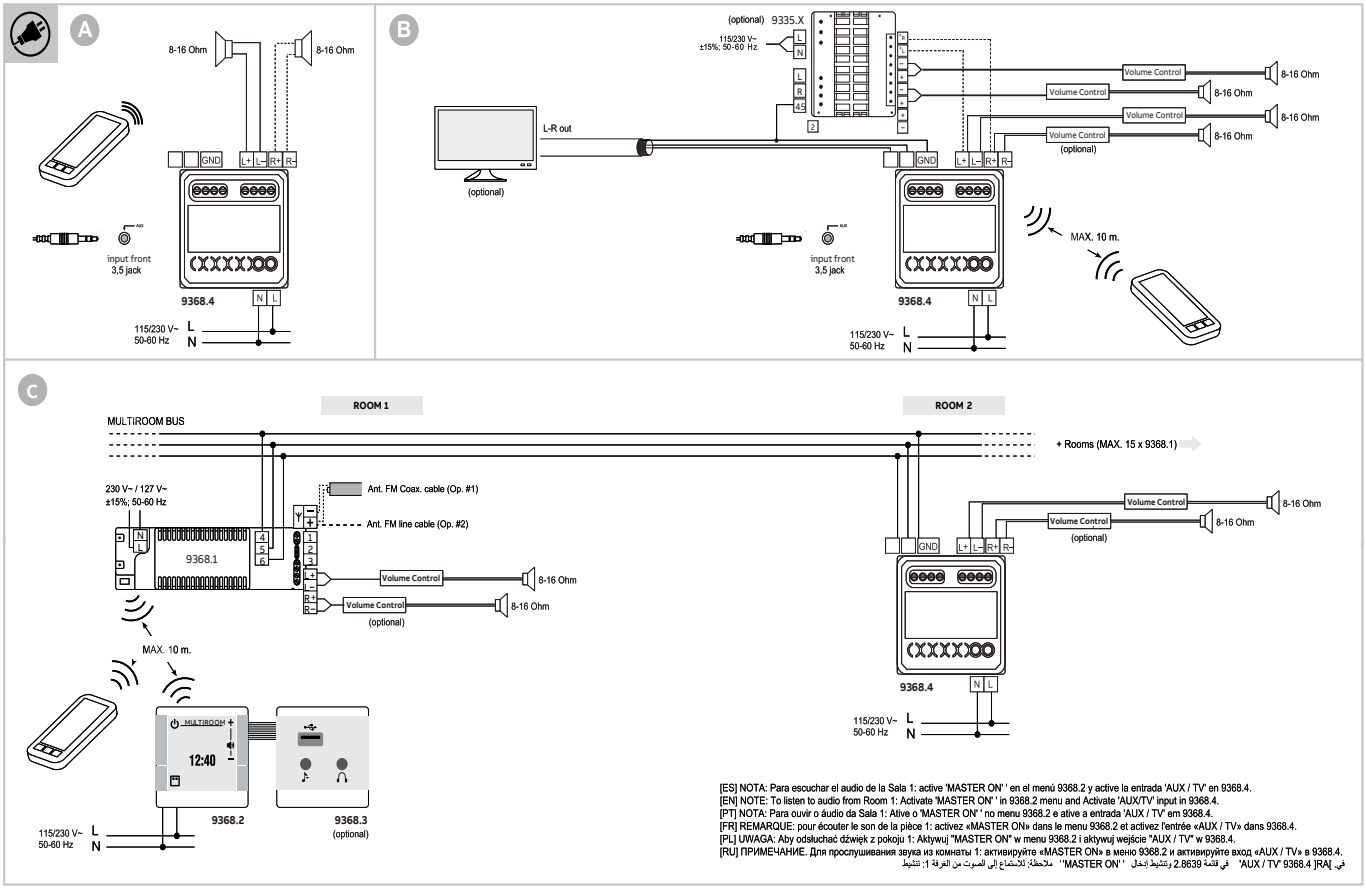
Maximum power consumption: 7W
Consumption stand-by: 0.2 W
Min input signal level AUX / TV: 500 mV RMS
Input impedance: 10 kOhm

Amplifier power:
2 + 2 W <1% distorsion (16 Ω)

Speaker impedance:
8 - 16 Ohm

2. Connection

[A] Basic: input from jack connector (front) or via Bluetooth®.
Output: amplified signal via R-L terminals (rear).
[B] Complete: input from jack connector (front), via Bluetooth® or rear terminals (LIN-RIN) to
connect TV audio.
Output: amplified signal via R-L terminals (rear) to fed speakers (min. impedance: 8 - 16 Ohm) or external amplifier (ref. 9335.X) for higher power output.



Technical details

Zenit

Bluetooth sound module with amplifier

9368.4

3. Set-up
Make sure power supply is disconnected during setup. Connect all wires to rear terminals according to diagrams. Secure mechanism into flush-mounted box using the screws. Connect main power supply.

Note:
Avoid installing the module into encapsulated metal boxes to prevent Bluetooth® connectivity issues.

4. Control Elements
[1] ON / OFF
[2] Bluetooth® mode selection
[3] Add a new Bluetooth® device
[4] Volume +/-
[5] Analog audio mode: rear terminals (TV) or front jack (AUX)

5. Status LED

Bluetooth®	
Blue (still)	Connected to Bluetooth® device
Blue (flashing quickly)	• No stored devices • Ready to sync to new devices
Blue (flashing slowly)	Trying to sync with stored device
AUX / TV	
Yellow	Connected to jack input (front)
Green	Connected to TV input (rear)

6. Bluetooth® mode

Note:
Activate the Bluetooth® connection in your mobile device to enable BT mode.

I. First time sync (new installation/reset)

1. Press [1] to switch ON the BT module
   – The quickly flashing blue LED will indicate that the BT module is ready to sync with new device. If blue LED is notflashing, press [2] to activate BT mode.

2. Connect your mobile device to the BT module
– Browse your mobile device to the Bluetooth settings.
  – Depending on the device, a list of BT devices will be displayed automatically. Alternatively select „search for BT devices“ function.
  – Select „ABB-BTR-XXXX“ to sync devices.

– This sync process must be initiated from the mobile device / computer after the blue LED is flashing quickly.

3. Once the blue LED remains permanently ON, you may play music.
  – The BT module will play the audio stream from your mobile.

II. Selecting previously stored devices
1. Press [1] to switch ON the BT module
  – The BT module will try to connect to previously stored devices (LED flashing slowly). If the last used device cannot be found, the module will skip to the previous device in the history list.
  – When a device is found, the devices will connect automatically and the LED will remain still.
2. Once the blue LED remains permanently ON, you may play music.
  – The BT module will play the audio stream from your mobile.

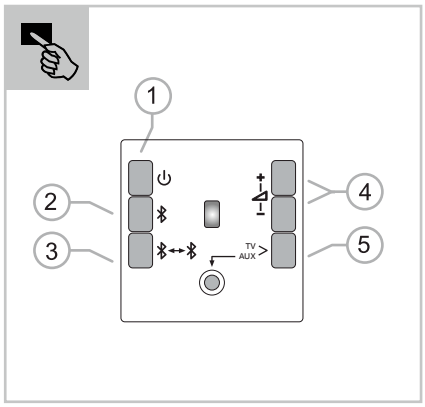
III. Adding new devices
1. Press button [3] for at least 1 second
  – The blue LED will turn to quick flashing
2. Connect to the new device following chapter „I. First time sync (new installation/reset)“
  – The BT module can store up to 8 devices. Once the list is full any new device will overwrite the device from the list which has been used the least.

Note:
To empty the device list you may push button [3] for at least 6 seconds.

Bluetooth® mode remarks

- Depending on the model, the loudspeakers on the multimedia device for playing music have been deactivated while it is connected to the BT module.
- BT module volume is independent to that from the mobile /computer.
  – It is recommended to keep the volume high in the mobile / computer to improve the usability of the BT module.
- Automatic connection
  – Only previously connected devices can connect to the BT module automatically.

7. TV/AUX mode
1. Press [5] to siwtch to TV/AUX mode.
2. Press [5] again to toggle between front and rear audio signals
– Front input (jack), yellow LED
– Rear input (TV LIN-RIN), green LED



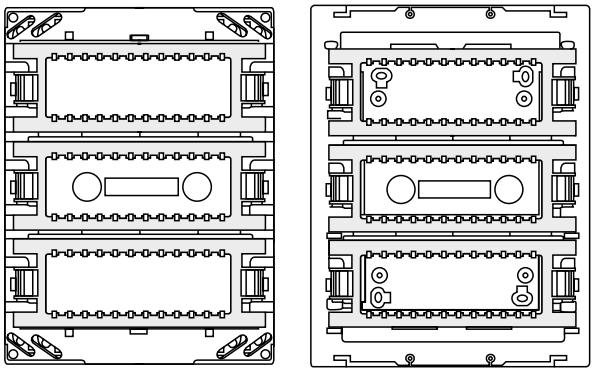
8. Troubleshooting
- The sound unit does not turn on.
  – Check if the sound unit is powered. A voltage between 115 and 230 V~ 50/60Hz must be applied to L and N terminals.
- The sound unit turns on, but there is no sound.
  – Check that the speakers are properly connected to L+ / L and R+ / R outputs. Verify the absence of shortcircuits and check that line impedance is above 11 Ohms. Make sure that a Bluetooth® device is connected, or a signal is present at TV or AUX inputs. Set volume level to maximum.
- The blue LED flashes slowly, but the unit does not connect to a previously paired device.
  – Check that your device has Bluetooth connectivity enabled. Press twice the ON/OFF key [1] to force a new search through the paired device list [2]. To force a pairing process, press [3] key.
- The unit is at TV or AUX mode, and there is no sound.
  – Verify that an analog signal with a level around 250-500mV is present at TV (rear terminals) or AUX (front 3.5 mm jack) inputs.

Technical details

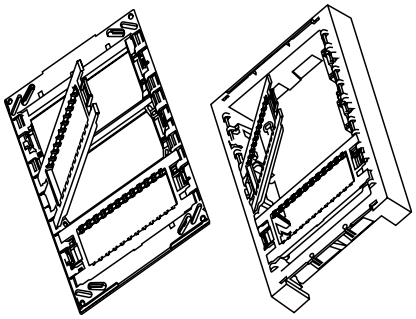
Zenit

Surface and flush-mounted Centralizations

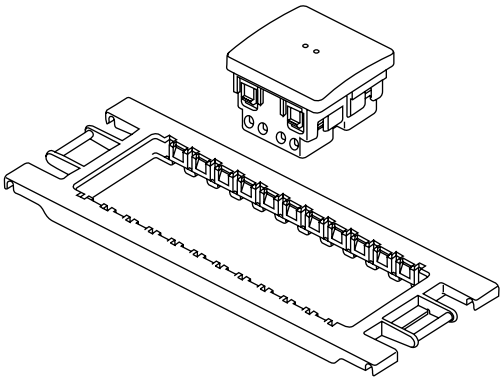
1. For the mounting of the surface and flush mounting boxes, please check the diagrams for the Workstations in the next page.



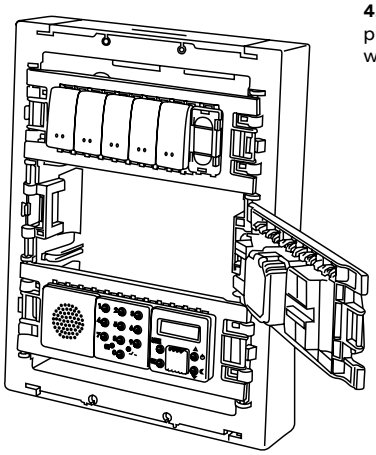
2. Both in the surface solution and in the flush solution, there are metal mounting plates where the mechanisms are inserted.



3. The mechanisms are inserted in the mounting plate by pressure.

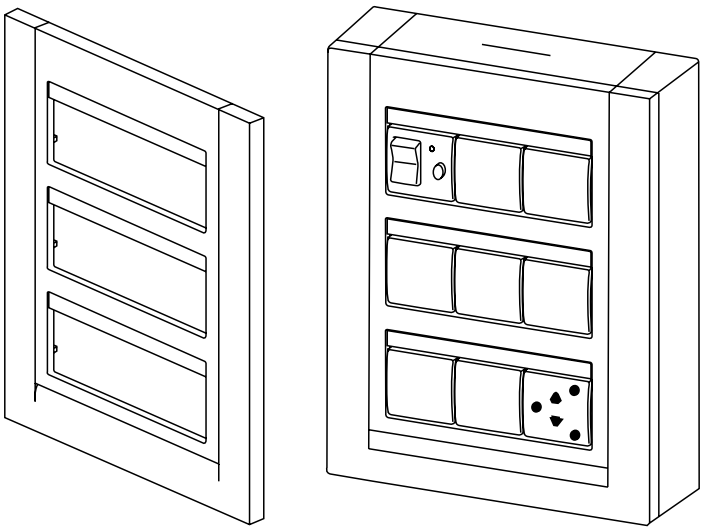


4. Once inserted, proceed with the wiring.



5. The mounting plate is closed by clipping.

6. Once all the devices are wired and the mounting plates correctly placed, the frame is mounted by clipping it to the box.

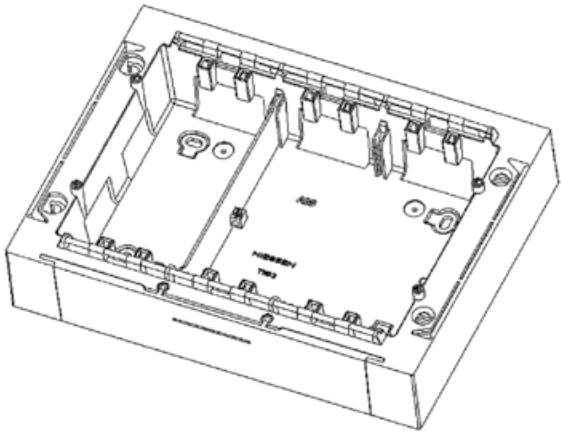


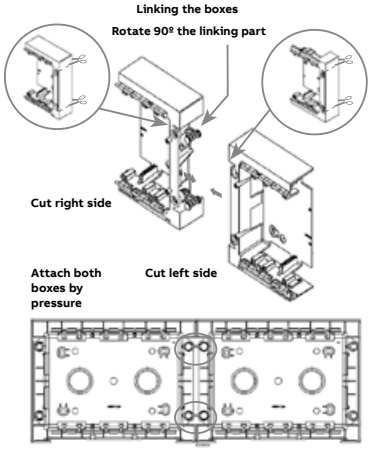
Technical details

Zenit

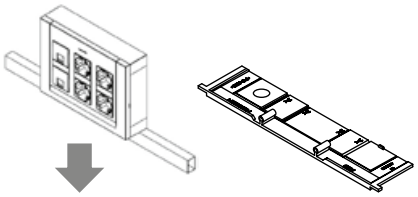
Installation of the surface mounting boxes for Workstations – T1193, T1194, T1195

Installation of the box





1



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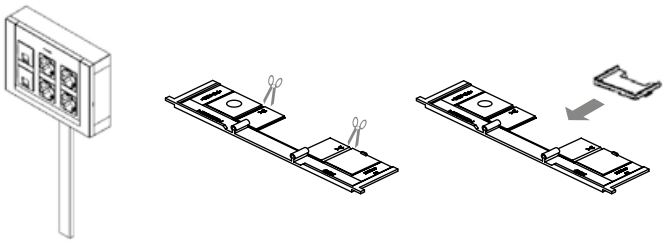

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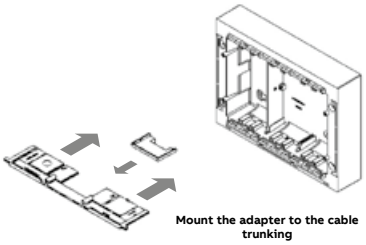

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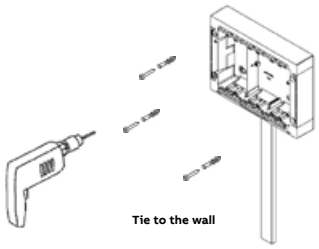

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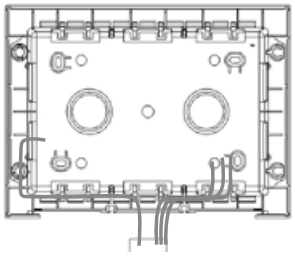
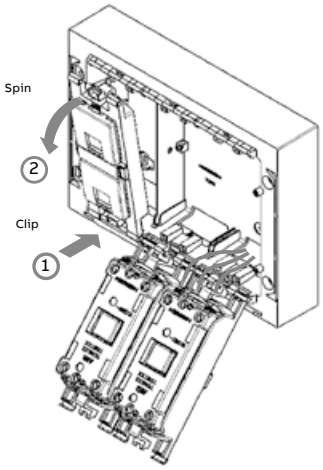


Installation of mechanisms

6



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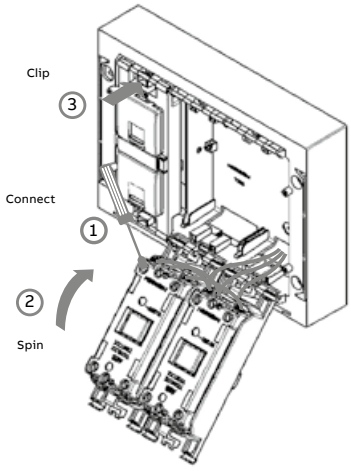
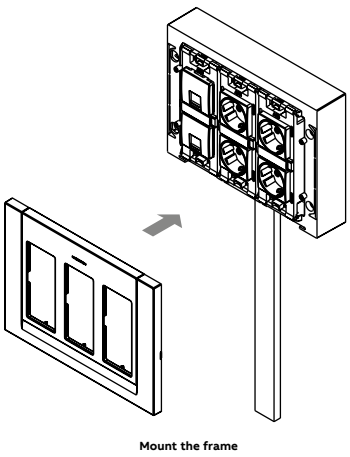


8

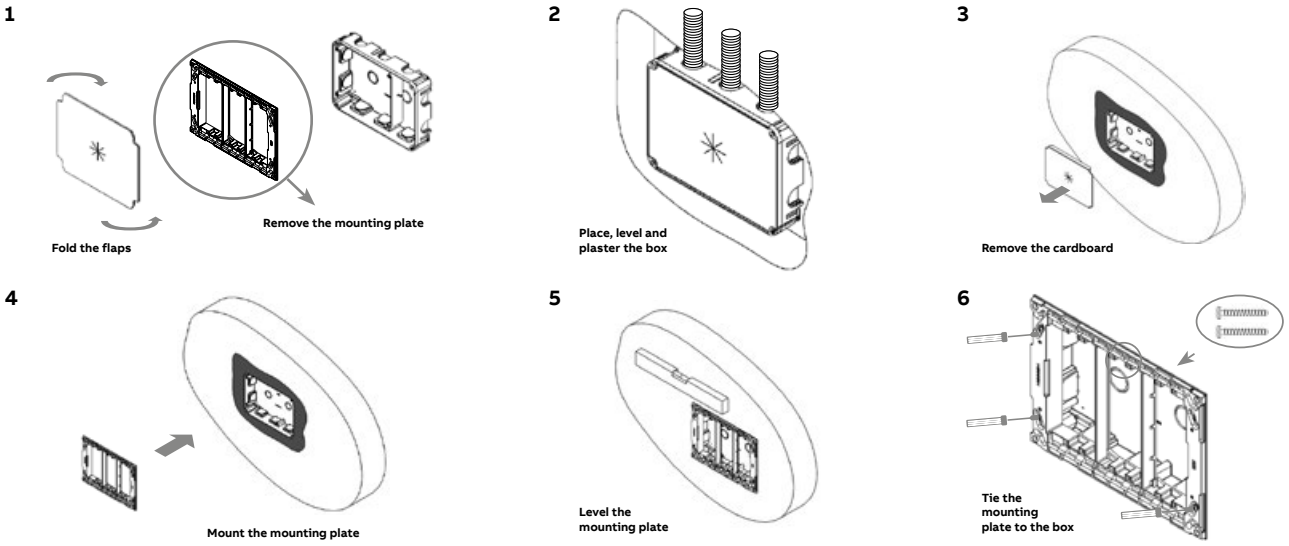


Technical details

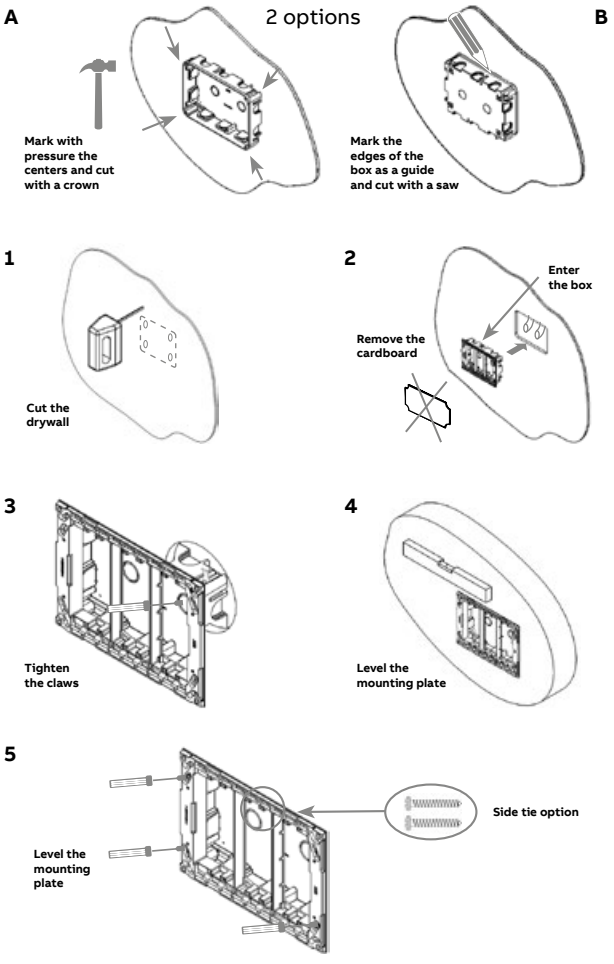
Zenit

Installation of the flush mounting boxes for Workstations - T1093, T1094

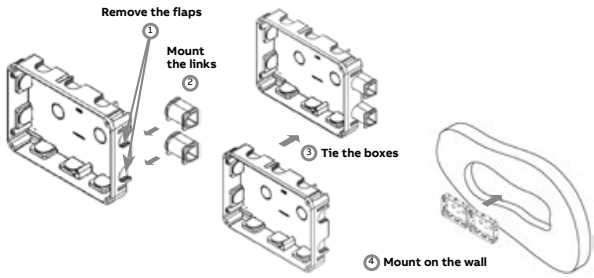
Installation in cement and brick walls



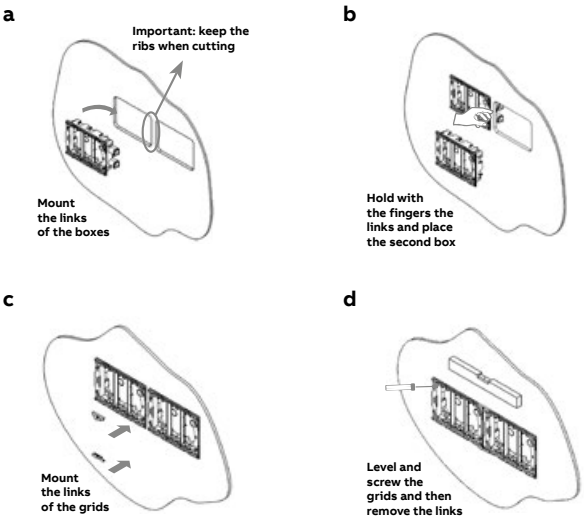
Installation in drywall / hollow partition



Linking the boxes in cement / brick walls



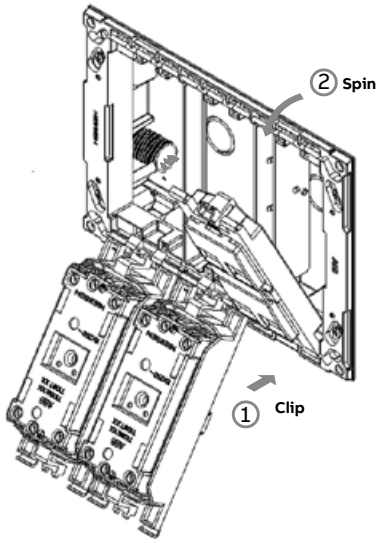
Linking the boxes in drywall / hollow partition



Technical details
Zenit

Installation of inserts in flush mounting Workstations

1



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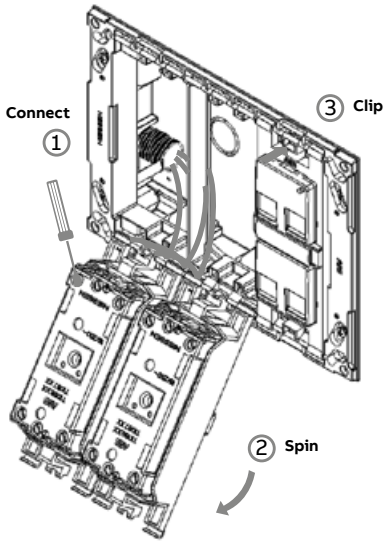
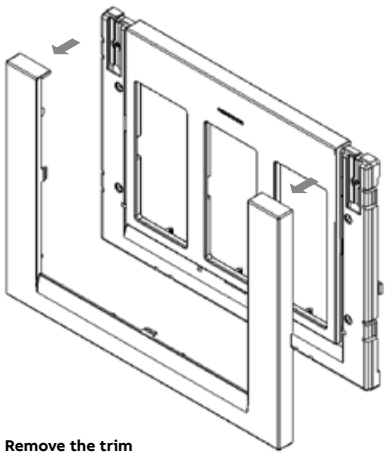


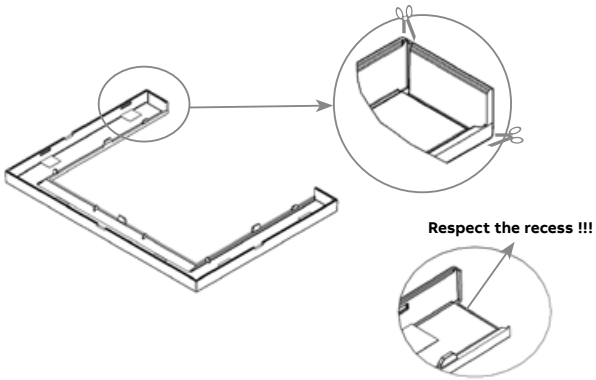
Installation of the foldable lid in the Workstations

1



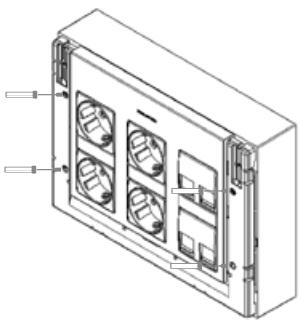
Remove the trim

2



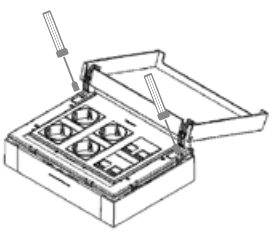
Cut the ends of the trim

3



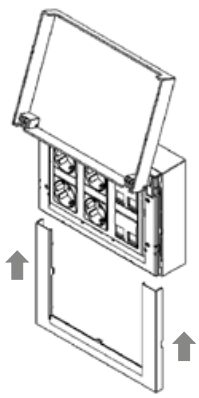
Tie the structural plate

4



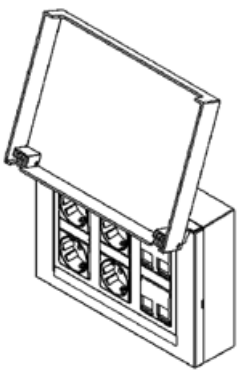
Tie the hinges

5



Mount the trim

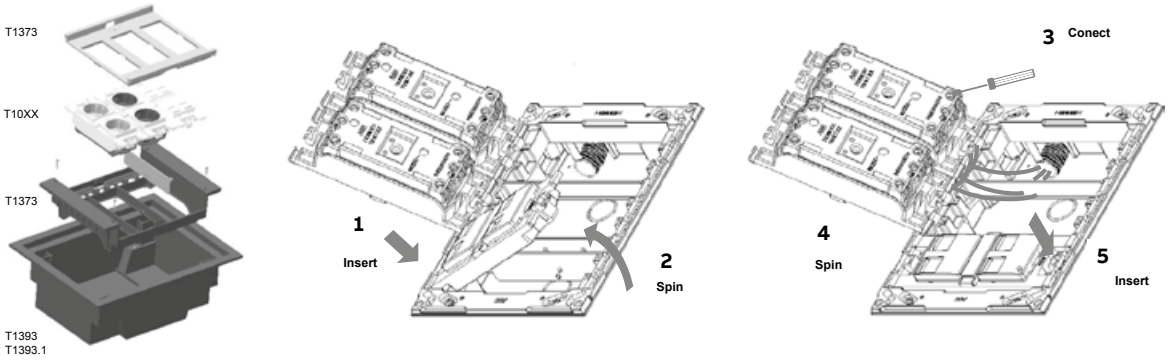
6



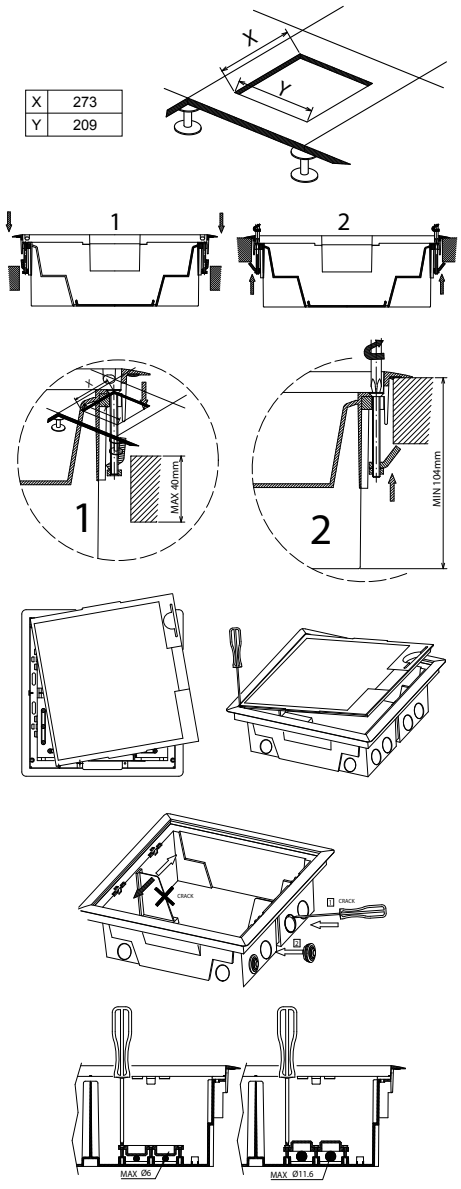
Technical details

Zenit

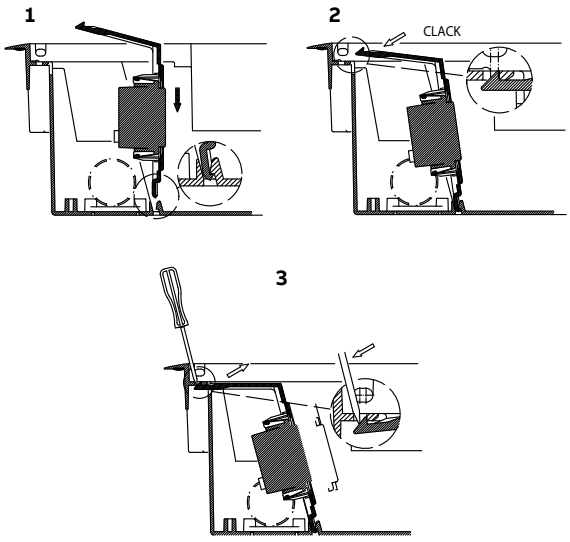
Installation of the floor box
Installation of the frame T1373 and inserts T10XX



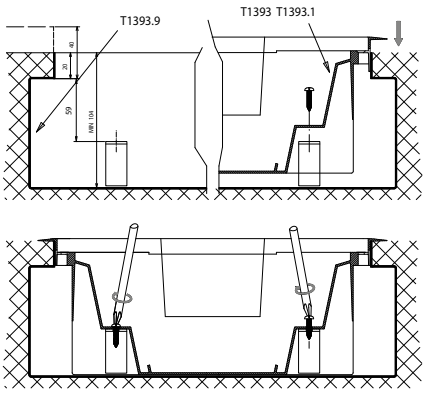
Installation in flush floor



Installation of frame bracket T1393.4



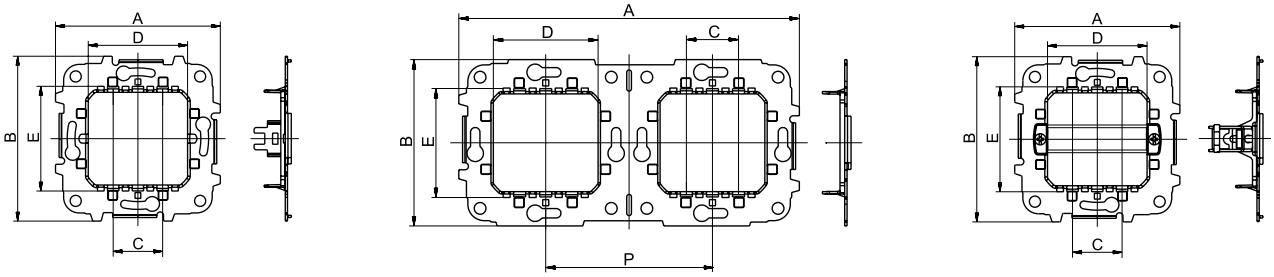
Installation in concrete floor T1393.9

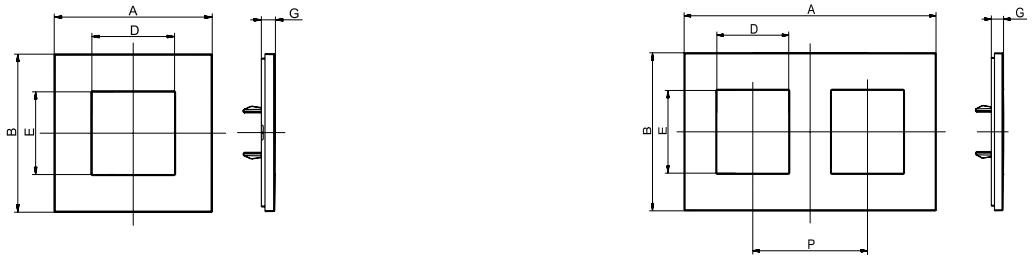


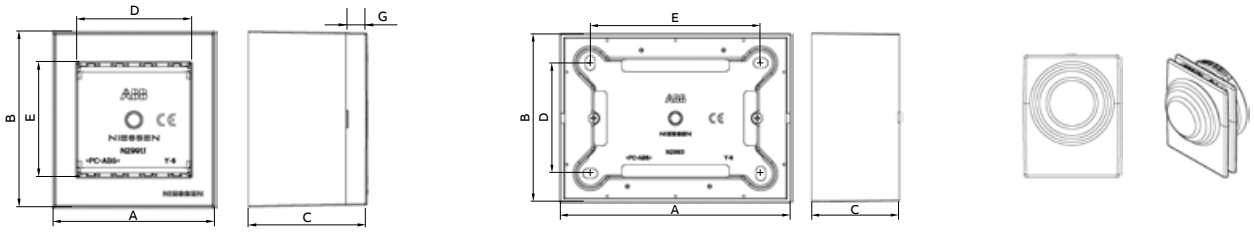
Technical details

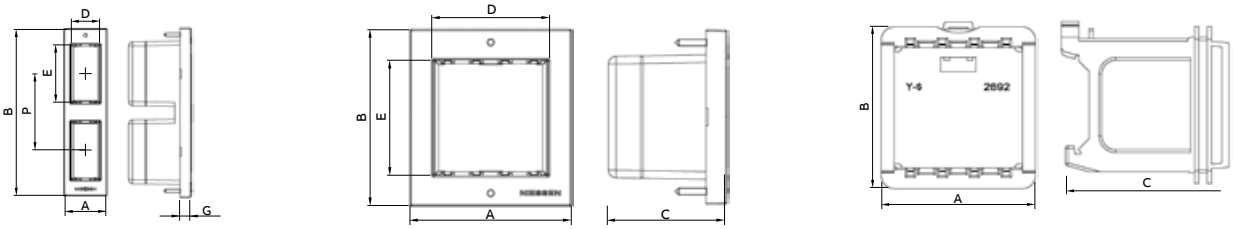
Zenit

Frames









Technical details

Zenit

Frames

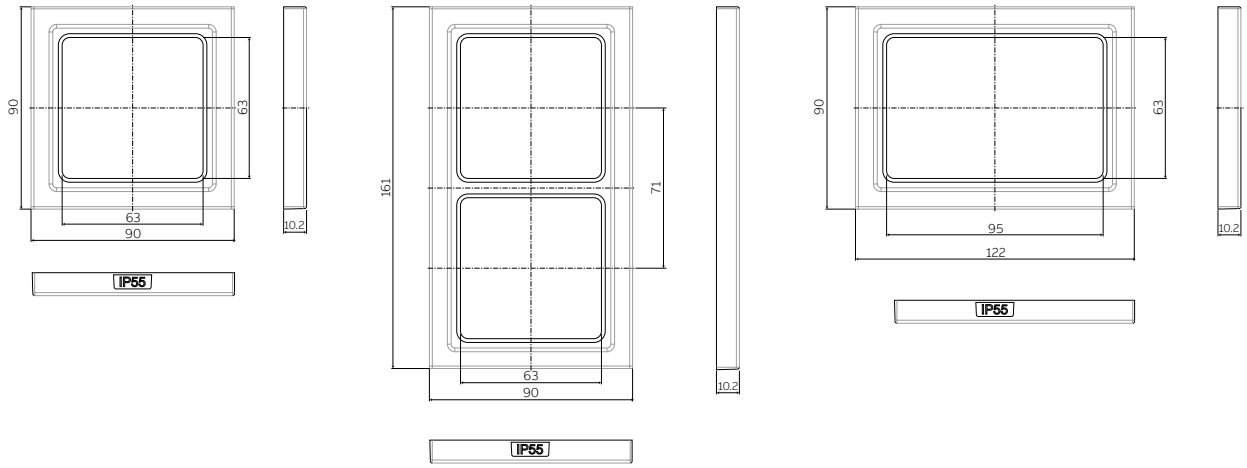
Type	Article No.	A	B	C	D	E	G	P
Frames for square boxes (60mm screw distance)	N2171 1-gang (1M)	85	85	-	22,4	44,6	7,5	-
	N2171.1 1-gang (1M)	85	85	-	22,4	44,6	7,5	-
	N2271 1-gang (2M)	85	85	-	44,6	44,6	7,5	-
	* N2271 1-gang (2M)	90	90	-	44,6	44,6	8	-
	N2271.1 1-gang (2M)	85	85	-	44,6	44,6	7,5	-
	N2272 2-gang (2M)	156	85	-	44,6	44,6	7,5	71
	* N2272 2-gang (2M)	161	90	-	44,6	44,6	8	71
	N2272.1 2-gang (2M)	156	85	-	44,6	44,6	7,5	71
	N2273 3-gang (2M)	227	85	-	44,6	44,6	7,5	71
	* N2273 3-gang (3M)	232	90	-	44,6	44,6	8	71
	N2273.1 3-gang (2M)	227	85	-	44,6	44,6	7,5	71
	N2274 4-gang (2M)	298	85	-	44,6	44,6	7,5	71
	* N2274 4-gang (4M)	303	90	-	44,6	44,6	8	71
	N2274.1 4-gang (2M)	298	85	-	44,6	44,6	7,5	71
	N2275 5-gang (2M)	369	85	-	44,6	44,6	7,5	71
Frames for 3 module boxes (83,5mm screw distance)	N2370.1 Blank	122	90	-	-	-	7,5	-
	N2371.1 1-gang (1M)	122	90	-	22,4	44,6	7,5	-
	N2371.1V 1-gang V (1M)	122	90	-	44,6	22,4	7,5	-
	N2372.1 1-gang (2M)	122	90	-	44,6	44,6	7,5	-
	* N2372.1 1-gang (2M)	122	90	-	44,6	44,6	8	-
	N2372.2 2-gang (1+1M)	122	90	-	22,4	44,6	7,5	-
	N2373.1 1-gang (3M)	122	90	-	66,8	44,6	7,5	-
	* N2373.1 1-gang (3M)	122	90	-	66,8	44,6	8	-
Frames for 4 module boxes (107mm screw distance)	N2374.1 1-gang (4M)	139,2	85	-	89	44,6	7,5	-
	* N2374.1 1-gang (4M)	142	90	-	89	44,6	8	-
Frames for 7 modules boxes (100mm screw distance)	N2777.1 1-gang (7M)	196	85	-	155,6	44,6	7,5	-
Mounting grids	N2271.9 1-gang (2M)	74	74	22,2	44,6	47	-	-
	N2272.9 2-gang (2M)	145	70,8	22,2	44,6	44,6	-	71
	N2271.9G 1-gang (2M)	74	74	22,2	44,6	47	-	-
	N2273.9 3-gang (2M)	216	70,8	22,2	44,6	44,6	-	71
	N2371.9V 1-gang (2M)	102	74	22,2	44,6	44,6	-	-
	N2373.9 1-gang (3M)	102	74	22,2	66,8	44,6	-	-
	N2374.9 1-gang (4M)	124	74	22,2	92	44,6	-	-
	N2673.9 1-gang (3+3M)	102	122	22,2	66,8	44,6	-	-
	N2777.9 1-gang (7M)	194	79	22,2	158	44,6	-	-
Surface mounting boxes	N2991.1 BL	62	68	47	44,6	44,6	8,5	-
	8591 BL	86	86	44,2	58	58	-	-
	8592 BL	157	86	44,2	58	129	-	-
	8593 BL	228	86	44,2	58	200	-	-
	N2993 BL	117	85	44,2	56	87	-	-
	N2994 BL	139,2	85	44,2	56	110,2	-	-
Frames for profiles	N2671	32	68	46,5	22,4	44,6	8,5	-
	N2671.2	32	126	46,5	22,4	44,6	8,5	-
	N2672	62	68	46,5	44,6	44,6	8,5	-
DIN-rail mounting plate	2692 BL	53,5	56	58,5	-	-	-	-

* Noble materials

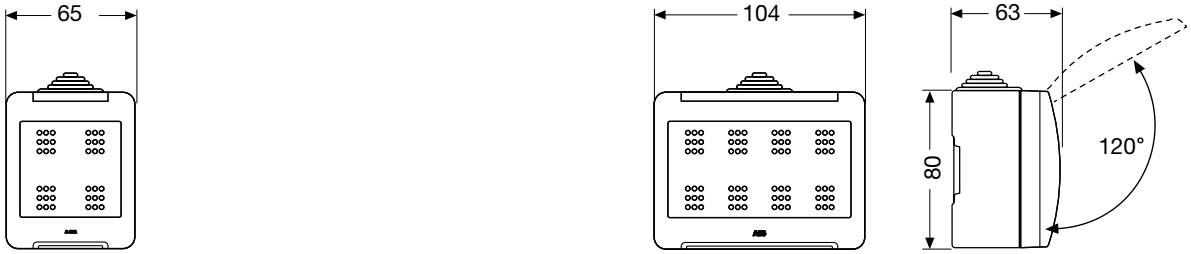
Technical details

Zenit

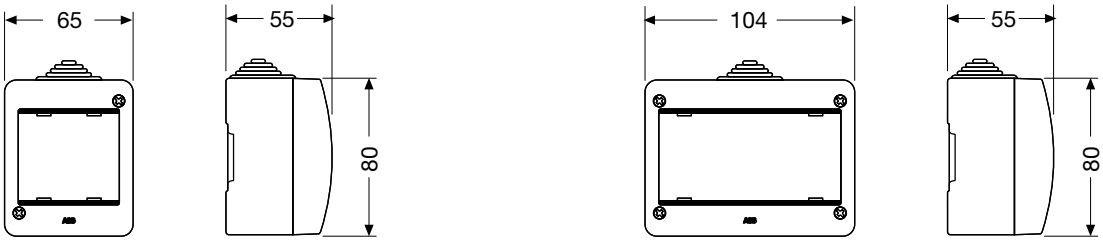
IP55 flush-mounting boxes



IP55 surface mounting boxes



IP40 surface mounting boxes

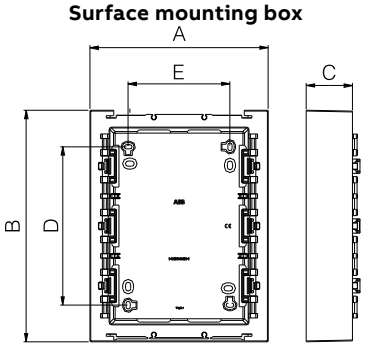


Technical details

Zenit

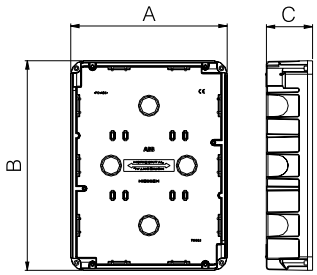
Centralizations

Surface mounting box



Ref.	A	B	C	D	E
T1292	212	204	55	117	121
T1293	212	275	55	188	121
T1294	212	346	55	259	121

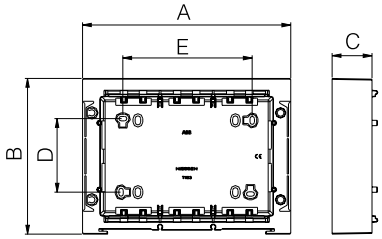
Flush-mounting box



Ref.	A	B	C	D	E
T1092.1	186	178	55	-	-
T1093.1	186	249	55	-	-
T1094.1	186	320	55	-	-

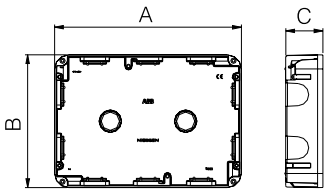
Workstations

Surface mounting box



Ref.	A	B	C	D	E
T1193	235	176	45	83	146
T1194	295	176	45	83	206
T1195	355	176	45	83	266

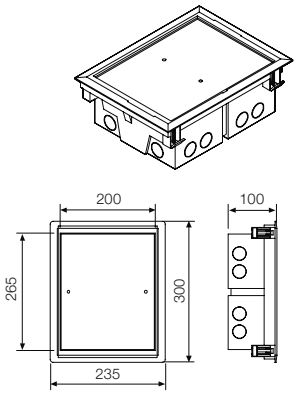
Flush-mounting box



Ref.	A	B	C	D	E
T1093	211	150	42	-	-
T1094	271	150	42	-	-

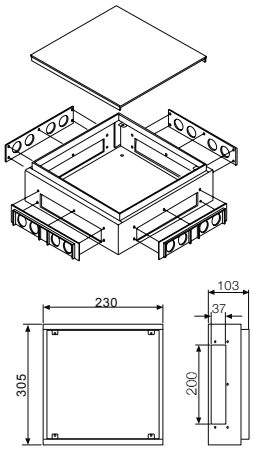
Floor boxes T1393 and T1393.1

Floor box

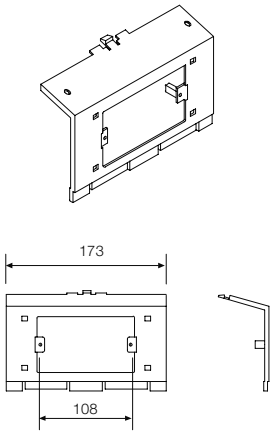


Hollow to be done: 273 x 209

Metallic housing T1393.9



Adapter frame T1371.4



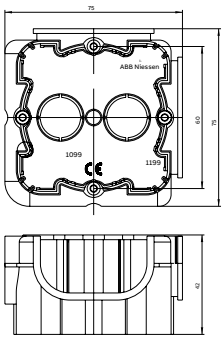
Note: all dimensions in mm.

