finder
RELAYING INNOVATION

Low noise electronic step relays

- Call and reset switches for bathrooms
- Bathroom lighting control
- Bedroom light control
- Living room light control
- Office lighting control

13
SERIES

Type 13.01 - Electronic step Bistable or monostable relay
- Selectable Step or Monostable operation
- Suitable for SELV applications and available also for supply 12 and 24 V AC/DC

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
- 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 …

- 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
- 35 mm rail (EN 60715) mount
- 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

	13.01	13.81	13.91
			
	• 1 CO (SPDT) • Step or monostable relay • According to EN 60601-1 2 x MOOP • 35 mm rail (EN 60715) mount • 35 mm wide	• 1 NO (SPST-NO) • 35 mm rail (EN 60715) mount • 17.5 mm wide	• 1 NO (SPST-NO) • Step relay and timing step relay (10 minutes) • For mounting within residential switch boxes
Contact specification			
Contact configuration	1 CO (SPDT)	1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current A	16	16	10
Inrush current/specific energy (I^2t) A/A^2s	120/3.9	209/16.5	170/9
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	2500	3000	800
fluorescent tubes with electronic ballast W	1000	1500	500
fluorescent tubes with electromagnetic ballast W	750	1000	350
LED 230 V W	120	300	200
LED surface luminaires W	250	600	250
LED strips W	2000	3200	2000
LV halogen or LED with electronic ballast W	400	1000	300
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
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	$100 \cdot 10^3$	$100 \cdot 10^3$	$100 \cdot 10^3$
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)	CE UK CA EAC	CE UK CA EAC	CE UK CA EAC

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Low noise electronic multifunction step relays **Type 13.61.0.024.0000 - Electronic multifunction step relays Set and reset feature** - Reset feature, for centralized off command - Set feature, for centralized on command **Type 13.61.8.230.000x - Electronic multifunction step relays Reset feature** - Reset feature, for centralized off command **Type 13.62.8.230.0001 - Electronic multifunction step relays Reset feature** - Reset feature, for centralized off command - In case of power failure, when power is restored, the output returns to the state it was in before the power failure • 12…24 V AC/DC and 110…240 V AC supply versions • Control input can be continuously applied • "Zero-crossing" load switching • Much quieter than electromechanical step relays • 35 mm rail (EN 60715) mount • Cadmium free contact material 13.61/13.62 Box clamp  For outline drawing see page 13	**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

Contact specification				
Contact configuration		1 CO (SPDT)	1 NO (SPST-NO)	2 NO (DPST-NO)
Rated current	A	16	16	10
Inrush current/specific energy (I^2t)	A/A^2s	120/3.9	209/16.5	142/5.5
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	2500	3000	1000
fluorescent tubes with electronic ballast	W	1000	1500	500
fluorescent tubes with electromagnetic ballast	W	750	1000	350
LED 230 V	W	120	300	150
LED surface luminaires	W	250	600	200
LED strips	W	2000	3200	2000
LV halogen or LED with electronic ballast	W	400	1000	300
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	$100 \cdot 10^3$	$100 \cdot 10^3$	$100 \cdot 10^3$
Maximum impulse duration		Continuous	Continuous	Continuous
Dielectric strength between: open contacts	V AC	1000	1000	1000
supply - contacts	V AC	2000	2000	—
Ambient temperature range	°C	–10…+60	–10…+60	–10…+60
Protection category		IP 20	IP 20	IP 20
Approvals (according to type)		CE UK CA EAC		

Type 13.11 - Call & Reset Relay Rail mount, 1 Pole
- Call relay with reset command suitable for residential and commercial applications: public bathroom, hospital, hotel

Type 13.12 - Call & Reset Relay Rail mount, 2 Pole
- Call relay with reset command suitable for residential and commercial applications: public bathroom, hospital, hotel

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

- 35 mm rail (EN 60715) or flange mount
- Cadmium free contact material

13.11/13.12/13.31
Box clamp

* During impulse only.

