

Low noise electronic step relays



Call and reset switches
for bathrooms



Bathroom
lighting control



Bedroom
light control



Living room
light control



Office lighting
control



Remote climate
control



13
SERIES

- Type 13.01 - Electronic step Bistable or monostable relay**
- Type 13.81 - Low noise electronic step relay - Rail mount - 1 Pole**
- Type 13.91 - Low noise electronic step relay and timing step relay Switch box mount - 1 Pole**
- Fixed time (10 minutes) timing function selectable (13.91)
 - Selectable Step or Monostable operation (13.01)
 - Suitable for SELV applications and available also for supply 12 and 24 V AC/DC (13.01)
 - Use with 3 or 4 wire connection, with automatic recognition by the relay
 - Control input can be continuously applied
 - Longer mechanical and electrical life, and much quieter than electromechanical step relays
 - "Zero crossing" load switching
 - Can be mounted behind blanking plates, as widely used in residential wiring systems such as; BTicino: Axolute, Matix, Living and Magic, Gewiss: GW24, Vimar: Plana and Idea ... (13.91)
 - 35 mm rail (EN 60715) mount - 13.01/13.81
 - Cadmium free contact material

13.01/13.81/13.91
Box clamp



* With DC Bistable function: (12...13.2)V DC

For outline drawing see page 13

Contact specification

Contact configuration	1 CO (SPDT)	1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak current	A 16/30 (120 A - 5 ms)	16/30 (120 - 5 ms)	10/20 (80 - 5 ms)
Rated voltage/Maximum switching voltage	V AC 250/400	230/—	230/—
Rated load AC1	VA 4000	3700	2300
Rated load AC15 (230 V AC)	VA 750	750	450
Nominal lamp rating:			
230 V incandescent/halogen W	2000	3000	1000
fluorescent tubes with electronic ballast W	1000	1500	500
fluorescent tubes with electromagnetic ballast W	750	1000	350
CFL W	400	600	300
LED 230 V W	400	600	300
LV halogen or LED with electronic ballast W	400	600	300
LV halogen or LED with electromagnetic ballast W	800	1500	500
Minimum switching load	mW (V/mA) 1000 (10/10)	1000 (10/10)	1000 (10/10)
Standard contact material	AgSnO ₂	AgSnO ₂	AgSnO ₂

Supply specification

Nominal voltage (U _N)	V AC (50/60 Hz)	110...125	230...240	230	230
	V DC/AC (50/60 Hz)	12	24	—	—
Rated power	VA (50/60 Hz)/W	2.5/2.5	3/1.2	2/1	2/1
Operating range	V AC (50/60 Hz)	90...130	184...253	(0.8...1.1)U _N	(0.8...1.1)U _N
	V DC/AC (50/60 Hz)	10.8*...13.2	20.6...33.6	—	—

Technical data

Electrical life at rated load in AC1	cycles	100 · 10 ³	100 · 10 ³	100 · 10 ³
Maximum impulse duration		Continuous	Continuous	Continuous
Dielectric strength between: open contacts	V AC	1000	1000	1000
supply - contacts	V AC	4000	—	—
Ambient temperature range	°C	-10...+60	-10...+60	-10...+50
Protection category		IP 20	IP 20	IP 20

Approvals (according to type)



- 13.01**
-
- 1 CO (SPDT)
 - Step or monostable relay
 - According to EN 60601-1 2 x MOOP
 - 35 mm rail (EN 60715) mount
 - 35 mm wide

- 13.81**
-
- 1 NO (SPST-NO)
 - 35 mm rail (EN 60715) mount
 - 17.5 mm wide

- 13.91**
-
- 1 NO (SPST-NO)
 - Step relay and timing step relay (10 minutes)
 - For mounting within residential switch boxes

Low noise electronic multifunction step relays

- Functions 13.61: step relay (**RI**), timing step relay (**IT**), monostable (**RM**), light ON
- Functions 13.62: step relay (**RI**), timing step relay (**IT**), step relay with power failure restoration (**RIm**), timing step relay with power failure restoration (**ITm**)
- In case of power failure, when power is restored, the output returns to the state it was in before the power failure (**13.62**)
- 12...24 V AC/DC and 110...240 V AC supply versions
- Reset feature, for centralized off command
- Set feature, for centralized on command
- Control input can be continuously applied
- "Zero-crossing" load switching
- Cadmium free contact material
- Much quieter than electromechanical step relays
- 35 mm rail (EN 60715) mount