Technical details

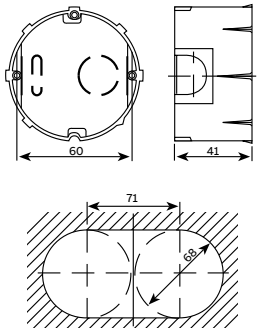
Zenit

Mounting boxes

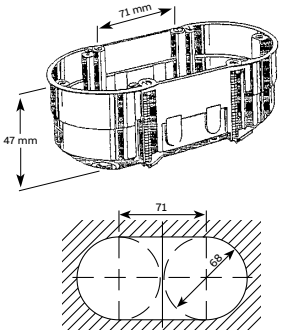
1099/1199



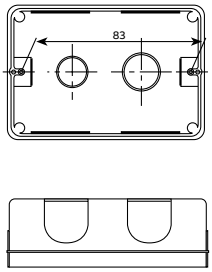
999



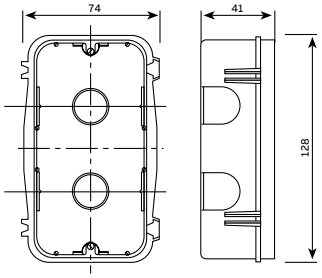
999.2



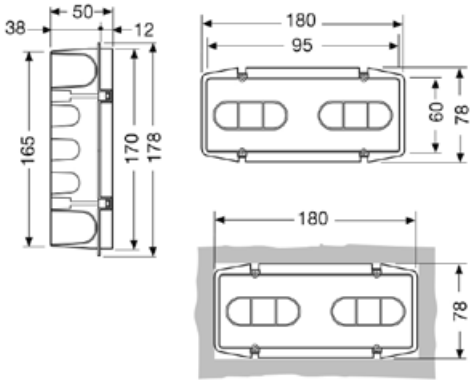
499.3



1499.4



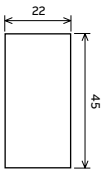
1499.7



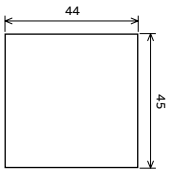
Technical details

Mylos – Overall dimensions

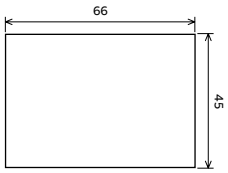
1 module



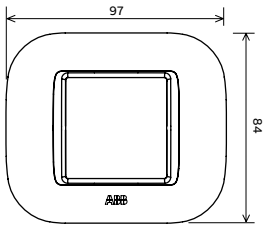
2 modules



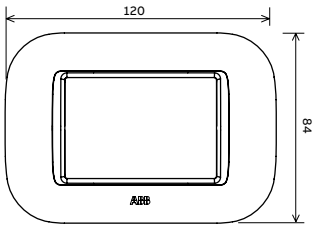
3 modules



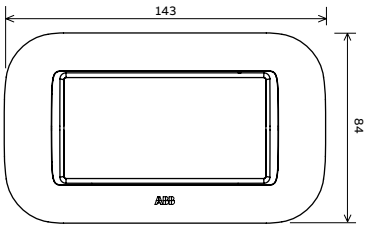
Frames round



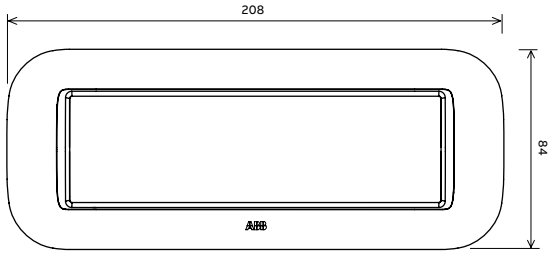
Round 2 modules



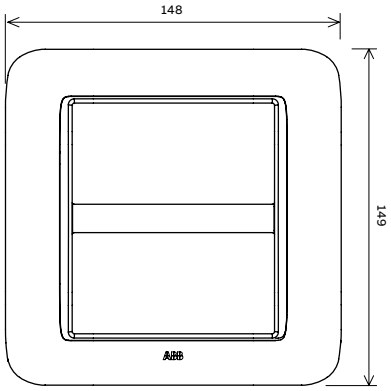
Round 3 modules



Round 4 modules

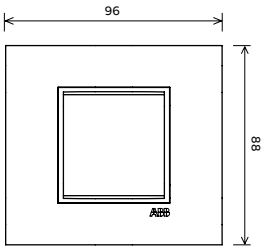


Round 7 modules

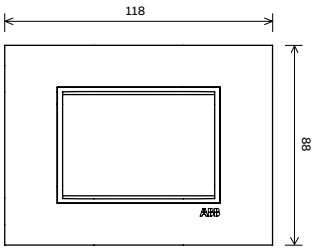


Round 4+4 modules

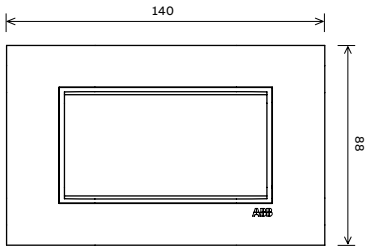
Frames square



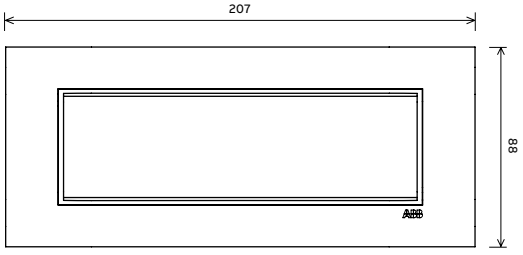
Round 2 modules



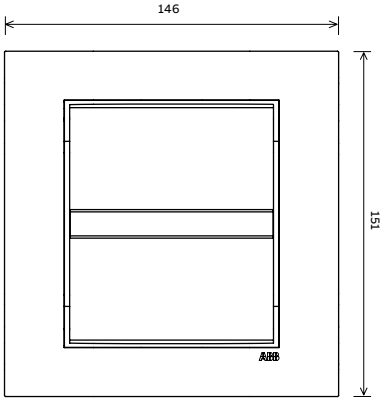
Round 3 modules



Round 4 modules



Round 7 modules



Round 4+4 modules

Technical details

Mylos – Installation solutions

Composition method of switches and mounting grid

Installing and removing switches from the mounting grid

– Frontal installation of the switches on the support
– Modularity of switches: 22 mm

Installation on concrete boxes

No. modules	Screw distance	Recommended box
2 (with claws)	-	00 050
2 (with screws)	60 mm	00 050
3	83.5 mm	1SL006A00
4	108 mm	00 053
7	100 mm	1SL0064A00
4+4	108 mm	Vimar V71318

Note: for further information on ABB boxes for masonry walls please refer to the catalog **1SLC001001D0905** - Insulating Enclosures and Installation Materials (see page 5/66).

Installation on surface mounted boxes

No. modules	Wall box	Recommended box
2	42 096	Use 2M mounting grid and frame
3	41 823	Use 3M mounting grid and frame
3	41 822	Use 3M mounting grid and frame
4	41 830	Use 4M mounting grid and frame

Note: for further information on wall boxes and duct systems please refer to the catalog **1SLC800001D0201** - Plastic and Metal Duct Systems

Technical details

Mylos – Construction details

Conventional switches (screw terminals)

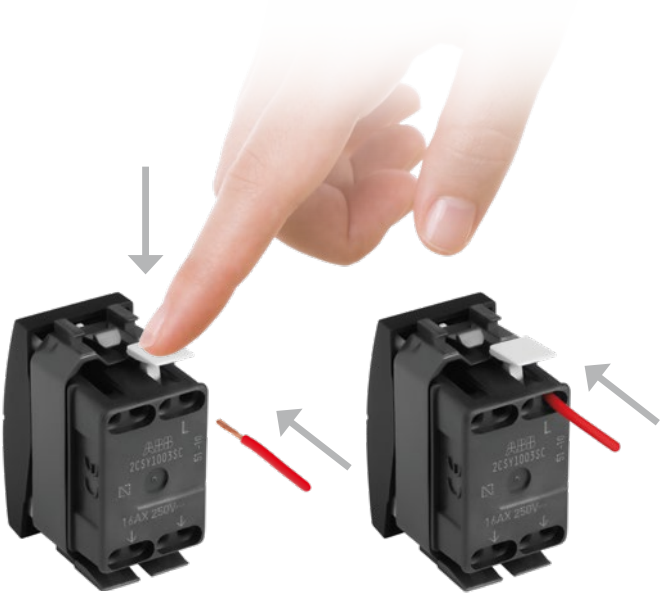
Specifications of screws and terminals

All the contact blocks with conventional terminals of the Mylos wiring accessories' range have open position captive screws with cross and slot head and clamping frame.
PH2 impression.

Screwless switches (spring terminals)

By simply pressing the dedicated buttons you can wire the switch without the need for any tools and with a considerable saving of time.

No additional depth compared to equivalent conventional switches.



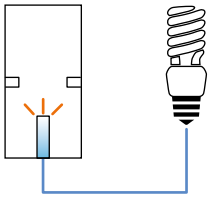
Cleaning and maintenance of the Velvet finish

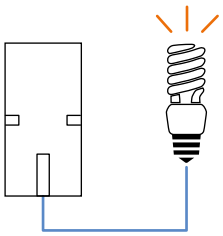
All switches and devices of the Mylos wiring accessories' range have a Velvet finish, also available for the frames, that gives a velvet effect to the touch.
If there is a build-up of dirt or dust, for cleaning you can simply use common liquid or cream detergents (non-abrasive) on a soft cloth.
In the case of dirt, the use of degreasers is also tolerated.
We recommend the use of specific products for cleaning the plastic opaque parts/dashboard. The use of alcohol/bleach/harsh acids can damage the finish and the pad printing.

Technical details

Mylos – Illumination of switches and selection of LED lamps

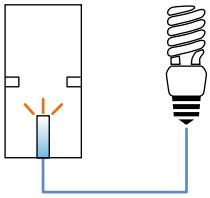
Night-time location signalling



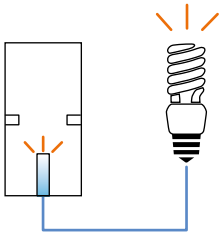


The 2CSY1632MY and 2CSY1633MY LEDs can be added to conventional switches (see page 2/4) for night-time location. The LED electrically connected in parallel with the ON operating mechanism: it is lit when the load is off (OFF command), and it turns off when the load is powered (ON command).

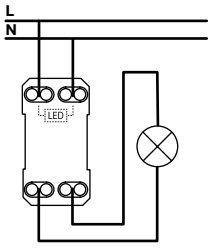
Location signalling (Always ON)



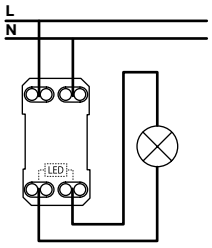
Load functional signalling



Switches with incorporated LED (see page 2/8) have preinstalled 250V~ LEDs and dedicated terminals for wiring.
It is possible to implement any type of functional indication, also with LEDs at different voltages.



Wiring of double-pole switches 2CSY1006MC/S
for Always ON signalling.
The LED is built in.



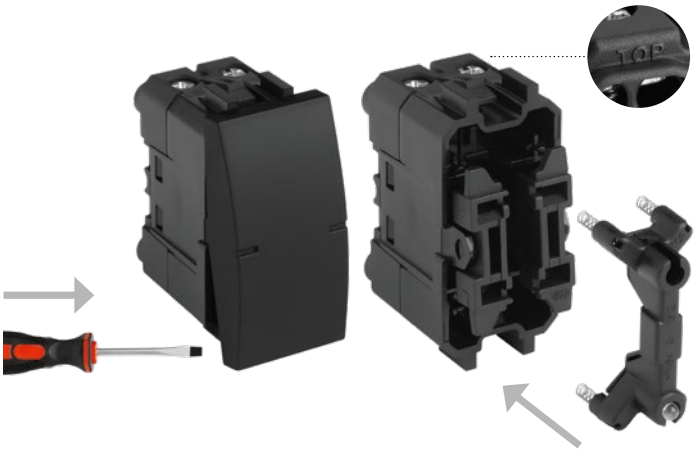
Wiring of double-pole switches 2CSY1006FC/S
for load functional indication.
The LED is built in.

Since the double-pole switches with incorporated LED do not have dedicated terminals for wiring, they have different part codes depending on which type of functional indication needs to be implemented.

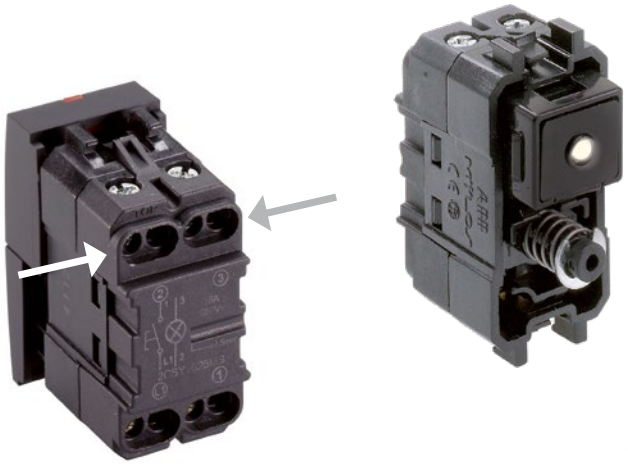
Technical details

Mylos – Illumination of switches and selection of LED lamps

Plug-in LED illumination.
Conventional switches are lit by plug-in LEDs.
There is no need for additional wiring because once the device is fixed in place, it is already ready to light up.
In this way it is possible to implement night-time location signalling in a very easy manner.



Incorporated LED illumination.
Switches with incorporated LEDs provide maximum freedom for wiring the signalling LED through the presence of dedicated terminals.



Technical details

Mylos – Control devices

Switches, two-way switches, intermediate switches, push switches

Area of application

Control (on and off) of ohmic-inductive loads:

– with filament and fluorescent lamps (corrected and uncorrected);
– dedicated circuits for powered equipment (aspirators, range hoods, shutters, blinds, fans, etc..) and controllable outlets.

To eliminate architectural barriers in creating installations, we recommend the use of illuminable switches (Article 4 of Italian Ministerial Decree no. 236 of 14.06.1989).

Technical specifications	
Rated voltage	250V~
Rated current	10A (16A for pushbuttons)
Opening distance of the contacts	> 3 mm
Dielectric strength	> 2000V~

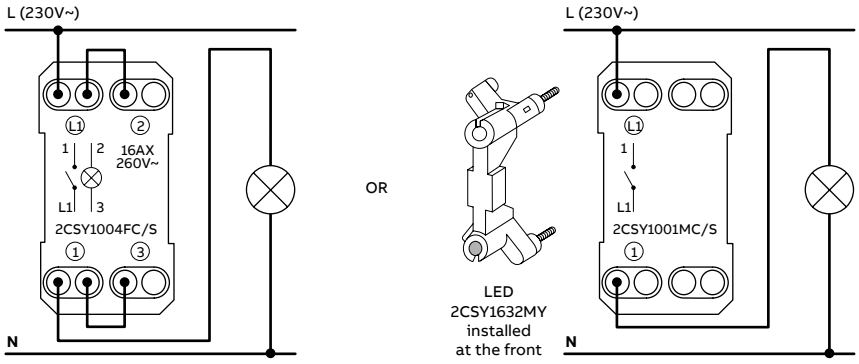
Reference standards

LV Directive, EN 60669-1.

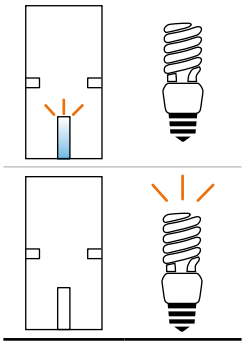
Wiring diagrams

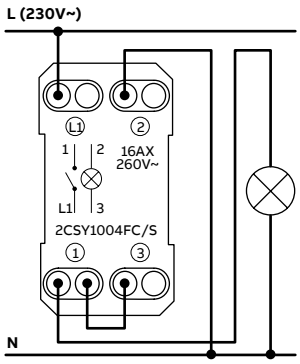
The diagrams provided below represent the most widely applied engineering solutions for creating lighting points and are to be considered exhaustive of the possible signalling solutions that can be implemented on switches.

Light control from one point

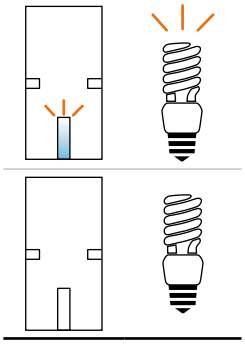


Night-time location signalling





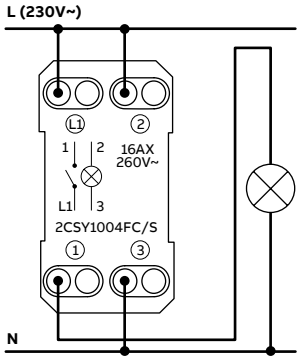
Load functional signalling



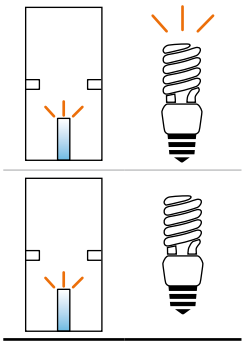
Technical details

Mylos – Control devices

Light control from one point

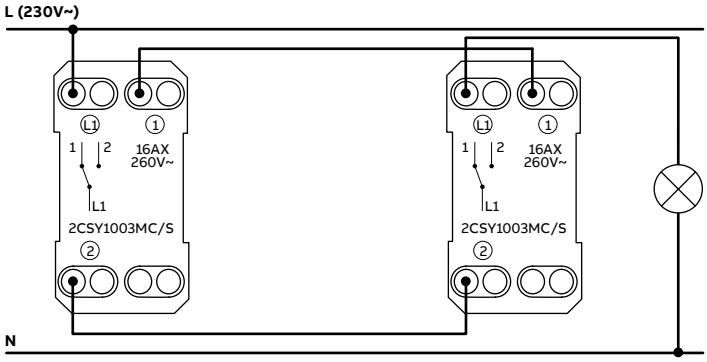


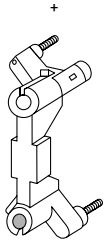
Location (Always ON) signalling



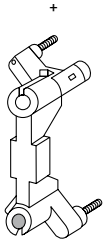
Light control from two points

Circuit with two two-way switches



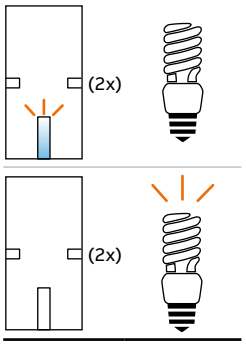


LED
2CSY1633MY
installed
at the front



LED
2CSY1633MY
installed
at the front

Night-time location signalling

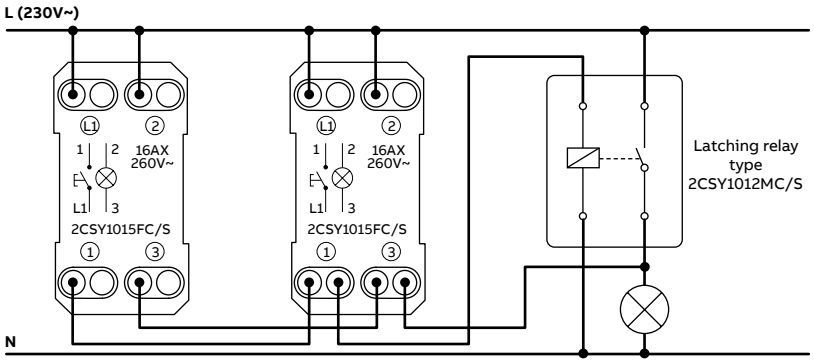


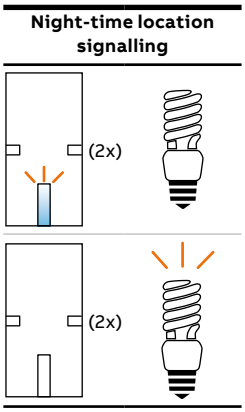
Technical details

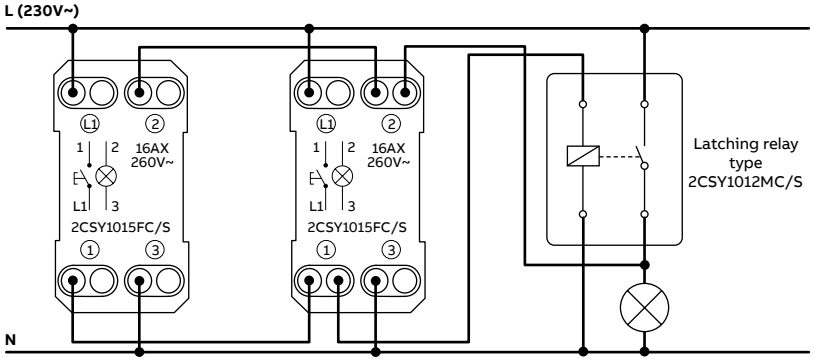
Mylos – Control devices

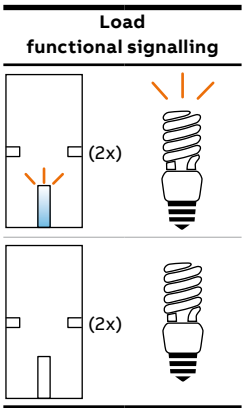
Light control from two points

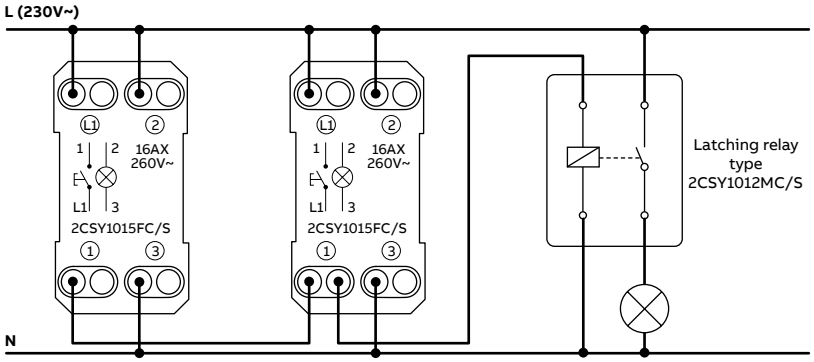
Circuit with push switches and relay

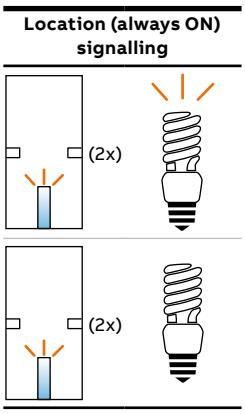










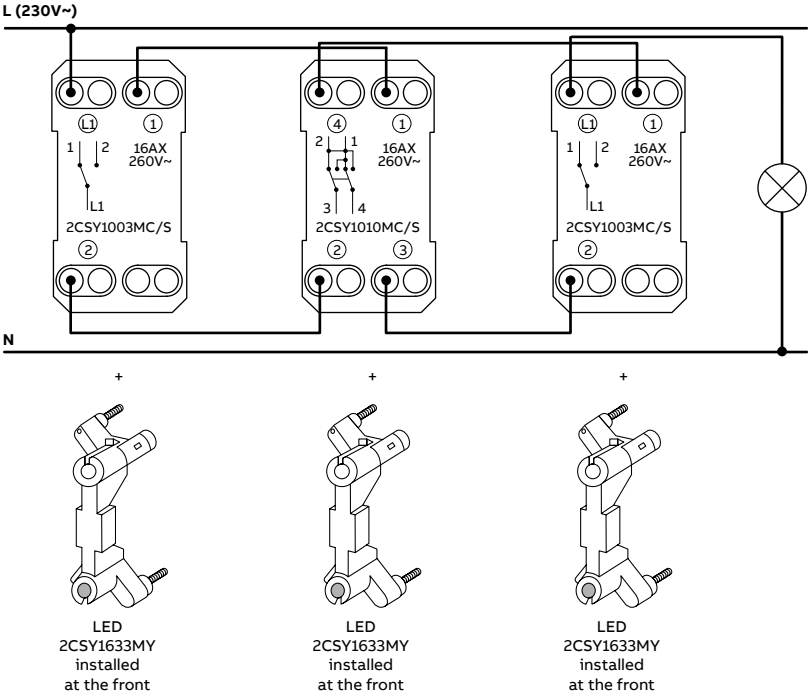


Technical details

Mylos – Control devices

Light control from three points

Circuit with two two-way switches + one intermediate switch

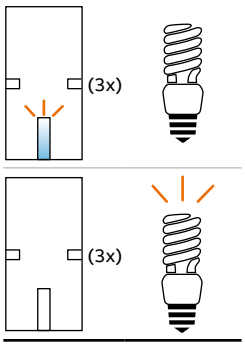


LED
2CSY1633MY
installed
at the front

LED
2CSY1633MY
installed
at the front

LED
2CSY1633MY
installed
at the front

Night-time location signalling

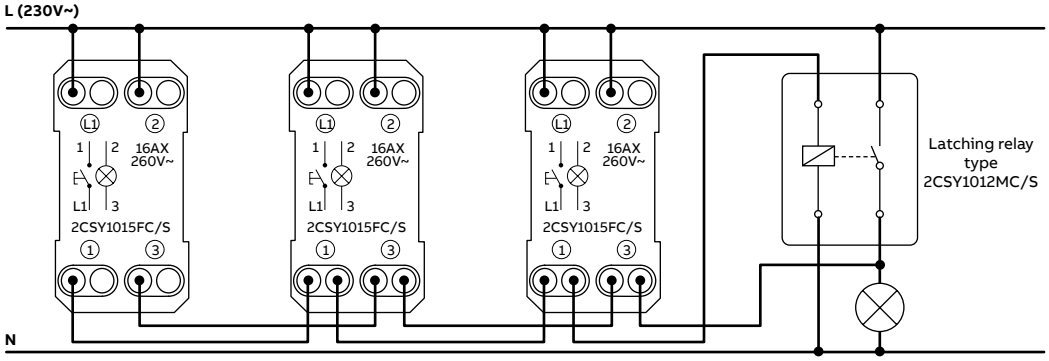


Technical details

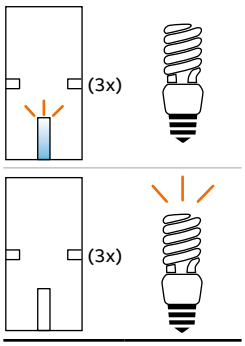
Mylos – Control devices

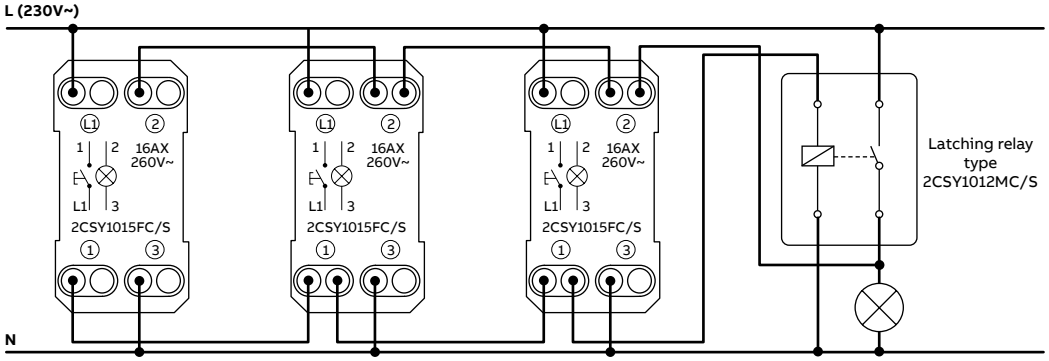
Light control from three points

Circuit with push switches and relay

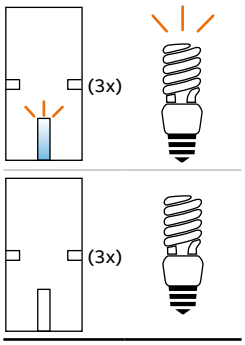


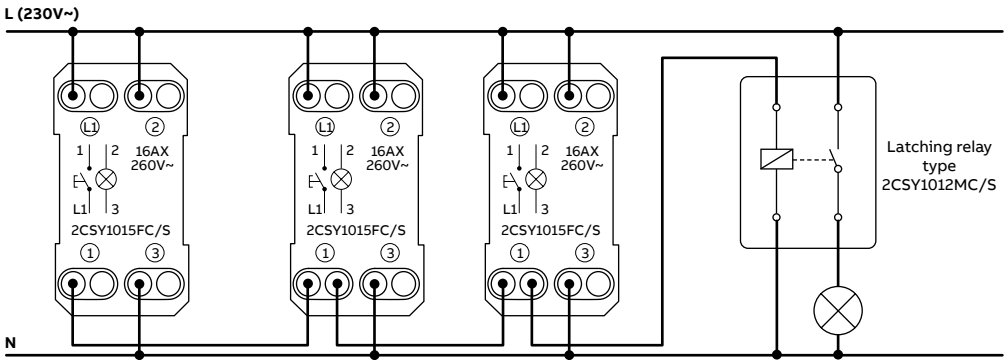
Night-time location signalling



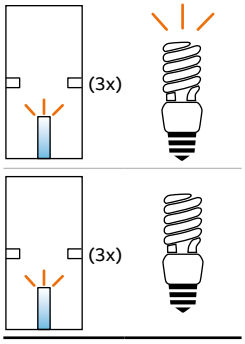


Load functional signalling





Location (always ON) signalling



Technical details

Mylos – Control devices

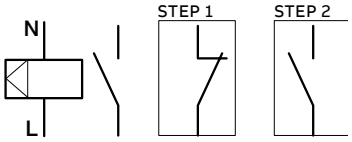
Relays

Description	Code
Single-pole latching relay, with 230V~ coil, output contact 10A	2CSY1012MC
	2CSY1012MS

Relay with latching operation for control and adjustment from multiple lamp points by means of single-pole push switches with NO (normally open) contact.

Wiring diagrams

2CSY1012MC - 2CSY1012MS



Technical specifications	
Power supply voltage (coil)	230V - 50/60Hz
Output contact 2CSY1012MC - 2CSY1012MS	10A (AC1) 7A (AC15)

Reference standards

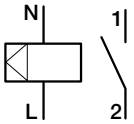
EN 60669-1, EN 60669-2-2.

Description	Code
Monostable relay, with 230V~ coil, output contact 10A	2CSY1014MC
	2CSY1014MS

For the implementation of automation or separations between the control circuit and power circuit. It can be used as an auxiliary element for controlling particular loads.

Wiring diagrams

2CSY1014MC - 2CSY1014MS



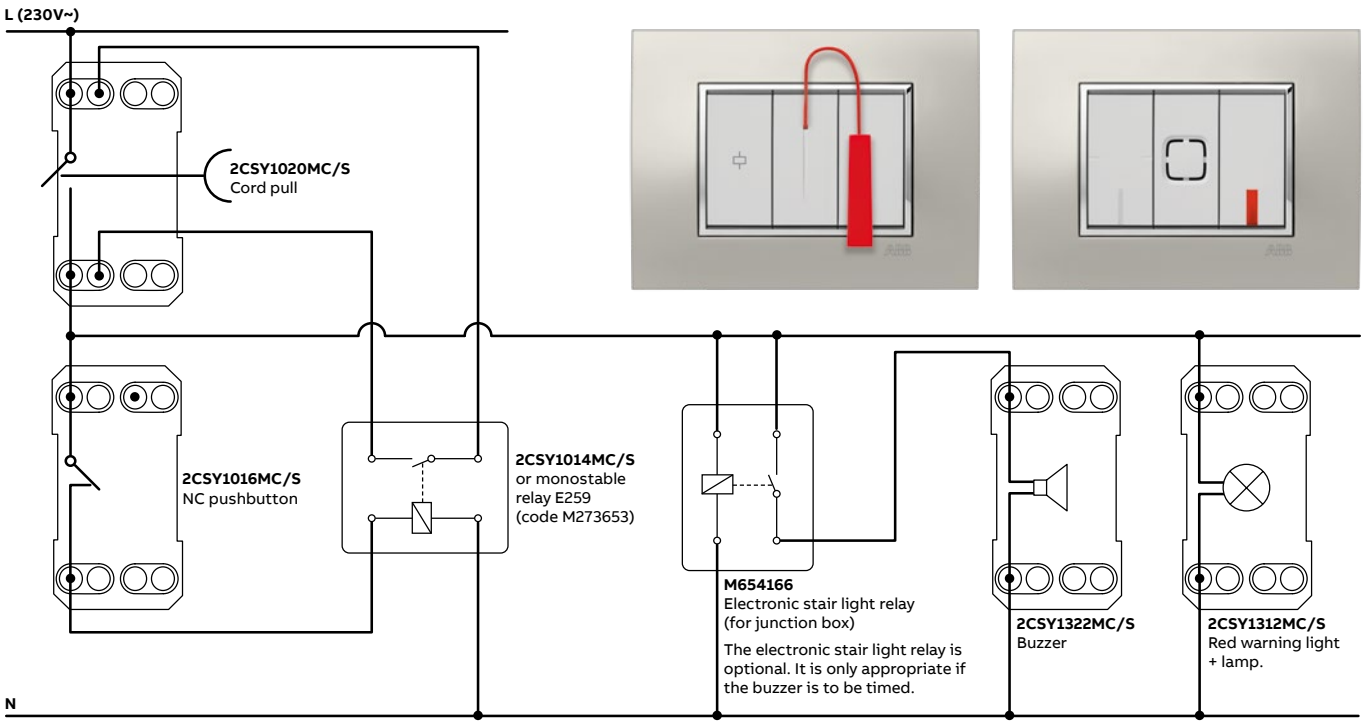
Technical specifications	
Power supply voltage (coil)	230V - 50/60Hz
Output contact 2CSY1014MC - 2CSY1014MS	10A (AC1) 7A (AC15)

Reference standards

EN 60669-1, EN 60669-2-2, CEI EN 61810-1.

Examples of application

The flush-mounted relays of the Mylos wiring accessories' range can be used to implement a simple disabled bathroom calling system with a reset pushbutton:



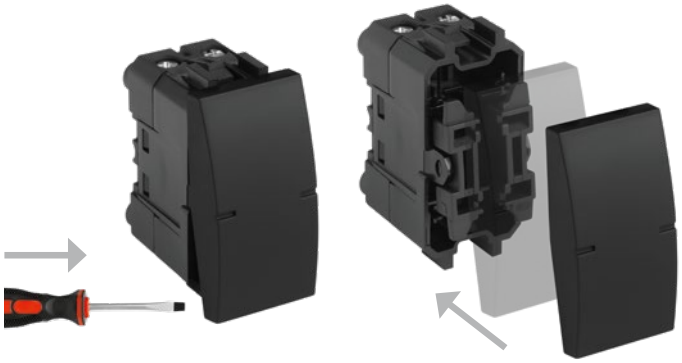
Technical details

Mylos – Key covers

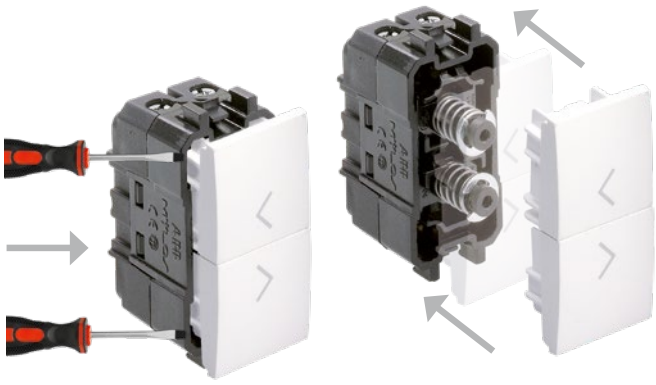
Customization of switches' key covers

Mylos series allows customization of the control switches thanks to a wide choice of available key covers. Replacing them is very simple: it does not require the use of special tools and can be done without removing the switch from the support. Customization of control switches is possible both for devices with a one module key and for those with a half-module key.
The range includes key covers with/without functional labels and with/without symbols.