For outline drawing see page 13

	13.11	13.12	13.31
			
	• 1 CO (SPDT) • Call relay with reset command • 35 mm rail (EN 60715) mount • 17.5 mm wide	• 1 CO (SPDT) + 1 NO (SPST-NO) • Call relay with reset command • 35 mm rail (EN 60715) mount • 17.5 mm wide	• 1 NO (SPST-NO) • Interposing monostable relay • For mounting within residential switch boxes
Contact specification			
Contact configuration	1 CO (SPDT)	1 CO (SPDT) + 1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current A	12	8	12
Inrush current/specific energy (I^2t) A/A^2s	—	—	170/9
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
230 V LED W	—	—	200
LED surface luminaires W	—	—	250
LED strips W	—	—	2000
LV halogen or LED with electronic ballast W	—	—	300
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	$100 \cdot 10^3$	$100 \cdot 10^3$	$70 \cdot 10^3$
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)	CE UK CA EAC		

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Ordering information

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

1 3	.	6	2	.	8	.	2 3 0	.	A: 0	B: 0	C: 0	D: 1

Series

Type
0 = Step/Monostable, 35 mm rail (EN 60715) mount, 35 mm wide
1 = Call & Reset relay, 35 mm rail (EN 60715) mount, 17.5 mm wide
3 = Monostable relay, switch box mounting
6 = Multifunction relay, 35 mm rail (EN 60715) mount, 17.5 mm wide
8 = Modular step relay, 35 mm rail (EN 60715) mount, 17.5 mm wide
9 = Step relay and timing step relay, switch box mounting

No. of poles
1 = 1 CO
1 = 1 NO
2 = 1 CO + 1 NO
2 = Double pole breaking (13.62)

Supply version
0 = AC (50/60 Hz)/DC
8 = AC (50/60 Hz)
9 = DC

Supply voltage
012 = 12 V AC
012 = 12 V AC/DC
024 = 24 V DC
024 = 24 V AC/DC
024 = 12…24 V AC/DC
125 = 110…125 V AC
230 = 230…240 V AC
230 = 110…240 V AC
230 = 230 V AC

A: Contacts material
0 = Standard
4 = Standard $AgSnO_2$ (only for 13.31)

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

C

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

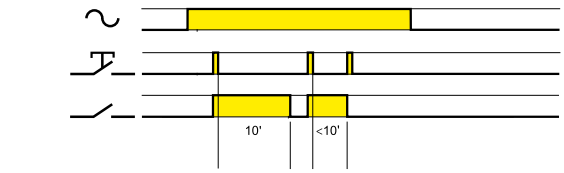
Codes / Supply voltage
13.01.0.012.0000 (12 V AC/DC)
13.01.0.024.0000 (24 V AC/DC)
13.01.8.125.0000 (110…125 V AC)
13.01.8.230.0000 (230…240 V AC)
13.11.8.230.0000 (230…240 V AC)
13.12.0.012.0000 (12 V AC/DC)
13.12.0.024.0000 (24 V AC/DC)
13.31.8.012.4300 (12 V AC)
13.31.9.024.4300 (24 V DC)
13.31.8.230.4300 (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)

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	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	
	mm^2	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.

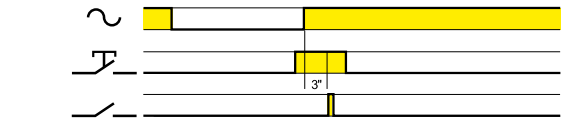
Functions for types 13.01, 13.11, 13.12, 13.81, 13.91

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

RI → IT

IT → RI



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.