13.61/13.62

Box clamp



For outline drawing see page 13

Contact specification

Contact configuration		1 CO (SPDT)	1 NO (SPST-NO)	2 NO (DPST-NO)
Rated current/Maximum peak current	A	16/30 (120 A - 5 ms)	16/30 (120 A - 5 ms)	10 /—
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400	230/—
Rated load AC1	VA	4000	4000	2300
Rated load AC15 (230 V AC)	VA	750	750	450
Nominal lamp rating:				
230 V incandescent/halogen W		2000	3000	1000
fluorescent tubes with electronic ballast W		1000	1500	500
fluorescent tubes with electromagnetic ballast W		750	1000	350
CFL W		400	600	150
LED 230 V W		400	600	150
LV halogen or LED with electronic ballast W		400	600	300
LV halogen or LED with electromagnetic ballast W		800	1500	500
Minimum switching load	mW (V/mA)	1000 (10/10)	1000 (10/10)	1000 (10/10)
Standard contact material		AgSnO ₂	AgSnO ₂	AgSnO ₂

Supply specification

Nominal voltage (U _N)	V AC (50/60 Hz)	—	110...240	110...240
	V DC/AC (50/60 Hz)	12...24	—	—
Rated power AC/DC	VA (50/60 Hz)/W	1/0.5	3.2/1	3.2/1
Operating range	V AC (50/60 Hz)	—	90...264	90...264
	V DC/AC (50/60 Hz)	10.2...26.4	—	—

Technical data

Electrical life at rated load in AC1	cycles	100 · 10 ³	100 · 10 ³	100 · 10 ³
Maximum impulse duration		Continuous	Continuous	Continuous
Dielectric strength between:				
open contacts V AC		1000	1000	1000
supply - contacts V AC		2000	2000	2000
Ambient temperature range	°C	-10...+60	-10...+60	-10...+60
Protection category		IP 20	IP 20	IP 20

Approvals (according to type)



13.61.0.024.0000



- 1 CO (SPDT)
- Reset feature, for centralized off command (3s)
- Set feature, for centralized on command
- Multifunction:
 - step relay (**RI**)
 - timing step relay (30 s...20 min) (**IT**)
 - monostable (**RM**)
 - light ON
- 35 mm rail (EN 60715) mount
- 17.5 mm wide

13.61.8.230.000x



- 1 NO (SPST-NO)
- Reset feature, for centralized off command:
 - reset 3s (13.61-0000)
 - reset 1s (13.61-0001)
- Functions:
 - step relay (**RI**)
 - timing step relay (30 s...20 min) (**IT**)
 - monostable (**RM**)
 - light ON
- 35 mm rail (EN 60715) mount
- 17.5 mm wide

NEW 13.62.8.230.0001



- Output: double pole breaking (L and N)
- In case of a power failure, when power is restored, the output returns to the state it was in before the power failure
- Terminal Reset for central OFF (1s)
- Functions:
 - step relay (**RI**)
 - timing step relay (**IT**)
 - step relay with power failure restoration (**RIm**)
 - timing step relay with power failure restoration (**ITm**)
- 35 mm rail (EN 60715) mount
- 17.5 mm wide

Type 13.11 - Call & Reset Relay - Rail mount - 1 Pole

Type 13.12 - Call & Reset Relay - Rail mount - 2 Pole

Type 13.31 - Electromechanical monostable relay Switch box mount - 1 Pole

- Call relay with reset command suitable for residential and commercial applications: public bathroom, hospital, hotel (type 13.11/13.12)
- Can be mounted behind blanking plates, as widely used in residential wiring systems such as; BTicino: Axolute, Matix, Living e Magic, Gewiss: GW24, Vimar: Plana e Idea ... (13.31)
- 35 mm rail (EN 60715) or flange mount (13.11 and 13.12)
- Cadmium free contact material

13.11/13.12/13.31
Box clamp



* During impulse only.
For outline drawing see page 13

Contact specification

Contact configuration		1 CO (SPDT)	1 CO (SPDT) + 1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak current	A	12/30	8/15	12/20 (80 A - 5 ms)
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400	250/400
Rated load AC1	VA	3000	2000	3000
Rated load AC15 (230 V AC)	VA	750	400	450
Nominal lamp rating:				
230 V incandescent/halogen W		—	—	800
fluorescent tubes with electronic ballast W		—	—	400
fluorescent tubes with electromagnetic ballast W		—	—	300
CFL W		—	—	200
230 V LED W		—	—	200
LV halogen or LED with electronic ballast W		—	—	200
LV halogen or LED with electromagnetic ballast W		—	—	400
Minimum switching load	mW (V/mA)	500 (5/5)	300 (5/5)	1000 (10/10)
Standard contact material		AgNi	AgNi	AgSnO ₂