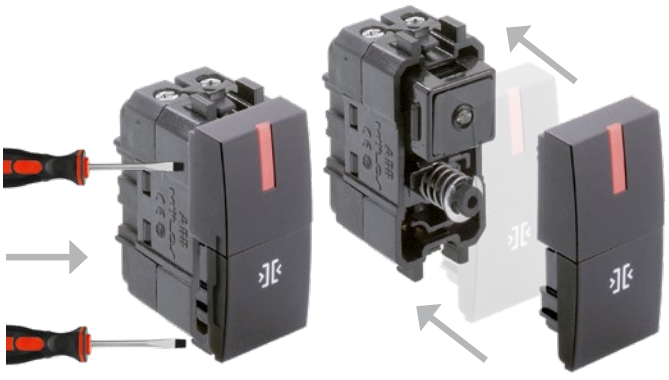
Note: the screwless control devices on page 2/7 do not allow the replacement of key covers. Part codes 2CSY1011MC/S and 2CSY1018MC/S do not allow the replacement of key covers.



Standard key cover composition



Key cover composition on 2CSY1017MY



Key cover composition on 2CSY1027MY

Technical details

Mylos – Socket outlets

Socket outlets

Area of application

Powering of household appliances, lighting equipment etc.

Main features of Italian and German standard sockets

The cells of the sockets are segregated and protected when the plug is disconnected: the live parts are accessible only with the corresponding plug fully inserted.

Technical specifications	
Rated voltage	250V~
Rated current	10A o 16A
Shuttered and elastic live cells	

Possibility of coupling Mylos socket outlets with the various types of plugs on the market

		EU 2,5 A	Italian 10 A	Italian 16 A	Schuko 16 A	US 15 A	US 15 A
							
Italian standard socket outlets with safety shutters, 250V							
	P 11 2CSY1101MC 2CSY1101MS	■	■				
	P 17/11 2CSY1103MC 2CSY1103MS	■	■	■			
Italian/German standard socket outlets with safety shutters and side/central earth, 250V							
	P 30 2CSY1108MC 2CSY1108MS	■	■		■		
	P 30/17 2CSY1109MC 2CSY1109MS	■	■	■	■		
American and Euro-american socket outlets, 127V							
	US socket outlet 2CSY1145MC 2CSY1145MS					■	■
	EU-US socket outlet 2CSK1146MC 2CSK1146MS	■				■	
Special socket outlets							
	Shaver socket outlet[1] 2CSY1113MC 2CSY1113MS	■				■	

		UK 13 A	UK/Indian 16 A	French 16 A
				
British socket outlets, 250V				
	UK socket outlet 13 A 2CSY1134MC 2CSY1134MS	■		
	UK socket outlet 16 A 2CSY1164MC 2CSY1164MS		■	
French socket outlets, 250V				
	French socket outlet 2CSY1144MC 2CSY1144MS			■

[1] Shaver socket outlets, European/American standard with insulating transformer 230V~ - 50/60 Hz

Reference standards

IEC 60884-1

Note: In general terms, no socket outlets of any standard for domestic use fall under the European low voltage directive, because there is no harmonized European standard for these types of socket outlets: in fact, each country has its own standard and therefore a single standard is impossible. For this reason the socket outlets do not bear the CE mark. All the socket outlets of the Mylos wiring accessories' range conforming to CEI 23-50 are however certified by IMQ as a further guarantee of their quality and compliance with standards.

Technical details

Mylos – Socket outlets

Socket outlets for dedicated lines

Plug sockets for dedicated lines allow outlet points to be differentiated according to their particular application, avoiding incorrect connection of unsupported appliances. Different coloured enclosures (red, orange, green) distinguish them from common socket outlets.
There are as yet no standard regulations on the correspondence between the colour of the socket and the type of power supply. In order to distinguish the area of application, the following usage customs are adopted.

Red: continuous power supply with UPS (uninterruptible power supply) through an insulating transformer.

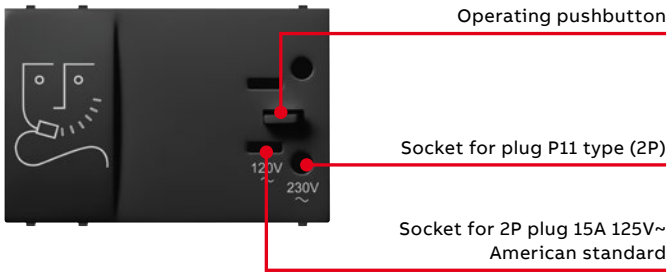
Orange: power supply protected by network-generator unit through an insulating transformer.

Green: safety power supply with network-generator unit.

Special sockets outlets

Description	Code
2P shaver socket outlet with insulating transformer, power supply 230~ 50/60 Hz, output voltage 125V~ (American standard 2P socket) or 230V~ (2P socket P11 type)	2CSY1113MC
	2CSY1113MS

Components



The shaver socket incorporates an insulating transformer with a power rating of 20 VA, protected against overload and resistant to short-circuits.
Power supply is guaranteed by a pushbutton that is operated automatically whenever the plug is inserted in the socket.
The secondary circuit, to which the cells of the socket are connected, is isolated from the primary power supply circuit by double insulation:
additional protections (shutter devices) on the cells of the socket are therefore not necessary.

The socket is suitable for the insertion of Italian standard plugs of the P11 type (2P) and American standard plugs (2P).
The shaver socket is protected against overload with a thermal interruption device without auto-reclosing.
After the protection is tripped, the cells of the socket are not energized. To reclose the circuit, the plug of the device that caused the overload must be disconnected, waiting a few minutes in order to allow the transformer to cool down.

Technical specifications	
Power supply	230 V~ 50-60 Hz
Output voltage	230 V~ for 2.5 A P11(2P) plugs 120 V~ for 15 A 125 V~ 2P plugs American standard with non-polarized flat pins
Available power	20VA
Operation with auto-protected	temperature

Reference standards

EN 61558-2-5, EN 61000-3-2, EN 55014-1, EN 55014-2.

Technical details

Mylos – Socket outlets

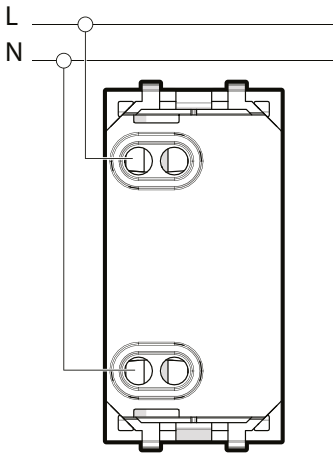
Special sockets outlets

Description	Code
Flush-mounted USB charger 2.1A, with male type A connector, power supply 230~ 50/60Hz, output voltage 5V DC	2CSY1162MC
	2CSY1162MS

Components

The flush-mounted USB charger allows you supply and recharge the most common portable electronic devices. With the simple use of a USB cable with Type A male connector it is possible to power mobile phones, smartphones, tablets and cameras that support standard USB power supply (up to 2100mA), independently of the manufacturer.

Wiring diagrams



Caution!
The device absorbs up to 60mW in the absence of connected electronic devices. To exclude this absorption, it is recommended to use a Double-pole switch.

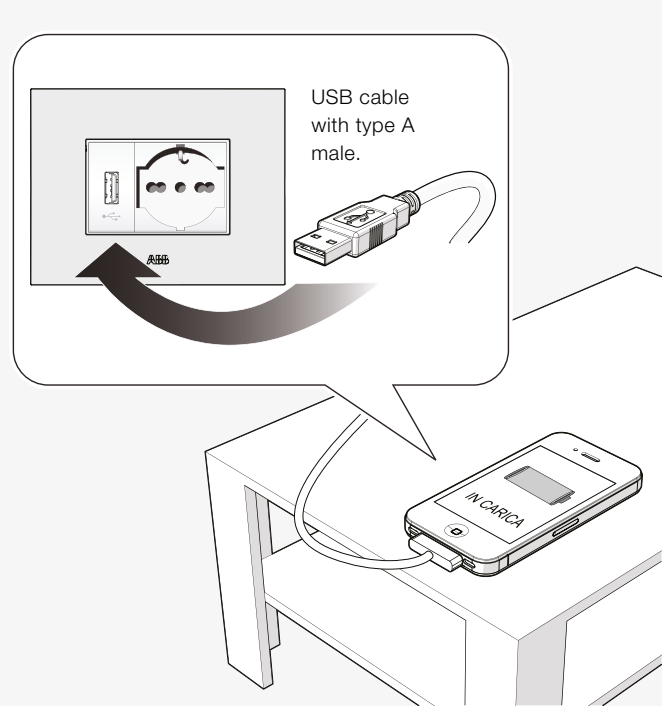
Technical specifications	2CSY1162MC, 2CSY1162MS
Power	100-230 V ~ 50/60 Hz
Maximum load consumption	224 mA a 100 V ~ • 120 mA a 230 V ~
Output voltage	5 V
Maximum load output	2,1 A
Performance	More of 77% (Energy Star EPS v.2)
No load consumption	2,5 mA a 100 V ~ • 3,5 mA a 230 V ~
Degree of protection	IP20
Operating temperature	0° C/+45° C (internal usage)
Storage temperature	-20 +80°C
Class device	Class II ⧈
Overvoltage category (EN 62109)	CAT III

Operating method

Connect the USB cable with the type A male connector to the charger and the opposite end to the device to be powered. Type A, B, miniUSB and microUSB USB connectors can be used indifferently. The device is now being charged.

Caution: the device supplies power according to the USB data transmission protocol, with a maximum current of 650 mA at 5V ⎓. Some devices may require a higher power supply current. Look up the manual of the connected device to check its absorption specifications.
The charging time depends on the connected device and may vary compared with the original charger.

Examples of application



Technical details

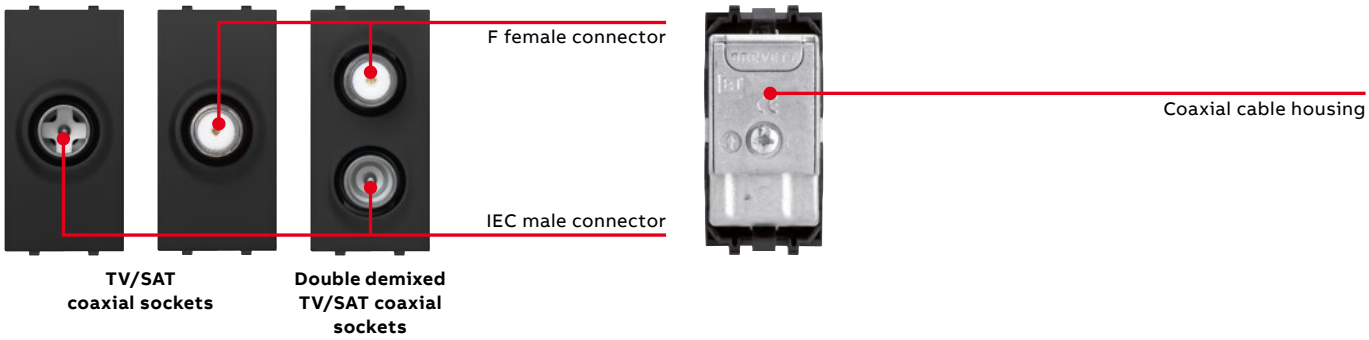
Mylos – Socket outlets

TV/SAT sockets

The TV/SAT coaxial sockets for the Mylos series offer a complete range of products for implementing the terminal part of modern antenna systems. Manufactured fully from die cast Zama, they include a pressure terminal with safety screw in order to guarantee proper grip of the cable.

Individual sockets are available with male IEC or female F bushing, and double demixed sockets with both connection possibilities. Various levels of attenuation are available, ensuring that solutions are available for every type of installation.

Components



Attenuation values of the TV/SAT coaxial sockets

Code	Bushing	Passing attenuation [dB]			Bridging attenuation [dB]			Inverse attenuation	Direct current transit
		5÷40 MHz	47÷862 MHz	950÷2402 MHz	5÷40 MHz	47÷862 MHz	950÷2400 MHz	[dB]	
2CSY1118MC/S	Male IEC Terr.	-	-	-	0.5	0.5	0.5	-	YES
2CSY1132MC/S	Male IEC Terr.	≤2	≤2	≤3	≤7	≤7	≤8	≥35	NO
2CSY1136MC/S	Male IEC Terr.	≤2	≤2	≤2.5	≤10.5	≤10	≤11	≥35	NO
2CSY1137MC/S	Male IEC Terr.	≤1.5	≤1.5	≤2.5	≤14.5	≤14	≤14.5	≥35	NO
2CSY1140MC/S	F Female	-	-	-	≤0,5	≤0.5	0.5	-	YES

Attenuation values of double demixed TV/SAT coaxial sockets

Code	Bushing	Passing attenuation [dB]		Bridging attenuation [dB]		Inverse attenuation	Direct current transit
		TV	SAT	TV	SAT	[dB]	
2CSY1133MC/S	Male IEC Terr. F female SAT	-	-	≤2	≤2	-	YES
2CSY1130MC/S	Male IEC Terr. F female SAT	≤3	≤4.5	≤10	≤11	≥35	YES
2CSY1131MC/S	Male IEC Terr. F female SAT	≤2	≤3	≤14	≤15	≥35	YES

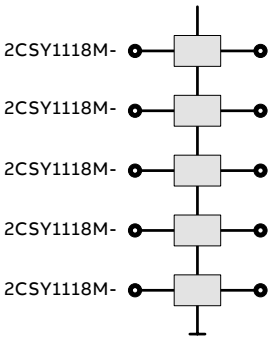
Technical details

Mylos – Socket outlets

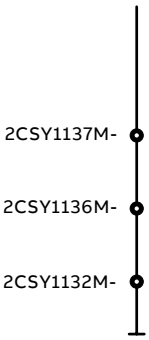
Wiring diagrams

TV

TV system with branched sockets from central unit

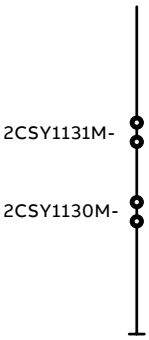


TV system with feedthrough sockets from central unit

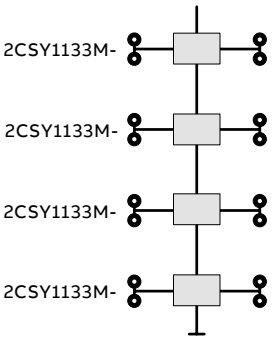


TV/SAT

TV/SAT system with feedthrough demixed sockets from central unit

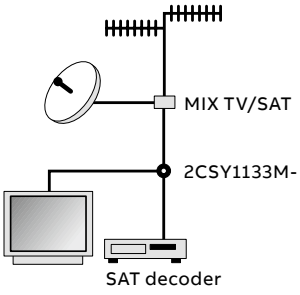


TV/SAT system with branched demixed sockets from central unit

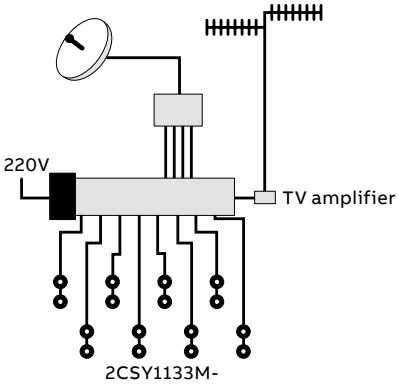


TV/SAT

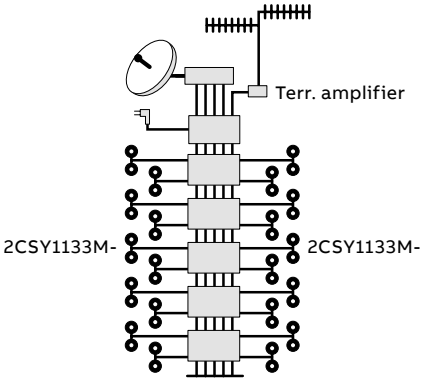
Mixed TV/SAT system, single consumption



Multiswitch radial TV/SAT system

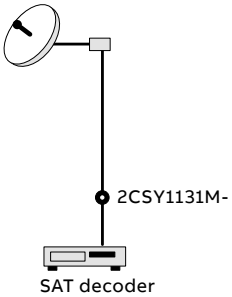


SAT system, single consumption

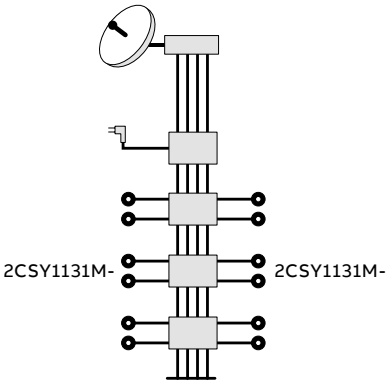


SAT

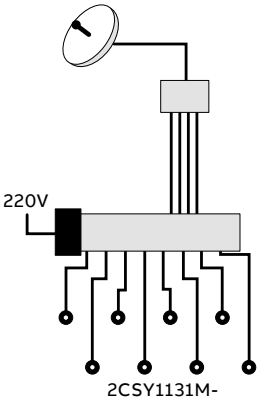
SAT system, single consumption



SAT and Multiswitch system



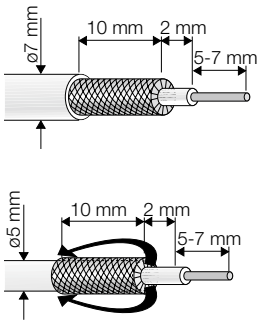
SAT and radial Multiswitch system

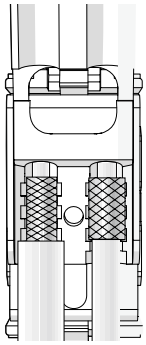


Technical details

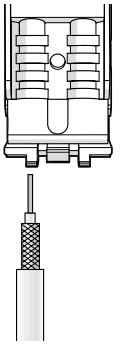
Mylos – Socket outlets

Instructions for installation



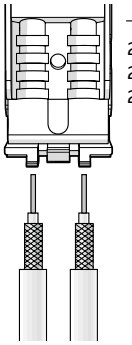


Direct socket



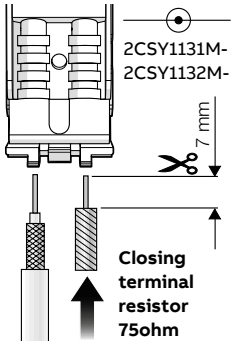
2CSY1118M-
2CSY1133M-
2CSY1140M-

Feedthrough socket



2CSY1130M-
2CSY1136M-
2CSY1132M-

Feedthrough socket converted to terminal socket



2CSY1131M-
2CSY1132M-

Closing terminal resistor 75ohm
2CSE1610EL

Technical specifications	
Frequency range	from 5 to 2400 MHz
Coaxial cable diameter	from ø 5 to ø 7 mm
Return channel	from 5 to 40 MHz
Shielding	class A
Wiring system	with front panel
Unequal chrominance/ luminance delay	< 1 ns for all models
Relative humidity	max 93% (non-condensing)

Reference standards

EN 50083-1, EN 50083-2, EN 50083-4

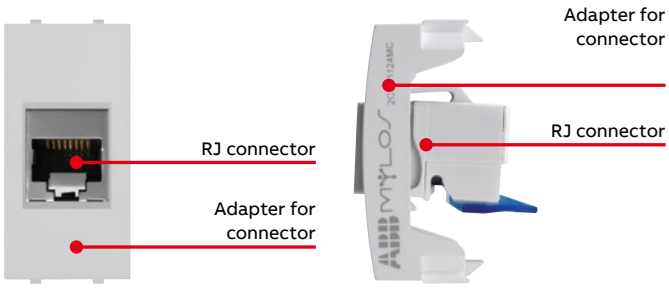
Technical details

Mylos – Socket outlets

Network and telephone sockets

The range includes devices for the implementation of telephone and computer networks, RJ11 4-contact telephone connectors for telephones, telefax, modems and RJ12 6-contact telephone connectors for intercommunicating telephone installations.
RJ45 category 5e and 6 connectors are also available. These devices allow computer equipment (computers, modems, printers, etc) to be connected in a network and connection of multimedia devices.

Components



Code	Connector type	No. contacts	Cable type	Shielded	Category	Speed
2CSY1121MC/S	RJ11	4	twin core	NO	3	up to 16 Mb/s
2CSY1122MC/S	RJ12	6	twin core	NO	3	up to 16 Mb/s
2CSY1124MC/S	RJ45	8	UTP	NO	5e	up to 100 Mb/s
2CSY1127MC/S	RJ45	8	UTP	NO	6	up to 10 Mb/s
2CSY1128MC/S	RJ45	8	FTP	YES	6	up to 10 Mb/s

FTP = cable shielded with aluminium tape
UTP = unshielded cable

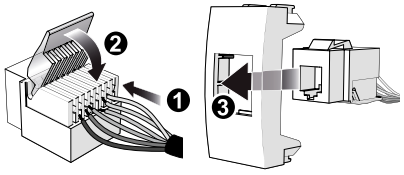
Instructions for installation

Unshielded connectors:
1. wire the connector making sure that the connection terminals match;
2. operate the lever wiring device on the connector;
3. latch the connector on the adapter and proceed with the installation on the frame.

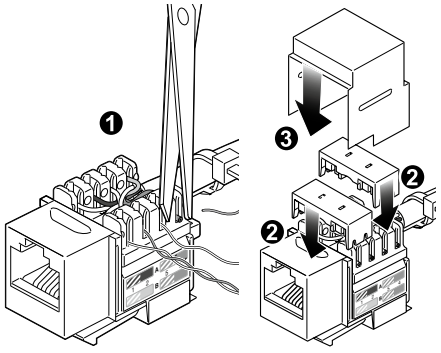
Shielded connectors:
1. wire the connector making sure that the connection terminals match;
2. position the cover of the connector and squeeze with pliers to make sure the contacts are tight;
3. apply the shielding, ensuring insulation of the connector;
4. latch the connector on the adapter and proceed with the installation on the frame.

Keystone adapter 2CSY1135MC/S

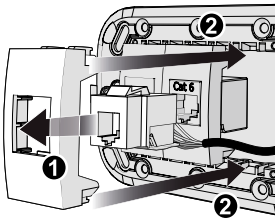
The structured wiring systems for data transmission are distinguished by their flexibility of use, installation independent of location and the use of the terminal outputs. The suppliers of components for wiring, when dealing with installations of a certain complexity and size, must be in able to show certification of conformity of the installation, directly or through accredited installations.
ABB meets this requirement with the adapter of the Mylos wiring accessorie's range, which is compatible with various Keystone coupling connectors available on the market and enables integration between the Mylos wiring accessories range and data transmission components of systems with structured wiring.
1. latch the connector on the adapter and proceed with the installation on the support.



Unshielded connectors



Shielded connectors

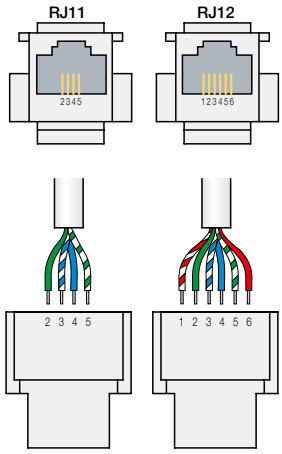


Keystone adapter 2CSY1135MC/S

Technical details

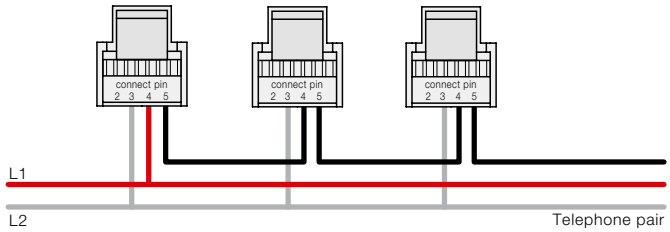
Mylos – Socket outlets

Wiring diagrams for RJ11 and RJ12 telephone connectors



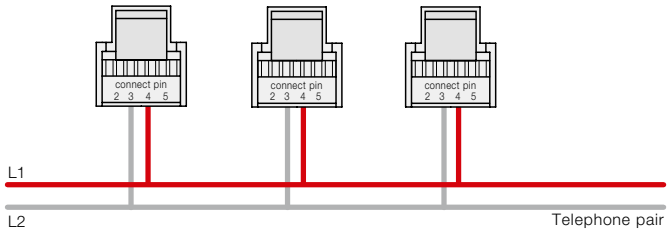
For telephone use, 2 wires of the RJ11 and RJ12 connectors, use the central contacts 3-4

Connection in series

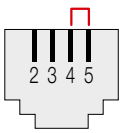


Terminals 3 and 4 are connected via the internal contact to the telephone (closed with the receiver hung up). Lifting the receiver causes interruption of the downstream line (L1), guaranteeing secrecy of the conversation.

Connection in parallel



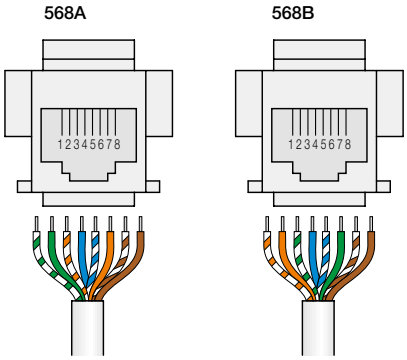
Each socket captures the line signal (there is no secrecy of conversation).

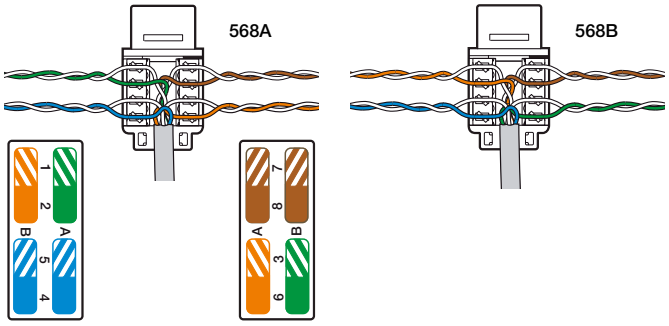


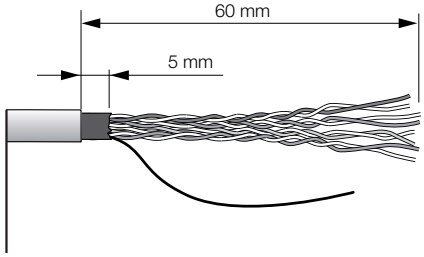
Note: extracting one of the plugs causes disconnection of sockets located downstream. In order to prevent this, you just need to insert a plug in the socket from which the telephone device was removed with a jumper between terminal 4 and 5.

Wiring diagrams for RJ45 data connectors

To obtain the EIA/TIA 568A or 568B configuration included below, follow the colour code shown on the terminal box.







Technical specifications	
Connections	With perforated insulation
Conductors	non-butted, inserted in the appropriate blade slots

Reference standards

EN 50083-1, EN 50083-2, EN 50083-4, ISO 11801.

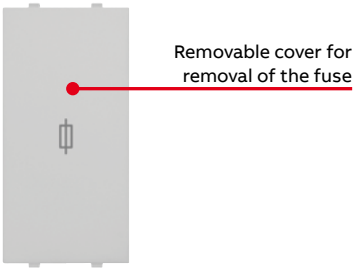
Technical details

Mylos – Protection devices

Fuse holder

Description	Code
Fuse holder, Ø5x20 / Ø6.3x32, 16A	2CSY1301MC
	2CSY1301MS

Components

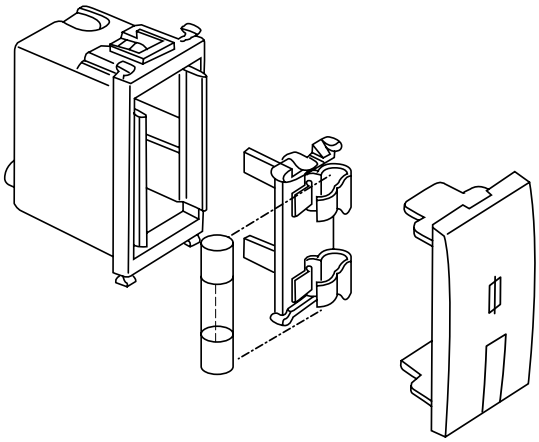


Replacement fuses

Fuses with dimension Ø5x20mm
or Ø6.3x32 mm can be installed.
The use of the fuses on page 4/23 is recommended.

Replacement of the fuse

After removing the removable cover with a screwdriver, proceed with replacement as in the drawing:



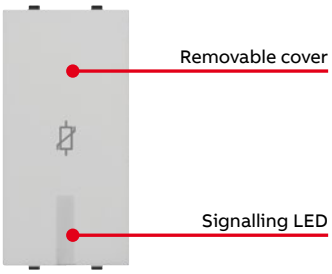
Technical details

Mylos – Protection devices

Surge protection device limiter

Description	Code
Surge protection device limiter 75J, 250V~	2CSY1302MC
	2CSY1302MS

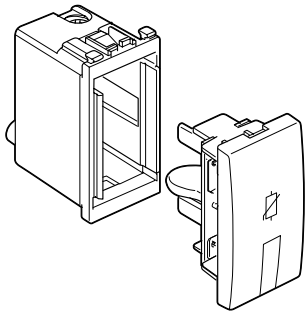
Components

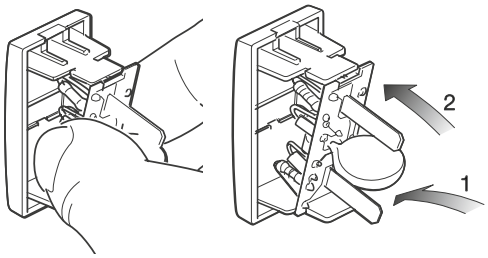


This device provides protection for power supply sockets for all types of household appliances and in particular for those containing electronic components (Hi-Fi, TV, computers, video recorders, programming mechanisms, cash registers etc.) from damage caused by over-voltages present in power supply networks.

Instructions for installation and operation

The protection device is housed in the removable front cover. To replace it, after disconnecting the voltage from the installation, extract the cover from the limiter and separate the SPD block from the plastic cover, levering it with a screwdriver. Replace it with spare part 2CSY1302MY.



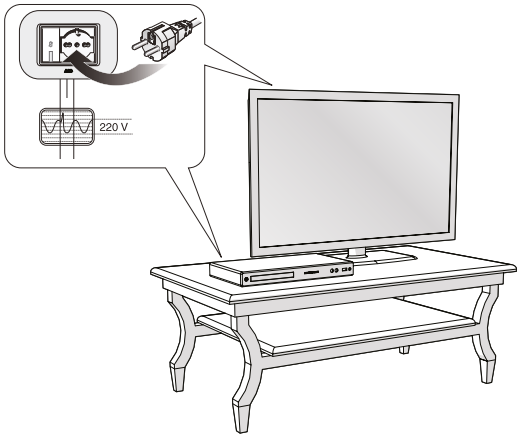


Functions

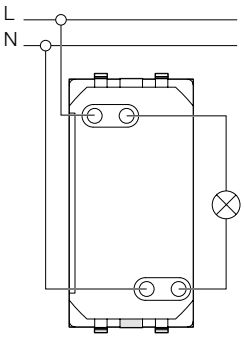
When the red warning light is on, it indicates that the protection has tripped and needs to be replaced (the load remains energised but it is not protected).

Examples of application

Over-voltages in domestic networks can be caused both by atmospheric interference and by control, operation or programming of connected inductive loads (air conditioners, burner motors, water pumps, reactors of fluorescent or discharge lamps, washing machines, etc.).



Wiring diagram



Technical specifications	
Residual current limiting	protection (line-to-neutral)
Rated voltage (Un)	120-230 V~ 50/60 Hz
Number of ports	1
Rated load current IL	16 A
Max steady current (Uc)	250 V~
Test class	III
Protection level (Up)	< 1.2 kV
Test voltage of combined wave generator Uoc	2.5 kV
Rated flashover current (In)	1 kA (8/20 ns) 20 times
Max flashover current (Imax)	2 kA (8/20 ns) once
Temperature range	-5 °C - +40 °C
Internal integrated protection	fuse

Reference standards

LV Directive, Standard EN 61643-11

Technical details

Mylos – Safety and comfort devices

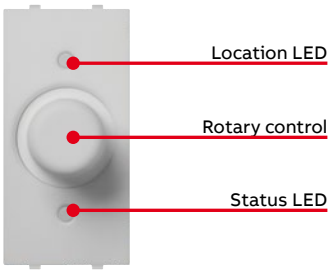
Loads that can be controlled with the dimmer

Dimmer type		Loads						
		Fluorescent filament or halogen lamps 230V	Fluorescent lamps	Toroidal transformers	Electronic transformers	Electro-mechanical transformers	Drills	Air agitators
Dimmer code	**Description**							
2CSY1205MC 2CSY1205MS	Electronic dimmer with rotary control	YES	NO	NO	NO	NO	NO	NO
2CSY1206MC 2CSY1206MS	Electronic dimmer with button control	YES	NO	YES	NO	YES	NO	NO
2CSY1207MC 2CSY1207MS	Electronic dimmer with rotary control and two-way switch	YES	NO	NO	NO	NO	NO	NO

Dimmer

Description	Code
Electronic dimmer with rotary control for resistive loads 100-500W 230V~ 50/60Hz	2CSY1205MC
	2CSY1205MS

Components



Electronic dimmer with rotary control for resistive loads 100-500W 230V~ 50/60Hz (visible in the dark).

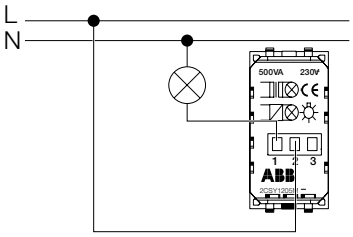
Operation

The load can be controlled and adjusted by rotating the knob.
The light intensity of the location LED is attenuated as the brightness of the controlled lamps increases.

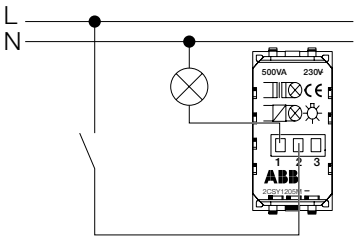
Wiring diagram

The connection can be made between phase and neutral or between phase and phase, always in series with the load.

Control with dimmer



Control with a switch and adjustment with a dimmer



Technical specifications		
Rated voltage	230V - 50/60Hz	110V - 50/60Hz
Resistive load power	100 - 500W	50 – 250W
Inductive load power	100 – 500VA	50 – 250VA
Technology	TRIAC	TRIAC
Operating temperature	-5 °C ÷ +35 °C.	
Adjustable load	Filament and halogen lamps	

Reference standards

CEI 23-9 (EN 60669-1)

Technical details

Mylos – Safety and comfort devices
Flush-mounted pluggable emergency light

2CSY218762R1236
Supplied with their supports

Compliance with
the following
EU Directives:
2014/35/UE (Low Voltage)
2014/30/UE (EMC)
2011/65/EU (RoHS)

User manual

Read all instructions carefully

The 2-module pluggable blackout lamp is an electronic emergency lamp for flush-mounted boxes installation. It turns on to enlightening areas where it is installed if a blackout occurs. The lamp can be unplugged and used as a portable torch; once unplugged it turns on automatically until is plugged again into its back shell.

Safety warnings

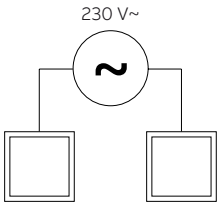
During installation and operation the following indications must be respected:

1. The product must be installed by qualified personnel in strict compliance with the connection diagrams.
2. Do not power the product if any part is damaged.
3. The product must be installed and commissioned in compliance with the regulations concerning electrical systems.
4. Do not use the product for purposes other than those indicated.
5. In case of fault do not repair the product.
6. The product can be used in overvoltage category III and pollution degree 2 environments.
7. An overcurrent protection device must be installed in the electrical system upstream of the product.
8. After installation, the inaccessibility to the connection terminals without special tools must be guaranteed.
9. Check that conductors are not live before accessing the connection terminals.

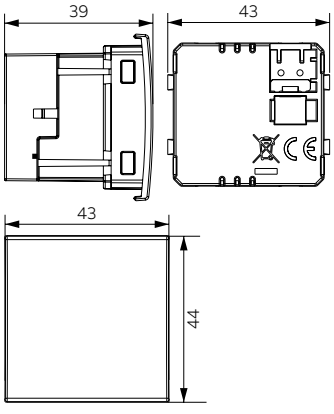
Technical features

Power supply:	230 V AC (-10% ÷ +10%) 50/60 Hz
Absorption:	3 VA (0,2 W)
Backup batteries:	1 rechargeable NiMH battery (not replaceable) - 3.6V & 140mAh full recharge time: 48 hours
Autonomy in event of power failure:	2 hours approx
Light source:	Light intensity: 20 lumens Beam angle: 120°
Red LED:	for low battery or fault indication
Installation:	on 45mm height flush-mounted box (footprint: 2 modules)
Terminal block:	for 1.5 mm² cables
Operating temperature:	0°C ÷ +50°C
Storage temperature:	-20°C ÷ +50°C
Operating humidity:	20÷90% non-condensing
Protection:	IP40
Insulation:	reinforced between accessible parts (front) and all other terminals

Connection scheme



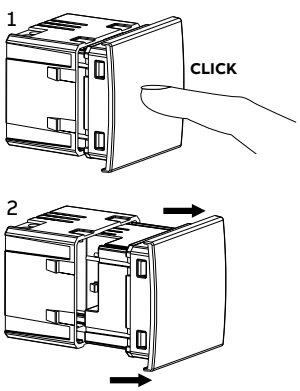
Dimensions



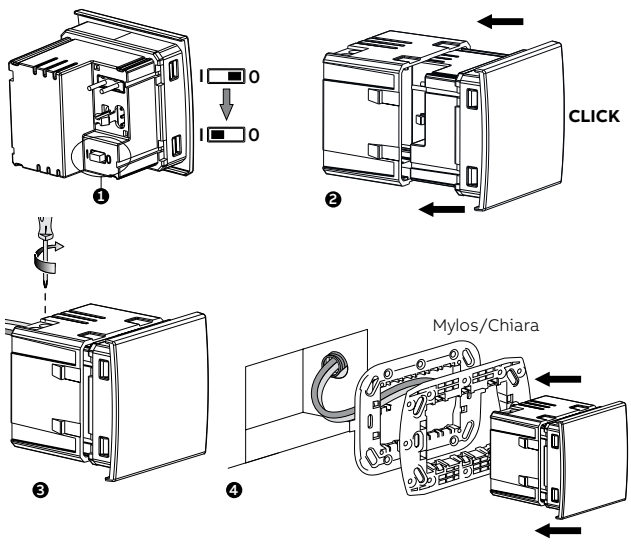
1. Move the selector from the storage position (**0**) to the operating position (**I**)
2. Plug the lamp into the back shell
3. Connect the power supply wires to the terminals
4. Plug the lamp + back shell

Lamp extraction

1. Press the lamp: an audible click will be heard to indicate that the sealing mechanism has released the lamp.
2. Pull the lamp out of the back shell



Assembly drawing in Mylos frame



Technical details

Mylos – Safety and comfort devices
Flush-mounted motion detector

2CSY279081R1626 white
2CSY226581R1626 black
Supplied with their supports

Compliance with the following EU Directives:
2014/35/UE (Low Voltage)
2014/30/UE (EMC)
2011/65/EU (RoHS)

User manual

Read all instructions carefully

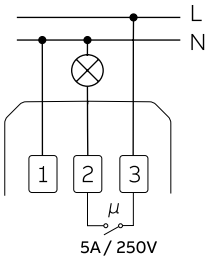
The ABB's motion detector is a flush-mounted twilight motion detector that senses all the movements in its active field and triggers the lighting system for a predetermined period only if the brightness level is lower than a pre-set threshold. It performs type 1B actions and is intended for use in environments with overvoltage category III and pollution degree 2, according to EN 60669.

Safety warnings

During installation and operation the following indications must be respected:

1. The product must be installed by qualified personnel in strict compliance with the connection diagrams.
2. Do not power the product if any part is damaged.
3. The product must be installed and commissioned in compliance with the regulations concerning electrical systems.
4. In case of fault do not repair the product.
5. An overcurrent protection device must be installed in the electrical system upstream of the product.
6. After installation, the inaccessibility to the connection terminals without special tools must be guaranteed.
7. Check that conductors are not live before accessing the connection terminals.

Connection scheme

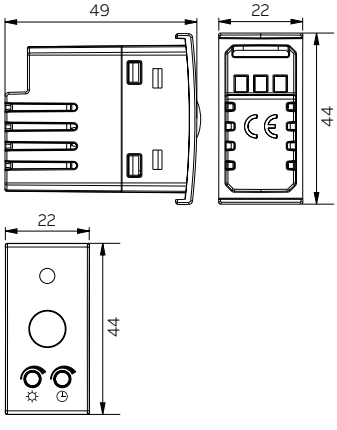


Connectable loads
- Incandescent 800 W
- Fluorescent (neon) 200 VA
- Low voltage halogen 500 VA
- Halogen 230 V~ 800 W
- Low consumption (CFL) 200 VA
- Led 200 VA

Technical features

Power supply:	230 V AC (-10% ÷ +10%) 50/60 Hz
Maximum absorption:	5 VA (1 W)
Output:	NO relay with breaking capacity of 5A/250V (on resistive load) with "zero crossing" technology
Tripping time:	5 seconds (test), 30 seconds ÷ 15 minutes
Tripping brightness:	5 ÷ 100 lux
Detection angle:	110° at 20°C
Detection field:	7 meters at 20°C
Installation:	on flush-mounted box with 45 mm height (dimensions: 1 module)
Terminal block:	for 1.5 mm² cables
Operating temperature:	0°C ÷ +35°C
Storage temperature:	-10°C ÷ +60°C
Operating humidity:	20÷90% non-condensing
Protection:	IP40 (on accessible parts)
Insulation:	reinforced between accessible parts (front) and all other terminals

Dimensions



Installation

To be installed in the flush-mounted box the motion detector requires 1 module footprint. High temperatures reduce the sensitivity of the sensor: avoid installation close to heat sources, air vents or devices that can rapidly change their temperature. For installation, consider that the detector is more sensitive to movements cross the detection field than movements in the direction of the detector itself.