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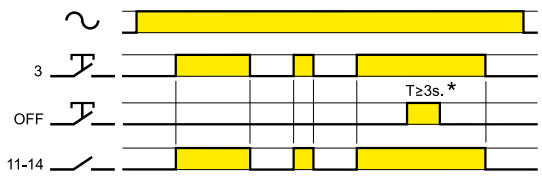
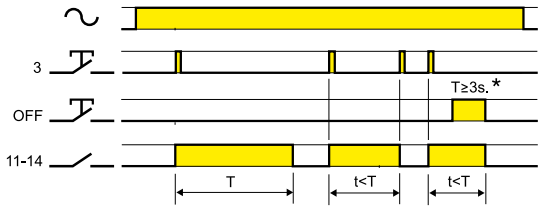
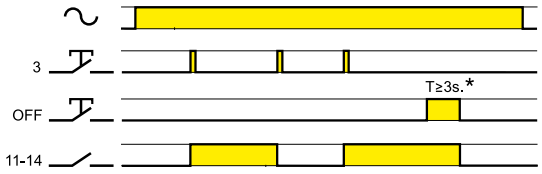
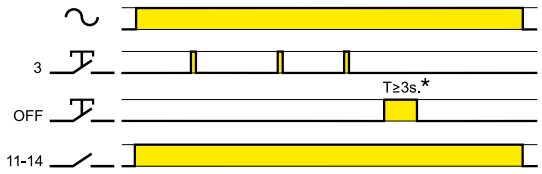
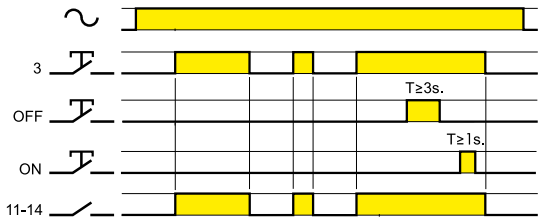
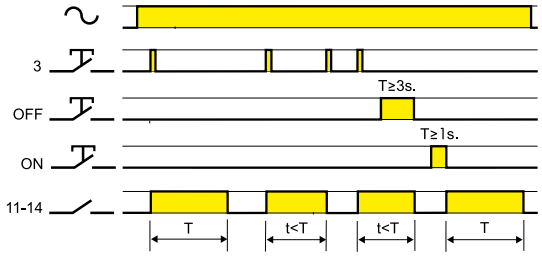
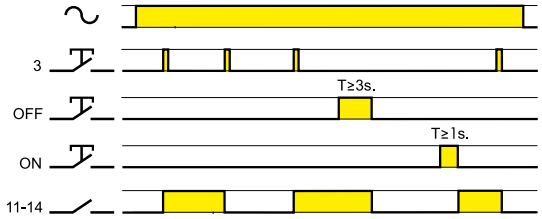
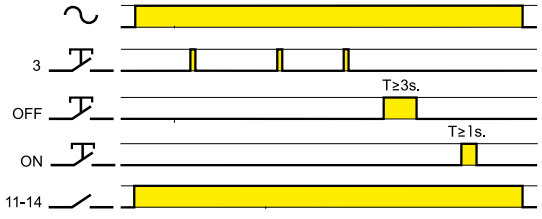
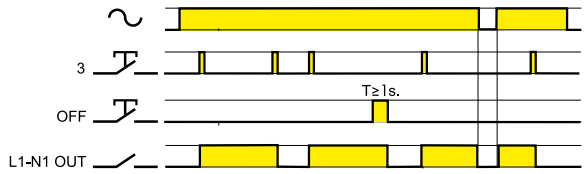
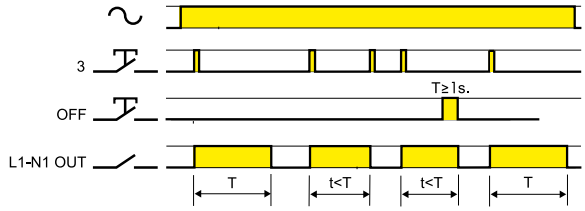
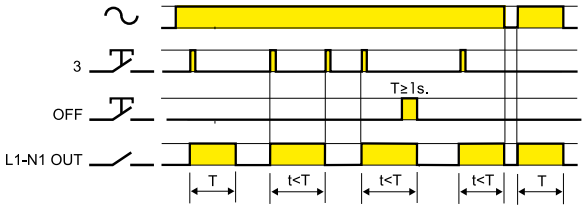
Functions for type 13.61

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≥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≥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≥1s. - Type 13.61.8.230.0001
		**Light ON.** With this function set - the output contact stays permanently closed. * T≥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.