Supply specification

Nominal voltage (U _N)	V AC (50/60 Hz)	230...240	12 - 24	12 - 230
	V DC	—	12 - 24	24
Rated power AC/DC	VA (50 Hz)/W	1.7/0.7*	3/2.5*	1/0.4
Operating range	AC (50 Hz)	(0.8...1.1)U _N	(0.8...1.1)U _N	(0.8...1.1)U _N
	DC	—	(0.8...1.1)U _N	(0.8...1.1)U _N

Technical data

Electrical life at rated load in AC1	cycles	100 · 10 ³	100 · 10 ³	70 · 10 ³
Maximum impulse duration		10 s (100 ms minimum)	10 s (100 ms minimum)	continuous
Dielectric strength between:	open contacts V AC	1000	1000	1000
	supply - contacts V AC	2000	2000	2000
Ambient temperature range	°C	-10...+60	-10...+60	-10...+60
Protection category		IP 20	IP 20	IP 20

Approvals (according to type)



Ordering information

Example: multifunction, 2 NO (DPST-NO), 10 A, 110...240 V AC supply.

Series 1 3 . 6

Type 2 . 8 . 2 3 0 .

No. of poles 0 0 0 1

Supply version 0 0 0 1

Supply voltage 0 0 0 1

A: Contacts material
0 = Standard
4 = Standard AgSnO₂ (only for 13.31)

B: Contact circuit
0 = Standard
3 = Standard NO (only for 13.31)

Codes / Supply voltage
13.01.0.012.0000 (12 V AC/DC)
13.01.0.024.0000 (24 V AC/DC)
13.01.8.125.0000 (110...125 V AC)
13.01.8.230.0000 (230...240 V AC)
13.11.8.230.0000 (230...240 V AC)
13.12.0.012.0000 (12 V AC/DC)
13.12.0.024.0000 (24 V AC/DC)
13.31.8.012.4300 (12 V AC)
13.31.9.024.4300 (24 V DC)
13.31.8.230.4300 (230 V AC)
13.61.8.230.0000 (110...240 V AC)
13.61.8.230.0001 (110...240 V AC)
13.61.0.024.0000 (12...24 V AC/DC)
13.62.8.230.0001 (110...240 V AC)
13.81.8.230.0000 (230 V AC)
13.91.8.230.0000 (230 V AC)

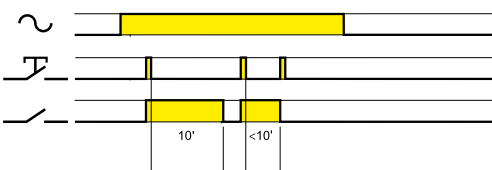
0 = Type 13.61 (Reset 3s)
1 = Type 13.61 and 13.62 (Reset 1s)

Technical data

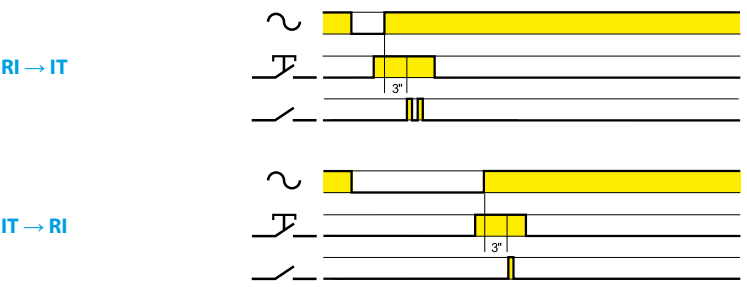
Insulation		13.01.8	13.01.0	13.11 - 13.12	13.31 - 13.61 - 13.62		13.81 - 13.91	
Dielectric strength								
between control circuit and supply	V AC	4000	—	—	—		—	
between control circuit and contacts	V AC	4000	4000	—	—		—	
between R-S-A2 and contacts	V AC	—	—	2000	—		—	
between supply and contacts	V AC	4000	4000	—	2000		—	
between open contacts	V AC	1000	1000	1000	1000		1000	
Other data		13.01		13.11 - 13.12	13.31	13.61 - 13.62	13.81	13.91
Power lost to the environment								
without contact current	W	2.2		—	0.4	1	1.2	0.7
with rated current	W	3.5		1.5	1.6	1.8	2	1.8
Max cable length for push-button connection m		100		100	—	200	200	100
Max. no. of illuminated push-button (≤1mA)		—		—	—	10*	15	12
Terminals		13.01		13.11 - 13.12 - 13.31 - 13.61 - 13.62 - 13.81 - 13.91				
Max. wire size		solid cable	stranded cable	solid cable			stranded cable	
	mm²	1 x 6 / 2 x 4	1 x 6 / 2 x 2.5	1 x 6 / 2 x 4			1 x 4 / 2 x 2.5	
	AWG	1 x 10 / 2 x 12	1 x 10 / 2 x 14	1 x 10 / 2 x 12			1 x 12 / 2 x 14	
 Screw torque	Nm	0.8		0.8				

* For 8.230 version.