Operations

Detector test

The test verifies the correct operations of the IR sensor and relay. Turn the brightness control (☼) clockwise to the maximum range (100 lux) and the timing regulator (🕒) anticlockwise to the minimum range (5 seconds). Check that the relay triggers when a movement is spotted inside the detection field.

Brightness adjustment

This regulation (☼) sets the lower brightness threshold for the relay to trigger if a movement is detected. Turn the brightness control (☼) anticlockwise to the minimum range: in this position the relay will remain inactive with daylight. Toward dusk, when the brightness threshold for relay activation is reached, turn the brightness control dimmer (☼) clockwise until the relay triggers.

Timing adjustment

This regulation (🕒) determines how long the relay must remain active if a movement is detected. Turn the timing regulator (🕒) clockwise to increase the timing, counterclockwise to decrease the timing. The timing is restarted every time a movement is detected.

Note. The timing can be 5 seconds or between 30 seconds and 15 minutes. The minimum setting value of the regulator (🕒) corresponds to 5 seconds; a minimum clockwise rotation brings the timing to 30 seconds. Continue to rotate the regulator clockwise to increase timing values up to a maximum of 15 minutes.

Technical details

Mylos – Safety and comfort devices
Flush-mounted emergency light

2CSY218902R1235
Supplied with their supports

Compliance with the
following EU Directives:
2014/35/UE (Low Voltage)
2014/30/UE (EMC)
2011/65/EU (RoHS)

User manual

Read all instructions carefully

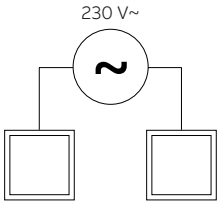
The 1-module anti-blackout lamp is a non-pluggable electronic emergency lamp for flush-mounted boxes installation. It turns on to enlightening areas where it is installed if a blackout occurs and guarantees a constant output for more than two hours thanks to its rechargeable battery.

Safety warnings

During installation and operation the following indications must be respected:

1. The product must be installed by qualified personnel in strict compliance with the connection diagrams.
2. Do not power the product if any part is damaged.
3. The product must be installed and commissioned in compliance with the regulations concerning electrical systems.
4. Do not use the product for purposes other than those indicated.
5. In case of fault do not repair the product.
6. The product can be used in overvoltage category III and pollution degree 2 environments.
7. An overcurrent protection device must be installed in the electrical system upstream of the product.
8. After installation, the inaccessibility to the connection terminals without special tools must be guaranteed.
9. Check that conductors are not live before accessing the connection terminals.

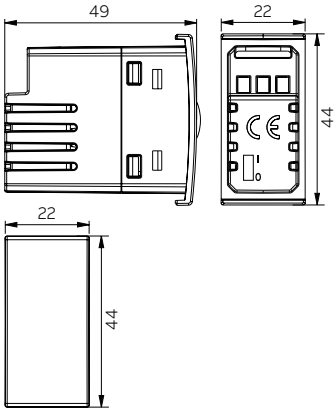
Connection scheme



Technical features

Power supply:	230 V AC (-10% ÷ +10%) 50/60 Hz
Absorption:	2,5 VA (0,1 W)
Backup batteries:	1 rechargeable NiMH battery (not replaceable) - 3.6 V & 140 mAh full recharge time: 48 hours
Autonomy in event of power failure:	2 hours approx
Light source:	1 white LED Light intensity: 2400 mcd Beam angle: 120°
Red LED:	for low battery indication
Installation:	on 45mm height flush-mounted box (footprint: 1 module)
Terminal block:	for 1.5 mm^2 cables
Operating temperature:	0°C ÷ +40°C
Storage temperature:	-20°C ÷ +40°C
Operating humidity:	20÷90% non-condensing
Protection:	IP40
Insulation:	reinforced between accessible parts (front) and all other terminals

Dimensions

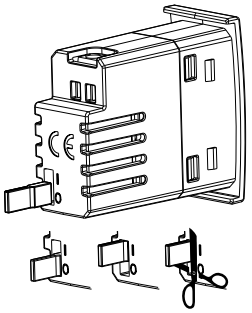


Installation

The emergency lamp requires 1 module footprint to be installed in the flush-mounted box.
The emergency lamp is supplied with the battery installed (not removable) and charged. To prevent the battery from discharging during storage, a jumper on the back insulates the battery from the circuit.
Before installing the lamp, move the jumper from “0” to “I” position.

Note: if the jumper interferes with the back of the flush-mounted box when plugging the lamp, cut the protruding part (as indicated).

Respect the connection diagram.
If the red LED on the front of the emergency light is on, the battery is low.



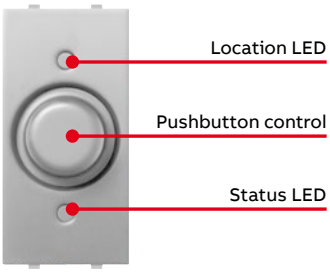
Technical details

Mylos – Safety and comfort devices

Dimmer

Description	Code
Electronic dimmer with pushbutton control for resistive and inductive loads 60-500W (60-500VA) 230V~ 50/60Hz	2CSY1206MC
	2CSY1206MS

Components



Electronic dimmer with pushbutton control for resistive and inductive loads 60-500W 60-500VA 230V~ -50/60Hz (visible in the dark).

Operation

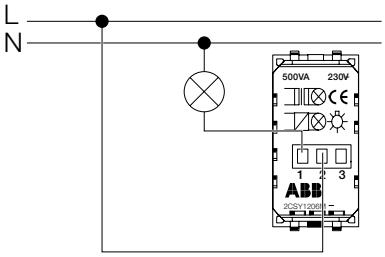
The load can be controlled and adjusted using a pushbutton. The light intensity of the location LED is attenuated as the brightness of the controlled lamps increases.
The load can be turned on, adjusted and turned off using the pushbutton present on the dimmer or with normal non-luminous NO pushbuttons connected to the dimmer.

- Storage of the adjustment set when the load was switched off (apart from network outages).
- Switch-on and switch-off of the load is gradual.
- Pressing the pushbutton quickly causes the load to be switched on or off. Adjustment is obtained by keeping it pressed. To reverse the direction of adjustment, interrupt and then resume pressing the pushbutton.
- If the pushbutton is pressed approximately between 0.3 s and 1 s, the dimmer will light up the controlled lamps, automatically and gradually, to their maximum brightness.

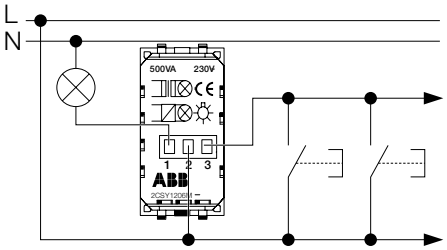
Wiring diagram

The connection can be made between phase and neutral or between phase and phase, always in series with the load.

Control and adjustment with a dimmer pushbutton



Control and adjustment with a dimmer pushbutton and NO button connected in parallel



Technical specifications		
Rated voltage	230V - 50/60Hz	110V - 50/60Hz
Resistive load power	60 - 500W	30 – 250W
Inductive load power	60 – 500VA	30 – 250VA
Technology	TRIAC	TRIAC
Operating temperature	-5 °C ÷ +35 °C.	
Adjustable load	Filament and halogen lamps, ferromagnetic transformers for halogen lamps	

Reference standards

CEI 23-9 (EN 60669-1)

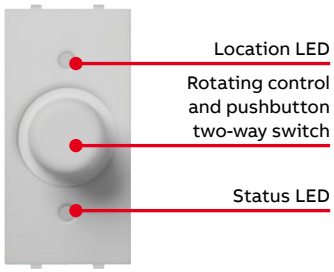
Technical details

Mylos – Safety and comfort devices

Dimmer

Description	Code
Electronic dimmer with rotary control and two-way switch for resistive loads 100-500W 230V~ 50/60Hz	2CSY1207MC
	2CSY1207MS

Components



Electronic dimmer with rotary control and two-way switch for resistive loads 100-500W 230V~ -50/60Hz (visible in the dark).

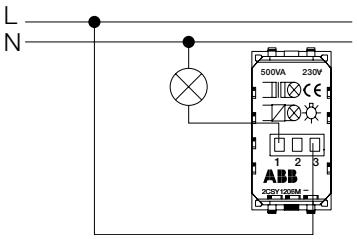
Operation

The load is controlled directly by means of a pressed two-way switch. Adjustment is performed by rotating the knob. The light intensity of the location LED is attenuated as the brightness of the controlled lamps increases.
Once the desired lighting level has been set, pressing the knob will switch the light source off, while pressing it again will switch it back on at the set lighting level.

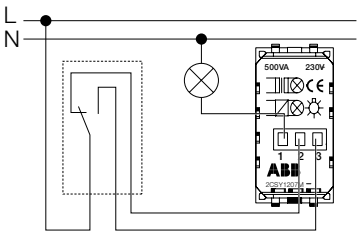
Wiring diagram

The connection can be made between phase and neutral or between phase and phase, always in series with the load.

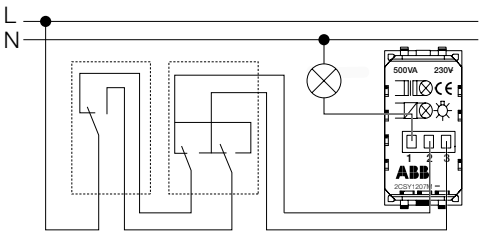
Control and adjustment with a dimmer



Control with two-way switch and dimmer, adjustment with dimmer



Control with two-way switch, intermediate switch and dimmer, adjustment with dimmer



Technical specifications		
Rated voltage	230V - 50/60Hz	110V - 50/60Hz
Resistive load power	100 - 500W	50 – 250W
Inductive load power	100 – 500VA	50 – 250VA
Technology	TRIAC	TRIAC
Operating temperature	-5 °C ÷ +35 °C.	
Adjustable load	Filament and halogen lamps	

Reference standards

CEI 23-9 (EN 60669-1)

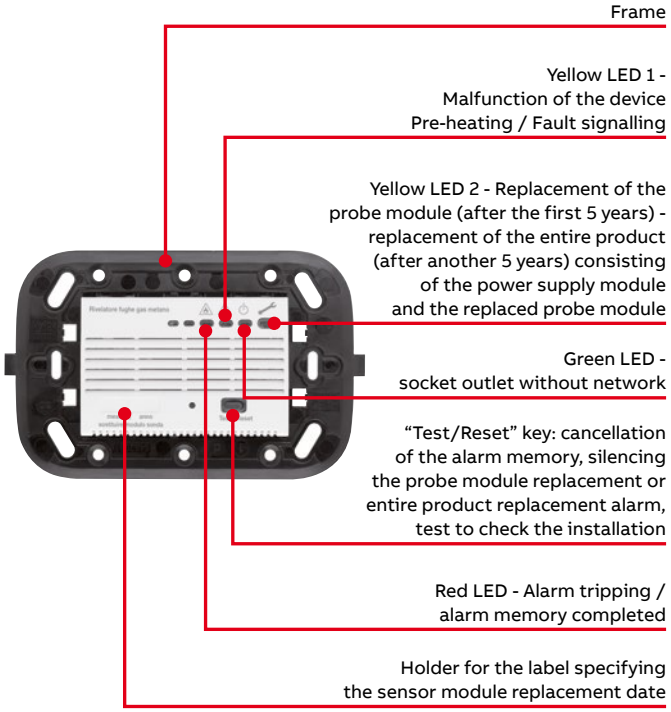
Technical details

Mylos – Safety and comfort devices

Gas detectors

Description	Code
Natural gas electronic detector with acoustic and luminous signal, relay output, 1 NO/NC change-over contact 6A (AC1)/2A (AC15) - 250V~. Power supply 230V~ - 50Hz. Equipped with dedicated frame for installation on type 503 box.	2CSY1210MC
	2CSY1210MS
LPG gas presence electronic detector with acoustic and luminous signal, relay output, 1 NO/NC change-over contact 6A (AC1)/2A (AC15) - 250V~. Power supply 230V~ - 50Hz. Equipped with dedicated frame for installation on type 503 box.	2CSY1211MC
	2CSY1211MS

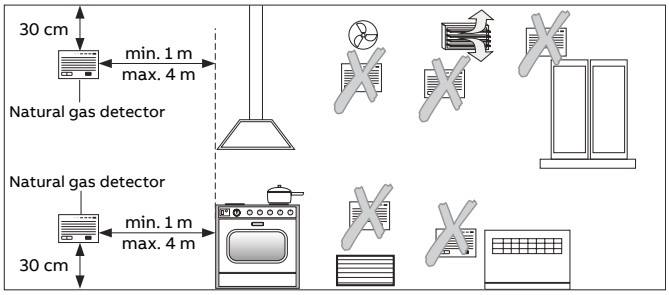
Components



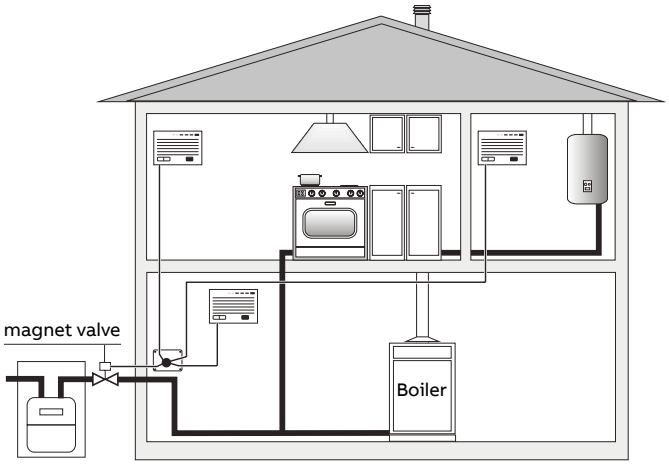
The wiring accessories' natural gas (CH4) or LPG gas detectors, flush-mounted with 3 modules (503 box embedded in the wall) contribute to guaranteeing the safety of civil environments where gas operated domestic appliances are installed, such as: boilers, cookers.
The equipment consists of a fixed power supply module and removable sensor module, which must be replaced after 5 years of continuous use. This allows a saving on the purchase and installation costs, with a lower impact on the environment due to the extension of the life time of the power supply/relay module for a further 5 years.

Positioning of the detector

The installation of the gas detector does not exonerate users from observance of all current laws and standards in the country of installation regarding the specifications, installation and use gas powered equipment, the ventilation of rooms and the release of combustion products.



- Install the natural gas detector at a maximum of 30 cm from the ceiling
- Install the LPG detector at a maximum of 30 cm from the floor surface.
- Install the detectors between 1 m and 4 m from the gas appliances..
- Do not install the detectors outdoors or in places exposed to atmospheric agents
- Do not install the detectors close to: sinks, air intakes, heating and air conditioning devices, windows and ventilation devices; in addition, the detectors must not be installed in closed spaces, such as behind a curtain or inside a cabinet.



Illustrative example: installation with 3 gas detectors (natural gas) that command the solenoid valve for shutting off the gassupply.

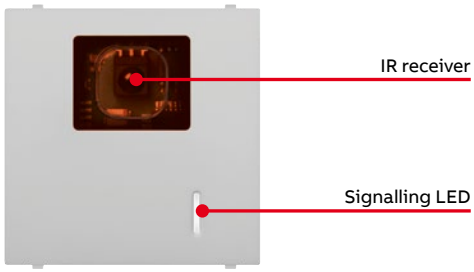
Technical details

Mylos – Safety and comfort devices

IR receiver for remote control

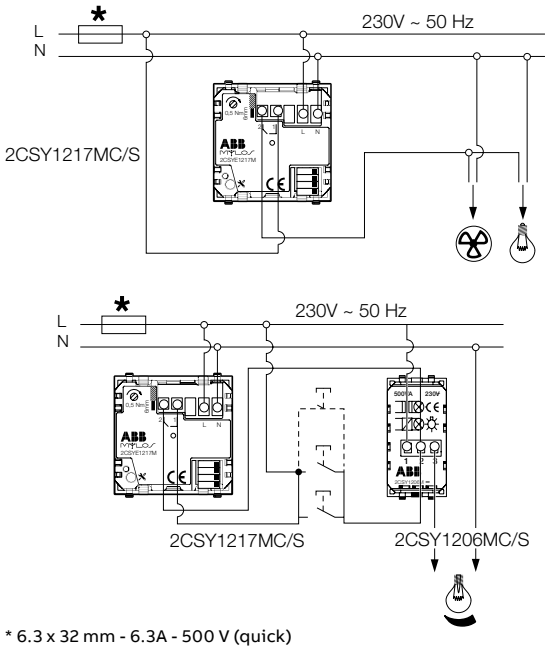
Description	Code
IR receiver for remote control, 1-channel, 230V~	2CSY1217MC
	2CSY1217MS

Components



IR receiver with 1 channel. This device allows operating commands to be received that are generated by a dedicated remote control, sold separately (code 2CSE1217EL).
The active signal bandwidth of the remote control is selected by a dip-switch on the receiver (1 receiver for every channel of the remote control).

Wiring diagram



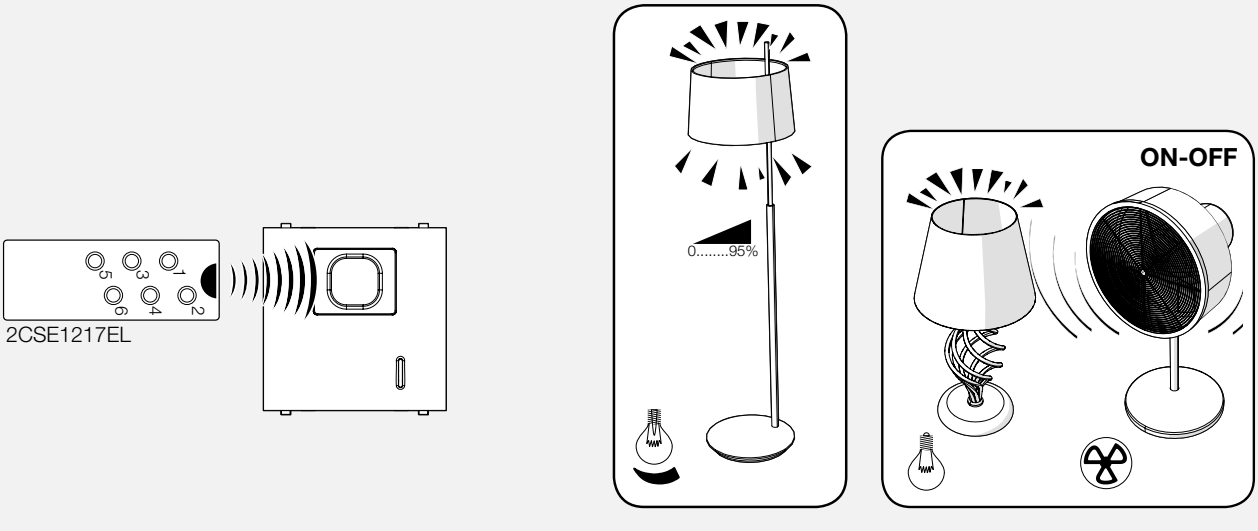
* 6.3 x 32 mm - 6.3A - 500 V (quick)
P.I. ≥ 1500A

Technical specifications	
Operating temperature	-5 ÷ + 45 °C
Protection class	indoors, dry
Max load	16A resistive
Place of use	indoors, dry

Reference standards

CEI 64-8

Examples of application



Technical details

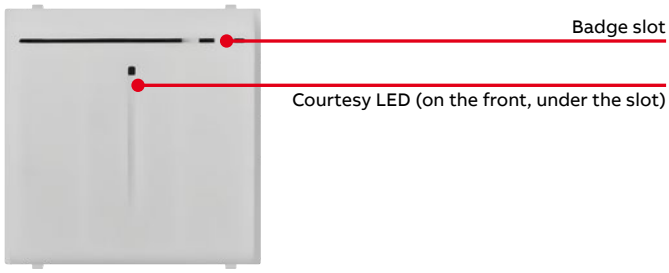
Mylos – Safety and comfort devices

Universal badge switch

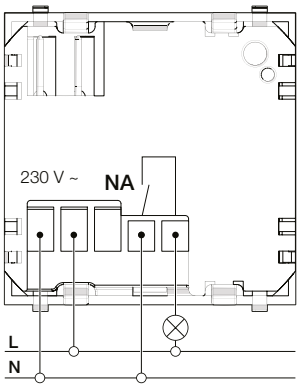
Description	Code
Universal badge switch with location light	2CSY1426MC
	2CSY1426MS

Vertical badge electronic switch, relay output 16 A 250 V~, power supply 230 V~ 50-60 Hz, modules. Supplied without ISO card (badge). The device is equipped with a courtesy LED for night-time localization.

Components

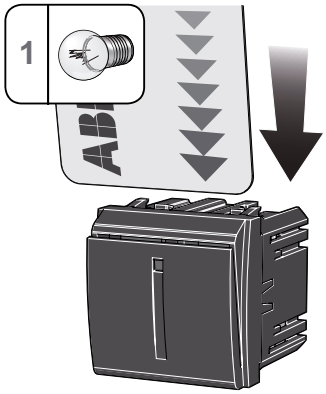


Wiring diagram

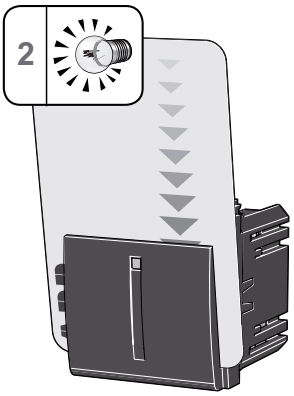


Operation

Load OFF



Load ON



Technical specifications	
Power supply	230 V~ ±10% 50-60 Hz
Output	relay with clean contact 10 A, 250 V~ cos φ 1
Typical absorption	230 V~ 50-60 Hz: 30 mA, con relè attivo
Operating temperature	-5 °C +45 °C

Reference standards

LV Directive; EMC Directive; Standard EN 60669-2-1

Technical details

Mylos – Frames

Mylos frames feature an under-plate that guarantees maximum adhesion to every type of surface and allows the application of finishing materials, while maintaining minimal protrusion from the wall.
The under-plate is black except for the Pure White finishes, where it is white in order to guarantee maximum integration with the wall.
In the 4+4 module frames, the separator is painted with a white or black velvet finish.

Under-plate that adheres to all surfaces

43 ÷ 8.2 mm

White under-plate for maximum integration with the wall

Reference standards
CEI 23-9 (EN 60669-1).

Customization

All the Mylos frames are provided with a internal chromium plated internal trim, except for frames with a Pure White finish (white velvet paintwork). On request, it is also possible to get frames with a trim painted in the following colours:

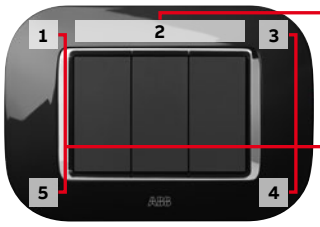
White velvet

Black velvet

Glossy gold

Minimum order batch: 200 pieces including various modularities.
For quotes and delivery times contact the local ABB salesman.

Frames customized with a logo/text string can be supplied on request. They are produced by means of monochromatic pad printing on the highlighted areas.



Position 2
Logo inside a rectangle
10 mm in height and 45 mm in length

Positions 1-3-4-5
Logo in square with 13 mm sides.

Customization possible with standard colours (black, Pantone Cool Gray 3 C, Pantone 5425 C) or with a colour specified by the customer.
Minimum order batch: 36 pieces including various modularities.
For quotes and delivery times contact the local ABB salesman.

Application

Discover all the combinations and possibilities for customization of the Mylos series with the new dedicated app!

Download the application for iPhone (Italian only)

Technical details

Chiara – General information

Main technical data and reference standards for the devices in the range

Component	Reference standards	Basic electrical data*			Prolonged operation	Resistance to abnormal heat and fire	
		Test voltage withstand (V)	Insulation resistance (MW)	Breaking capacity or utilization category	No. changes of position	Termopressione con biglia (°C)	Glow wire tests (°C)
Operating mechanisms	CEI 23-9 (EN 60669-1)	2000 at 50Hz for 1 minute	> 5	1.25 In (200 changes of position)	40000 at In 250V~ cosφ = 0.6)	125	850
Socket outlets	CEI 23-5/CEI 23-50/ CEI 23-16 (EN 60884-1)	2000 at 50Hz for 1 minute	> 5	1.25 In (100 changes of position)	10000 at In 250V~ cosφ = 0,8)	125	850
Latching relay	CEI 23-9/CEI 23-62 (EN 60669-1/ EN 60669-2-2)	2000 at 50Hz for 1 minute	> 5	-	50000 a In 250V~ cosφ = 0,6)	125	850
Monostable relays	CEI 94-4/CEI-EN 61810-1 (EN 60669-1/ EN 60669-2-2)	2000 at 50Hz for 1 minute	> 5	1.25 In (200 changes of position)	50000 at In 250V~ cosφ = 0,6)	125	850
Automatic MCBs	CEI 23-3 (EN 60898)	2000 at 50Hz for 1 minute	-	1.5...3kA	8000	125	850
Automatic RCDs	CEI 23-95	2000 at 50Hz for 1 minute	-	1.5...3kA	4000	125	850
Supports and frames	CEI 23-9 (EN 60669-1)	-	-	-	-	75	650

*For the rated voltages and currents see the specifications for the individual part codes.

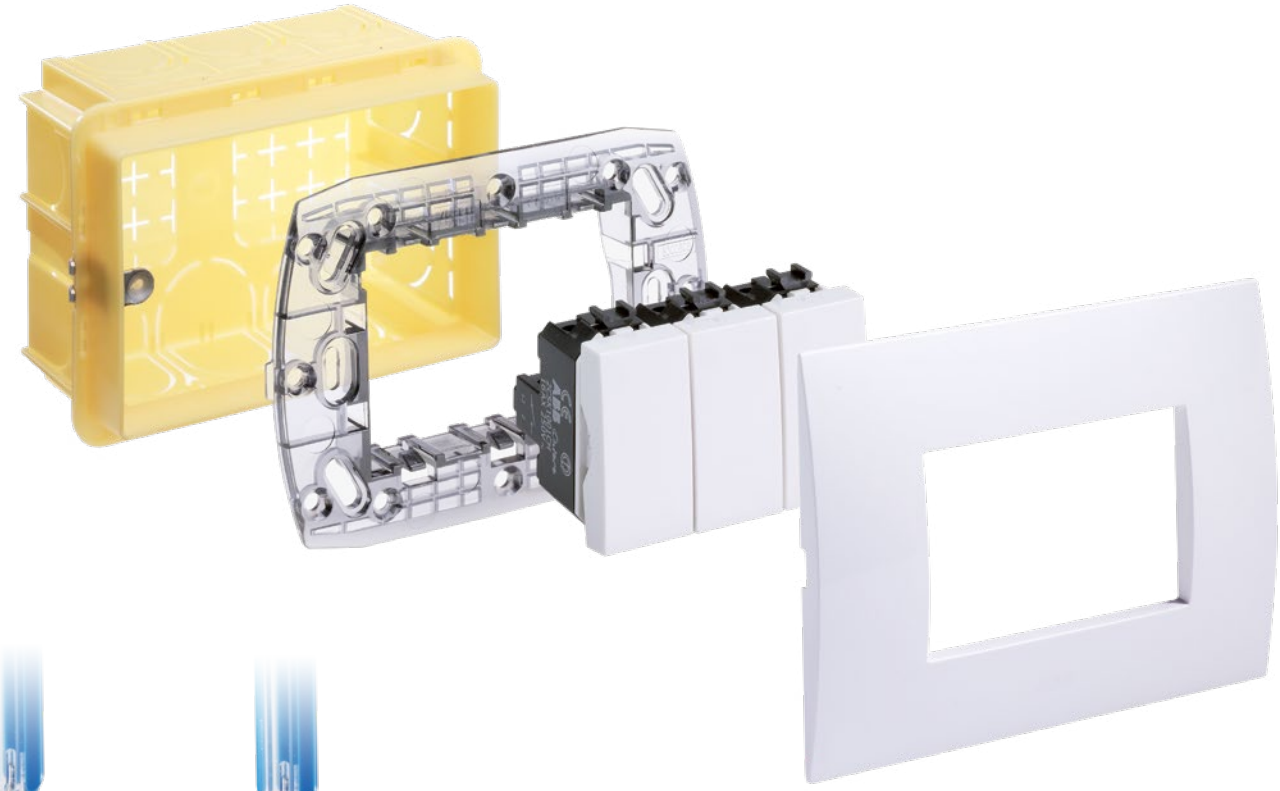
Clamping capacity of the terminals			
Flexible wires		Rigid wires	
Min. 0.75 mm²	Max. 2x4 mm²	Min. 0.5 mm²	Max. 2x2.5 mm²

Cable traction resistance of terminals: > 50N
Adhesion of switches and device to the support: > 0.6J

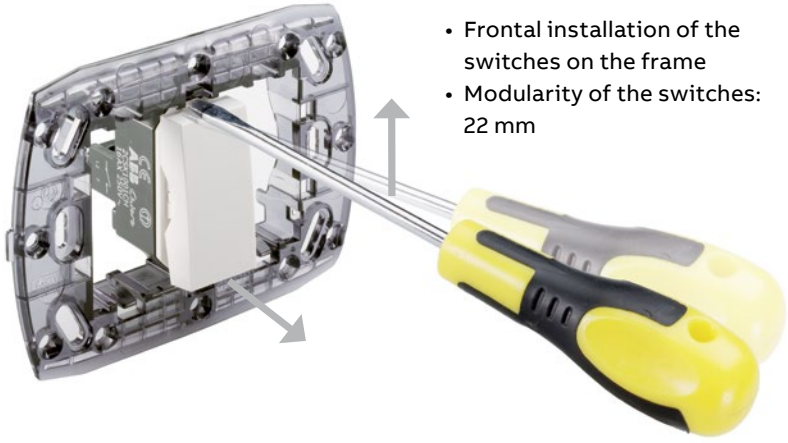
Technical details

Chiara – General information

Composition method for devices and supports



Installing and removing switches from the support



- Frontal installation of the switches on the frame
- Modularity of the switches: 22 mm

Specifications of screws and terminals

- Captive screws with open position captive screws with cross and slot head and clamping plate.
- Double input protected terminals for one or two conductors (rigid or flexible).

Technical details

Chiara – Installation solutions

Installation on concrete walls

No. modules	Screw distance	Recommended box
2 (with claws)	-	00 050
2 (with screws)	60 mm	00 050
3	83.5 mm	1SL006A00
4	108 mm	00 053
7	100 mm	1SL0064A00

Note: For further information on ABB boxes for concrete walls please refer to the catalog 1SLC001001D0905 - Insulating Enclosures and Installation Materials.

Installation of plasterboard walls

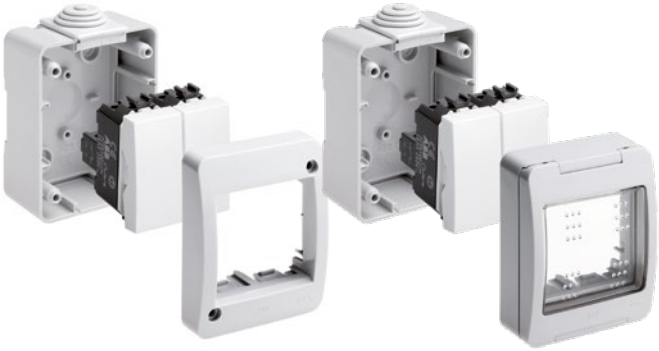
No. modules	Screw distance	Recommended box
2 (with screws)	-	10801/10802/10807
2 (with claws)	60 mm	10801/10802/10807
3	83.5 mm	10804
4	108 mm	Ave 254CG, BTicino PS564N, Gewiss GW24245 Vimar V71604
7	100 mm	Bticino PS567N Gewiss 24246 Vimar V71606

Note: For further information on ABB boxes for plasterboard walls please refer to the catalog 1SLC001001D0905 - Insulating Enclosures and Installation Materials.

Technical details

Chiara – Installation solutions

Protected installation with IP40/55 wall-mounted enclosures



IP40 wall-mounted enclosure

IP55 wall-mounted enclosure

No. Modules	IP40 enclosure	IP55 enclosure
1 (on 2-module enclosure)	2CSK2140CH	2CSK2155CH
2	2CSK2240CH	2CSK2255CH
3	2CSK2340CH	2CSK2355CH
4	2CSK2440CH	2CSK2455CH

The watertight enclosures allow the direct assembly of devices without the aid of supports.
The devices are inserted from the rear. See technical details.
For further information on IP40/IP55 wall-mounted enclosures, please refer to the catalog 1SLC001001D0905 - Insulating Enclosures and Installation Materials.

Protected installation with watertight escutcheon plate

IP55 wall-mounted escutcheon plate

No. Modules	IP55 escutcheon plate
2 (on a square or round box with screws, center distance 60mm)	2CSK3255CH
3	2CSK3355CH

Note: The watertight escutcheon plates provide a self-supporting solution that allows direct assembly of devices without the aid of supports. The devices are inserted from the rear.

Technical details

Chiara – Installation solutions

Installation on raised floors with Undernet under-floor turrets

No. Modules	Dedicated adapter	Undernet tower
5 (max 20 contact blocks)	2CSK1625CH	10900 e 10901
6 (max 12 contact blocks)	2CSK1626CH	10902 e 10903

Note: The dedicated adapter provides a self-supporting solution that allows direct assembly of devices without the aid of supports. The devices are inserted from the rear. The use of finishing plates is not required.
For further information on Undernet under-floor turrets, please refer to the catalog 1SLC006001D0903 - Under-floor Distribution Systems.

Installation on surface mounted boxes

No. Modules	Wall box	Frame
2	42 096	Use a 2M self-supporting frame
3	41 823	Use a 3M self-supporting frame
3	41 822	Use a 3M self-supporting frame
4	41 830	Use a 4M self-supporting frame

Note: The self-supporting frames allow the direct assembly of devices without the aid of supports. The devices are inserted from the rear.
For further information on the wall boxes and duct systems, please refer to the catalog 1SLC800001D0905 - Plastic and Metal Duct Systems.

Technical details

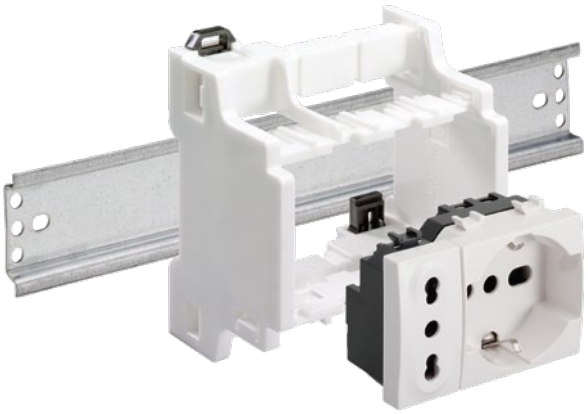
Chiara – Installation solutions

Installation on Lusy table towers

No. Modules	Lusy tower	Frame
4	10 507	Use a 4M self-supporting frame

Note: The self-supporting frames allow the direct assembly of devices without the aid of supports. The devices are inserted from the rear.
For further information on the Lusy table towers, please refer to the catalog 1SLC006001D0903 - Under-floor Distribution Systems.

Installation on DIN rail adapter



No. Modules	Dedicated adapter
1	2CSK1608CH
2	2CSK1608CH
3	2CSK1608CH

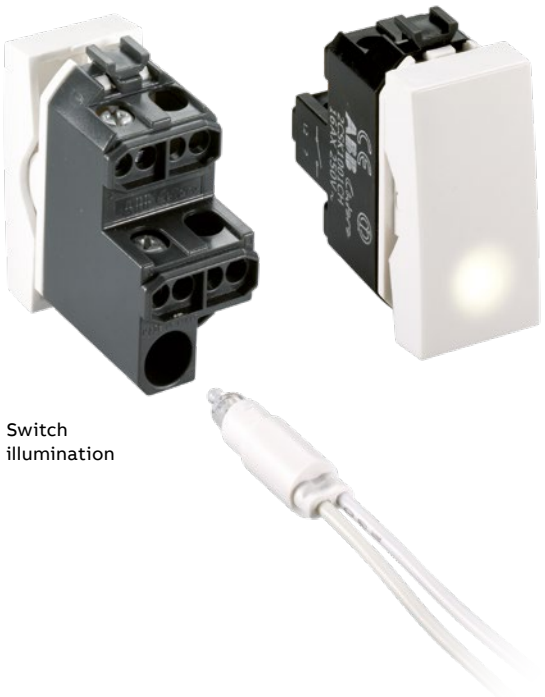
Note: The DIN rail adapter allows devices to be assembled without the aid of supports. The devices are inserted from the front. See technical details.

Technical details

Chiara – Selection of lights

Control devices		Lamps
2CSK1001CH	Single-pole switch, 16A - 250V~	LED lamp 2CSK1616CH White 230V 0.4W
2CSK1002CH	Double-pole switch, 16A - 250V~	
2CSK1004CH	Single-pole switch, 16A - 250V~, 2 modules	
2CSK1003CH	Single-pole two-way switch, 16A - 250V~	
2CSK1007CH	Single-pole two-way switch, 16A - 250V~, 2 modules	
2CSK1010CH	Intermediate switch, 16A - 250V~	
2CSK1008CH	Intermediate switch, 16A - 250V~, 2 modules	
2CSK1005CH	Single-pole push switch NO, 16A	
2CSK1016CH	Single-pole push switch NC, 16A	
2CSK1020CH	Single-pole push switch NO with cord pull, 16A with 2.25 m cord	
2CSK1021CH	Single-pole push switch NC with cord pull, 16A with 2.25 m cord	
2CSK1022CH	Single-pole push switch 1 NO and 1 NC, 16A, with ON	
2CSK1023CH	Single-pole push switch 1 NO and 1 NC, 16A, with OFF symbol	
2CSK1024CH	Single-pole push switch NO, 16A, with red diffuser	
2CSK1025CH	Single-pole push switch NO, 16A, with green diffuser	
2CSK1026CH	Single-pole push switch NO, 16A, with orange diffuser	
2CSK1027CH	Single-pole push switch NO, 16A, with white diffuser	
2CSK1028CH	Single-pole push switch NO, 16A, with BELL	
2CSK1029CH	Single-pole push switch NO, 16A, with KEY	
2CSK1030CH	Single-pole push switch NO, 16A, with STAIR LIGHT	
2CSK1031CH	Single-pole push switch NO, 16A, with backlit label holder plate	
2CSK1032CH	Single-pole push switch NO, 16A, with backlit label holder plate, 3 modules	

Signalling devices		Lamps
2CSK1310CH	Warning light, ORANGE colour	LED lamp 2CSK1616CH White 230V 0.4W
2CSK1311CH	Warning light, WHITE colour	
2CSK1312CH	Warning light, RED colour	
2CSK1313CH	Warning light, GREEN colour	



Switch illumination

Technical details

Chiara – Control devices

Switches, two-way switches, intermediate switches and pushbuttons

Area of application
Control (on and off) of ohmic-inductive loads:

- with filament and fluorescent lamps (corrected and uncorrected);
- dedicated circuits for powered equipment (aspirators, range hoods, shutters, blinds, fans, etc..) and controllable outlets.

To eliminate architectural barriers in creating installations, we recommend the use of luminous controls (Article 4 of Italian Ministerial Decree no. 236 del 14.06.1989).

Technical specifications	
Rated voltage	250V~
Rated current	10A (16A for pushbuttons)
Opening distance of the contacts	> 3 mm
Dielectric strength	> 2000V~

Reference standards
LV Directive EN 60669-1.

Customization of the control device keys
The illuminable keys of the Chiara wiring accessories' range are supplied with all most widely used functional symbols.

Wiring diagrams
The diagrams provided below are the most widely applied installation solutions in creating lighting points.

Backlighting of the control devices

Night-time location

Characteristics
- It allows the command key to be identified in the dark.
- We recommend the use of white, blue, green or red Chiara lamps.

Applications
- Bedrooms
- Corridors

Functional signalling

Characteristics
- This allows the command key to be identified and the ON/OFF status of a circuit to be signalled in the dark.

Applications
- General services of a building complex (entrance halls, stair lights, landings etc.)
- Public environments (cinemas, theatres etc.)

Signalling with symbols

Characteristics
- This allows the command key and its specific function to be identified in the dark.

Applications
- Warehouses, shops, offices
- Hotels
- Nursing homes, hospitals

With warning light

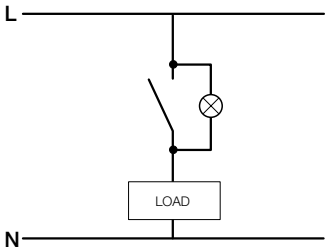
Characteristics
- Allows the ON/OFF status of an appliance or a lighting circuit, even at a distance.
- Visible from both a front and side position.

