Features

13.81 - Electronic step relay - Rail mount - 1 Pole

13.91 - Electronic step relay and timing step relay Switch box mount - 1 Pole

- Fixed time (10 minutes) timing function selectable (13.91)
- 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 (13.81)
- Cadmium free contact material

13.81/91
Screw terminal

	13.81	13.91
		
	• 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

For outline drawing see page 8

Contact specification			
Contact configuration		1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak current	A	16/30 (120 A - 5 ms)	10/20 (80 A - 5 ms)
Rated voltage/Maximum switching voltage	V AC	230/—	230/—
Rated load AC1	VA	3,700	2,300
Rated load AC15 (230 V AC)	VA	750	450
Nominal lamp rating: 230V incandescent/halogen	W	3,000	1,000
fluorescent tubes with electronic ballast	W	1,500	500
fluorescent tubes with electromechanical ballast	W	1,000	350
CFL	W	600	300
230V LED	W	600	300
LV halogen or LED with electronic ballast	W	600	300
LV halogen or LED with electromechanical ballast	W	1,500	500
Minimum switching load	mW (V/mA)	1,000 (10/10)	1,000 (10/10)
Standard contact material		$AgSnO_2$	$AgSnO_2$
Supply specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	230	230
	V DC	—	—
Rated power	V A (50 Hz)/W	3/1.2	2/1
Operating range	AC (50 Hz)	$(0.8...1.1)U_N$	$(0.8...1.1)U_N$
	DC	—	—
Technical data			
Electrical life at rated load in AC1	cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Maximum impulse duration		continuous	continuous
Dielectric strength between: open contacts	V AC	1,000	1,000
supply - contacts	V AC	—	—
Ambient temperature range	°C	–10...+60	–10...+50
Protection category		IP 20	IP 20
Approvals (according to type)		CE EAC cULus NF	CE EAC cULus

13 Series - Electronic step/monostable relays 16 A

Features

13.01 - Electronic step/monostable relay Rail mount - 1 Pole

13.61 - Multifunction step/monostable relay with reset command - Rail mount 1 Pole

- Selectable Step or Monostable operation (13.01)
- Multifunction (Step, Timing step, Monostable, Light ON) (13.61)
- Reset feature, for centralized off command (13.61)
- Control input can be continuously applied
- Longer mechanical and electrical life, and much quieter than electromechanical step relays
- 110...240 V AC supply, 50/60 Hz (13.61)
- Suitable for SELV applications and available also for supply 12 and 24 V AC/DC (13.01)
- "Zero-crossing" load switching (13.61)
- 35 mm rail (EN 60715) mount
- Cadmium free contact material

13.01/61
Screw terminal

* For version 24 V U_{max} = 33.6 V

For outline drawing see page 8

13.01

- 1 CO (SPDT)
- Step or monostable relay
- 35 mm rail (EN 60715) mount
- 35 mm wide

NEW 13.61

- 1 NO (SPST-NO)
- Multifunction:
  - step relay
  - timing step relay
  - monostable relay
  - light on
- Reset feature, for centralized off command
- 35 mm rail (EN 60715) mount
- 17.5 mm wide

Contact specification			
Contact configuration		1 CO (SPDT)	1 NO (SPST-NO)
Rated current/Maximum peak current	A	16/30 (120 A - 5 ms)	16/30 (120 A - 5 ms)
Rated voltage/Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	4,000	4,000
Rated load AC15 (230 V AC)	VA	750	750
Nominal lamp rating: 230V incandescent/halogen	W	2,000	3,000
fluorescent tubes with electronic ballast	W	1,000	1,500
fluorescent tubes with electromechanical ballast	W	750	1,000
CFL	W	400	600
230V LED	W	400	600
LV halogen or LED with electronic ballast	W	400	600
LV halogen or LED with electromechanical ballast	W	800	1,500
Minimum switching load	mW (V/mA)	1,000 (10/10)	1,000 (10/10)
Standard contact material		$AgSnO_2$	$AgSnO_2$
Supply specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	12 - 24 * - 110...125 - 230...240	110...240
	V DC	12 - 24 *	–
Rated power AC/DC	V A (50/60 Hz)/W	2.5/2.5	3.2/1
Operating range	V AC (50 Hz)	$(0.8...1.1)U_N$	90...264
	DC	$(0.9...1.1)U_N$	–
Technical data			
Electrical life at rated load in AC1	cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Maximum impulse duration		continuous	continuous
Dielectric strength between: open contacts	V AC	1,000	1,000
supply - contacts	V A	4,000	2,000
Ambient temperature range	°C	–10...+60	–10...+60
Protection category		IP 20	IP 20
Approvals (according to type)		CE EAC	