Functions for types 13.01, 13.11, 13.12, 13.81, 13.91

Type	Functions	
13.01		Monostable. On closure of a switch between terminals (B2-B3) the output contact will close, and remain so, until the switch opens.
		Step relay (bistable). After every impulse (B1-B2), the output contact changes state - alternately switching from open to closed and vice versa.
13.11 13.12		Call and Reset relay. On momentary closure of the Set switch (S), the output contact closes. Only a momentary closure of the Reset switch (R) will open the output contact.
13.81		(RI) Step relay. After every impulse, the output contact changes state - alternately switching from open to closed and vice versa.
13.91		(RI) Step relay. After every impulse, the output contact changes state - alternately switching from open to closed and vice versa.
		(IT) Timing step relay. On initial impulse the output contact closes and timing starts for the pre-set duration (fixed 10 min); On expiry of the time delay, the output contact opens. During the timing period it is possible to immediately open the contact with a further impulse.

Operating mode setup for type 13.91

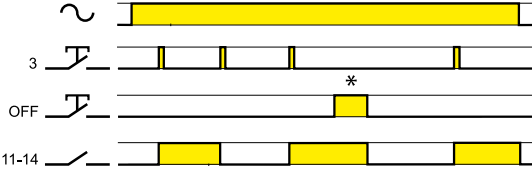
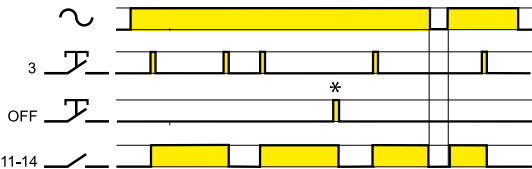
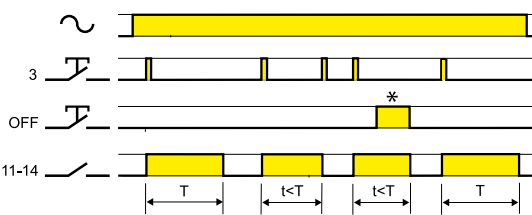
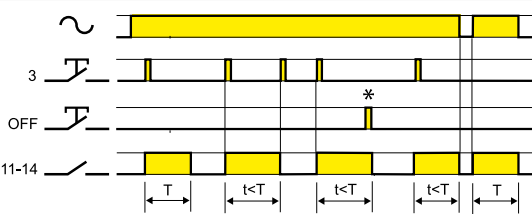


- a) Remove the supply voltage
- b) Press the control button
- c) Apply the supply to the relay, keeping the button closed.
After 3 second, the light will flash twice to indicate the selection of the "IT" function, or flash once for "RI" function.

Functions for type 13.61

Type	Functions
13.61.8.230	(RM) Monostable. On closure of a switch between terminal 3 and Line (or Neutral, in case of 3-wire connection) the output contact will close, and remain so, until the switch opens. * $T \geq 1s$. - Type 13.61.8.230.0001
	(IT) Timing step relay. On initial impulse the output contact closes and timing starts for the pre-set duration T; On expiry of the time delay, the output contact opens. During the timing period it is possible to immediately open the contact with a further impulse. Switch-off delay time: 30 s...20 min. * $T \geq 1s$. - Type 13.61.8.230.0001
	(RI) Step relay. After every impulse, the output contact changes state - alternately switching from open to closed and vice versa. * $T \geq 1s$. - Type 13.61.8.230.0001
	Light ON. With this function set - the output contact stays permanently closed. * $T \geq 1s$. - Type 13.61.8.230.0001
13.61.0.024	(RM) Monostable. On closure of a switch between terminal 3 and Line (or Neutral, in case of 3-wire connection) the output contact will close, and remain so, until the switch opens.
	(IT) Timing step relay. On initial impulse the output contact closes and timing starts for the pre-set duration T; On expiry of the time delay, the output contact opens. During the timing period it is possible to immediately open the contact with a further impulse. Switch-off delay time: 30 s...20 min.
	(RI) Step relay. After every impulse, the output contact changes state - alternately switching from open to closed and vice versa.
	Light ON. With this function set - the output contact stays permanently closed.