Applications
- Signalling the switching on of lighting points outside the environment in which the control device is installed

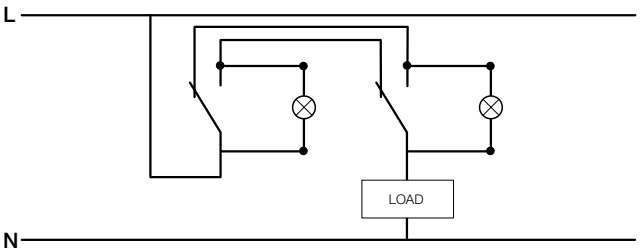
Technical details

Chiara – Control devices

Example of functional signalling

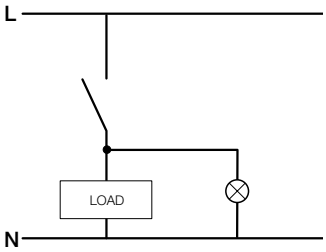


Warning light on when the switch is OFF (if the switch is in the ON state, the warning light is off while the load is ON).

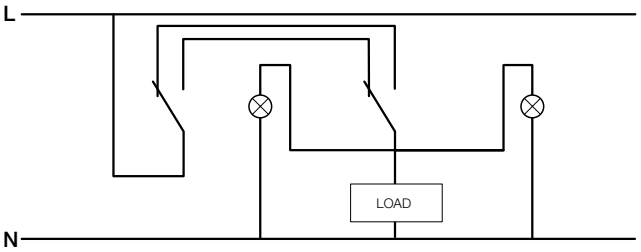


The two warning lights switch on and off respectively when the load is in the OFF and ON state.

Example of remote signalling



Warning light placed in parallel to the load, of which indicates the ON/OFF state (it is on when the switch is ON).



Two warning lights placed in parallel with the load (they switch on and off with it).

Instructions for installation in systems with relays and illuminable push switches

The lamps must be connected in parallel.

Using single-pole latching relays 2CSK1012CH, it is possible to connect up to four fluorescent lamps: by adding a 0.94µF capacitor to the heads of the relay, up to twelve fluorescent lamps can be connected.

Using double-pole latching relays 2CSK1014CH, it is possible to connect two fluorescent lamps: by adding a 1.41µF capacitor to the heads of the relay, up to twelve fluorescent lamps can be connected.

Technical details

Chiara – Control devices

Relays

Relay with latching operation for control and adjustment from multiple lamp points by means of single-pole push switches with NO (normally open) contact.

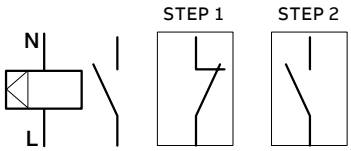
Technical specifications	
Power supply voltage (coil)	230V - 50/60Hz
Output contact	2CSK1012CH 1NO / 2CSK1014CH 2NO; 10A (AC1) / 7A (AC15) - 250V~

Reference standards

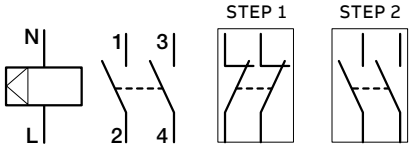
EN 60669-1, EN 60669-2-2.

Wiring diagrams

2CSK1012CH

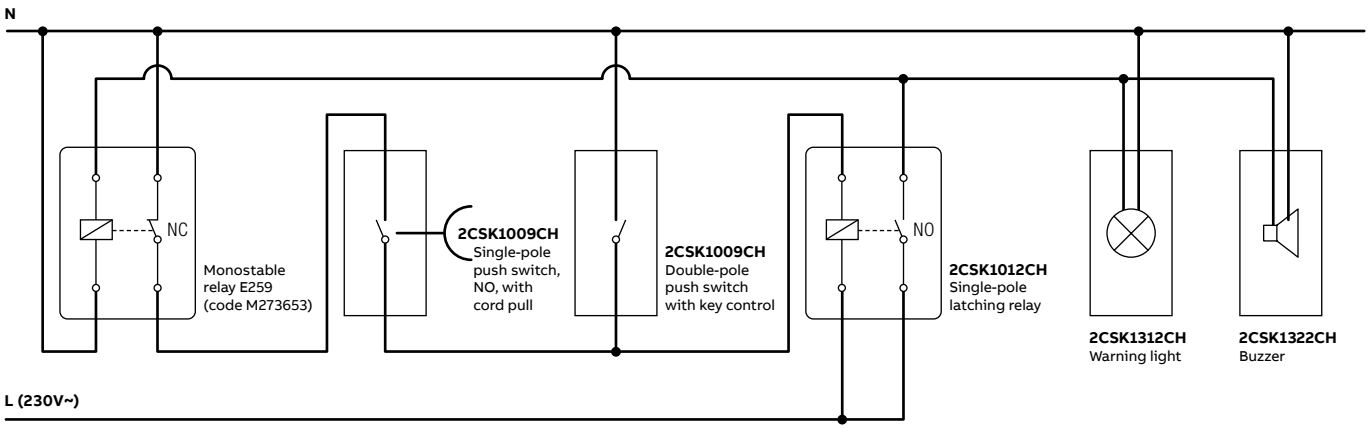


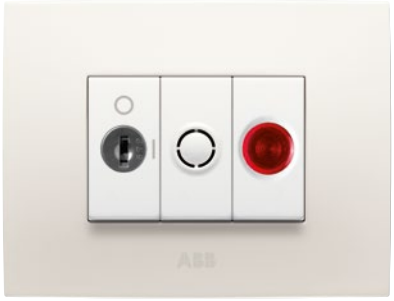
2CSK1014CH



Examples of application

The flush-mounted relays of the Chiara wiring accessories' range can be used to implement numerous functions. The example illustrates a disabled bathroom calling system with cancellation via a key operated push switch:





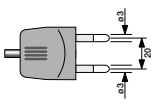
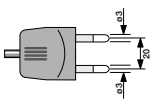
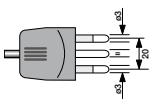
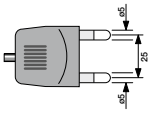
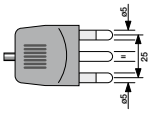
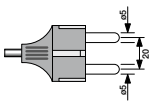
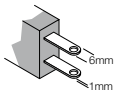
Technical details

Chiara – Socket outlets

Plug sockets

Area of application
Powering of household appliances, lighting equipment etc.

Main features Italian and German standard sockets.
The cells of the sockets are segregated and protected when the plug is disconnected: the live parts are accessible only with the corresponding plug fully inserted.

Possibility of coupling Chiara sockets with the various types of plugs on the market		2P, 10A	2P, 2,5A	2P+T, 10A	2P, 16A	2P+T, 16A	Schuko 2P+T, 16A	American 2P, 15A
								
Plug sockets, 250V~, Italian standard with safety shutters								
	P 11 2CSK1101CH	■	■	■				
	P 17 2CSK1102CH				■	■		
	P 17/11 2CSK1103CH	■	■	■	■	■		
Plug sockets, 250V~, Italian/German standard with safety shutters and side/central earth								
	P 30 2CSK1108CH	■	■	■			■	
	P 30/17 2CSK1109CH	■	■	■	■	■	■	
Interlocked socket outlets with automatic MCB								
	P 17/11 2CSK1324CH	■	■	■	■	■		
	P 30 2CSK1325CH	■	■	■			■	
Special sockets								
	Shaver socket[1] 2CSK1113CH	■	■					■

[1] Shaver socket, European/American standard with insulating transformer 230V~ - 50/60 Hz

Technical specifications	
Rated voltage	250V~
Rated current	10A o 16A
Shuttered and elastic live cells	

Reference standards
CEI 23-5, CEI 23-50, CEI 23-16 (IEC 60884-1).

Note: In general terms, no plug sockets of any standard for domestic use fall under the European low voltage directive, because there is no harmonized European standard for these types of sockets: in fact, each country has its own standard and therefore a single standard is impossible. For this reason the plug sockets do not bear the CE mark. All the sockets of the Chiara wiring accessories' range conforming to CEI 23-50 are however are certified by IMQ as a further guarantee of their quality and compliance with standards.

Technical details

Chiara – Socket outlets

Plug sockets for dedicated lines

Plug sockets for dedicated lines allow outlet points to be differentiated according to their particular application, avoiding incorrect connection of unsupported appliances. Different coloured enclosures (red, orange, green) distinguish them from common power sockets.
There are as yet no standard regulations on the correspondence between the colour of the socket and the type of power supply. In order to distinguish the area of application, the following usage customs are adopted.

Red:
continuous power supply with UPS (uninterruptible power supply) through an insulating transformer.

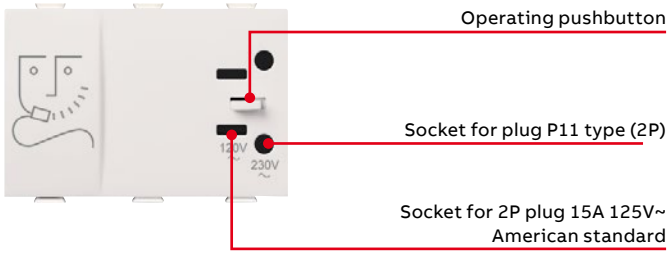
Orange:
power supply protected by network-generator unit through an insulating transformer.

Green:
safety power supply with network/generator unit.

Special sockets

Description	Code
2P shaver socket with insulating transformer. Power supply 230V~ - 50/60Hz. Output voltage 125V~ (American standard 2P socket) or 230V~ (2P socket P11 type)	2CSK1113CH

Components



The shaver socket incorporates an insulating transformer with a power rating of 20 VA, protected against overload and resistant to short-circuits.
Power supply is guaranteed by a pushbutton that is operated automatically whenever the plug is inserted in the socket.
The secondary circuit, to which the cells of the socket are connected, is isolated from the primary power supply circuit by double insulation:
additional protections (shutter devices) on the cells of the socket are therefore superfluous.

The socket is suitable for the insertion Italian standard plugs of the P11 type (2P) and American standard plugs (2P).
The shaver socket is protected against overload with a thermal interruption device without auto-reclosing.
After the protection is tripped, the cells of the socket are not energized. To reclose the circuit, the plug of the device that caused the overload must be disconnected, waiting a few minutes in order to allow the transformer to cool down.

Technical specifications	
Power supply	230 V~ 50-60 Hz
Output voltage	230 V~ for plugs P11(2P) 2,5 A 120 V~ for plugs 2P 15 A 125 V~ American standard with non-polarized flat pins
Available power	20VA
Operation with auto-protected	temperature

Reference standards

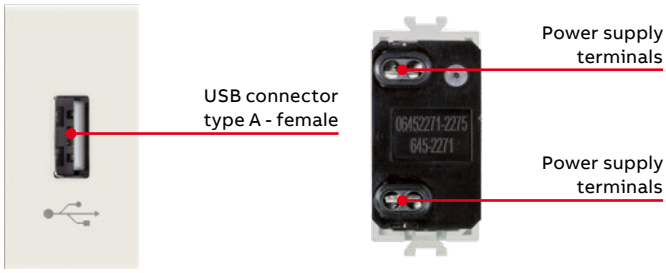
EN 61558-2-5, EN 61000-3-2, EN 55014-1, EN 55014-2.

Technical details

Chiara – Socket outlets

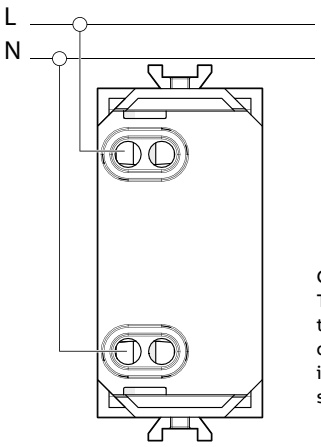
Description	Code
Flush-mounted USB charger 500-650mA, with male type A connector, power supply 230~ 50/60Hz, output voltage 5V DC	2CSK1160CH

Components



The flush-mounted USB charger allows you supply and recharge the most common portable electronic devices. Using only a USB cable with Type A male connector it is possible to power mobile phones, smartphones, tablets and cameras that support standard USB power supply (up to 650mA), independently of the manufacturer.

Wiring diagrams



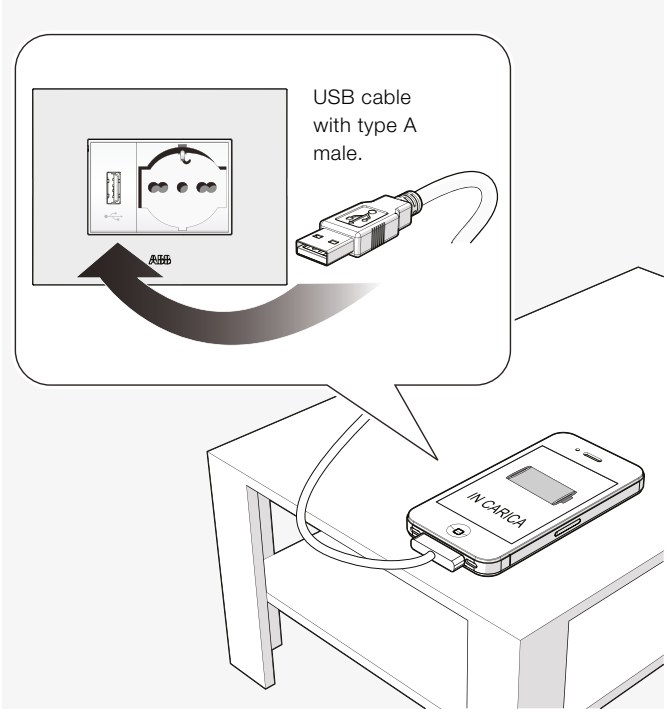
Caution!
The device absorbs up to 60mW in the absence of connected electronic devices. To exclude this absorption, it is recommended to use a double-pole switch.

Operating method

Connect the USB cable with the type A male connector to the charger and the opposite end to the device to be powered. Type A, B, miniUSB and microUSB USB connectors can be used indifferently. The device is now being charged.

Caution: the device supplies power according to the USB data transmission protocol, with a maximum current of 650mA at 5V ⎓. Some devices may require a higher power supply current. Look up the manual of the connected device to check its absorption specifications.
The charging time depends on the connected device and may vary compared with the original charger.

Examples of application



Technical specifications	
Power supply	125-250V - 50/60 Hz
Input current	5A 230V
Output current	500-650mA at 5V DC
Max absorption in standby	60mW
Operating temperature	-20 +50°C
Storage temperature	-20 +80°C
Protection class	IP20
Place of use	indoors, dry
The device is protected against short-circuits by an internal fuse (not replaceable).	

Technical details

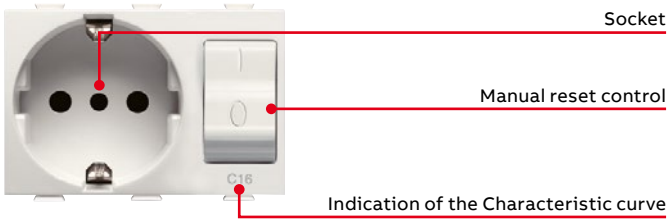
Chiara – Socket outlets

Interlocked socket outlets

Description	Code
2P+E socket outlet, 16A - 250V~, interlocked with MCB, P17/11	2CSK1324CH
2P+E socket outlet, 16A - 250V~, interlocked with MCB, P30	2CSK1325CH
2P+E socket outlet, 16A - 250V~, with RCD 10mA, P17/11	2CSK1326CH

Components

Interlocked socket outlets with automatic MCB (PIA)



Interlocked socket outlets with automatic MCD (PID)

Interlocked socket outlets with automatic MCB (PIA)
These sockets are suitable for installation in the system terminations for protection of the load supplied from the outlet against dangers of short circuits and overloads..

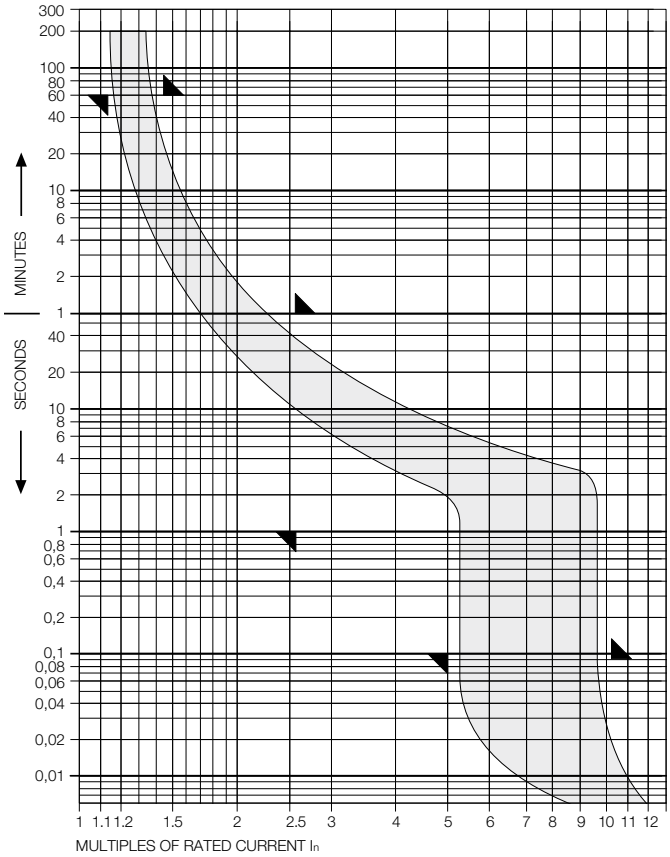
Interlocked socket outlets with automatic RCD (PID).
These sockets are suitable for installation in the system terminations for protection of the load supplied from the outlet against dangers of short circuits and overloads, as well as protection of the user against contact voltages.
The residual current function with sensitivity of 10 mA also acts in the presence of non-sinusoidal fault currents (alternating currents mixed with unidirectional pulsating currents).

In compliance with installation standards, they are particularly suitable for the protection of:
- terminal user devices in rooms where there is a greater risk of electrocution (bathrooms, showers, etc.)
- sockets that power class 1 users with electronic circuits
- sockets for portable user devices in domestic or similar environments (irons, drills, etc.).

Operation

The MCB or RCD interlocked with the socket energises the cells of the socket only after the plug has been inserted and automatically cuts off voltage to the socket before the plug is fully extracted.
Therefore the plug is always inserted and extracted without an electrical arc.
The lever of the circuit-breaker can be closed only after the plug is inserted; without the plug, the lever operates without effect and does not close the switch.

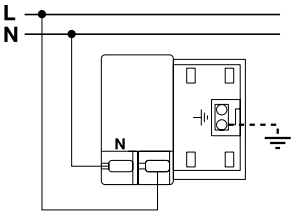
Current-time tripping diagrams for circuit-breakers of the Chiara range



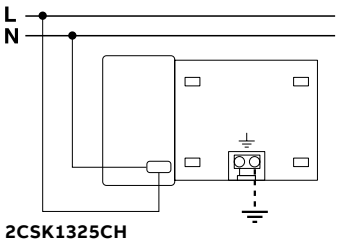
Technical details

Chiara – Socket outlets

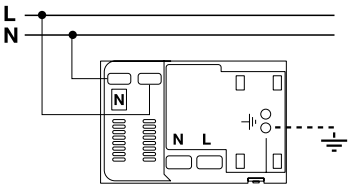
Wiring diagrams



2CSK1324CH



2CSK1325CH



2CSK1326CH

Technical specifications	
Power supply voltage	230 V~ - 50 Hz
Residual current (sensitivity)	IΔn 10 mA
Operation dependent on the line voltage	they must be installed downstream of a general residual current circuit-breaker
Thermomagnetic tripping	with characteristic C
Double-pole isolation	with 1 protected pole
Breaking capacity	3000 A
Rated current corresponding to the standard of the socket	
Type A RCBO for alternating and unidirectional pulsating currents	
Front LED with green light indicates normal operation with the presence of network power supply and contact closed	

Reference standards:

Interlocked socket outlets with MCB:
LV Directive, Standard CEI 23-97.
Interlocked socket outlets with RCD:
LV Directive, Standard CEI 23-96.

Technical details

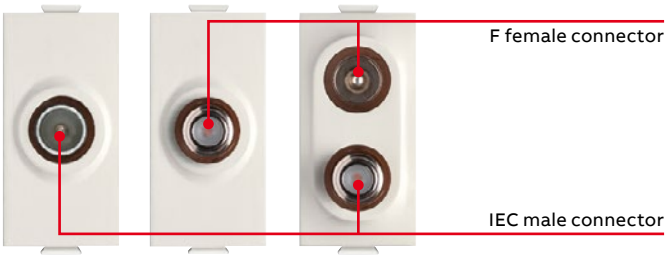
Chiara – Socket outlets

TV/SAT sockets

The TV/SAT coaxial sockets for the Chiara series offer a complete range of products for implementing the terminal part of modern antenna systems. Manufactured fully from die cast Zama, they include a pressure terminal with safety screw in order to guarantee proper grip of the cable.

Individual sockets are available with male IEC or female F bushing, and double demixed sockets with both connection possibilities. Various levels of attenuation are available, ensuring that solutions are available for every type of installation.

Components



TV/SAT coaxial sockets

Double demixed TV/SAT coaxial sockets

Attenuation values of the TV/SAT coaxial sockets

Code	Bushing	Passing attenuation [dB]			Bridging attenuation [dB]			Inverse attenuation [dB]	Direct current transit
		5÷40 MHz	47÷862 MHz	950÷2402 MHz	5÷40 MHz	47÷862 MHz	950÷2400 MHz		
2CSK1117CH	Male IEC Terr.	-	-	-	0,5	0,5	0,5	-	NO
2CSK1118CH	Male IEC Terr.	-	-	-	0,5	0,5	0,5	-	YES
2CSK1132CH	Male IEC Terr.	≤2	≤2	≤3	≤7	≤7	≤8	≥35	NO
2CSK1136CH	Male IEC Terr.	≤2	≤2	≤2,5	≤10,5	≤10	≤11	≥35	NO
2CSK1137CH	Male IEC Terr.	≤1,5	≤1,5	≤2,5	≤14,5	≤14	≤14,5	≥35	NO
2CSK1138CH	Male IEC Terr.	≤1,5	≤1,5	≤2,5	≤18,5	≤18	≤18,5	≥35	NO
2CSK1119CH	Female SAT	-	-	-	≤0,5	≤0,5	0,5	-	YES

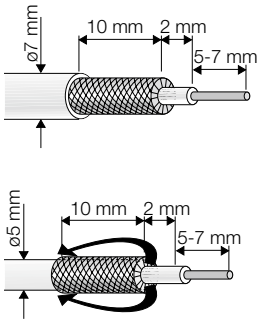
Attenuation values of double demixed TV/SAT coaxial sockets

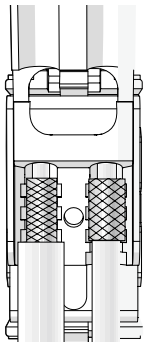
Code	Bushing	Passing attenuation [dB]		Bridging attenuation [dB]		Inverse attenuation [dB]	Direct current transit
		TV	SAT	TV	SAT		
2CSK1133CH	Male IEC Terr. Female SAT	-	-	≤2	≤2	-	YES
2CSK1120CH	Male IEC Terr. Female SAT	≤4	≤5	≤6,5	≤7	≥35	YES
2CSK1132CH	Male IEC Terr. Female SAT	≤3	≤4,5	≤10	≤11	≥35	YES
2CSK1131CH	Male IEC Terr. Female SAT	≤2	≤3	≤14	≤15	≥35	YES
2CSK1139CH	Male IEC Terr. Female SAT	≤1	≤2	≤18	≤19	≥35	YES

Technical details

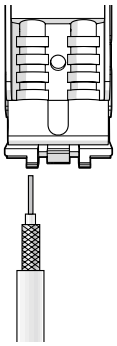
Chiara – Socket outlets

Instructions for installation



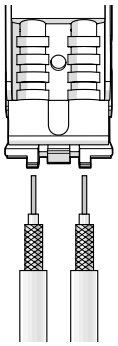


Direct socket



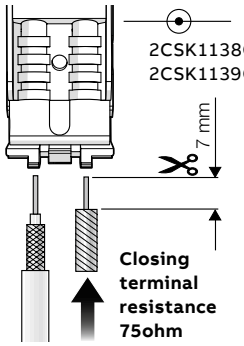
2CSK1117CH
2CSK1118CH
2CSK1119CH
2CSK1133CH

Feedthrough socket



2CSK1130CH
2CSK1131CH
2CSK1132CH
2CSK1135CH
2CSK1136CH
2CSK1137CH

Feedthrough socket converted to terminal socket



2CSK1138CH
2CSK1139CH

Closing terminal resistance 75ohm
2CSE1610EL

Technical specifications
Manufactured from die cast Zama.
Pressure terminal.
Available with bushing of type: male CEI, female F.

Reference standards

EN 50083-1, EN 50083-2, EN 50083-4

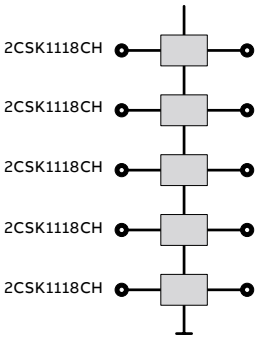
Technical details

Chiara – Socket outlets

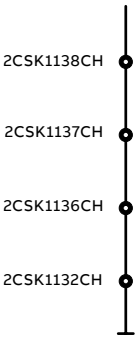
Wiring diagrams

TV

TV system with branched sockets from the central unit

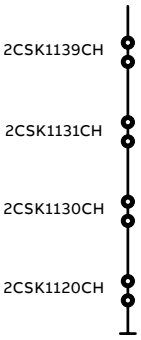


TV system with feedthrough sockets from the central unit

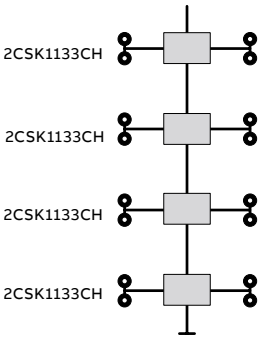


TV/SAT

TV/SAT system with feedthrough demixed sockets from the central unit

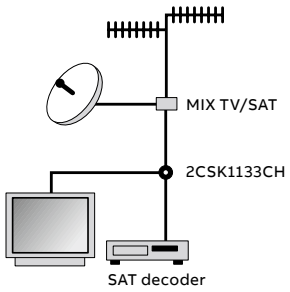


TV/SAT system with branched demixed sockets from the central unit

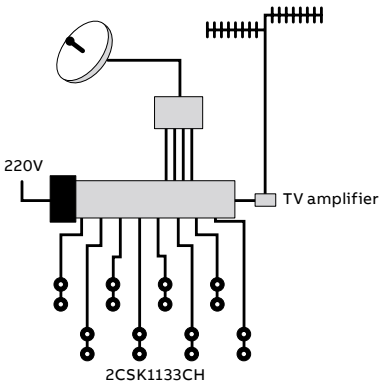


TV/SAT

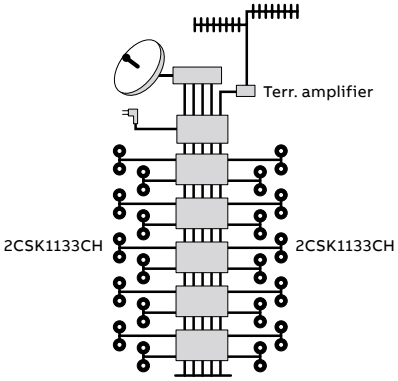
Mixed TV/SAT system, single consumer



Multiswitch radial TV/SAT system

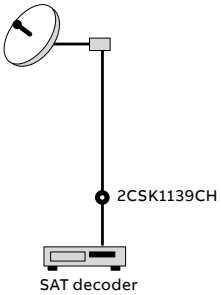


SAT system, single consumer

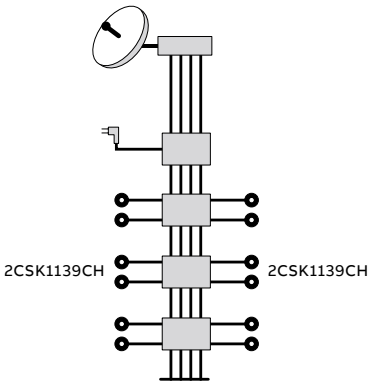


SAT

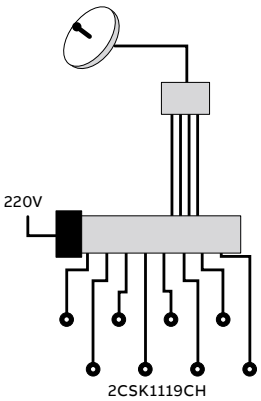
SAT system, single consumer



SAT and feedthrough Multiswitch system



SAT and radial Multiswitch system



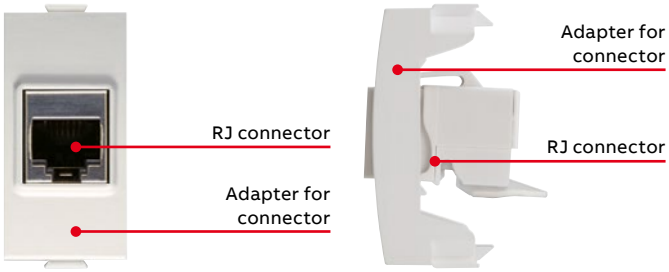
Technical details

Chiara – Socket outlets

Network and telephone sockets

The range includes devices for the implementation of telephone and computer networks, RJ11 4-contact telephone connectors for telephones, telefax, modems and RJ12 6-contact telephone connectors for intercommunicating telephone installations.
RJ45 category 5e and 6 connectors are also available. These devices allow computer equipment (computers, modems, printers, etc) to be connected in a network and connection of multimedia devices.

Components



Code	Connector type	No. contacts	Cable type	Shielded	Category	Speed
2CSK1121CH	RJ11	4	twin core	NO	3	up to 16 Mb/s
2CSK1122CH	RJ12	6	twin core	NO	3	up to 16 Mb/s
2CSK1124CH	RJ45	8	UTP	NO	5e	up to 100 Mb/s
2CSK1125CH	RJ45	8	FTP	YES	5e	up to 100 Mb/s
2CSK1127CH	RJ45	8	UTP	NO	6	up to 10 Mb/s
2CSK1128CH	RJ45	8	FTP	YES	6	up to 10 Mb/s

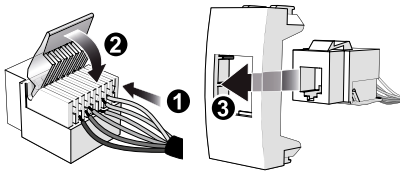
FTP = cable shielded with aluminium tape
UTP = unshielded cable

Instructions for installation

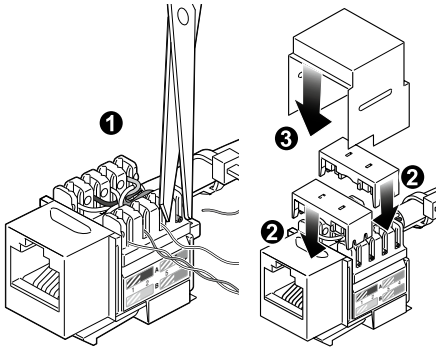
Unshielded connectors:
1. wire the connector making sure that the connection terminals match;
2. operate the lever wiring device on the connector;
3. latch the connector on the adapter and proceed with the installation on the frame.

Shielded connectors:
1. wire the connector making sure that the connection terminals match;
2. position the cover of the connector and squeeze with pliers to make sure the contacts are tight;
3. apply the shielding, ensuring insulation of the connector;
4. latch the connector on the adapter and proceed with the installation on the support.

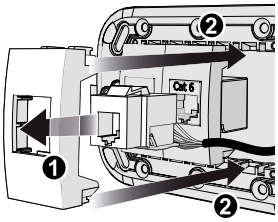
Keystone adapter 2CSK1135CH:
the structured wiring systems for data transmission are distinguished by their flexibility of use, installation independent of location and the use of the terminal outputs. The suppliers of components for wiring, when dealing with installations of a certain complexity and size, must be in able to show certification of conformity of the installation, directly or through accredited installations.
ABB meets this requirement with the adapter of the Chiara wiring accessories' range, which is compatible with various Keystone coupling connectors available on the market and enables integration between the Chiara wiring accessories' range and data transmission components of systems with structured wiring.
1. latch the connector on the adapter and proceed with the installation on the frame.



Unshielded connectors



Shielded connectors

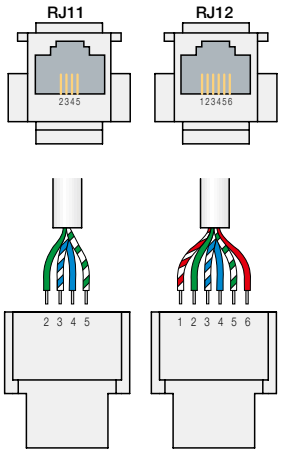


Keystone adapter 2CSK1135CH

Technical details

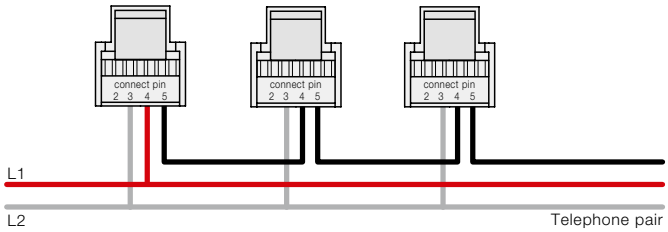
Chiara – Socket outlets

Wiring diagrams for RJ11 and RJ12 telephone connectors



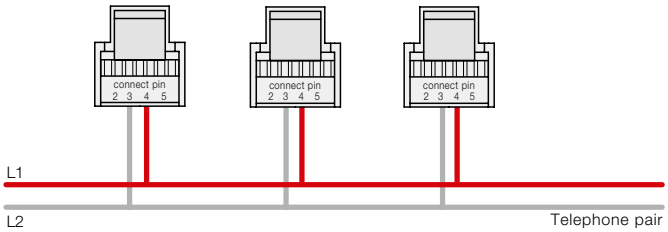
For telephone use, 2 wires of the RJ11 and RJ12 connectors, use the central contacts 3-4

Connection in series

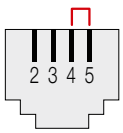


Terminals 3 and 4 are connected via the internal contact to the telephone (closed with the receiver hung up). Lifting the receiver causes interruption of the downstream line (L1), guaranteeing secrecy of the conversation.

Connection in parallel



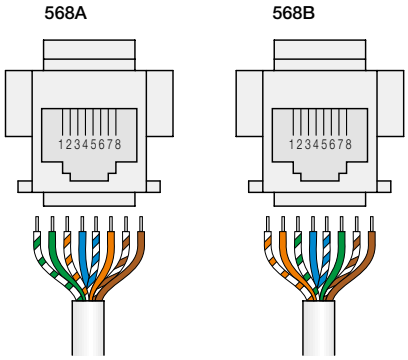
Each socket captures the line signal (there is no secrecy of conversation).

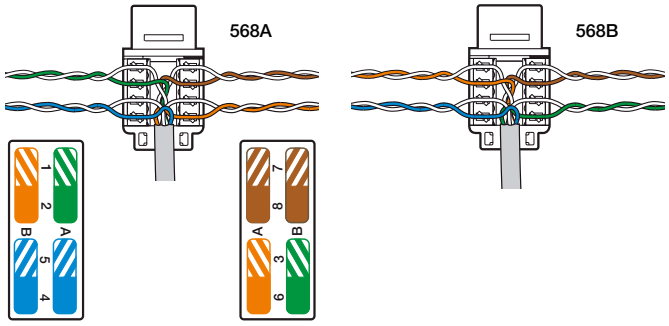


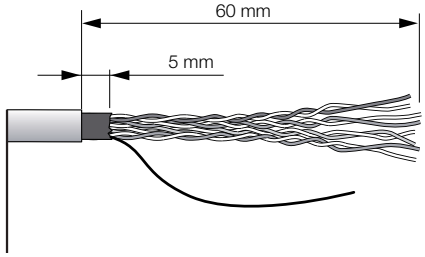
Note: extracting one of the plugs causes disconnection of sockets located downstream. In order to prevent this, you just need to insert a plug in the socket from which the telephone device was removed with a jumper between terminal 4 and 5.

Wiring diagrams for RJ45 data connectors

To obtain the EIA/TIA 568A or 568B configuration included below, follow the colour code shown on the terminal box.







Technical specifications	
Connections	With perforated insulation
Conductors	non-butted, inserted in the appropriate blade slots

Reference standards

EN 50083-1, EN 50083-2, EN 50083-4, ISO 11801.

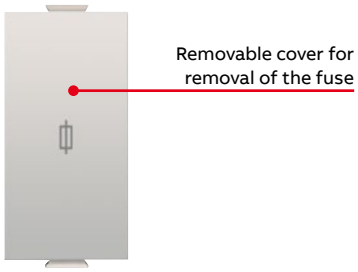
Technical details

Chiara – Protection devices

Fuse holder

Description	Code
Fuse holder, Ø5x20 / Ø6.3x32, 16A	2CSK1301CH

Components

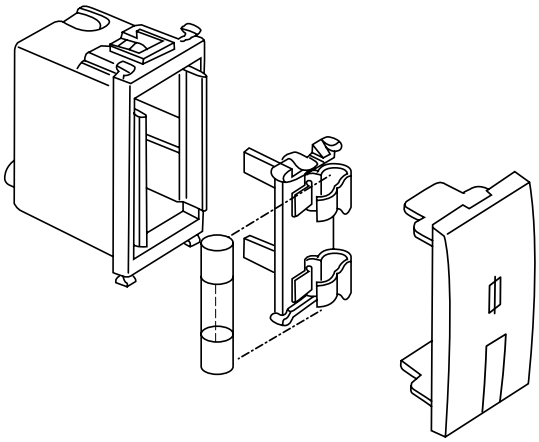


Replacement fuses

Fuses with dimension Ø5x20mm or Ø6.3x32 mm can be installed.

Replacement of the fuse

After removing the removable cover with a screwdriver, proceed with replacement as in the drawing:

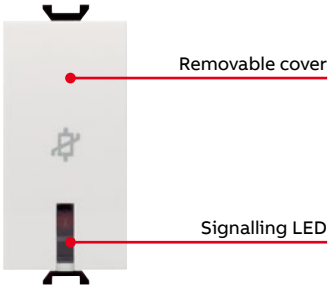


Technical details

Chiara – Protection devices

Description	Code
Overvoltage limiter, 75J, 230V~	2CSK1315CH

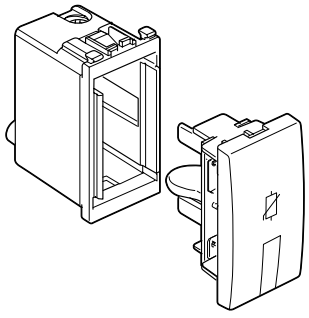
Components

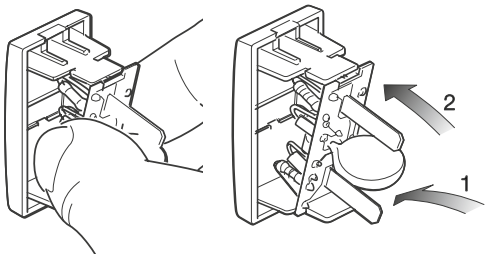


This device provides protection for power supply sockets for all types of household appliances and in particular for those containing electronic components (Hi-Fi, TV, computers, video recorders, programming mechanisms, cash registers etc.) from damage caused by over-voltages present in power supply networks.

Instructions for installation and operation

The protection device is housed in the removable front cover. To replace it, after disconnecting the voltage from the installation, extract the cover from the limiter and separate the SPD block from the plastic cover, levering it with a screwdriver. Replace it with spare part 2CSY1302MY.



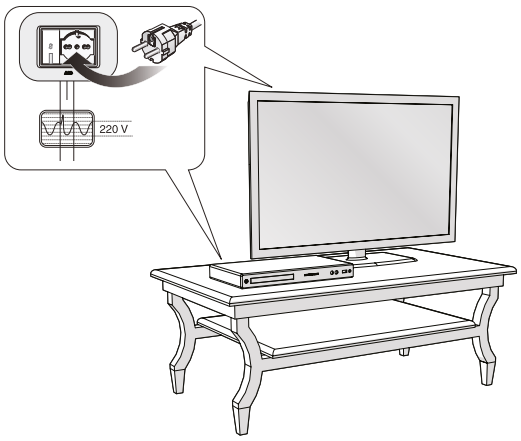


Functions

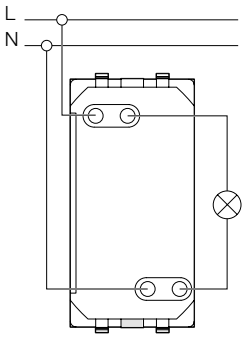
When the red warning light is on, it indicates that the protection has tripped and needs to be replaced (the load remains energised but it is not protected).

Examples of application

Over-voltages in domestic networks can be caused both by atmospheric interference and by control, operation or programming of connected inductive loads (air conditioners, burner motors, water pumps, reactors of fluorescent or discharge lamps, washing machines, etc.).