13 Series - Electronic call/reset relays and monostable relays 8 - 12 A

Features

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

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

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 (13.31)

13.11/12/31
Screw terminal

	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

* During impulse only.
For outline drawing see page 8

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	3,000	2,000	3,000
Rated load AC15 (230 V AC)	VA	750	400	450
Nominal lamp rating: 230V incandescent/halogen	W	1,200	800	800
fluorescent tubes with electronic ballast	W	500	300	400
fluorescent tubes with electromechanical ballast	W	400	250	300
CFL	W	300	150	200
230V LED	W	300	150	200
LV halogen or LED with electronic ballast	W	300	150	200
LV halogen or LED with electromechanical ballast	W	500	300	400
Minimum switching load	mW (V/mA)	500 (5/5)	300 (5/5)	1,000 (10/10)
Standard contact material		AgCdO	AgCdO	$AgSnO_2$
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	V A (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		continuous (100 ms minimum)	continuous (100 ms minimum)	continuous
Dielectric strength between: open contacts	V AC	1,000	1,000	1,000
supply - contacts	V AC	2,000	2,000	2,000
Ambient temperature range	°C	–10...+60	–10...+60	–10...+60
Protection category		IP 20	IP 20	IP 20
Approvals (according to type)			CE EAC	CE

finder

13 Series - Electronic step/monostable and call/reset

Ordering information

Example: 13 series, electronic step/monostable relay, 35 mm rail (EN 60715) mount, 1 CO (SPDT) 16 A contact, 230 V AC supply.

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

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 pole
2 = 1 pole CO (SPDT) + 1 NO (SPST-NO)

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

Supply voltage
012 = 12 V AC/DC (13.01 and 13.12 only)
012 = 12 V AC (13.31 only)
024 = 24 V AC/DC (13.01 and 13.12 only)
024 = 24 V DC (13.31 only)
125 = (110...125)V AC (13.01 only)
230 = (230...240)V AC (13.01 and 13.11)
230 = 110...240 V AC (13.61 only)
230 = 230 V AC (13.31, 13.81 and 13.91)

A: Contact material
0 = Standard
4 = Standard $AgSnO_2$ (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
13.81.8.230.0000 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**	**13.81 - 13.91**
Dielectric strength						
between control circuit and supply	V AC	4,000	–	–	–	–
between control circuit and contacts	V AC	4,000	4,000	–	–	–
between R-S-A2 and contacts	V AC	–	–	2,000	–	–
between supply and contacts	V AC	4,000	4,000	–	2,000	–
between open contacts	V AC	1,000	1,000	1,000	1,000	1,000

Other data		**13.01**	**13.11 - 13.12**	**13.31**	**13.61**	**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 lenght for push-button connection	m	100	100	–	200	200	100
Max. no. of illuminated push-button	(≤ 1mA)	–	–	–	10	15	12