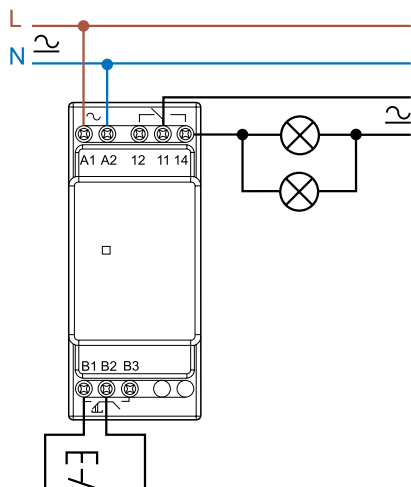
Functions for type 13.62

Type	Functions
13.62.8.230	 (RI) Step relay. After every impulse, the output contact changes state - alternately switching from open to closed and vice versa. * $T \geq 1s$.  (RIm) Step relay with power failure restoration. After every impulse, the output contact changes state - alternately switching from open to closed and vice versa. In case of power failure, when power is restored, the output returns to the state it was in before the power failure. * $T \geq 1s$.  (IT) Timing step relay. On initial impulse the output contact closes and timing starts for the pre-set duration T; On expiry of the time delay, the output contact opens. During the timing period it is possible to immediately open the contact with a further impulse. Switch-off delay time: 30 s...20 min. * $T \geq 1s$.  (ITm) Timing step relay with power failure restoration. On initial impulse the output contact closes and timing starts for the pre-set duration T; On expiry of the time delay, the output contact opens. During the timing period it is possible to immediately open the contact with a further impulse. Switch-off delay time: 30 s...20 min. In case of a power failure, when power is restored, the output returns to the state it was in before the power failure. * $T \geq 1s$.