Wiring diagram



Technical specifications	
Residual current limiting	protection (line-to-neutral)
Rated voltage (U_n)	120-230 V~ 50/60 Hz
Number of ports	1
Rated load current I_L	16 A
Max steady current (U_c)	250 V~
Test class	III
Protection level (U_p)	< 1.2 kV
Test voltage of combined wave generator U_{oc}	2.5 kV
Rated flashover current (I_n)	1 kA (8/20 ns) 20 times
Max flashover current (I_{max})	2 kA (8/20 ns) once
Temperature range	-5 °C - +40 °C
Internal integrated protection	fuse

Reference standards

LV Directive, Standard EN 61643-11

Technical details

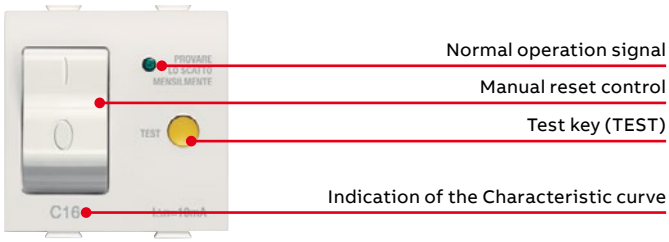
Chiara – Protection devices

Miniature circuit-breakers and Residual current circuit-breakers

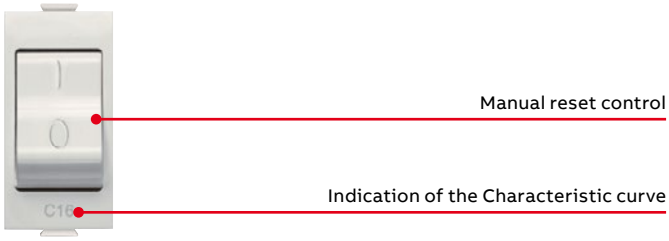
Description	Code
Automatic MCB, 1P+N, C6, breaking capacity 1.5kA	2CSK1304CH
Automatic MCB, 1P+N, C10, breaking capacity 3kA	2CSK1305CH
Automatic MCB, 1P+N, C16, breaking capacity 3kA	2CSK1306CH
Automatic RCD, 1P+N, C6 - 10 mA, breaking capacity 1.5kA	2CSK1307CH
Automatic RCD, 1P+N, C10 - 10 mA, breaking capacity 3kA	2CSK1308CH
Automatic RCD, 1P+N, C16 - 10 mA, breaking capacity 3kA	2CSK1309CH
Automatic RCD, 1P+N, C6 - 30 mA, breaking capacity 1.5kA	2CSK1328CH
Automatic RCD, 1P+N, C10 - 30 mA, breaking capacity 3kA	2CSK1329CH
Automatic RCD, 1P+N, C16 - 30 mA, breaking capacity 3kA	2CSK1330CH

Components

Automatic RCD



Automatic MCB



Automatic MCBs and automatic RCDs provide protection against over-currents and earth fault currents of terminal circuits. Protection class with the device embedded in smooth vertical walls with the associated support, frame and blank covers, if required: IP41.

Instructions for installation and operation

Use in dry and dust-free locations.

- Temperature between -5 °C and +40 °C..
- Suitability for installation on the supply side of a socket or device for the protection against overloads and short circuits of the equipment and, at the same time, for protection of the users against contact voltages.
- The sensitivity (operating residual current) of 10mA and the suitability for operation also in the presence of non-sinusoidal fault currents (alternating currents mixed with unidirectional pulsating currents) allow the protection devices of the Chiara range to be classified as “type A RCBOs” (identified by the symbol), particularly suitable for the protection of:
  - terminal uses in rooms where there is a greater risk of electrocution (bathrooms, showers, kitchens etc.), as prescribed by the CEI standards;
  - class I consumer power sockets with electronic circuits (computers and accessories, electronic scales, electronic typewriters, cash registers etc.). In domestic and service industry networks non-sinusoidal fault currents are often present because of the use of electronic boards in domestic appliances.
- The electromagnetic part of the circuit breakers guarantees protection against overloads and short circuits; the residual current part of the devices, for current values of 10mA, guarantees protection of persons against the contact voltages.
- Closing the circuit: manually press the lever of the circuit breaker at the “I” symbol.
- Opening the circuit:
  - manually, by pressing the lever of the circuit breaker at the “0” symbol or the yellow test button (test);
  - automatically, due to thermal (overload), magnetic (short-circuit) or residual current (earth fault current) tripping.
- The device must not be used as a control breaker.
- To check that the circuit breaker is installed and behaving correctly, the yellow test button (test) must be pressed every month. If the device is correctly installed and powered, the circuit breaker trips; if it does not, you must immediately inform the installation technician because safety will be compromised. After the test, you need to press the main key near the “I” symbol in order to reset the circuit breaker.
- Thermomagnetic tripping with characteristic “C” (see the current-time tripping diagram provided below).
- Double-pole operation with one protected pole + N, type A for alternated fault currents and unidirectional pushbuttons.
- Operating residual current (sensitivity) IΔn 10mA; the circuit breaker must be connected according to the electrical diagram provided below.

Technical details

Chiara – Protection devices

Functions

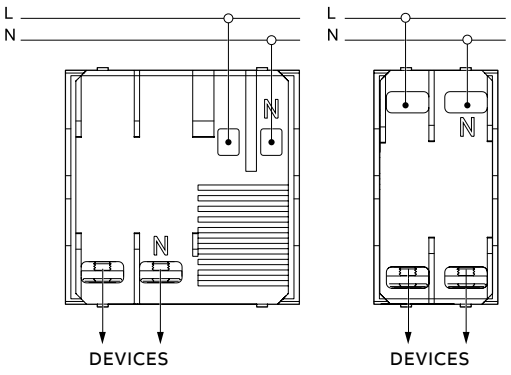
- Green front LED for signalling normal operation: presence of line voltage and closed circuit.
- Internal temperature checking: the circuit breaker automatically operates the opening of the circuit as soon as the safety threshold is exceeded.
- Self-test function to check the electrical continuity of the internal residual current circuit (in the absence of continuity, the circuit breaker will open).
- Opening the circuit if voltages occur higher than the predefined threshold at the circuit breaker input(for example, in 380V~ three-phase systems the circuit breaker prevents an erroneous “line-to line ” connections, instead of “line-to-neutral”).

Characteristics

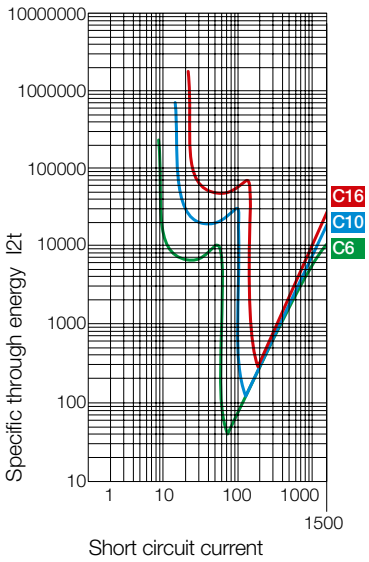
- Main lever operated control part: “I” symbol (closed circuit); “0” symbol (open circuit).
- Front LED for signalling the presence of line voltage and closed circuit.
- Yellow test button (test) for checking that the device is functioning properly.
- Terminals protected with captive screws for clamping two conductors up to 4 mm² each
- Construction of the thermo magnetic part as prescribed by Standards EN 60898 and IEC 60898.
- Construction of the residual current part according to Standards EN 61009 and IEC 61009.
- Power supply voltage: 120-230V~ ±10% 50-60Hz.

The supply line can be connected to either the upper or the lower terminals of the circuit breaker, which must be installed downstream of a general residual current circuit breaker (Standard CEI 64-8/5, paragraph 532.2.2.2).
The line voltage determines operation (Standard IEC 1009-1, paragraph 4.1.2).

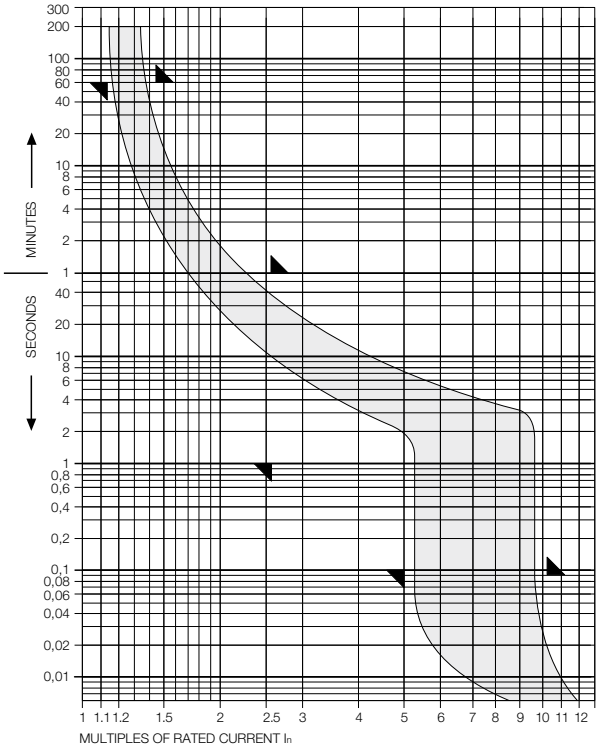
Wiring diagram



Characteristic curves



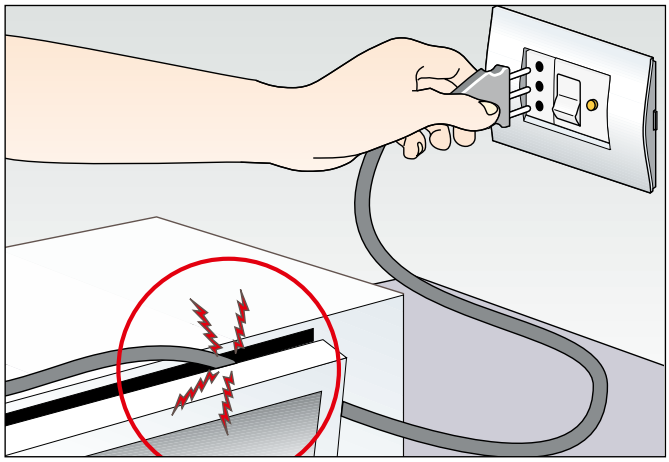
Current-time tripping diagrams for circuit-breakers of the Chiara range

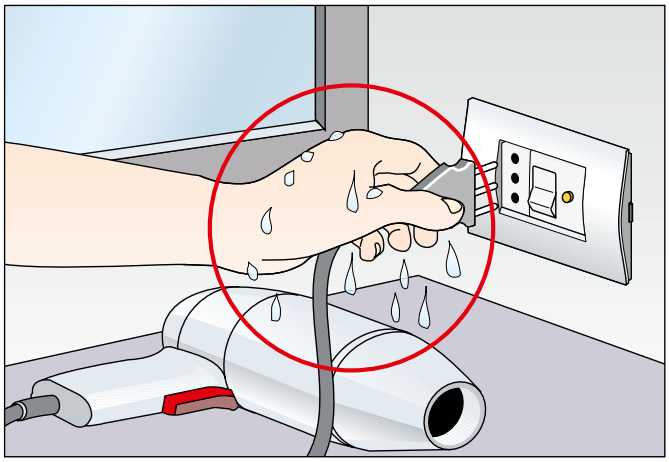


Technical details

Chiara – Protection devices

Examples of application





Technical specifications		
Type of circuit breaker	MCB	RCD
Rated voltage	230V	230V
Rated frequency	50 ÷ 60Hz	50 ÷ 60Hz
Rated residual current	-	10mA or 30mA
Short-circuit breaking capacity	6A 1500A 10A 3000A 16A 3000A	6A 1500A 10A 3000A 16A 3000A
Correnti nominali	6 -10 -16A	6 -10 -16A
Number of poles	1P + N	1P + N
Tripping characteristic		
Overcurrent protection	Type C	Type C
Limitation class	3	3
Residual current protection	-	Class A

Reference standards

Thermomagnetic: EN 60898-1 - Differential: IEC 61009-1

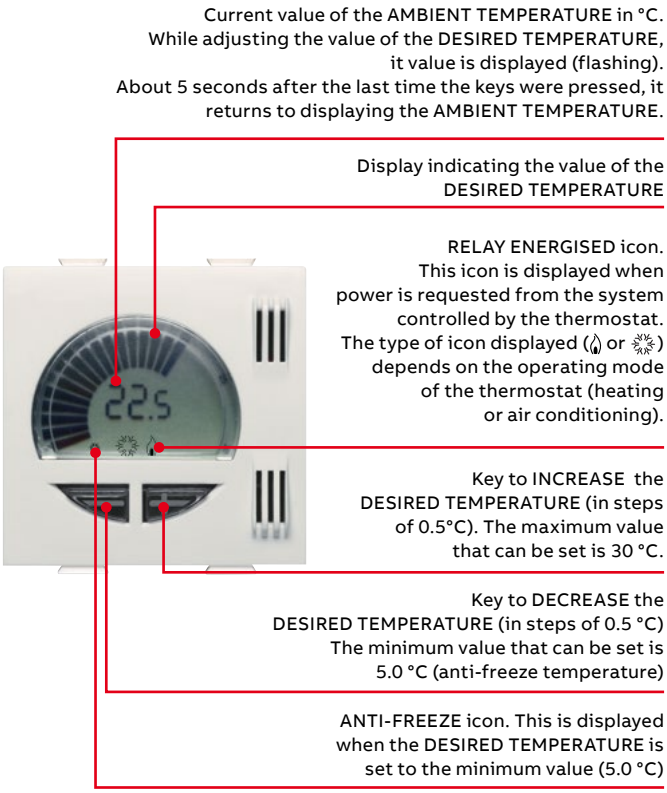
Technical details

Chiara – Safety and comfort devices

Thermostats and time-programmed thermostats

Description	Code
Summer/winter electronic thermostat, relay output, 1 contact NO 8A (AC1)/2A (AC15) - Power supply 230V~ 50/60Hz	2CSK1202CH

Components



The electronic thermostats of the Chiara series are equipped with a summer/winter switch for heating and air conditioning systems.

Characteristics

- Display of the current ambient temperature
- Display of the comfort temperature
- Display of the night-time temperature set
- Possibility to increase or decrease of temperature in steps of 0.5°C
- Minimum configurable value that can be set 5°C (anti-freeze temperature) and maximum configurable value 30°C
- Display of the operating status of the thermostat by means of symbols
- Anti-freeze function set to 5°C

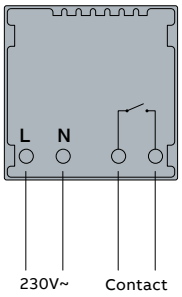
Instructions for installation and operation

For correct operation, the thermostat must be installed at a height of approximately 1.5 metres from the floor, on internal walls, protected from direct sunlight and from any thermal interference such as heaters, lamps, televisions or any object that generates heat.
This device for controlling heating or air conditioning systems, uses a special technique that allows greater stability of the ambient temperature to be achieved while guaranteeing better comfort.

Areas of application

The environmental thermostats can be used for both heating and conditioning systems to control burners, pumps, valves, and refrigeration compressors.

Wiring diagrams



Technical specifications	
Power supply	230V~ ±15% - 50Hz
Consumption	< 0.5 W
Output	Clean contact of 8A resistive relay
Operating temperature	from 0°C to +50°C
Adjustment range	from +5°C to +30°C
Precision	±1°C
Area of use	heating and air conditioning
Type of adjustment	PI
Proportional band	2.5°C

Reference standards

EN60730-1, EN60730-2-9, EN61000-3-2, EN61000-3-3, EN55014-1,EN55014-2

Technical details

Chiara – Safety and comfort devices

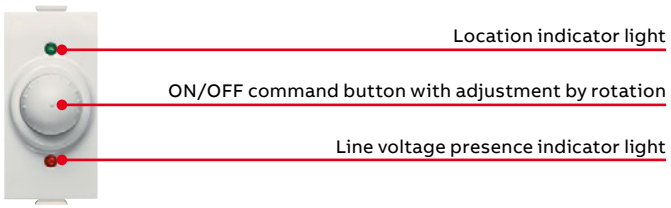
Dimmer

Loads that can be controlled with the dimmer

Dimmer type		Loads						
		Fluorescent or halogen lamps 230V	Fluorescent lamps	Toroidal transformers	Electronic transformers	Electro-mechanical transformers	Drills	Air agitators
Dimmer code	Description							
2CSK1205CH	Electronic dimmer with rotary control	YES	NO	NO	NO	NO	NO	NO
2CSK1207CH	Electronic dimmer with button control	YES	NO	YES	NO	YES	NO	NO
2CSK1204CH	Electronic dimmer with rotary control and two-way switch	YES	NO	NO	NO	NO	NO	NO

Description	Code
Electronic dimmer with rotary control for resistive loads 100-500W, 230V~ - 50/60Hz	2CSK1205CH

Components



Electronic dimmer with rotary control for resistive loads 100-500W 230V~ 50/60Hz (visible in the dark).

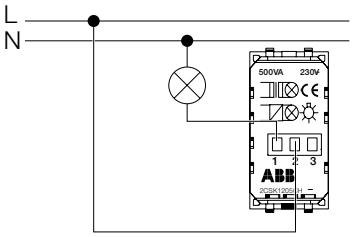
Operation

The load can be controlled and adjusted by rotating the knob.
The light intensity of the location LED is attenuated as the brightness of the controlled lamps increases.

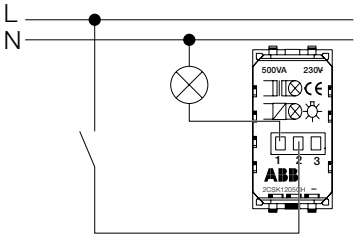
Wiring diagram

The connection can be made between phase and neutral or between phase and phase, always in series with the load.

Control with dimmer



Control with a switch and adjustment with a dimmer



Technical specifications		
Rated voltage	230V - 50/60Hz	110V - 50/60Hz
Resistive load power	100 - 500W	50 – 250W
Inductive load power	100 – 500VA	50 – 250VA
Technology	TRIAC	TRIAC
Operating temperature	-5 °C ÷ +35 °C.	
Adjustable load	Filament and halogen lamps	

Reference standards

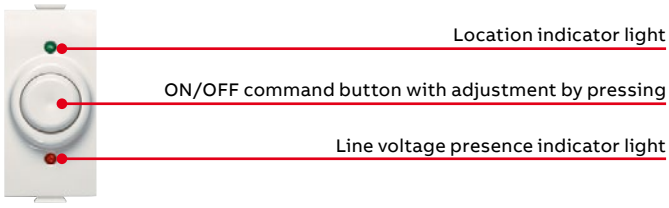
CEI 23-9 (EN 60669-1)

Technical details

Chiara – Safety and comfort devices

Description	Code
Electronic dimmer with pushbutton control for resistive and inductive loads 60-500W, (60-500VA) 230V~ - 50/60Hz	2CSK1207CH

Components



Electronic dimmer with pushbutton control for resistive and inductive loads 60-500W 60-500VA 230V~ -50/60Hz (visible in the dark).

Operation

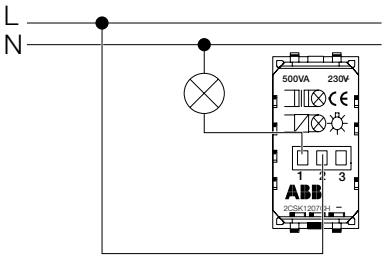
The load can be controlled and adjusted using a pushbutton. The light intensity of the location LED is attenuated as the brightness of the controlled lamps increases.
The load can be turned on, adjusted and turned off using the pushbutton present on the dimmer or with normal non-luminous NO pushbuttons connected to the dimmer.

- Storage of the adjustment set when the load was switched off (apart from network outages).
- Switch-on and switch-off of the load is gradual.
- Pressing the pushbutton quickly causes the load to be switched on or off. Adjustment is obtained by keeping it pressed. To reverse the direction of adjustment, interrupt and then resume pressing the pushbutton.
- If the pushbutton is pressed approximately between 0.3 s and 1 s, the dimmer will light up the controlled lamps, automatically and gradually, to their maximum brightness.

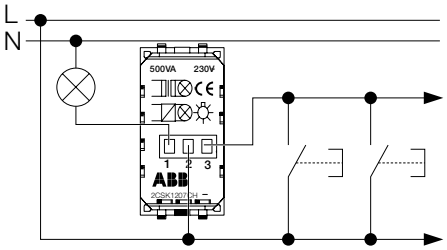
Wiring diagram

The connection can be made between phase and neutral or between phase and phase, always in series with the load.

Control and adjustment with a dimmer pushbutton



Control and adjustment with a dimmer pushbutton and NO button connected in parallel



Technical specifications		
Rated voltage	230V - 50/60Hz	110V - 50/60Hz
Resistive load power	60 - 500W	30 – 250W
Inductive load power	60 – 500VA	30 – 250VA
Technology	TRIAC	TRIAC
Operating temperature	-5 °C ÷ +35 °C.	
Adjustable load	Filament and halogen lamps, ferromagnetic transformers for halogen lamps	

Reference standards

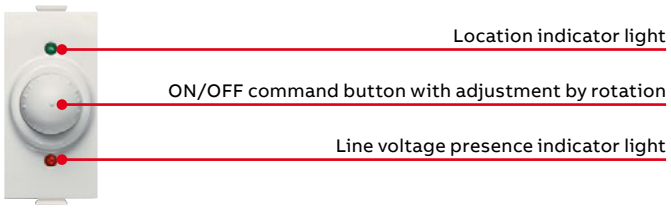
CEI 23-9 (EN 60669-1)

Technical details

Chiara – Safety and comfort devices

Description	Code
Electronic dimmer with rotary control and with two-way switch for resistive loads 100-500W, 230V~ - 50/60Hz	2CSK1204CH

Components



Electronic dimmer with rotary control and two-way switch for resistive loads 100-500W 230V~ -50/60Hz (visible in the dark).

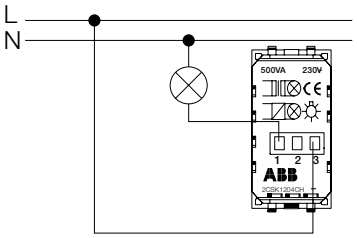
Operation

The load is controlled directly by means of a pressed two-way switch. Adjustment is performed by rotating the knob. The light intensity of the location LED is attenuated as the brightness of the controlled lamps increases.
Once the desired lighting level has been set, pressing the knob will switch the light source off, while pressing it again will switch it back on at the set lighting level.

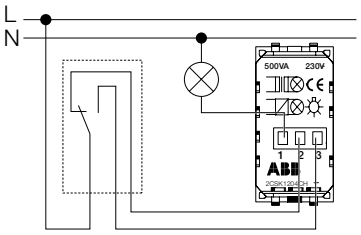
Wiring diagram

The connection can be made between phase and neutral or between phase and phase, always in series with the load.

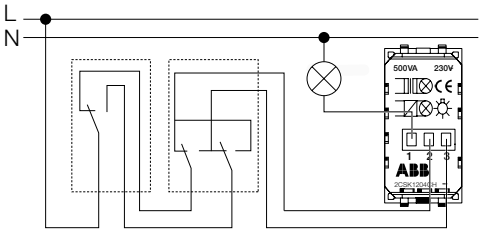
Control and adjustment with a dimmer



Control with two-way switch and dimmer, adjustment with dimmer



Control with two-way switch, intermediate switch and dimmer, adjustment with dimmer



Technical specifications		
Rated voltage	230V - 50/60Hz	110V - 50/60Hz
Resistive load power	100 - 500W	50 – 250W
Inductive load power	100 – 500VA	50 – 250VA
Technology	TRIAC	TRIAC
Operating temperature	-5 °C ÷ +35 °C.	
Adjustable load	Filament and halogen lamps	

Reference standards

CEI 23-9 (EN 60669-1)

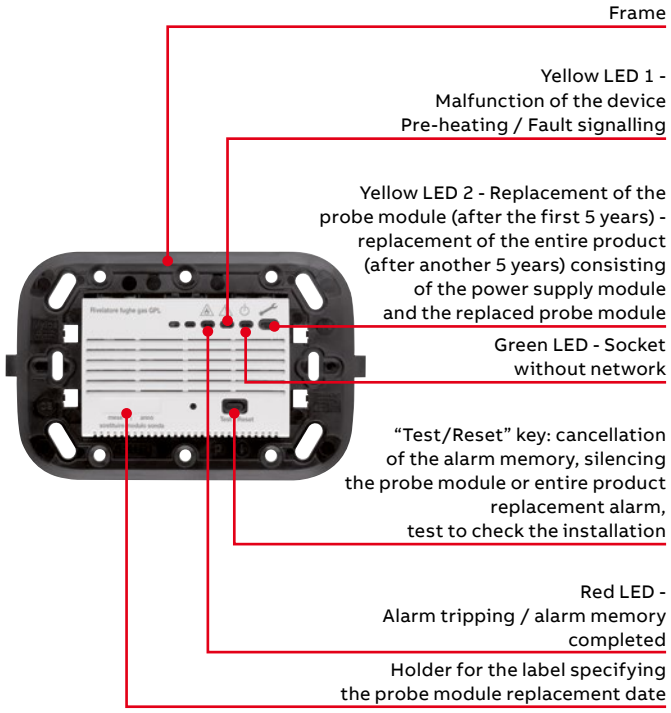
Technical details

Chiara – Safety and comfort devices

Gas detectors

Description	Code
Electronic natural gas detector with acoustic and indicator signal, relay output, 1 NO/NC change-over contact 6A (AC1)/2A (AC15) - 250V~. Power supply 230V~ - 50Hz. Equipped with dedicated frame for installation on type 503 box	2CSK1210CH
Electronic LPG gas detector with acoustic and indicator signal, relay output, 1 NO/NC change-over contact 6A (AC1)/2A (AC15) - 250V~. Power supply 230V~ - 50Hz. Equipped with dedicated frame for installation on type 503 box	2CSK1211CH

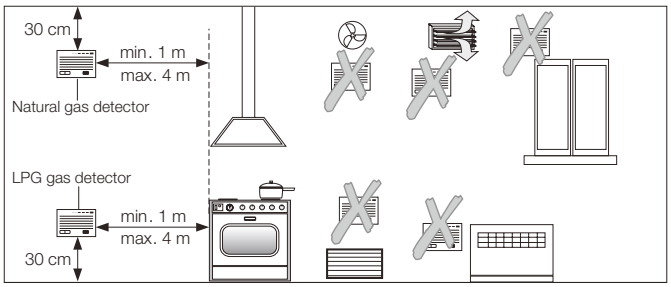
Components



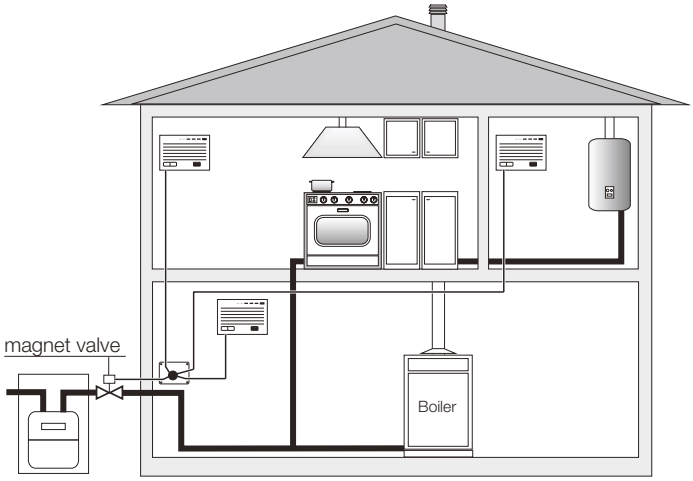
The wiring accessories natural gas (CH4) or LPG gas detectors, flush-mounted with 3 modules (503 box embedded in the wall) contribute to guarantee the safety of civil environments where gas operated domestic appliances are installed, such as: boilers, cookers.
The equipment consists of a fixed power supply module and removable sensor module, which must be replaced after 5 years of continuous use. This allows a saving on the purchase and installation costs, with a lower impact on the environment due to the extension of the life time of the power supply/relay module for a further 5 years.

Positioning of the detector

The installation of the gas detector does not exonerate users from observance of all current laws and standards in the country of installation regarding the specifications, installation and use gas powered equipment, the ventilation of rooms and the release of combustion products.



- Install the natural gas detector at a maximum of 30 cm from the ceiling
- Install the LPG detector at a maximum of 30 cm from the floor surface.
- Install the detectors between 1 m and 4 m from the gas appliances.
- Do not install the detectors outdoors or in places exposed to atmospheric agents
- Do not install the detectors close to: sinks, air intakes, heating and air conditioning devices, windows and ventilation devices; in addition, the detectors must not be installed in closed spaces, such as behind a curtain or inside a cabinet.



Illustrative example: installation with 3 gas detectors (natural gas) that command the solenoid valve for shutting off the gassupply.

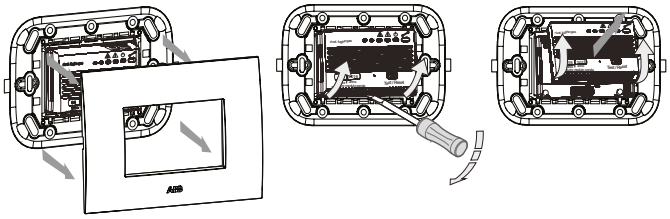
Technical details

Chiara – Safety and comfort devices

Extraction of the probe module (for example: to replace it)
CAUTION: always deactivate the line voltage 230V~

1. Remove the frame.
2. Delicately insert the flat blade of a small screwdriver and use it as a lever to uncouple the sensor module.
3. Rotate the sensor module upwards in order to uncouple it completely.

Replacement probe modules:
2CSY1220MC: Natural Gas replacement probe module
2CSY1223MC: LPG Gas replacement probe module



Characteristics

- Devices equipped with a control circuit with microprocessor that performs self-diagnosis tasks to ensure the perfect efficiency of the sensor over time.
- Sensor equipped with a special selective filter in order to avoid alarms in response to the presence of gas vapours that are not meant to be detected, such as steam from cooking, vapours from cleaning fluids etc.
- Devices equipped with an operating time meter, in order to signal the necessary replacement of the sensor module after the firsts 5 years of use.
- Luminous (red LED) and acoustic alarm signal.
- TEST (to verify that the device is operating properly) and Reset system with a single pushbutton.
- The gas detectors are equipped with an output relay that can command a valve to shut off the distribution of gas.

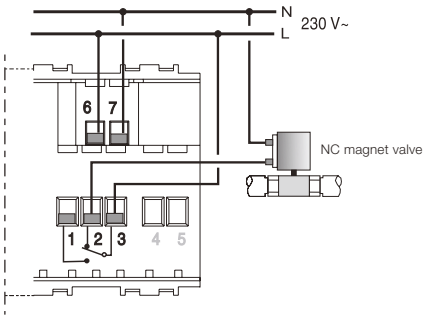
Key to signals			
Luminous LED		**Acoustic BUZZER**	
	off		off
	flashing		intermittent
	on, fixed	-	

Reference standards
LVD CEI 216-8 - EMC EN 50270

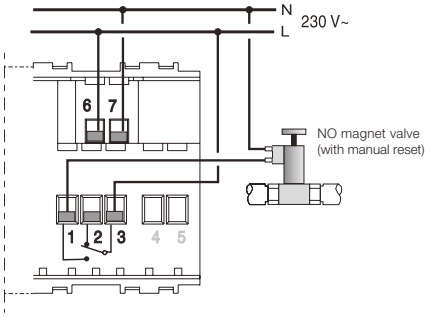
Wiring diagrams
CAUTION: the power supply network must incorporate a device to guarantee omnipolar disconnection.
The detector must be powered by a voltage of 230V~ 50Hz with continuity in order to guarantee maximum safety and correct signalling of replacement within the declared time limits.
For the electrical connections, bring cables with a maximum cross-section of 2.5 mm² to the terminals of the detector.

The diagrams (illustrative examples) show the position of the relay contacts at rest (no alarm).

Connection with solenoid valve normally closed



Connection with solenoid valve normally open



Technical specifications	
Power supply voltage	230 V~ +/- 10% 50 Hz
Solenoid valve command relay	1 potential-free change-over contact
Capacity of relay contacts (max)	6 (2) A 250 V ~
Protection class	IP40
Type of insulation	Class II ⧈
Area of application	Domestic - type A
Semiconductor sensor	Installed inside the probe module
Operating temperature limits	- 10 °C ÷ + 40 °C
Operating humidity	90% UR (maximum)
Types of gas detected	Natural Gas - with model for natural gas LPG - with model for LPG gas
Alarm tripping	10% LIE (Lower Explosiveness Limit) For both models
Acoustic alarm	85 dB at 1 m
Sensor warm-up time at switch-on	1 minute
Storage temperature limits	- 15 °C ÷ + 50 °C

Technical details

Chiara – Safety and comfort devices
Flush-mounted emergency light

2CSk218932R1235
Supplied with their supports

Compliance with the
following EU Directives:
2014/35/UE (Low Voltage)
2014/30/UE (EMC)
2011/65/EU (RoHS)

User manual

Read all instructions carefully

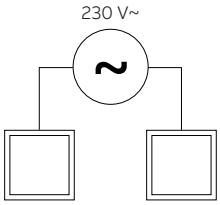
The 1-module anti-blackout lamp is a non-pluggable electronic emergency lamp for flush-mounted boxes installation. It turns on to enlightening areas where it is installed if a blackout occurs and guarantees a constant output for more than two hours thanks to its rechargeable battery.

Safety warnings

During installation and operation the following indications must be respected:

1. The product must be installed by qualified personnel in strict compliance with the connection diagrams.
2. Do not power the product if any part is damaged.
3. The product must be installed and commissioned in compliance with the regulations concerning electrical systems.
4. Do not use the product for purposes other than those indicated.
5. In case of fault do not repair the product.
6. The product can be used in overvoltage category III and pollution degree 2 environments.
7. An overcurrent protection device must be installed in the electrical system upstream of the product.
8. After installation, the inaccessibility to the connection terminals without special tools must be guaranteed.
9. Check that conductors are not live before accessing the connection terminals.

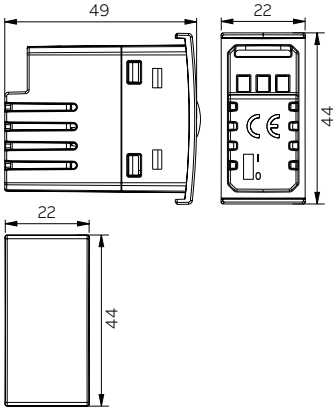
Connection scheme



Technical features

Power supply:	230 V AC (-10% ÷ +10%) 50/60 Hz
Absorption:	2,5 VA (0,1 W)
Backup batteries:	1 rechargeable NiMH battery (not replaceable) - 3.6 V & 140 mAh full recharge time: 48 hours
Autonomy in event of power failure:	2 hours approx
Light source:	1 white LED Light intensity: 2400 mcd Beam angle: 120°
Red LED:	for low battery indication
Installation:	on 45mm height flush-mounted box (footprint: 1 module)
Terminal block:	for 1.5 mm² cables
Operating temperature:	0°C ÷ +40°C
Storage temperature:	-20°C ÷ +40°C
Operating humidity:	20÷90% non-condensing
Protection:	IP40
Insulation:	reinforced between accessible parts (front) and all other terminals

Dimensions

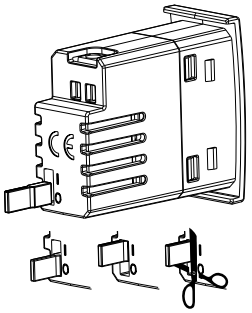


Installation

The emergency lamp requires 1 module footprint to be installed in the flush-mounted box.
The emergency lamp is supplied with the battery installed (not removable) and charged. To prevent the battery from discharging during storage, a jumper on the back insulates the battery from the circuit.
Before installing the lamp, move the jumper from “0” to “I” position.

Note: if the jumper interferes with the back of the flush-mounted box when plugging the lamp, cut the protruding part (as indicated).

Respect the connection diagram.
If the red LED on the front of the emergency light is on, the battery is low.



Technical details

Chiara – Safety and comfort devices

Flush-mounted pluggable emergency light

2CSK218782R1236
Supplied with their supports

Compliance with
the following
EU Directives:
2014/35/UE (Low Voltage)
2014/30/UE (EMC)
2011/65/EU (RoHS)

User manual

Read all instructions carefully

The 2-module pluggable blackout lamp is an electronic emergency lamp for flush-mounted boxes installation. It turns on to enlightening areas where it is installed if a blackout occurs. The lamp can be unplugged and used as a portable torch; once unplugged it turns on automatically until is plugged again into its back shell.

Safety warnings

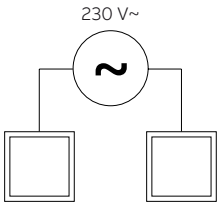
During installation and operation the following indications must be respected:

1. The product must be installed by qualified personnel in strict compliance with the connection diagrams.
2. Do not power the product if any part is damaged.
3. The product must be installed and commissioned in compliance with the regulations concerning electrical systems.
4. Do not use the product for purposes other than those indicated.
5. In case of fault do not repair the product.
6. The product can be used in overvoltage category III and pollution degree 2 environments.
7. An overcurrent protection device must be installed in the electrical system upstream of the product.
8. After installation, the inaccessibility to the connection terminals without special tools must be guaranteed.
9. Check that conductors are not live before accessing the connection terminals.

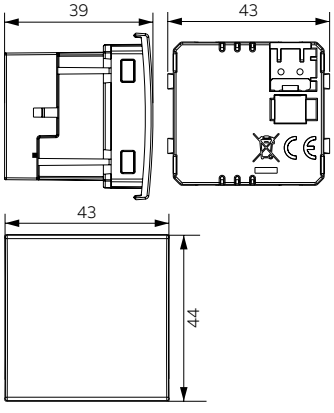
Technical features

Power supply:	230 V AC (-10% ÷ +10%) 50/60 Hz
Absorption:	3 VA (0,2 W)
Backup batteries:	1 rechargeable NiMH battery (not replaceable) - 3.6V & 140mAh full recharge time: 48 hours
Autonomy in event of power failure:	2 hours approx
Light source:	Light intensity: 20 lumens Beam angle: 120°
Red LED:	for low battery or fault indication
Installation:	on 45mm height flush-mounted box (footprint: 2 modules)
Terminal block:	for 1.5 mm² cables
Operating temperature:	0°C ÷ +50°C
Storage temperature:	-20°C ÷ +50°C
Operating humidity:	20÷90% non-condensing
Protection:	IP40
Insulation:	reinforced between accessible parts (front) and all other terminals

Connection scheme



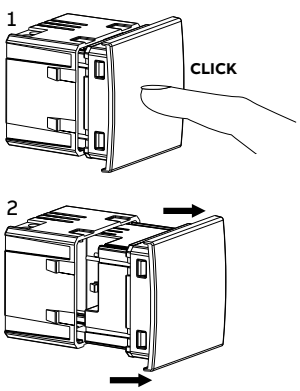
Dimensions



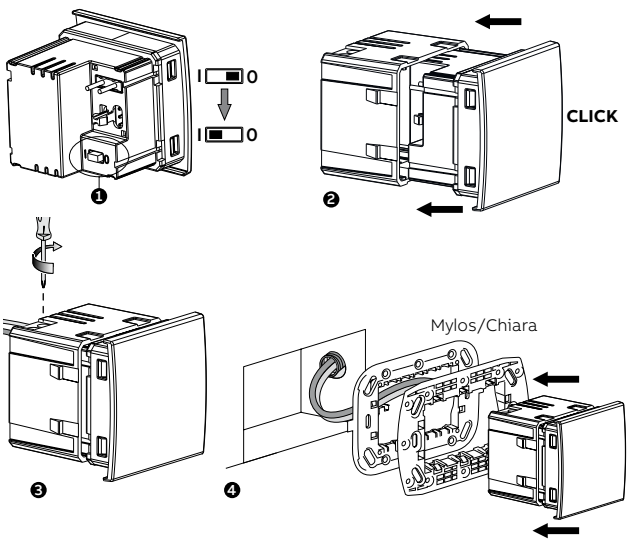
1. Move the selector from the storage position (**0**) to the operating position (**I**)
2. Plug the lamp into the back shell
3. Connect the power supply wires to the terminals
4. Plug the lamp + back shell

Lamp extraction

1. Press the lamp: an audible click will be heard to indicate that the sealing mechanism has released the lamp.
2. Pull the lamp out of the back shell



Assembly drawing in Mylos frame

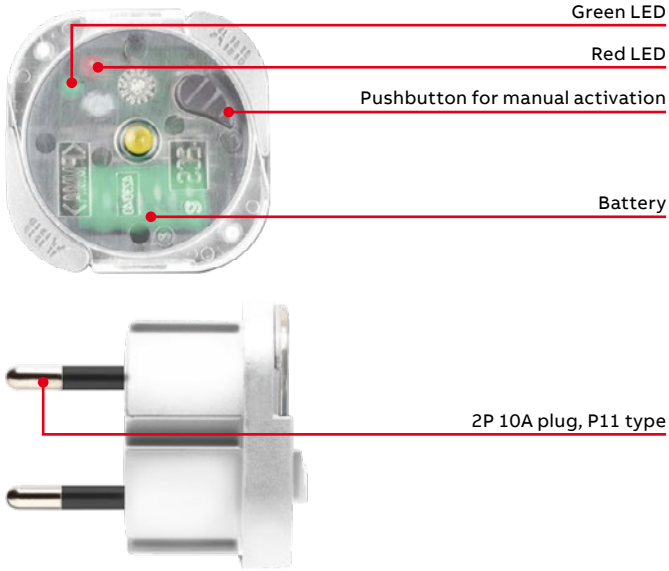


Technical details

Chiara – Safety and comfort devices

Description	Code
Removable anti-blackout light, 230V~. Charge reserve 4.5 h and recharge time 10-20h. To be combined with 230V~ plug sockets; particularly recommended for codes 2CSK1108CH and 2CSK1109CH.	2CSK1214CH

Components



The anti-blackout light is an automatic removable, rechargeable electronic lamp that can be inserted in any Schuko socket or Italian P11 standard 10A bivalent socket. Socket outlets particularly recommended for holding the lamp are the sockets of the Chiara wiring accessories' range 2CSK1108CH and 2CSK1109CH, that allow the body of the lamp to be embedded in the socket outlet, thus minimizing the external dimensions.
The device was designed to light up automatically in the event of a blackout (no voltage warning), or to be used as a portable lighting device, useful in order to guarantee visibility and facilitate maintenance operations and/or searching for faults in unlit environments.

Functions

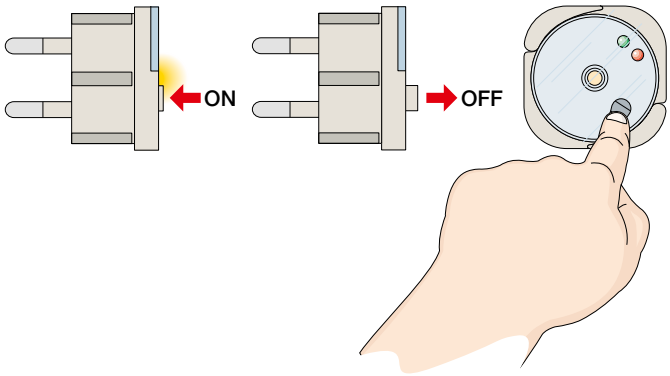
A light source is activated automatically whenever the line voltage is missing (blackout) thanks to rechargeable backup batteries.