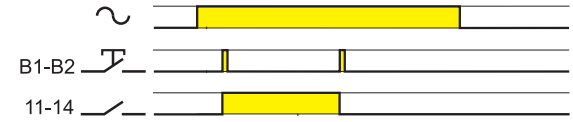
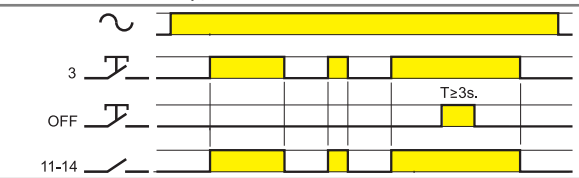
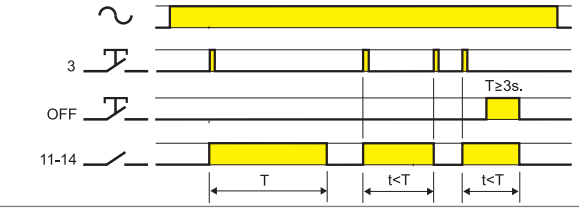
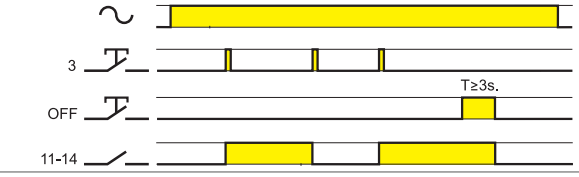
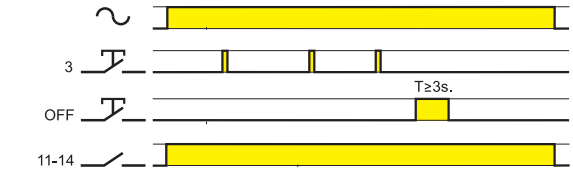
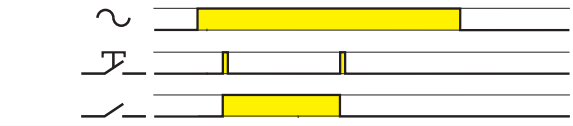
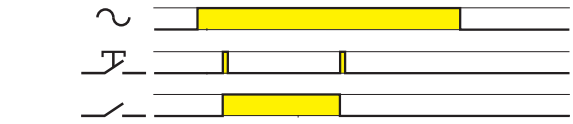
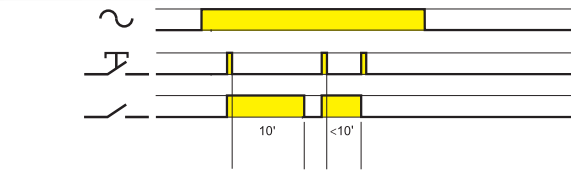
Terminals		**13.01**		**13.11 - 13.12 - 13.31 - 13.61 - 13.81 - 13.91**	
Max. wire size		solid cable	stranded cable	solid cable	stranded cable
	mm^2	1x6 / 2x4	1x6 / 2x2.5	1x6 / 2x4	1x4 / 2x2.5
	AWG	1x10 / 2x12	1x10 / 2x14	1x10 / 2x12	1x12 / 2x14
Screw torque	Nm	0.8		0.8	

Residential applications

finder

13 Series - Electronic step/monostable and call/reset

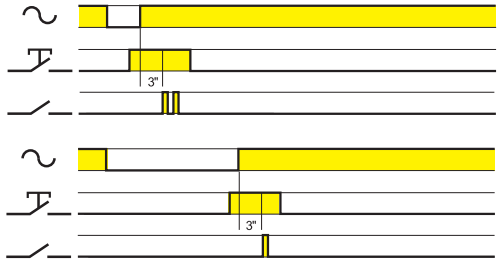
Functions

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.
13.61		(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.
		(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.
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

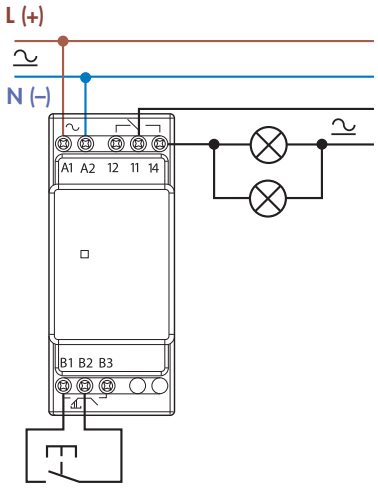


a) Remove the supply voltage
b) Press the control button
c) Apply the supply to the relay, keeping the button closed.
After 3 second, the light will flash twice to indicate the selection of the "IT" function, or flash once for "RI" function.