Wiring diagrams

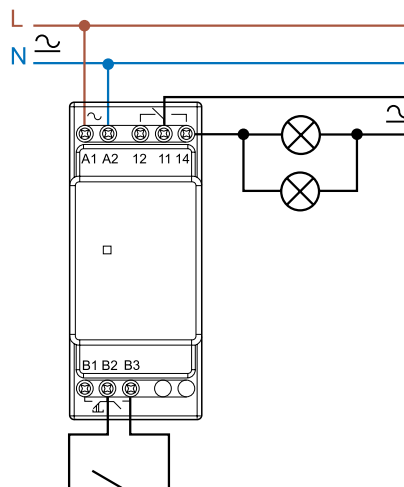
Type 13.01

Step wiring diagram

Red LED indication: **Continuous** = relay ON

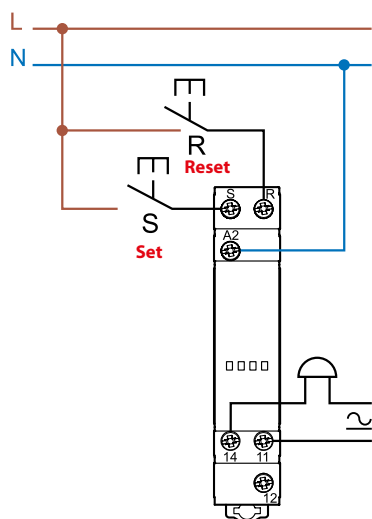
Type 13.01

Monostable wiring diagram

Red LED indication: **Continuous** = relay ON

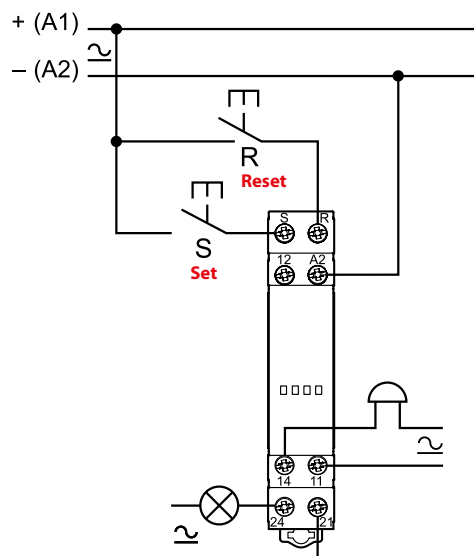
Type 13.11

Call & reset relay



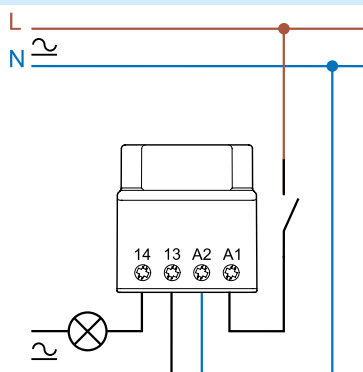
Type 13.12

Call & reset relay



Type 13.31

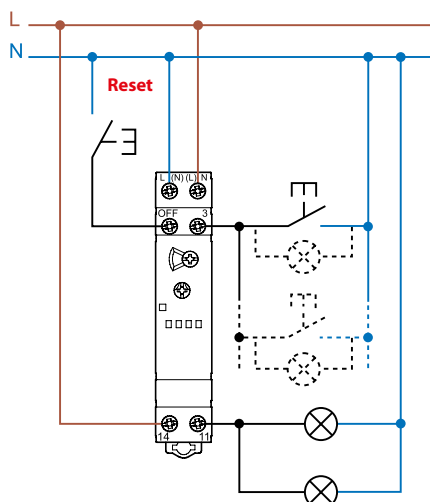
Connection



Wiring diagrams

Type 13.61.8.230
3 wire connection

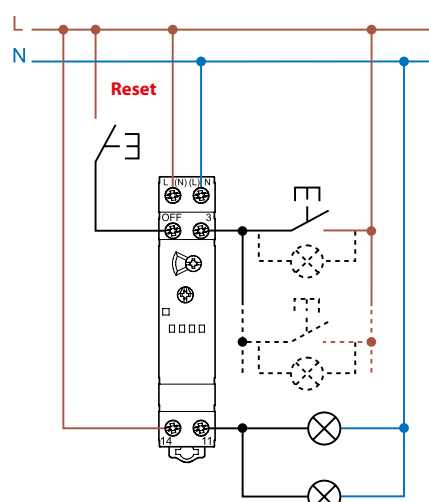
Red LED indication: **Continuous** = relay ON; **Flashing** = relay OFF



Maximum 10 mA illuminated push-buttons

Type 13.61.8.230
4 wire connection

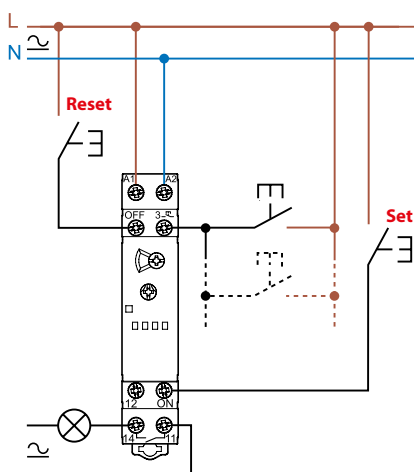
Red LED indication: **Continuous** = relay ON; **Flashing** = relay OFF