- Possibility to extract it from the socket and use it as a normal pocket torch with an on/off button on the front.
- Long autonomy, 4.5 hours of continuous operation.
- Small dimensions - protrusion from the Schuko profile (only 8 mm).

On the front part there are two LEDs (one red and one green) that indicate the state of the lamp when it is powered:

- Red LED on, recharging in progress. In the event of a blackout the lamp will remain off (battery saving condition, used in the case of prolonged absence).
- Green LED on, recharging in progress. In the event of a blackout the lamp will light up and will switch off automatically when the network is restored.

The pushbutton on the front part allows you to switch from one condition to another.



Technical specifications	
Plug	2P 10A
Center distance of the pins	19 mm
Ø of the pins	4 mm
Power supply	230V~50-60 Hz
Recharge time	10-20 hours
Useful battery life	4.5 hours

Reference standards

EN 60598-1, EN 60598-2

Technical details

Chiara – Safety and comfort devices

Other devices

2CSK235321R1226
Supplied with their supports

Compliance with the
following EU Directives:
2014/35/UE (Low Voltage)
2014/30/UE (EMC)
2011/65/EU (RoHS)

User manual

Read all instructions carefully

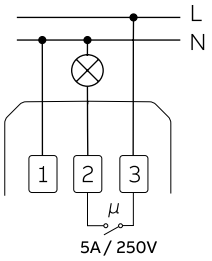
The ABB's motion detector is a flush-mounted twilight motion detector that senses all the movements in its active field and triggers the lighting system for a predetermined period only if the brightness level is lower than a pre-set threshold. It performs type 1B actions and is intended for use in environments with overvoltage category III and pollution degree 2, according to EN 60669.

Safety warnings

During installation and operation the following indications must be respected:

1. The product must be installed by qualified personnel in strict compliance with the connection diagrams.
2. Do not power the product if any part is damaged.
3. The product must be installed and commissioned in compliance with the regulations concerning electrical systems.
4. In case of fault do not repair the product.
5. An overcurrent protection device must be installed in the electrical system upstream of the product.
6. After installation, the inaccessibility to the connection terminals without special tools must be guaranteed.
7. Check that conductors are not live before accessing the connection terminals.

Connection scheme

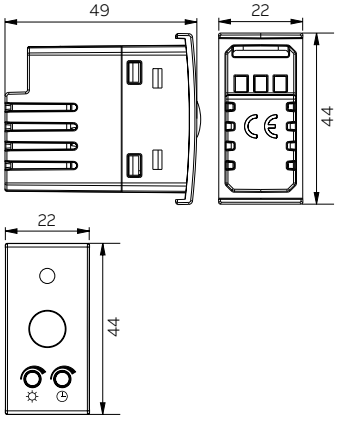


Connectable loads
- Incandescent 800 W
- Fluorescent (neon) 200 VA
- Low voltage halogen 500 VA
- Halogen 230 V~ 800 W
- Low consumption (CFL) 200 VA
- Led 200 VA

Technical features

Power supply:	230 V AC (-10% ÷ +10%) 50/60 Hz
Maximum absorption:	5 VA (1 W)
Output:	NO relay with breaking capacity of 5A/250V (on resistive load) with "zero crossing" technology
Tripping time:	5 seconds (test), 30 seconds ÷ 15 minutes
Tripping brightness:	5 ÷ 100 lux
Detection angle:	110° at 20°C
Detection field:	7 meters at 20°C
Installation:	on flush-mounted box with 45 mm height (dimensions: 1 module)
Terminal block:	for 1.5 mm² cables
Operating temperature:	0°C ÷ +35°C
Storage temperature:	-10°C ÷ +60°C
Operating humidity:	20÷90% non-condensing
Protection:	IP40 (on accessible parts)
Insulation:	reinforced between accessible parts (front) and all other terminals

Dimensions



Installation

To be installed in the flush-mounted box the motion detector requires 1 module footprint. High temperatures reduce the sensitivity of the sensor: avoid installation close to heat sources, air vents or devices that can rapidly change their temperature. For installation, consider that the detector is more sensitive to movements cross the detection field than movements in the direction of the detector itself.

Operations

Detector test

The test verifies the correct operations of the IR sensor and relay. Turn the brightness control (☼) clockwise to the maximum range (100 lux) and the timing regulator (🕘) anticlockwise to the minimum range (5 seconds). Check that the relay triggers when a movement is spotted inside the detection field.

Brightness adjustment

This regulation (☼) sets the lower brightness threshold for the relay to trigger if a movement is detected. Turn the brightness control (☼) anticlockwise to the minimum range: in this position the relay will remain inactive with daylight. Toward dusk, when the brightness threshold for relay activation is reached, turn the brightness control dimmer (☼) clockwise until the relay triggers.

Timing adjustment

This regulation (🕘) determines how long the relay must remain active if a movement is detected. Turn the timing regulator (🕘) clockwise to increase the timing, counterclockwise to decrease the timing. The timing is restarted every time a movement is detected.

Note. The timing can be 5 seconds or between 30 seconds and 15 minutes. The minimum setting value of the regulator (🕘) corresponds to 5 seconds; a minimum clockwise rotation brings the timing to 30 seconds. Continue to rotate the regulator clockwise to increase timing values up to a maximum of 15 minutes.

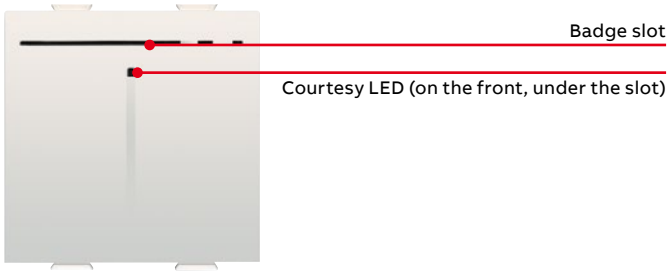
Technical details

Chiara – Safety and comfort devices

Description	Code
Universal badge switch with location light Relay output with NO contact 10A (AC1). Power supply 230V~ 50/60Hz	2CSK1426CH

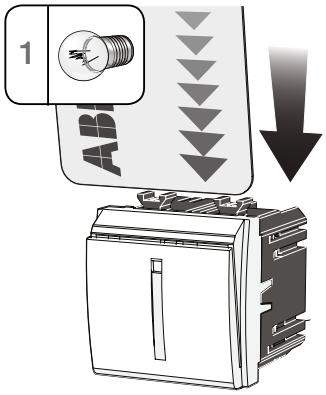
Vertical badge electronic switch, relay output 16 A 250 V~, power supply 230 V~ 50-60 Hz, modules.
Supplied without ISO card (badge). The device is equipped with a courtesy LED for night-time location.

Components

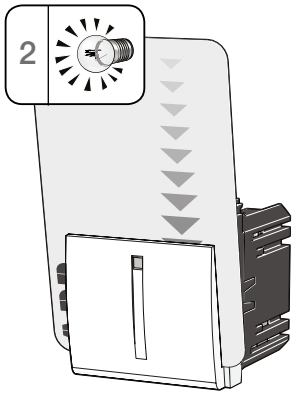


Operation

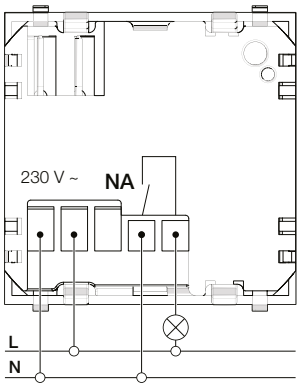
Load OFF



Load ON



Wiring diagram



Technical specifications	
Power supply	230 V~ ±10% 50-60 Hz
Output	relay with clean contact 10 A 250 V~ cos ø 1
Typical absorption	230 V~ 50-60 Hz: 30 mA, with relay active
Operating temperature	-5 °C +45 °C

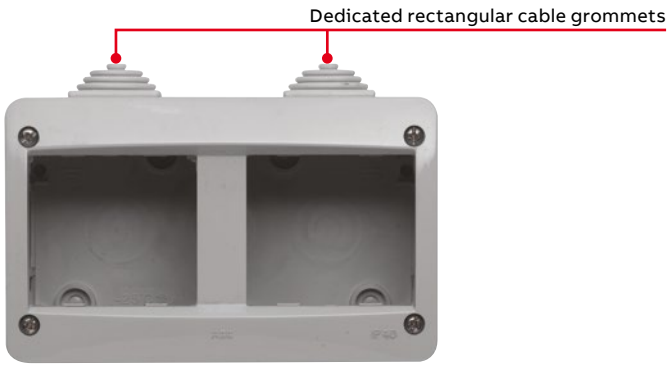
Reference standards

LV Directive; EMC Directive; Standard EN 60669-2-1

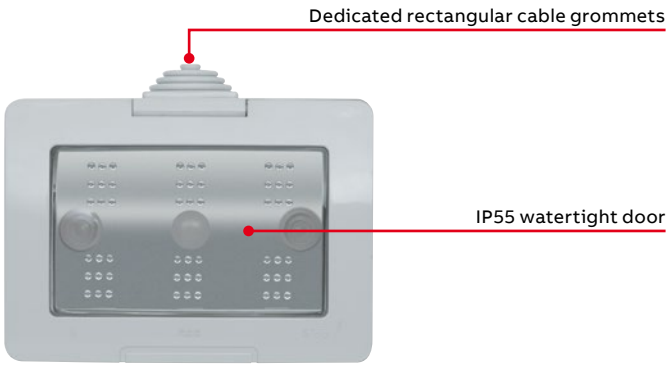
Technical details

Chiara – Wall-mounted enclosures

IP40 and IP55 wall-mounted enclosures



IP40 enclosure



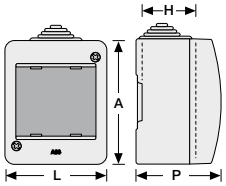
IP55 enclosure

Area of application

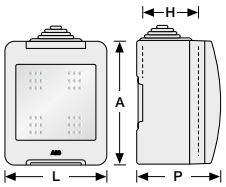
The IP40 wall-mounted enclosures, pursuant to Standard CEI 64-8, extend the area of application of the devices of the Chiara series to environments such as boiler rooms, warehouses, mechanical workshop, basements etc., where protection class IP40 is prescribed, defined by Standard EN 60529 (CEI 70-1).
This is guaranteed through devices installed in the enclosures, if the installation is carried out according to the supported procedures, through the use of connections, cable grommets and pipe ducts.
For devices with an open front (e.g. socket outlets) the protection class is less than IP40 but never less than IP20.

IP55 watertight wall-mounted enclosures, on the other hand, allow the application of the equipment of the Chiara series in environments such as building sites, sports installations, marinas, industrial and agricultural establishments, gardens, camp sites etc. The protection class IP55, defined by the Standard EN 60529 (CEI 70-1), is guaranteed by devices installed in the enclosures, if the installation is carried out according to the supported procedures, through the use of the suitable accessories and with the cover closed.

Dimensions of IP40 and IP55 enclosures



IP40 enclosure	no. modules	H	A	L	P
2CSK2140CH	1	38	80	65	55
2CSK2240CH	2	38	80	65	55
2CSK2340CH	3	38	80	104	55
2CSK2440CH	4	38	80	130	55



IP55 enclosure	no. modules	H	A	L	P
2CSK2155CH	1	40,5	80	65	63
2CSK2255CH	2	40,5	80	65	63
2CSK2355CH	3	40,5	80	104	63
2CSK2455CH	4	40,5	80	130	63

Technical details

Chiara – Wall-mounted enclosures

Because of the maximum depth dimension H, the IP40 and IP55 wall-mounted enclosures of the Chiara series cannot house the following contact blocks:

Code	Description
2CSK1204CH	Electronic dimmer with rotary control and two-way switch for resistive loads 100-500W
2CSK1205CH	Electronic dimmer with rotary control for resistive loads 100-500W
2CSK1207CH	Electronic dimmer with pushbutton control for resistive and inductive loads
2CSK1317CH	Electro-mechanical bell, 12V, 5VA, sound intensity 80 dB
2CSK1318CH	Electro-mechanical bell, 230V, 8VA, sound intensity 80 dB
2CSK1321CH	Electro-mechanical buzzer, 12V, 5VA, sound intensity 70 dB
2CSK1322CH	Electro-mechanical buzzer, 230V, 8VA, sound intensity 70 dB
2CSK1304CH	Automatic MCB 1P+N, C6
2CSK1305CH	Automatic MCB 1P+N, C10
2CSK1306CH	Automatic MCB 1P+N, C16

Code	Description
2CSK1307CH	Automatic RCD 1P+N, C6 – 10 mA
2CSK1308CH	Automatic RCD 1P+N, C10 – 10 mA
2CSK1309CH	Automatic RCD 1P+N, C16 – 10 mA
2CSK1328CH	Automatic RCD 1P+N, C6 – 30 mA
2CSK1329CH	Automatic RCD 1P+N, C10 – 30 mA
2CSK1330CH	Automatic RCD 1P+N, C16 – 30 mA
2CSK1324CH	Interlocked socket with MCB (2P+E 16A 230V P17/11)
2CSK1325CH	Interlocked socket with MCB (2P+E 16A 230V)
2CSK1326CH	Interlocked socket with automatic RCD 10mA (2P+E 16A 230V P17/11)
2CSK1012CH	Single pole latching relay, 230V, 1 10A output contact
2CSK1014CH	4 sequence switch relay, 230V, 2 10A output contacts

The installation of similar devices in the form of a DIN rail in the distribution board is recommended where possible.

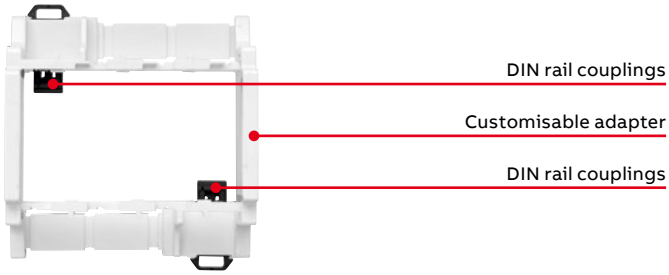
Technical details

Chiara – Other installation solutions

Support for DIN bar 1-2-3 modules

Description	Code
Support for DIN bar for 1-2-3 modules, customisable	2CSK1608CH

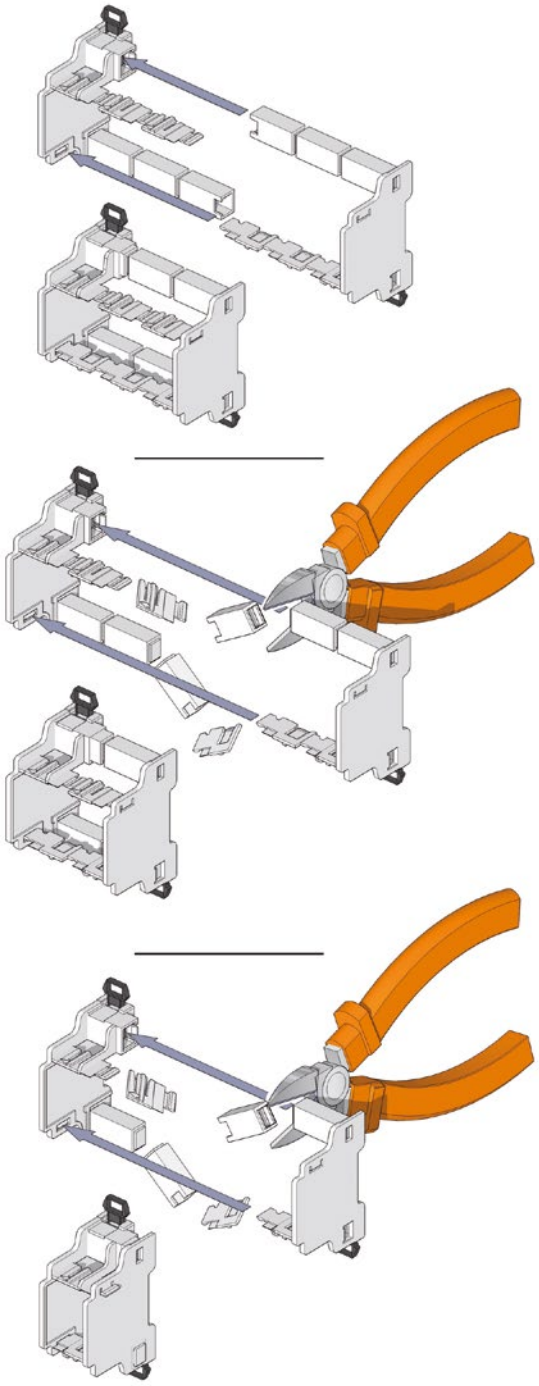
Components



Reference dimensions:
1 module version: 1,9 DIN modules
2 modules version: 3,4 DIN modules
3 modules version: 4,4 DIN modules

Instruction for installation

3 modules: snap assemble the two halves.
1 or 2 modules: using a cutter, cut along lines 1 or 2 respectively and assemble the two halves.



Technical details

Chiara – Frames

The frames of the Chiara series are made from technopolymer with natural/pastel colour shades or surface galvanic painting, and are characterised by their minimal protrusion from the wall, since they are not fitted with an under-plate.

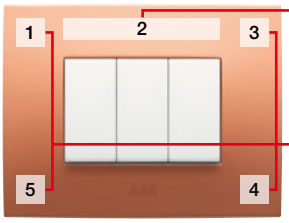
Reference standards
CEI 23-9 (EN 60669-1).

Frame that adheres to all surfaces

2 ÷ 8 mm

Customization

Frames customized with a logo/text string can be supplied on request. They are produced by means of monochromatic pad printing on the areas highlighted below.



Position 2
Logo inside a rectangle
10 mm in height and 45mm in length

Positions 1-3-4-5
Logo in square with 13 mm sides.

Customization is possible with standard colours (black, Pantone cool gray 3C, Pantone 5425 C) or with a colour specified by the customer.
Minimum order batch: 36 pieces including various modularities.
For quotes and delivery times contact an ABB sales executive.

Technical details

Chiara – Coding, Order information

Coding criteria of the devices

2	C	S	K	1				C	H
Fixed part of the code					Product family	Product progressive number		Fixed part of the code	

0	Control devices
1	Socket outlets
2	Comfort devices
3	Protection devices and signalling devices
6	Components for installation, accessories and spare parts

Example: single-pole switch

2	C	S	K	0	0	0	1	C	H

Coding criteria of the frames

2	C	S	K	0				C	H
Fixed part of the code					Number of modules	Colour code		Fixed part of the code	

2	2-module frame
3	3-module frame
4	4-module frame
7	7-module frame

01	white
02	sand
03	stone
04	volcano
11	pastel yellow
12	pastel orange
13	pastel green
14	pastel blue
15	glossy chromium
16	satin chromium
17	glossy metal
18	satin metal black
51	glossy bronze
52	satin bronze
53	glossy gold
54	satin gold

Example: technopolymer frame, 3 modules, sand colour

2	C	S	K	0	3	0	2	C	H

Packaging

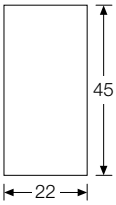
To enable automatic warehouse management using optical readers, the devices and frames of the Chiara wiring accessories' range are packaged in boxes that bear the EAN bar code and that protect the contents adequately against dust and shocks. For a better explanations of the installation methods, a specific instruction sheet is supplied. Individual packages are available for only for the codes with the lowest turnover.

Technical details

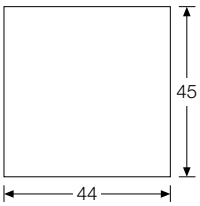
Chiara – Overall dimensions

Chiara code	Description	No. Modules	Depth mm
2CSK1001CH	Single-pole switch, 16A - 250V~	1	30
2CSK1002CH	Double-pole switch, 16A - 250V~	1	30
2CSK1003CH	Single-pole two-way switch, 16A - 250V~	1	30
2CSK1004CH	Single-pole switch, 16A - 250V~, 2 modules	2	30
2CSK1005CH	Single-pole push switch NO, 16A	1	30
2CSK1006CH	Double-pole switch, 16A - 250V~, with key control	1	25
2CSK1006CHU	Double-pole switch, 16A - 250V~, with universal key control	1	25
2CSK1007CH	Single-pole two-way switch, 16A - 250V~, 2 modules	2	30
2CSK1008CH	Intermediate switch, 16A - 250V~, 2 modules	2	30
2CSK1009CH	Double-pole push switch, NO, 16A - 250V~, with key control	1	25
2CSK1009CHU	Double-pole push switch, NO, 16A - 250V~, with universal key control	1	25
2CSK1010CH	Intermediate switch, 16A - 250V~	1	30
2CSK1011CH	Change-over switch, 10A - 250V~, 3 positions	1	31
2CSK1012CH	Single pole latching relay, 230V	1	31
2CSK1014CH	4 sequence switch relay, 230V, 2 10A output contacts	1	31
2CSK1016CH	Single-pole push switch NC, 16A	1	30
2CSK1017CH	Double single-pole push switch, NO+NO, 16A - 250V~	1	30
2CSK1018CH	Double single-pole push switch, NO+NO, 16A - 250V~, with interlock	1	30
2CSK1022CH	Single-pole push switch 1 NO and 1 NC, 16A, with ON	1	30
2CSK1023CH	Single-pole push switch 1 NO and 1 NC, 16A, with OFF symbol	1	30
2CSK1020CH	Single-pole push switch NC with cord pull, 16A	1	30
2CSK1021CH	Single-pole push switch NC with cord pull, 16A	1	30
2CSK1028CH	Single-pole push switch NO, 16A, with BELL	1	30
2CSK1029CH	Single-pole push switch NO, 16A, with KEY	1	30
2CSK1030CH	Single-pole push switch NO, 16A, with STAIR LIGHT	1	30
2CSK1024CH	Single-pole push switch NO, 16A, with red diffuser	1	30
2CSK1025CH	Single-pole push switch NO, 16A, with green diffuser	1	30
2CSK1026CH	Single-pole push switch NO, 16A, with orange diffuser	1	30
2CSK1027CH	Single-pole push switch NO, 16A, with white diffuser	1	30
2CSK1031CH	Single-pole pushbutton NO, 16A, with backlit label holder plate push switch	2	30
2CSK1032CH	Single-pole push switch NO, 16A, with backlit label holder plate, 3 modules	3	30
2CSK1101CH	2P+E socket outlet, 10A - 250V~, P11 type	1	22
2CSK1102CH	2P+E socket outlet, 16A - 250V~, P17 type	1	22
2CSK1103CH	2P+E socket outlet, 10/16A - 250V~, P17/P11 type	1	22
2CSK1104CH	2P+E socket outlets, 10/16A, red	1	22
2CSK1105CH	2P+E socket outlets, 10/16A, green	1	22
2CSK1106CH	2P+E socket outlets, 10/16A, orange	1	22
2CSK1108CH	2P+E socket outlet, 16A - 250V~, P30 type	2	31
2CSK1114CH	2P+E socket outlets, 16A - 250V~, P30 type, red	2	31
2CSK1115CH	2P+E socket outlets, 16A - 250V~, P30 type, green	2	31
2CSK1116CH	2P+E socket outlets, 16A - 250V~, P30 type, orange	2	31
2CSK1109CH	2P+E socket outlet, 16A - 250V~, P30/17 type	2	35
2CSK1110CH	2P+E socket outlets, 16A - 250V~, P30/17 type, red	2	35
2CSK1111CH	2P+E socket outlets, 16A - 250V~, P30/17 type, green	2	35
2CSK1112CH	2P+E socket outlets, 16A - 250V~, P30/17 type, orange	2	35
2CSK1113CH	2P shaver socket with insulating transformer	3	37.5

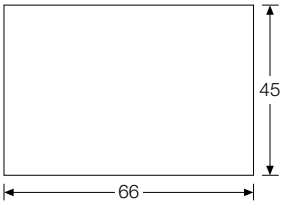
1 module



2 modules



3 modules



Technical details

Chiara – Overall dimensions

Chiara code	Description	No. Modules	Depth mm
2CSK1324CH	2P+E socket outlet, 16A - 250V~, interlocked with MCB, P17/11	2	37.5
2CSK1325CH	2P+E socket outlet, 16A - 250V~, interlocked with MCB, P30	3	37.5
2CSK1326CH	2P+E socket outlet, 16A - 250V~, with RCD 10mA, P17/11	3	37.5
2CSK1117CH	TV coaxial socket, direct, male IEC connector ø 9.5 mm, insulated type	1	21
2CSK1118CH	TV/SAT coaxial socket, direct, male IEC connector ø 9.5 mm, with feedthrough of direct current	1	21
2CSK1132CH	TV/SAT coaxial socket, feedthrough, male IEC connector ø 9.5 mm, attenuation 7dB	1	21
2CSK1136CH	TV/SAT coaxial socket, feedthrough, male IEC connector ø 9.5 mm, attenuation 10dB	1	21
2CSK1137CH	TV/SAT coaxial socket, feedthrough, male IEC connector ø 9.5 mm, attenuation 14dB	1	21
2CSK1138CH	TV/SAT coaxial socket, feedthrough, male IEC connector ø 9.5 mm, attenuation 18dB	1	21
2CSK1119CH	TV/SAT coaxial socket, direct, female F connector, with feedthrough of direct current	1	21
2CSK1133CH	Double demixed TV/SAT coaxial socket, direct, male IEC connector ø 9.5 mm and female F connector	1	21
2CSK1120CH	Double demixed TV/SAT coaxial socket, feedthrough, male IEC connector ø 9.5 mm and female F connector, attenuation 7dB	1	21
2CSK1130CH	Double demixed TV/SAT coaxial socket, feedthrough, male IEC connector ø 9.5 mm and female F connector, attenuation 10dB	1	21
2CSK1131CH	Double demixed TV/SAT coaxial socket, feedthrough, male IEC connector ø 9.5 mm and female F connector, attenuation 14dB	1	21
2CSK1139CH	Double demixed TV/SAT coaxial socket, feedthrough, male IEC connector ø 9.5 mm and female F connector, attenuation 18dB	1	21
2CSK1121CH	RJ11 telephone connector	1	21
2CSK1122CH	RJ12 telephone connector	1	21
2CSK1124CH	RJ45 connector, Cat. 5e, UTP (unshielded)	1	21
2CSK1125CH	RJ45 connector, Cat. 5e, FTP (shielded)	1	21
2CSK1127CH	RJ45 connector, Cat. 6, UTP (unshielded)	1	21
2CSK1128CH	RJ45 connector, Cat. 6, FTP (shielded)	1	21
2CSK1160CH	Flush-mounted USB charger 500-650mA	1	35
2CSK1210CH	Electronic natural gas detector	3	39
2CSK1211CH	Electronic LPG gas detector with acoustic and indicator signal	3	39
2CSK1301CH	Fuse holder, for fuses Ø5x20 / Ø6.3x32 mm, max. 16A	1	26
2CSK1303CH	LED light for emergency lighting or steplight	3	50
2CSK1304CH	Automatic MCB, 1P+N, C6, breaking capacity 1.5kA	1	36
2CSK1305CH	Automatic MCB, 1P+N, C10, breaking capacity 3kA	1	36
2CSK1306CH	Automatic MCB, 1P+N, C16, breaking capacity 3kA	1	36
2CSK1307CH	Automatic RCD, 1P+N, C6 - 10 mA, breaking capacity 1.5kA	2	36
2CSK1308CH	Automatic RCD, 1P+N, C10 - 10 mA, breaking capacity 3kA	2	36

Technical details

Chiara – Overall dimensions

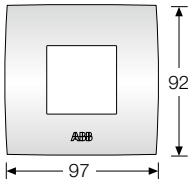
Chiara code	Description	No. Modules	Depth mm
2CSK1309CH	Automatic RCD, 1P+N, C16 - 10 mA, breaking capacity 3kA	2	36
2CSK1315CH	Overvoltage limiter, 75J, 230V~	1	26
2CSK1328CH	Automatic RCD, 1P+N, C6 - 30 mA, breaking capacity 1.5kA	2	36
2CSK1329CH	Automatic RCD, 1P+N, C10 - 30 mA, breaking capacity 3kA	2	36
2CSK1330CH	Automatic RCD, 1P+N, C16 - 30 mA, breaking capacity 3kA	2	36
2CSK1310CH	Warning light, ORANGE colour	1	20
2CSK1311CH	Warning light, WHITE colour	1	20
2CSK1312CH	Warning light, RED colour	1	20
2CSK1313CH	Warning light, GREEN colour	1	20
2CSK1317CH	Electro-mechanical bell, 12V	1	37
2CSK1318CH	Electro-mechanical bell, 230V,	1	37
2CSK1321CH	Electro-mechanical buzzer, 12V	1	37
2CSK1322CH	Electro-mechanical buzzer, 230V	1	37
2CSK1201CH	Summer/winter electronic time-programmed thermostat	3	38
2CSK1202CH	Summer/winter electronic thermostat	2	29.5
2CSK1205CH	Electronic dimmer with rotary control for resistive loads 100-500W	1	39
2CSK1204CH	Electronic dimmer with rotary control and two-way switch for resistive loads 100-500W	1	39
2CSK1207CH	Electronic dimmer with pushbutton control for resistive and inductive loads 60-500W	1	39
2CSK1426CH	Universal badge switch with location light	2	32

Technical details

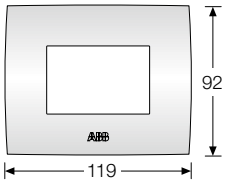
Chiara – Overall dimensions

Frames

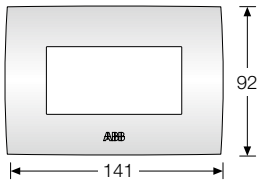
2 modules



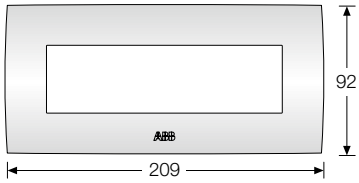
3 modules



4 modules

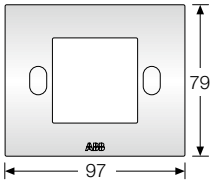


7 modules



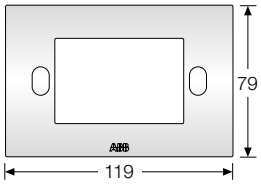
Self-supporting frames

2 modules



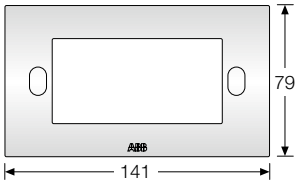
Screw distance: 60 mm

3 modules



Screw distance: 83.5 mm

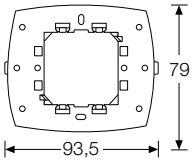
4 modules



Screwr distance: 108 mm

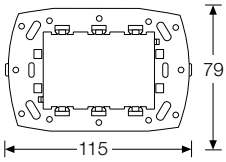
Supports

2 modules



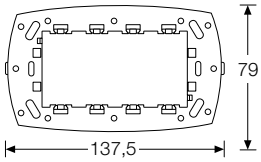
Screw distance of the box: 60 mm

3 modules



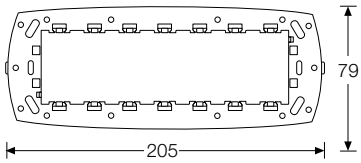
Screw distance of the box: 83.5 mm

4 modules



Screw distance of the box: 108 mm

7 moduli



Screw distance of the box: 100 mm

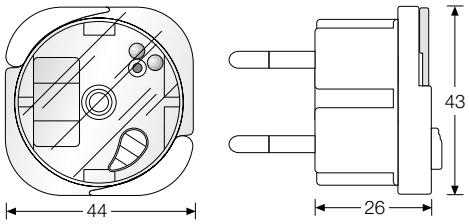
All measurements are in millimetres.

Technical details

Chiara – Overall dimensions

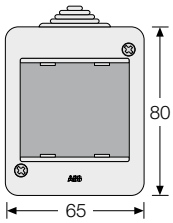
Safety and comfort devices

Anti-blackout light

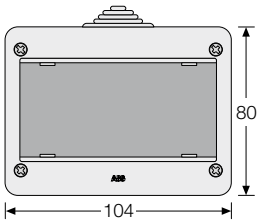


IP40 wall-mounted enclosures

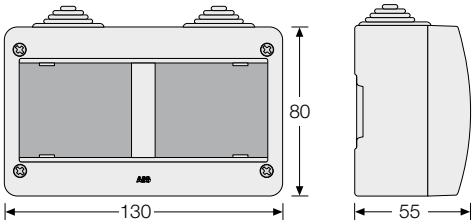
2 modules



3 modules

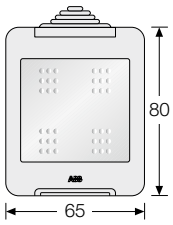


4 modules

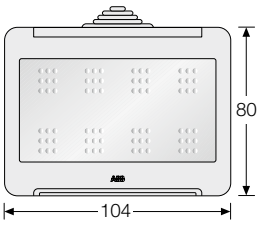


IP55 wall-mounted enclosures

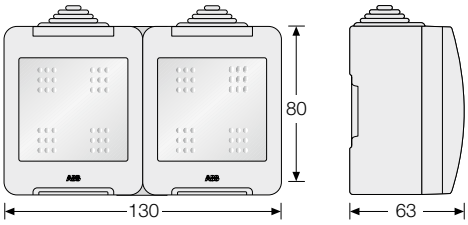
2 modules



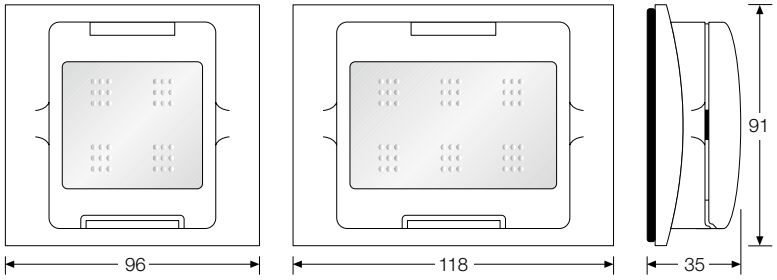
3 modules



4 modules



IP55 flush-mounted escutcheon plate



All measurements are in millimetres.

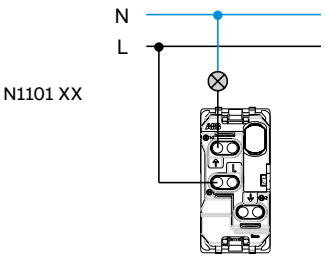
Technical details

Unno

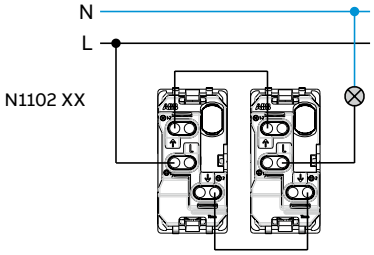
Switches

Optional: locator light

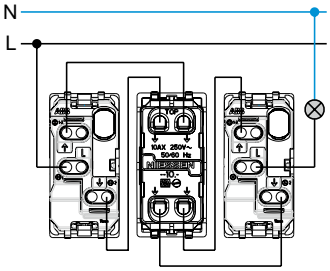
1-way switch



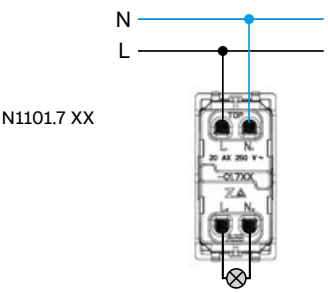
2-way switch



2-way switch - Intermediate switch - 2-way switch



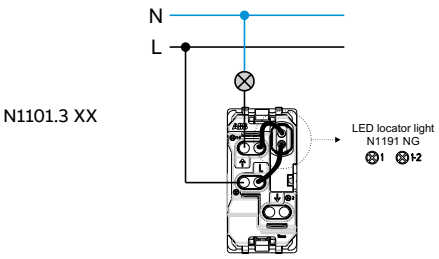
1-way double pole switch



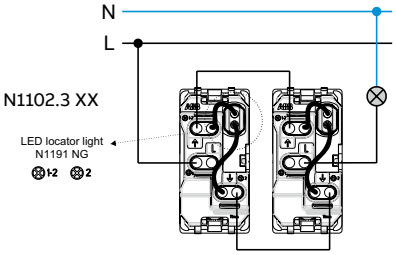
Switches

With locator light

1-way switch with indicator light

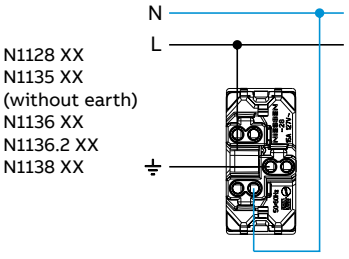


2-way switch with indicator lamp

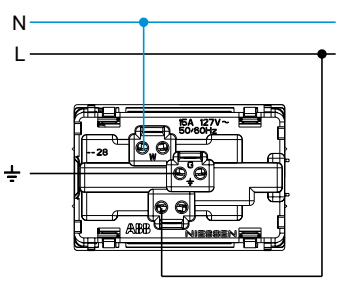


Socket outlets

1-module socket outlets



3-module duplex socket outlets



Technical details

Unno

USB chargers

N1185 & N1185.2

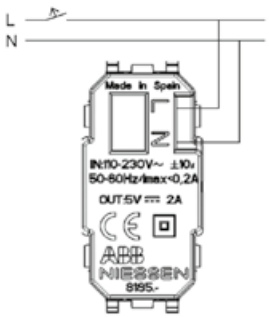
1. Technical data:

Rated input voltage:
100 - 240 V AC ± 10 %
Rated input frequency:
50 - 60 Hz
Rated input current:
N1185.2: 0,20Aac@max load
N1185: 0,12Aac@max load
Consumption in standby:
N1185.2: <10 mW@230 VAC
N1185: <= 0,3W@230 VAC
Rated output voltage:
5 V DC +5 / -5 %
Rated output current:
N1185.2: 2000 mA a 5 V DC
N1185: 750 mA a 5 V DC
Operating temperature:
N1185.2: 0°C to 45°C, when installing a N1185.2. 0°C to 30°C, when two N1185.2 chargers together
N1185: 0° C + 45° C
Energy efficiency:
N1185.2: > 79%
N1185: >= 66%

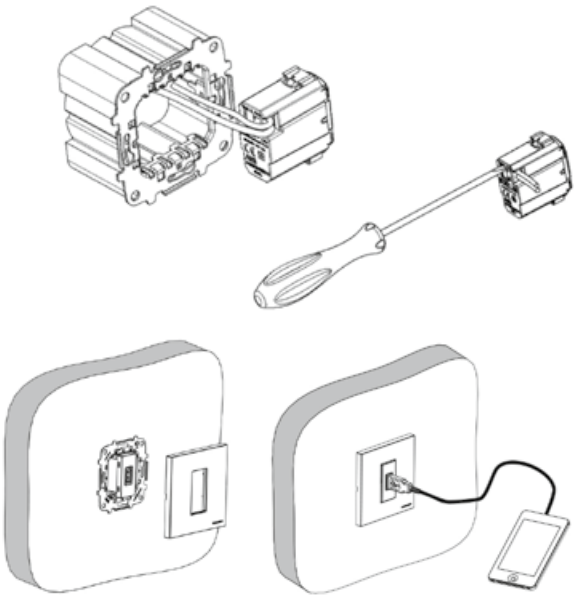
2. Electrical safety data:

Safety standard:
EN60950-I - Low Voltage Directive
Protection class:
II - Low voltage
Isolation (primary-secondary):
Transformer with galvanized isolation
EMC Directive:
EN 55022, EN 55024

3. Wiring diagram

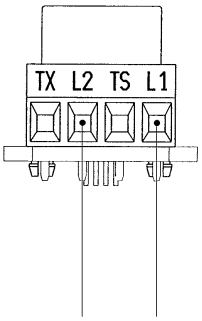


4. Installation



Telephone outlets

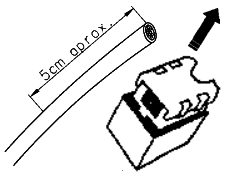
N1117



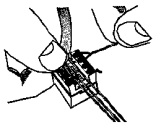
Data outlets - RJ45 Cat. 5e UTP female connector

N1118.5

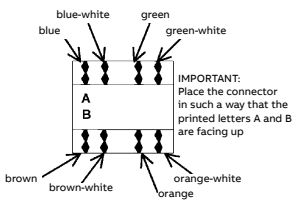
1 Remove the back cap from the connector. Strip approx. 5 cm off the jacket and discard the cable cutter cord.



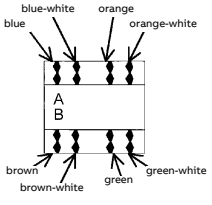
2 Bring the cable close to the connector, with the jacket at approx. 6 mm from the connector. Insert the cables into the corresponding slots as indicated by the cable color-wiring configuration for T568A or T568 B (as shown in Figures 2A and 2B).



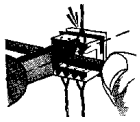
2a Wiring according to T568A:



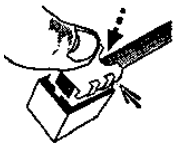
2b Wiring according to T568B:



3 Push the cables against the end of the slot and cut them flush to the connector.
Use an IBDN 110, BIX, KRONE wiring tool, or a similar type 110 tool.