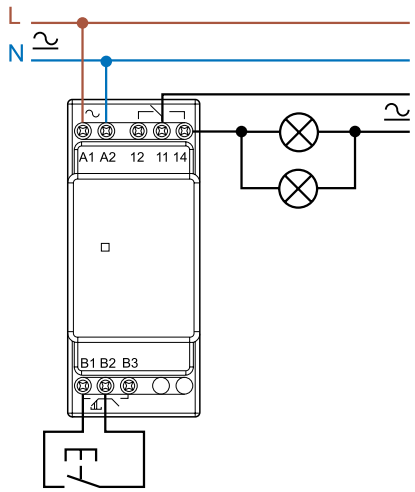
Functions for type 13.62

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.
		**(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.**
		**(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.
		**(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.**

Wiring diagrams

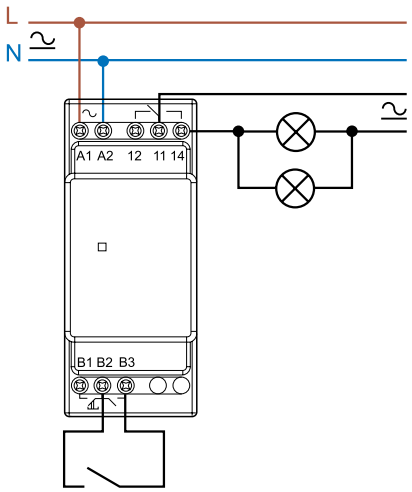
Type 13.01
Step wiring diagram

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

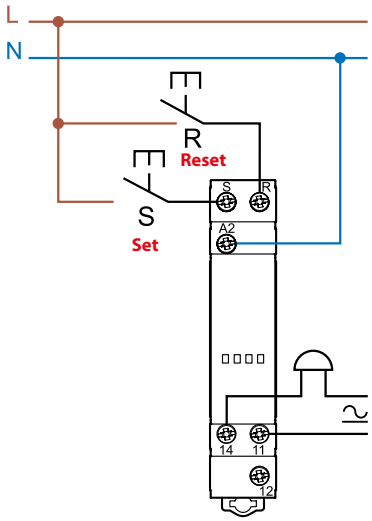


Type 13.01
Monostable wiring diagram

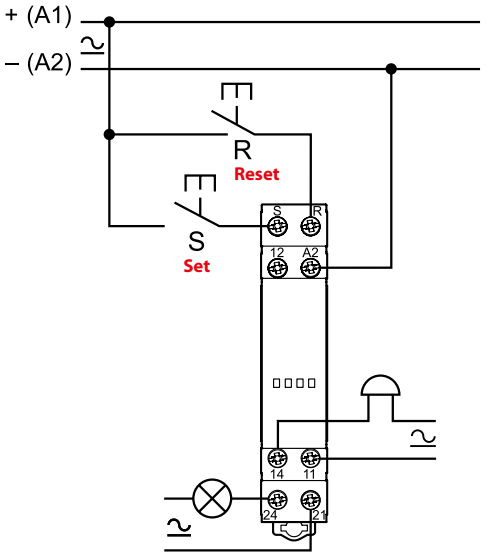
Red LED indication: **Continuous** = relay ON