Maximum 10 mA illuminated push-buttons

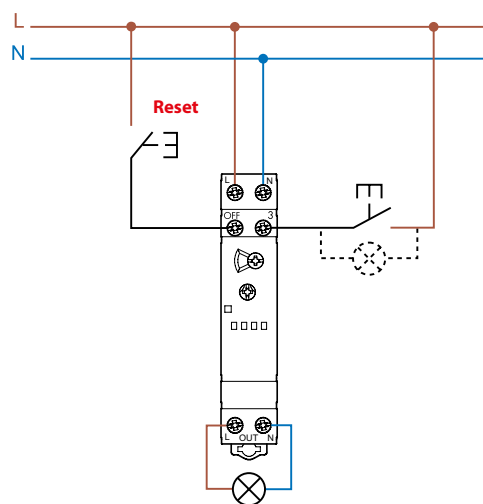
Type 13.61.0.024
4 wire connection

Red LED indication: **Continuous** = relay ON; **Flashing** = relay OFF

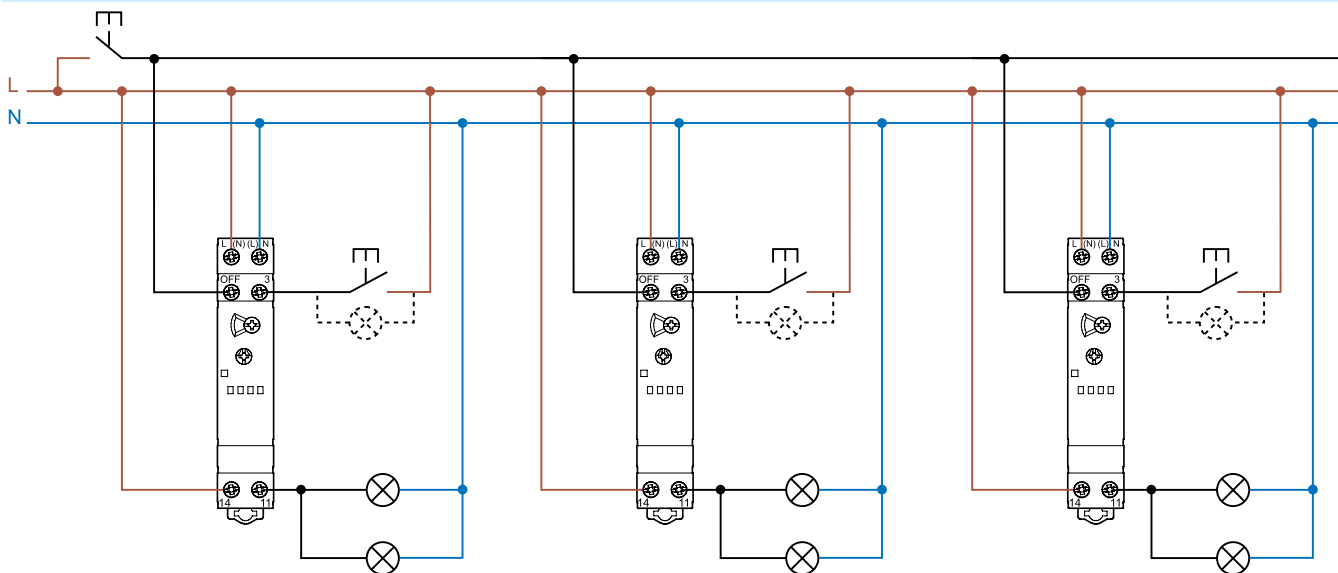


Type 13.62.8.230
4 wire connection

Red LED indication: **Continuous** = relay ON; **Flashing** = relay OFF



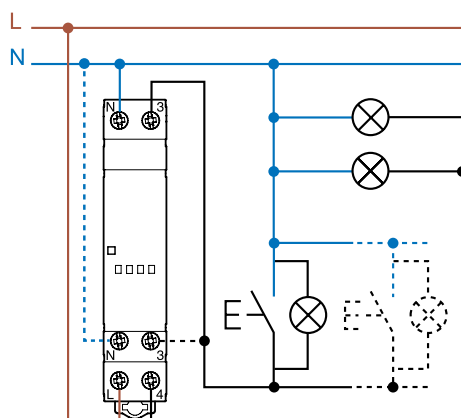
Type 13.61.8.230 - Examples of multiple 4 wire connection with centralized reset push-button