4 Mount the connector cap.



Technical details

Unno

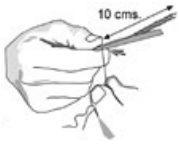
Data outlets - RJ45 Cat. 6 UTP female connector

N1118.6

1 Preparing the Cable

1.1 Cut approximately 5 cm. off the jacket.

1.2 Open approx. 10 cm. of the jacket with a cutter cord or another tool.

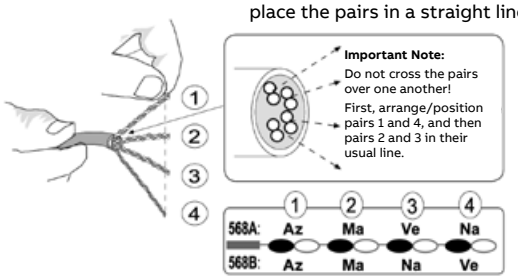


1.3 Cut the jacket.

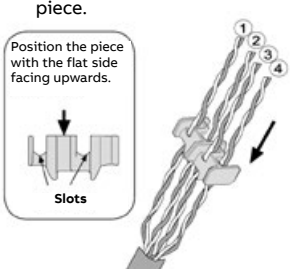
1.4 Cut the mesh (if it has one and the cord at the same level of the jacket).

2 Preparing the Conductors

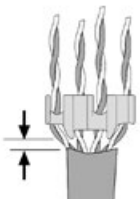
2.1 Select the adequate wiring scheme (568A or 568B) and place the pairs in a straight line.



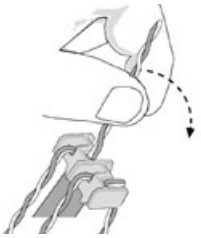
1.2 Position each of the four pairs in the holes of the end piece.



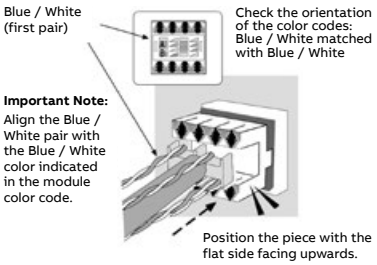
2.3 Ensure the end piece is located as close as possible to the edge of the jacket.



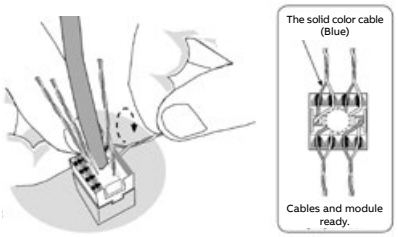
2.4 Place the pairs in the direction of the end piece slots.



2.5 Insert the end piece into the module.

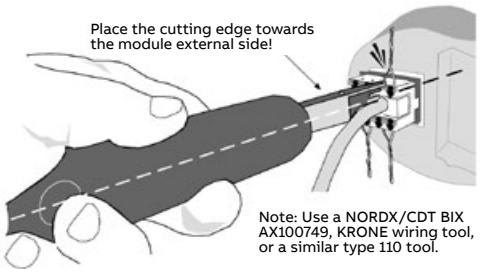


2.6 Unbraid the pairs, position and insert the cable in the module slots. Place the **solid color cable in the first slot of the pair.**



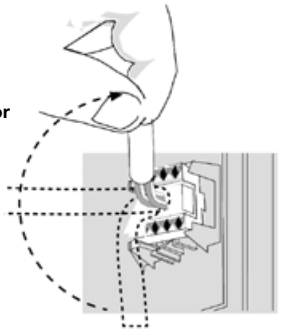
3 Conductor Terminations

3.1 Place the tool perpendicular to the module and finish cutting the cables.



4 Placing the Cable

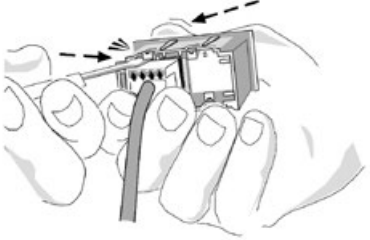
4.1 Place the cable in **the upper, perpendicular, or lower position** so that it is easy to insert the module in the box for attachment.



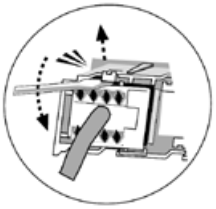
5 Disassembling the module from the supporting piece

Use a...

5.1 Push the front of the module in with your thumb releasing the hooks.



5.2 Pry upwards to release **the upper hook.**

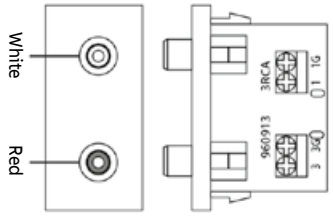


5.3 Pry downwards to release **the lower hook.**

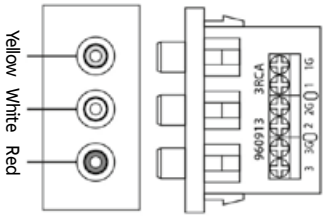
Technical details

Unno

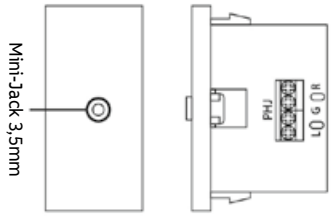
VDI connectors



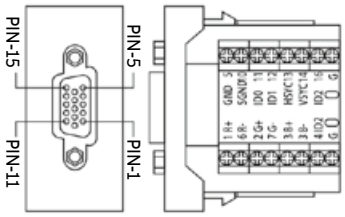
N2155.2
Pin Out:
1G — W/GND ┐ Left Audio
1B — White ┘
3G — R/GNB ┐ Right Audio
3R — red ┘



N2155.3
Pin Out:
1G — Y/GND ┐ Composite Video
1A — Yellow ┘
2G — W/GND ┐ Left Audio
2B — White ┘
3G — R/GND ┐ Right Audio
3R — Red ┘



N2155.4
Pin Out:
R — Red ┐ Left Audio
G — Ground ┘
L — White ┐ Right Audio

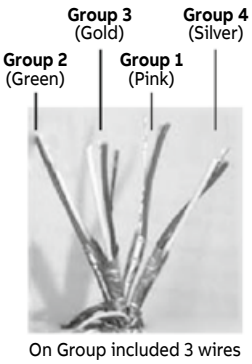


N2155.5

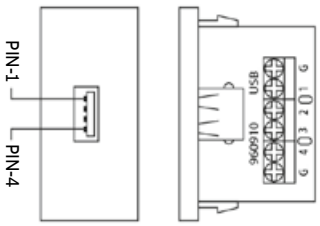
PIN		PIN	
1	1 R+	5	GND 5
6	6 R-	10	SGND 10
2	2 G+	11	ID0 11
7	7 G-	12	ID1 12
3	3 B+	13	HSYC 13
8	8 B-	14	VSYC 14
4	4 ID2	15	ID2 15
G	GND	G	GND

N2155.6

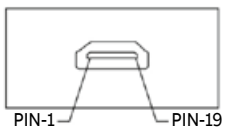
G-1	1	TMDS Data2+
	2	TMDS Data2 Shield
	3	TMDS Data2-
G-2	4	TMDS Data1+
	5	TMDS Data1 Shield
	6	TMDS Data1-
G-3	7	TMDS Data0+
	8	TMDS Data0 Shield
	9	TMDS Data0-
G-4	10	TMDS Clock+
	11	TMDS Clock Shield
	12	TMDS Clock-
	13	CEC
	14	RESERVED (N.C. on device)
	15	SCL
	16	SDA
	17	DDC/CEC Ground
	18	+5V Power
	19	Hot Plug Detect
	GND	Ground

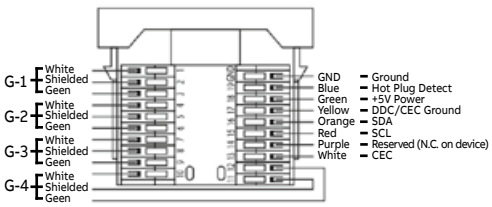


On Group included 3 wires



N2155.8
Pin Out:
1 — V_{BUS}
2 — D-
3 — D+
4 — Ground
G — Shielded





Note:
Using a strap for fixing the cable to the board it is recommended to avoid disconnections. For this the plates have two through-holes at its rear end.

Technical details

Unno

1 Module dimmer

N1160 & N1160.1

1. Technical Data

Voltage:
N1160: 127 V~ ; 60 Hz
N1160.1: 230 V~ ; 50-60 Hz

Power:
N1160: 50-500 W
N1160.1: 50-700 W

Operating temperature:
0 – 30° C

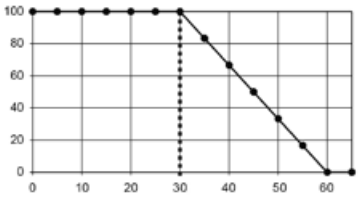
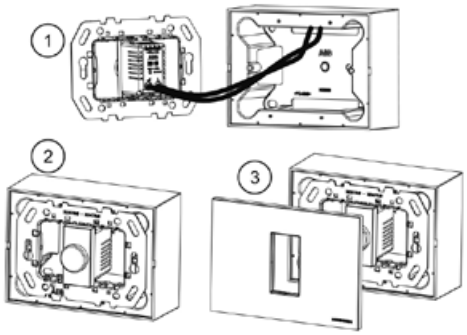


Table 1:
Power reduction (%) as a function of temperature (°C)

2. Assembly/Connection

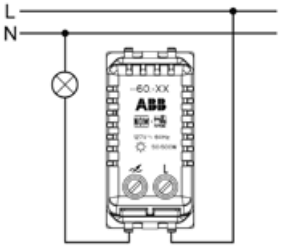
2.1. Assembly

Important:
If the dimmer is installed next to another electronic device that can produce heat, the maximum power must be reduced in half.
If it is installed between two electronic devices that can produce heat, the maximum power must be reduced to the fourth.



2.2. Connection

Important:
Disconnect the power supply when installing.



3. Operation

Do not exceed the maximum shown in Table 1, since the dimmer has a NON-resettable thermal fuse. If the fuse is triggered, the electronic dimmer is useless for further use. In case of exceeding the maximum load, the fuse could not trig but it may happen that the load will not turn off.

Buzzer

N1119

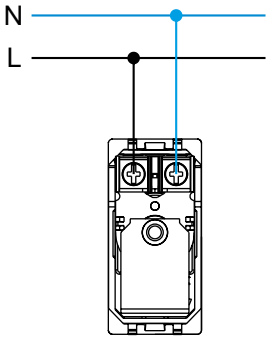
1. Technical data

Rated voltage: 127-230 Vac / 50-60 Hz.

Rated power: 8 VA.
Adjustable tone.

Acoustic power at 1 meter with cover plate: 75 dB.

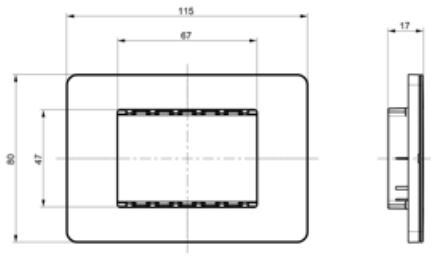
2. Wiring diagram:

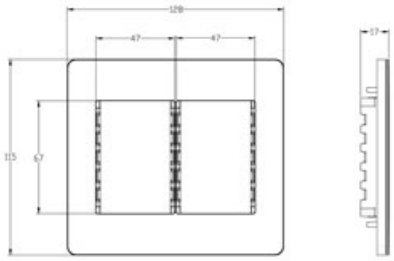


Technical details

Unno

Frames

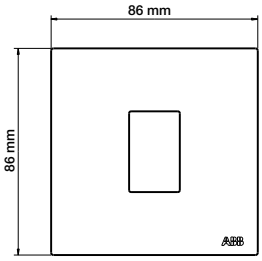




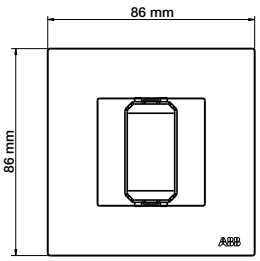
Technical details

Millenium

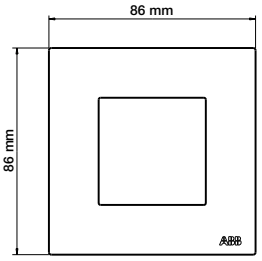
Frame dimensions



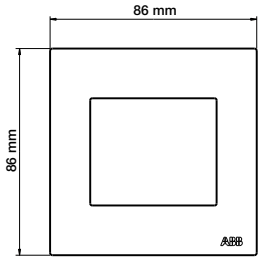
Rocker switch frame 1 gang



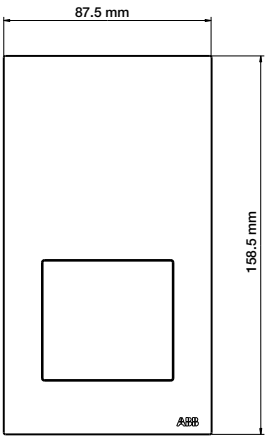
Premium rocker frame 1 gang



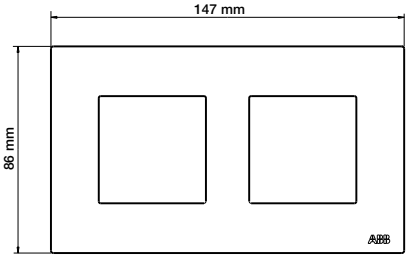
Half/Double rocker & other functions frame 1 gang



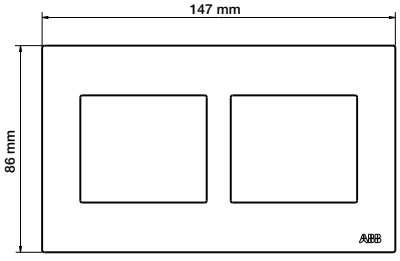
Triple rocker & KNX sensor frame 1 gang



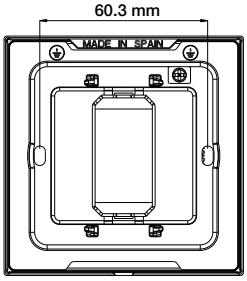
Shaver socket outlet frame



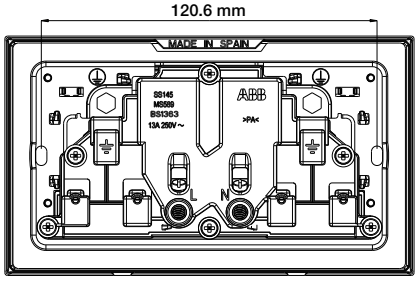
Triple rocker & KNX sensor frame 2 gang



Half/Double rocker & other functions frame 2 gang



Distance between fixing screws for 1 gang frames



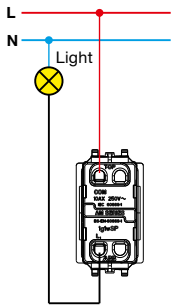
Distance between fixing screws for 2 gang frames

Suitable for flush wall boxes of 35 mm minimum except shaver socket. Cooker unit and 45 DP switch.

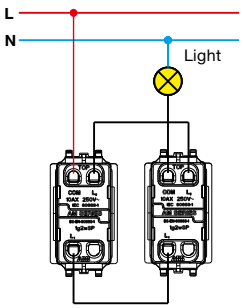
Technical details

Millenium

Circuit connection diagrams

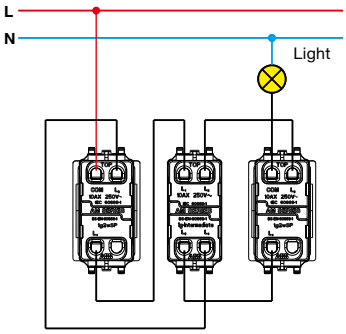


1 Gang
1 way switch



1 Gang
2 way switch

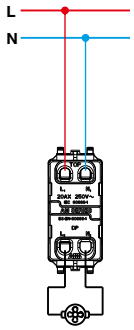
1 Gang
2 Way switch



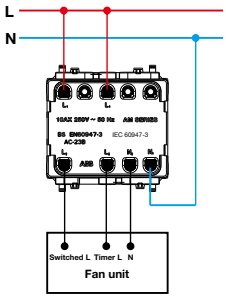
1 Gang
2 way switch

Intermediate
Switch

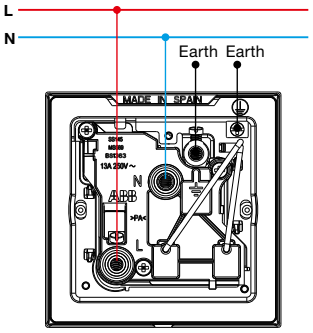
1 Gang
2 way switch



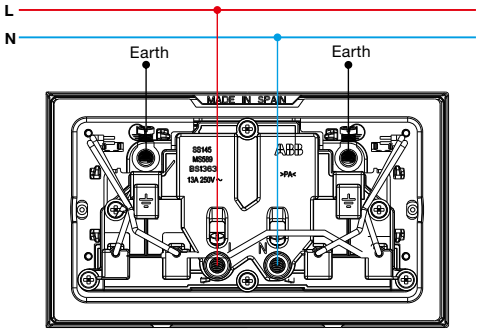
1 Gang
1 way double pole switch



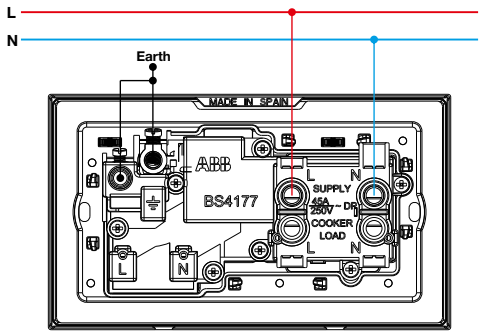
Fan isolator switch



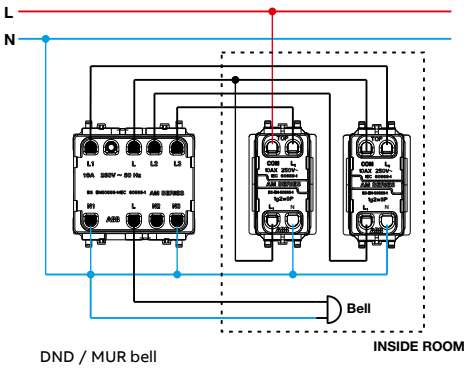
1 Gang BS socket outlet



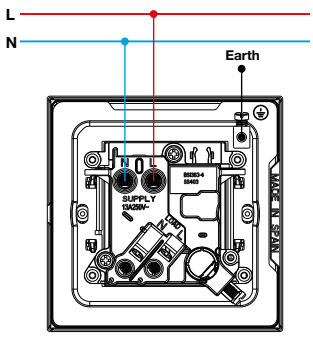
2 Gangs BS socket outlet



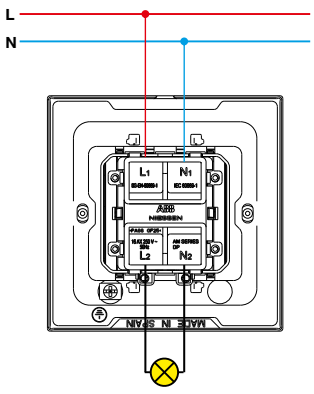
Cooker control unit



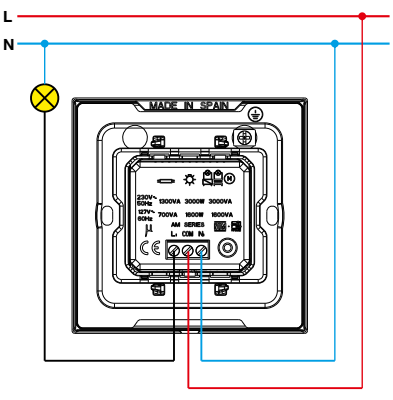
DND / MUR bell



Fuse holder



Card switch

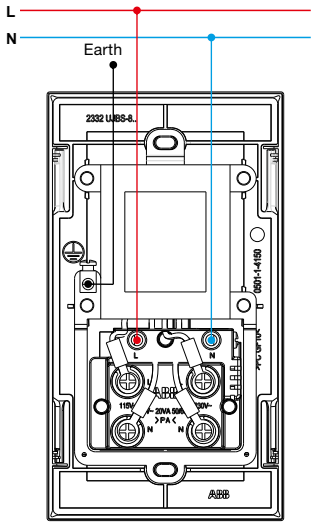


Electronic card switch

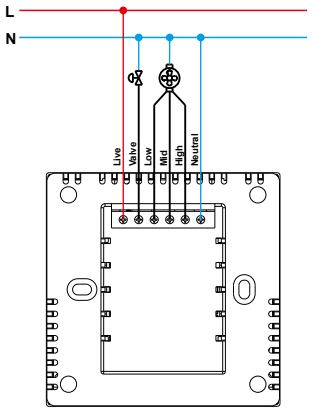
Technical details

Millenium

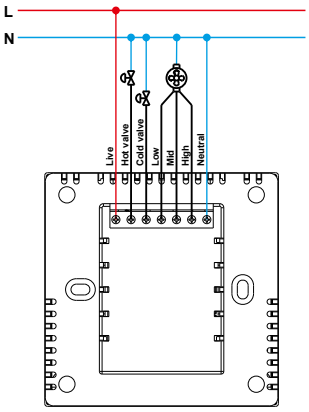
Circuit connection diagrams



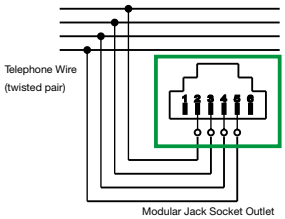
Shaver socket outlet



Thermostat 2 pipes

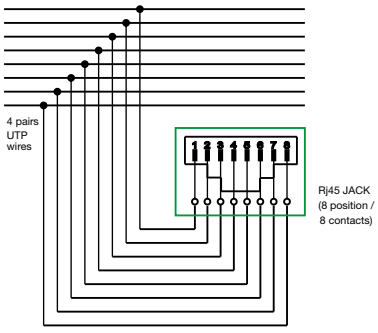


Thermostat 4 pipes



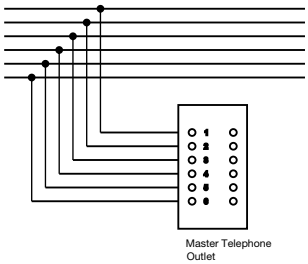
Wiring Colour Code		
Pin Number	Base Colour	Indication
1	-	-
2	Black	Earth
3	Red	L2
4	Green	L1
5	Yellow	Spare
6	-	-

Telephone outlet - RJ11



Wiring Colour Code		
Pin Number	EIA-T568AWire Colour	EIA-T568B Wire Colour
1	White / Green	White / Orange
2	Green	Orange
3	White / Orange	White / Green
4	Blue	Blue
5	White / Blue	White / Blue
6	Orange	Green
7	White / Brown	White / Brown
8	Brown	Brown

Computer outlet - RJ45



Wiring Colour Code	
Pin Number	Base Colour / Stripe
1	Green / White
2	Blue / White
3	Orange / White
4	White / Orange
5	White / Blue
6	White / Green

Telephone outlet - BT R11 / RJ12

TV & SAT technical specifications

TV

Frecuency (Mhz)	Insertion Loss (dB)	Output return loss (dB)	Voltage resistance
5 ~ 550	< 2.5	> 16	
550 ~ 750	< 2.5	> 14	2 KV
750 ~ 1000	< 2.5	> 14	

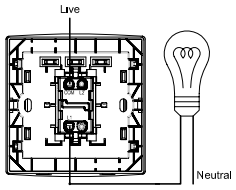
SAT OUTLET

Frecuency (Mhz)	Insertion Loss (dB)	Output return loss (dB)	Voltage resistance
5 ~ 550	< 0.5	> 18	
550 ~ 750	< 0.8	> 18	2 KV
750 ~ 1000	< 0.8	> 16	

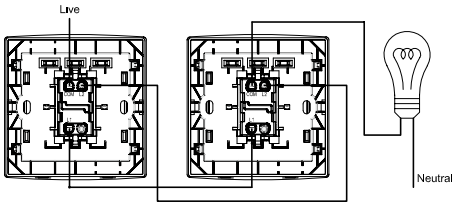
Technical details

Concept bs

Circuit connection diagrams

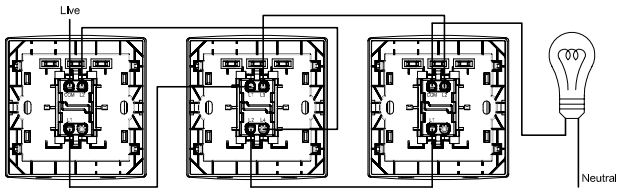


1 gang 1 way switch



1 gang 2 way switch

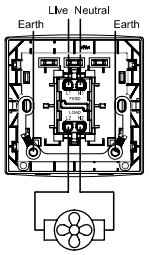
1 gang 2 way switch



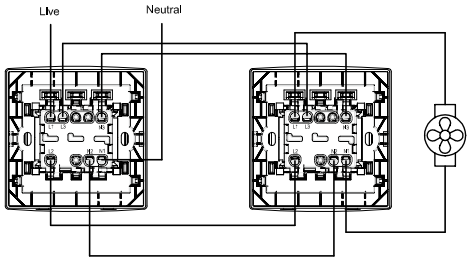
1 gang 2 way switch

intermediate switch

1 gang 2 way switch

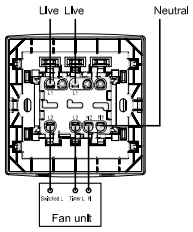


Double pole 1 way switch

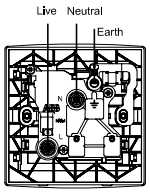


1 gang 2 way
double pole switch

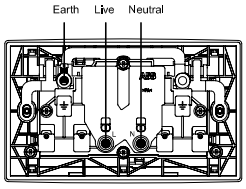
1 gang 2 way
double pole switch



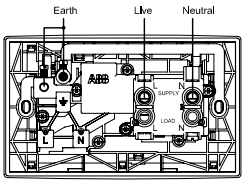
Fan isolator switch



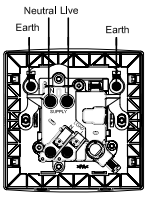
1 gang BS socket outlet



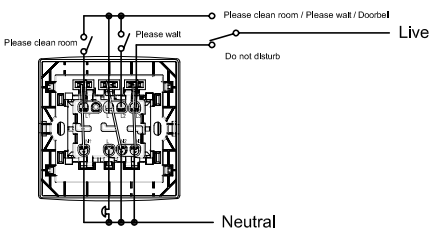
2 gang BS socket outlet



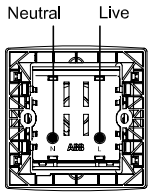
45A DP Switch and 13A
Switched Socket Outlet with Neon



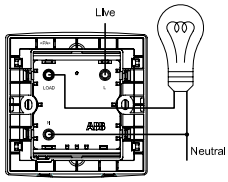
Fused Connection Unit



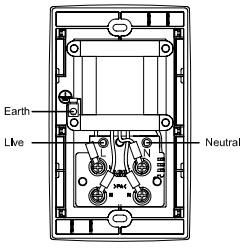
Bell push-switch with marking and indicator



Night Light



Card Switch

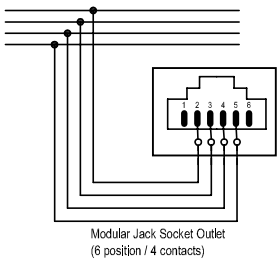


Shaver Socket Outlet

Technical details

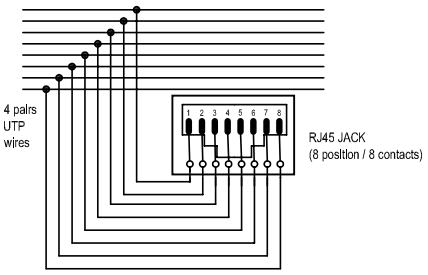
Concept bs

Circuit connection diagrams



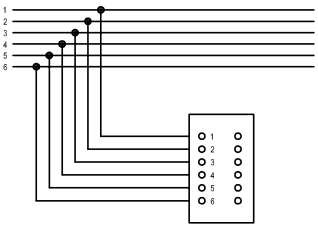
Wiring Colour Code		
Pin Number	Base Colour	Indication
1	-	-
2	Black	Earth
3	Red	L2
4	Green	L1
5	Yellow	Spare
6	-	-

Telephone Outlet - RJ11



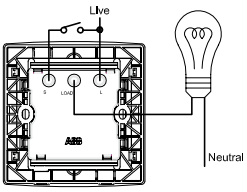
Wiring Colour Code		
Pin Number	EIA-T568A Wire Colour	EIA-T568B Wire Colour
1	White / Green	White / Orange
2	Green	Orange
3	White / Orange	White / Green
4	Blue	Blue
5	White / Blue	White / Blue
6	Orange	Green
7	White / Brown	White / Brown
8	Brown	Brown

Computer outlet - RJ45

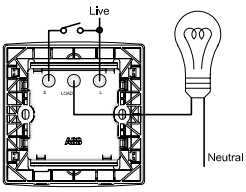


Wiring Colour Code	
Pin Number	Base Colour / Stripe
1	Green / White
2	Blue / White
3	Orange / White
4	White / Orange
5	White / Blue
6	White / Green

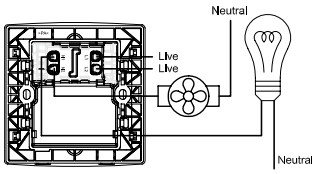
Telephone Outlet - BT



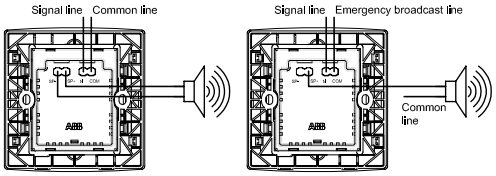
Touch type time delay switch



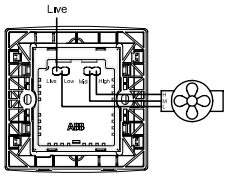
Sound and light control switch



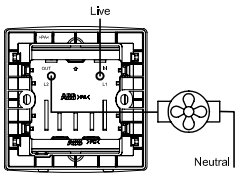
Countdown time switch, 1 gang 1 way



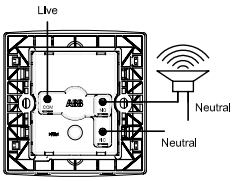
Volume control switch



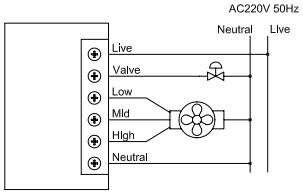
4 step rotary switch



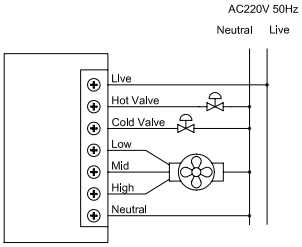
Fan Controller



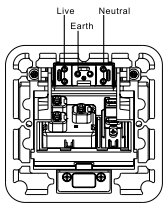
Emergency switch



Thermostat controller with display,
2 pipe system



Thermostat controller with display,
4 pipe system

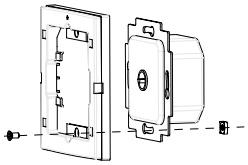


1 gang BS single pole
floor socket outlet

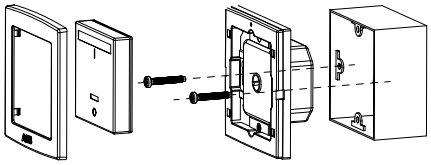
Technical details

Concept bs

The usage of AC503 (adapter plate)

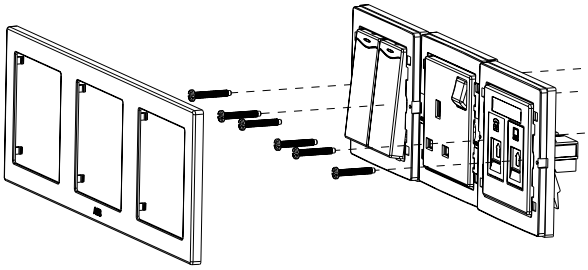


step 1



step 2

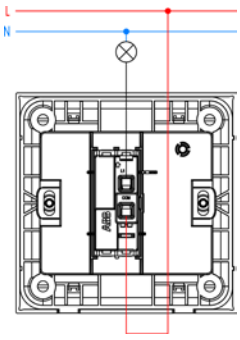
The usage of the multi-gang frame



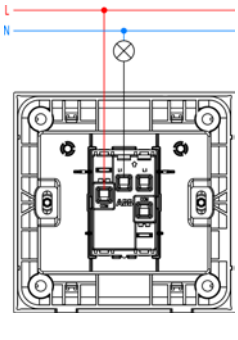
Technical details

Kalo

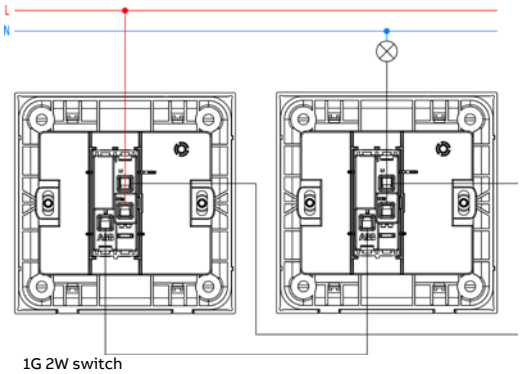
Circuit connection diagrams



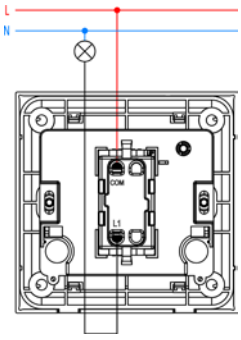
1G 1W switch



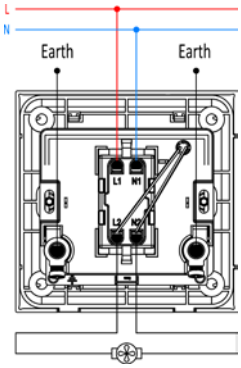
2G 1W switch



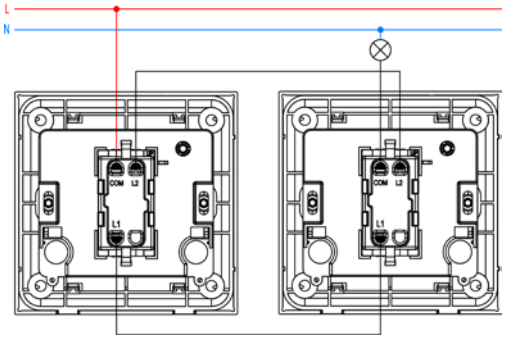
1G 2W switch



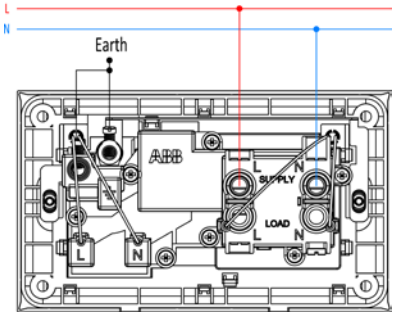
1G 1W 20 AX switch



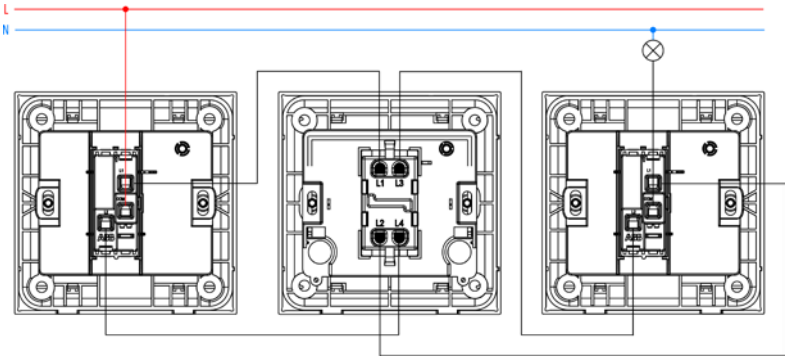
1G 1W DP switch



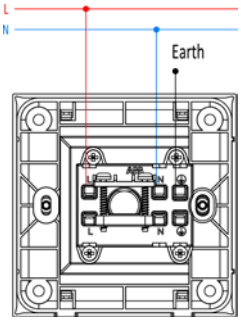
1G 2W 20 AX switch



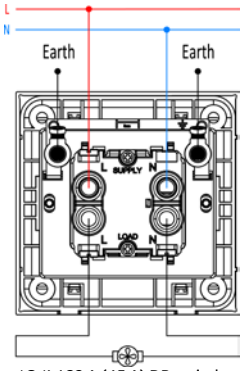
cooker control unit



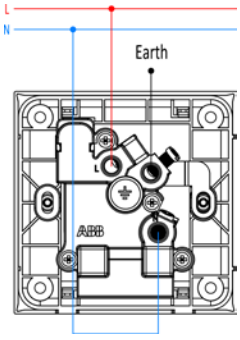
1G intermediate switch



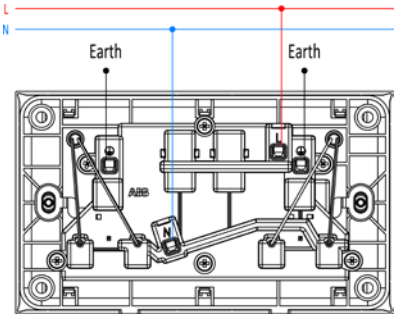
flex outlet



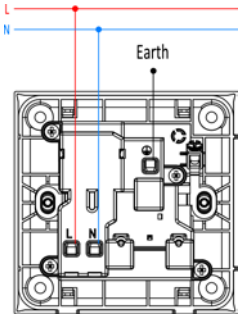
1G 1W 32 A (45 A) DP switch



1G switch socket outlet



2G 13 A switch socket outlet SP

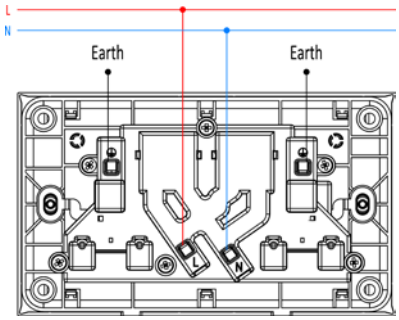


1G 13 A switch socket DP

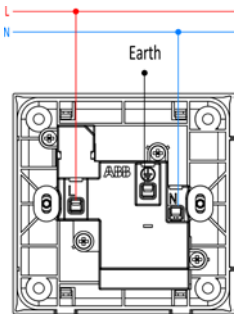
Technical details

Kalo

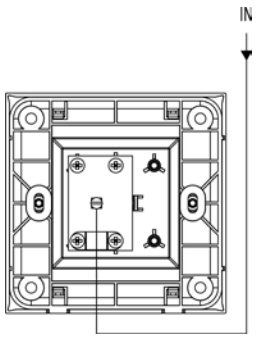
Circuit connection diagrams



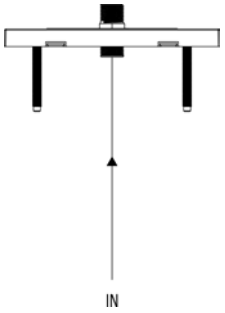
2G 13 A switch socket DP



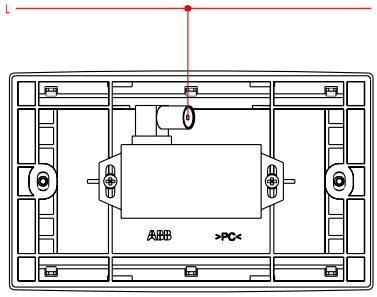
1G universal switch socket



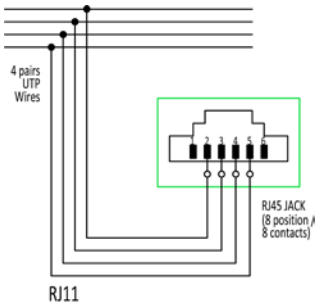
1G TV outlet



1G SAT outlet

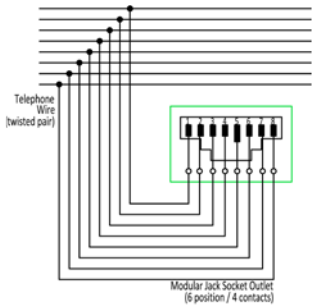


TV/FM splitter



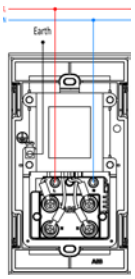
1G telephone outlet

Wiring Color Code		
Pin Number	Base Color	Indication
1	–	–
2	Black	Earth
3	Red	L2
4	Green	L1
5	Yellow	Spare
6	–	–

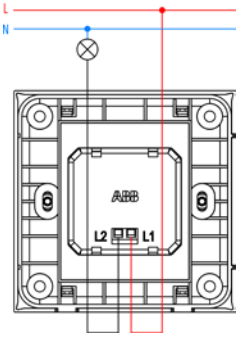


Wiring Color Code		
Pin Number	EIA-T568A Wire Colour	EIA-T568B Wire Colour
1	White/Green	White/Orange
2	Green	Orange
3	White/Orange	White/Green
4	Blue	Blue
5	White/Blue	White/Blue
6	Orange	Green
7	White/Brown	White/Brown
8	Brown	Brown

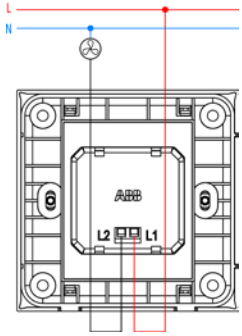
1G data outlet



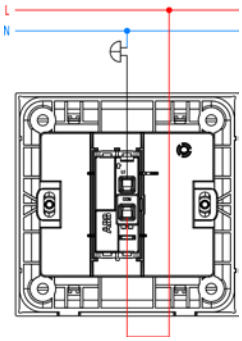
shaver socket



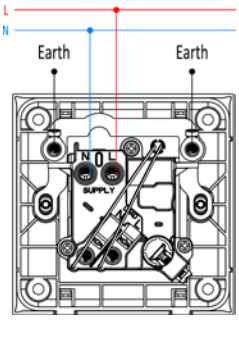
1G rotary dimmer



fan regulator



1G 1W push switch



fused connection unit