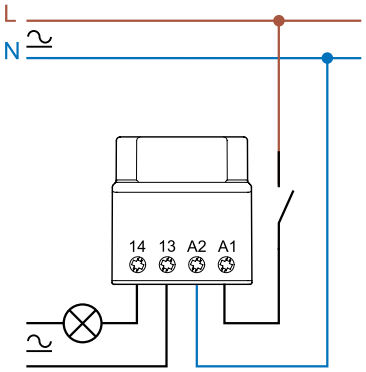
Type 13.11
Call & reset relay



Type 13.12
Call & reset relay



Type 13.31
Connection



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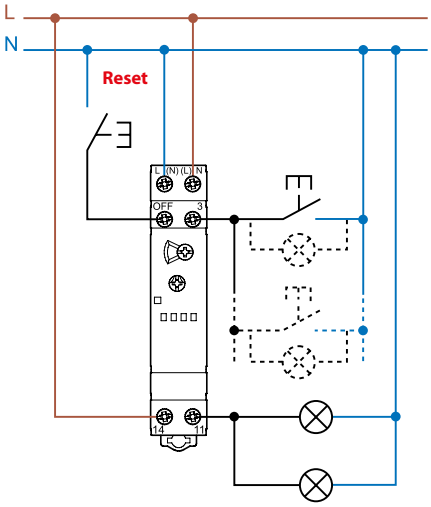
Wiring diagrams

Type 13.61.8.230
3 wire connection

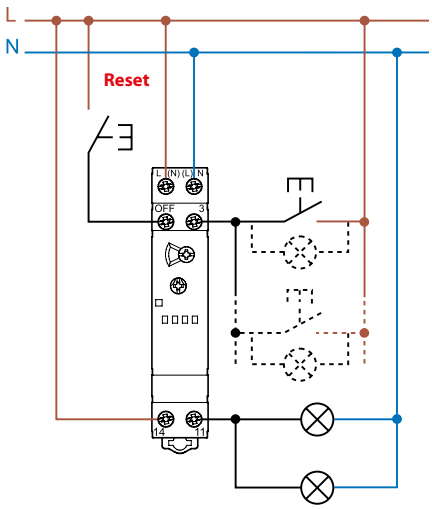
Red LED indication: **Continuous** = relay ON; **Flashing** = relay OFF



Maximum 10 mA illuminated push-buttons

Type 13.61.8.230
4 wire connection

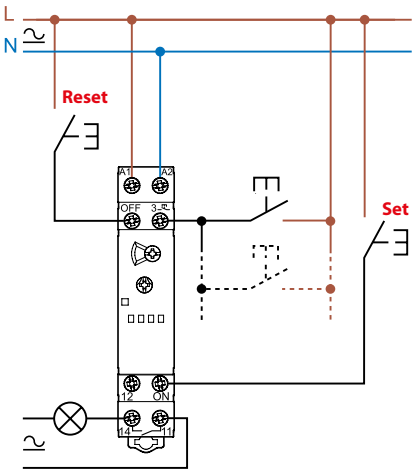
Red LED indication: **Continuous** = relay ON; **Flashing** = relay OFF