Wiring diagrams

Type 13.81

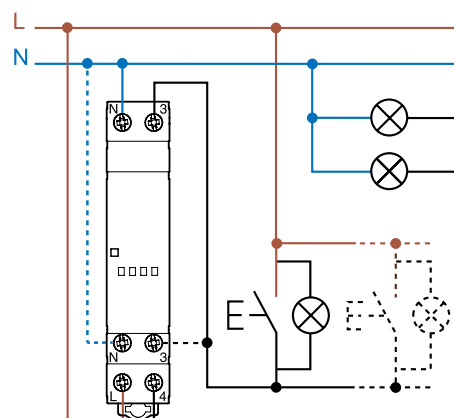
3 wire connection

Red LED indication: **Continuous** = relay ON; **Flashing** = relay OFF

Maximum 15 mA illuminated push-buttons

Type 13.81

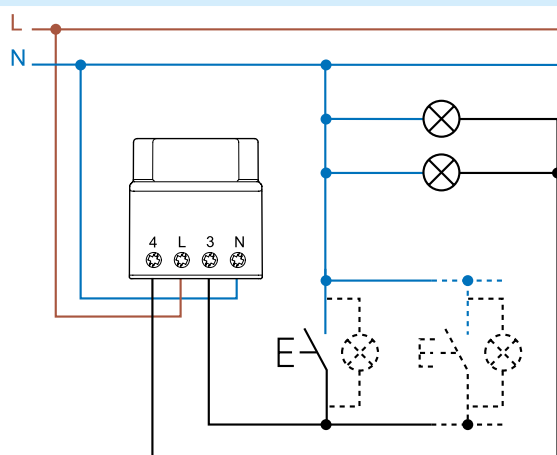
4 wire connection

Red LED indication: **Continuous** = relay ON; **Flashing** = relay OFF

Maximum 15 mA illuminated push-buttons

Type 13.91

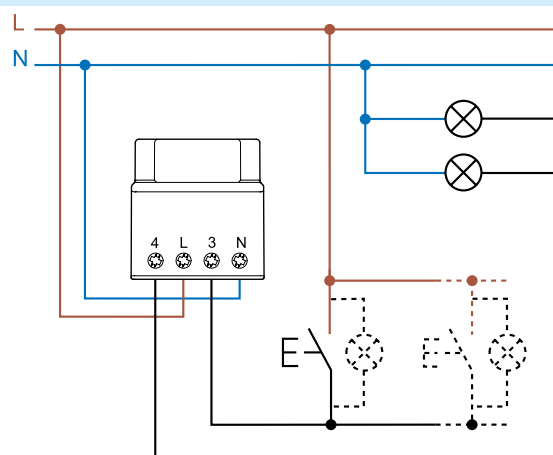
3 wire connection



Maximum 12 mA illuminated push-buttons

Type 13.91

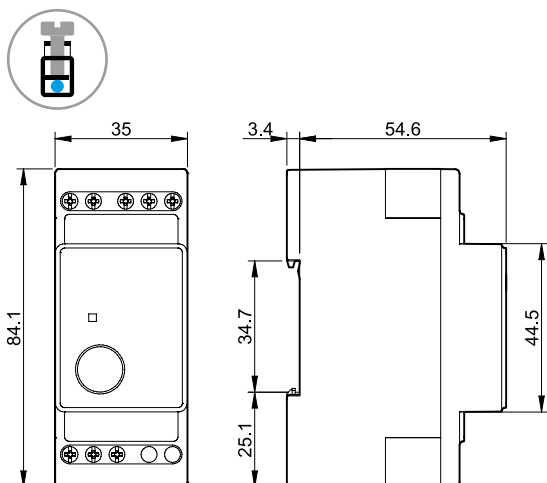
4 wire connection



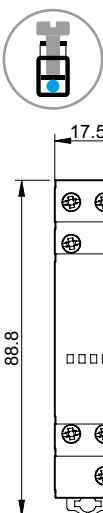
Maximum 12 mA illuminated push-buttons

Outline drawings

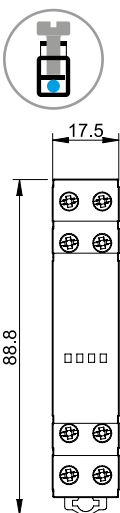
Type 13.01
Box clamp



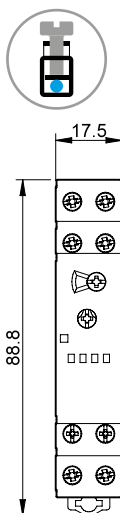
Type 13.11
Box clamp



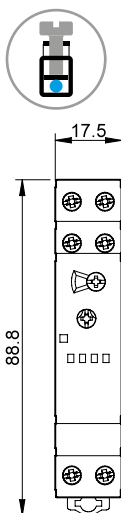
Type 13.12
Box clamp



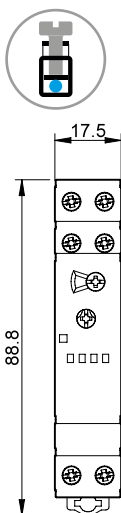
Type 13.61.0.024.0000
Box clamp



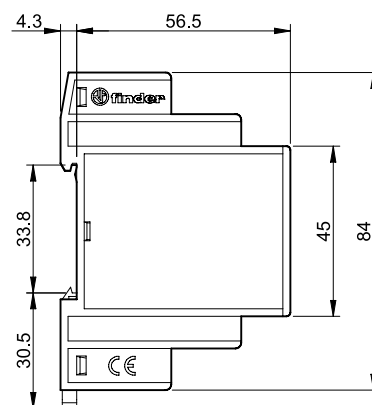
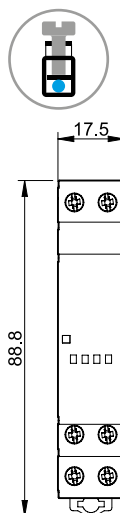
Type 13.61.8.230.000x
Box clamp



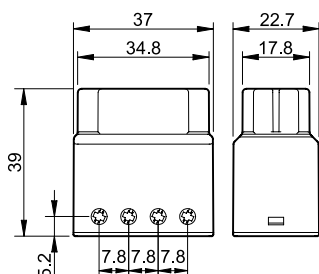
Type 13.62
Box clamp



Type 13.81
Box clamp



Type 13.31/13.91
Box clamp



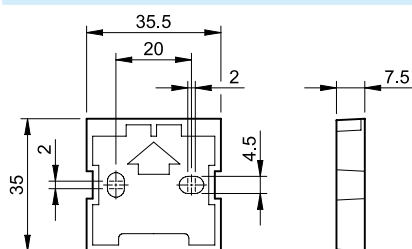
Accessories



011.01

Adaptor for panel mounting, for type 13.01, 35 mm wide

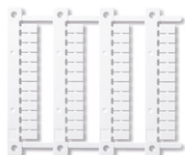
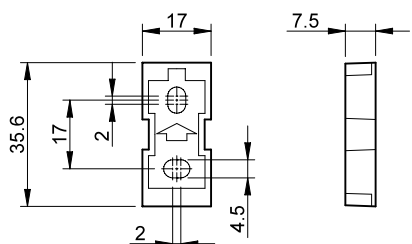
011.01



020.01

Adaptor for panel mounting, for type 13.11, 13.12, 13.61, 13.62 and 13.81, 17.5 mm wide

020.01



060.48

Sheet of marker tags (CEMBRE Thermal transfer printers) for relays types 13.11, 13.12, 13.61, 13.62 and 13.81 (48 tags), 6 x 12 mm

060.48



013.00

Push-button phase/neutral converter. Use this with a pre-existing neutral wired push-button when retro fitting a device designed only for phase connected push-buttons. This avoids any radical change to the existing wiring.

013.00