Maximum 10 mA illuminated push-buttons

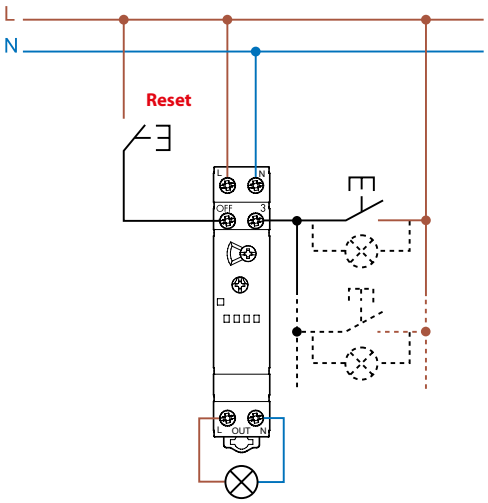
Type 13.61.0.024
4 wire connection

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

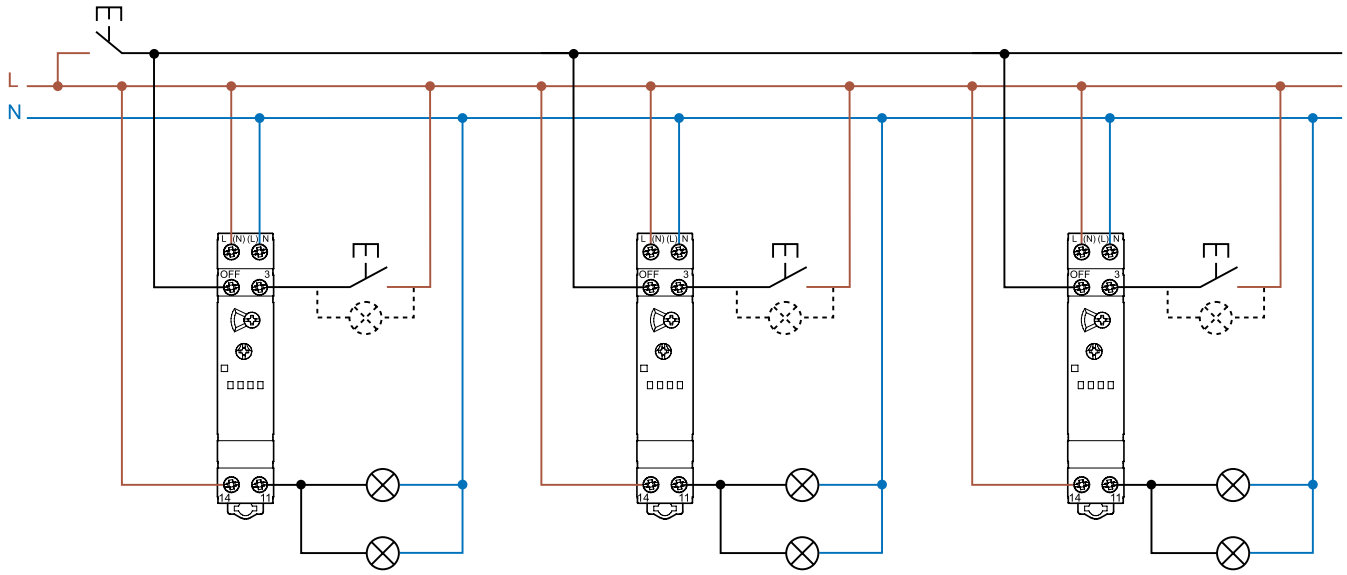


Type 13.62.8.230
4 wire connection

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



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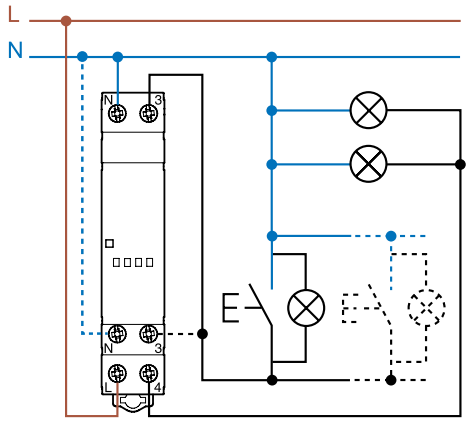
Wiring diagrams

Type 13.81
3 wire connection

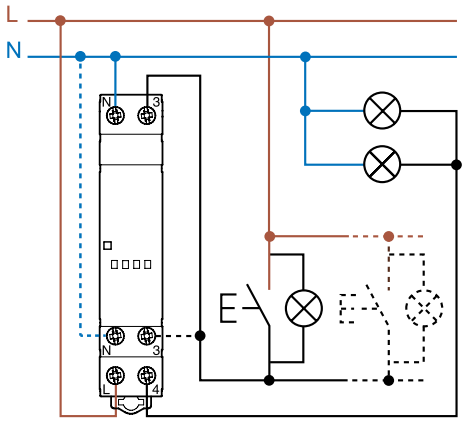
Red LED indication: **Continuous** = relay ON; **Flashing** = relay OFF



Maximum 15 mA illuminated push-buttons

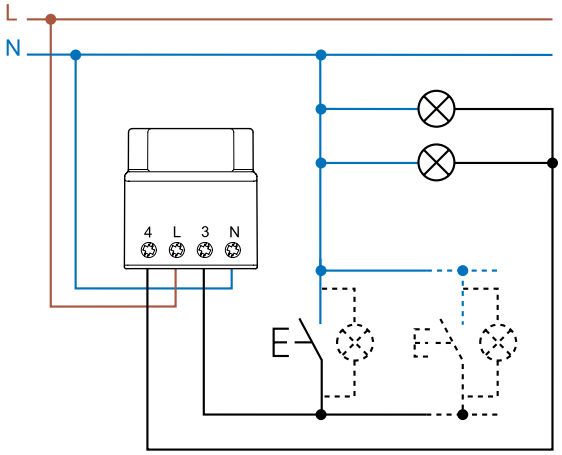
Type 13.81
4 wire connection

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



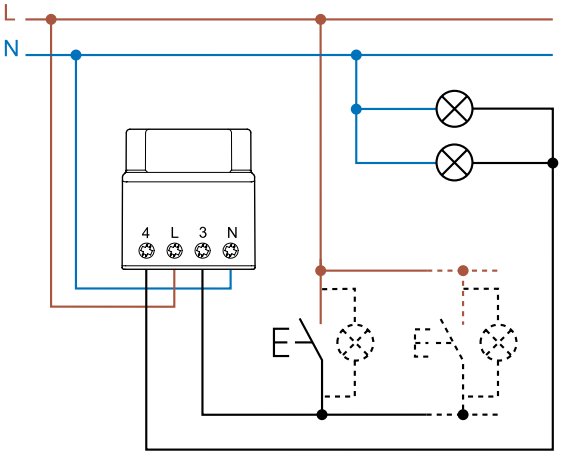
Maximum 15 mA illuminated push-buttons

Type 13.91
3 wire connection



Maximum 12 mA illuminated push-buttons

Type 13.91
4 wire connection



Maximum 12 mA illuminated push-buttons

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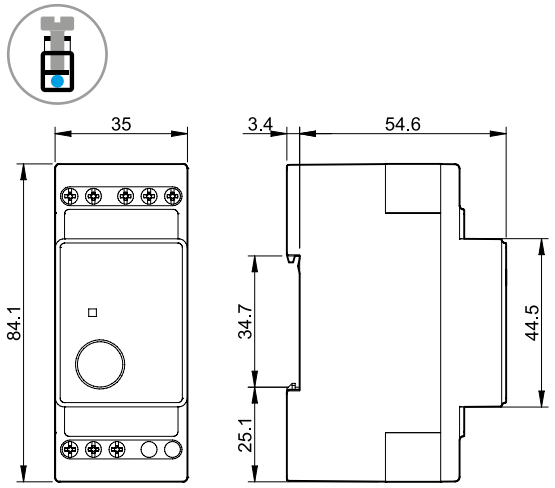
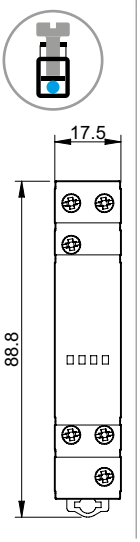
Outline drawings

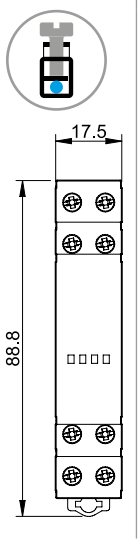
Type 13.01
Box clamp



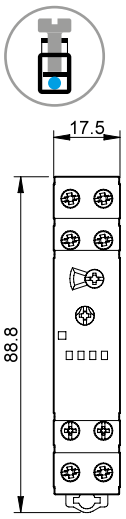
Type 13.11
Box clamp



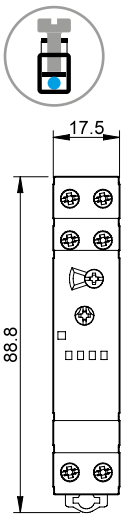
Type 13.12
Box clamp



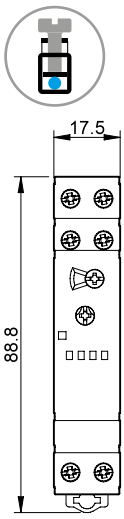
Type 13.61.0.024.0000
Box clamp



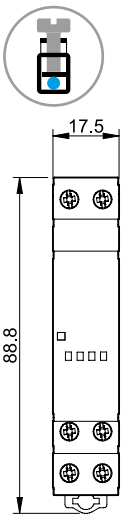
Type 13.61.8.230.000x
Box clamp

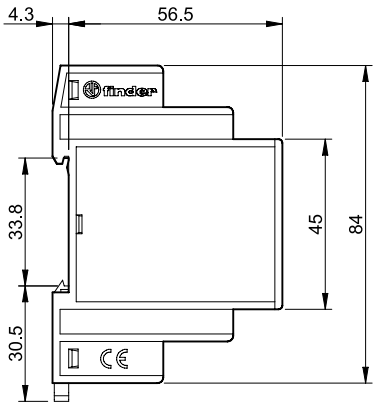


Type 13.62
Box clamp

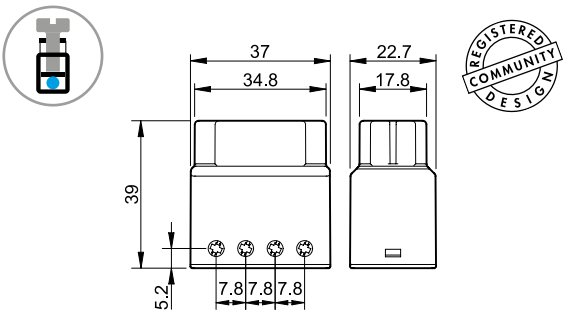


Type 13.81
Box clamp





Type 13.31/13.91
Box clamp



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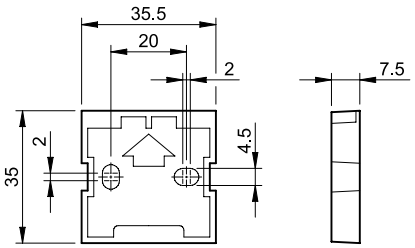
Accessories

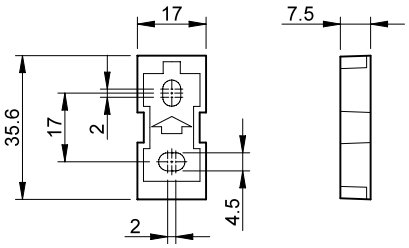
011.01

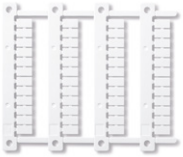
Adaptor for panel mounting, for type 13.01, 35 mm wide | 011.01



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



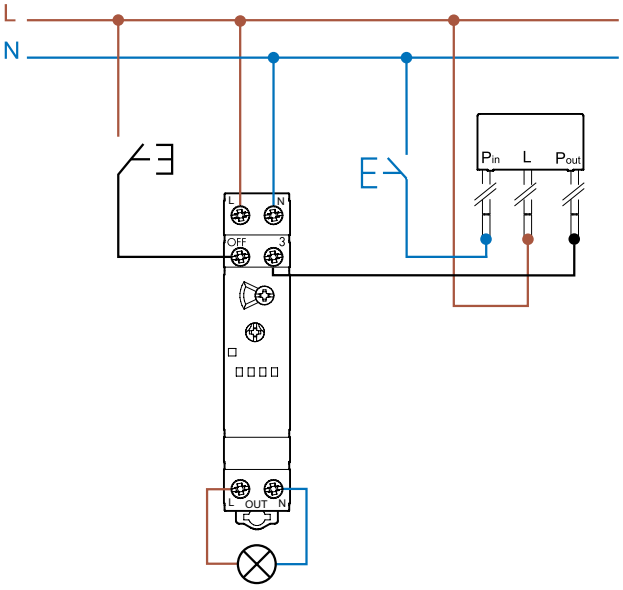


060.48

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



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Please see general technical information