Wiring diagrams (13.01, 13.11, 13.12 and 13.31)

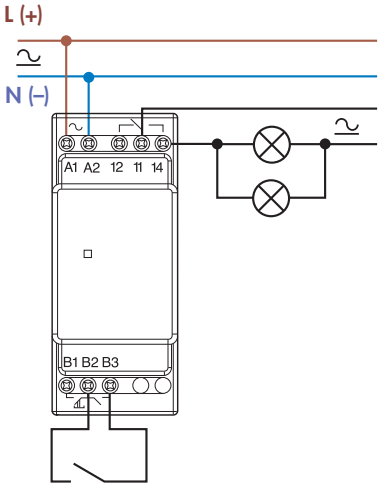
Type 13.01
Step wiring diagram

Red LED indication:
Continuous = relay ON

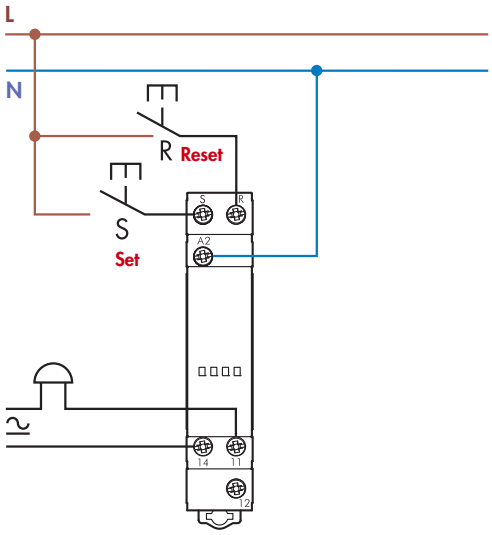


Type 13.01
Monostable wiring diagram

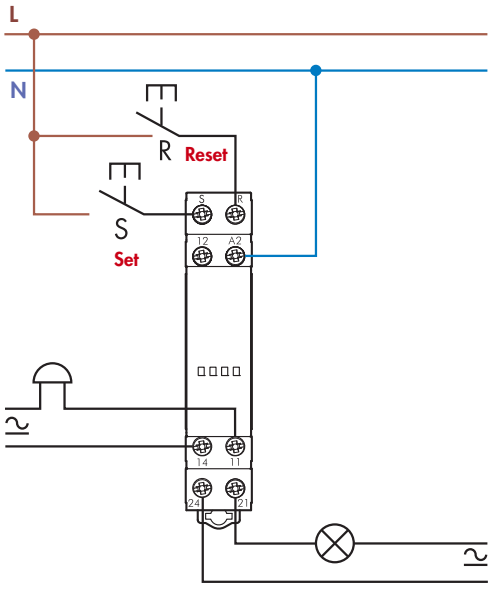
Red LED indication:
Continuous = relay ON



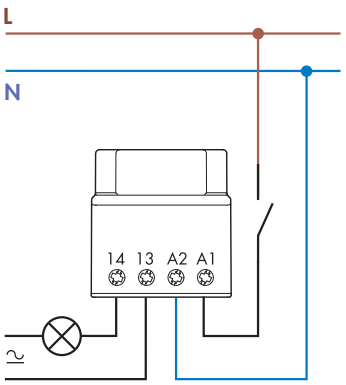
Type 13.11
Call & reset relay



Type 13.12
Call & reset relay



Type 13.31
Connection



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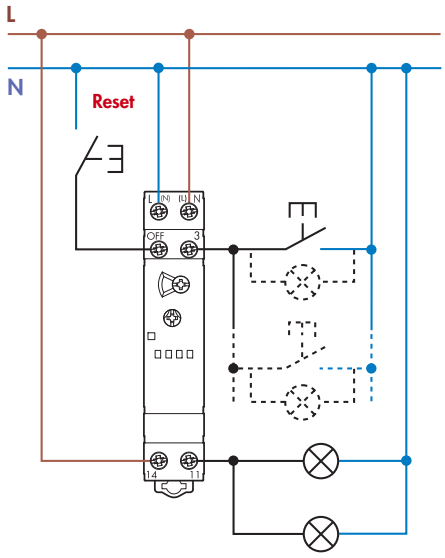
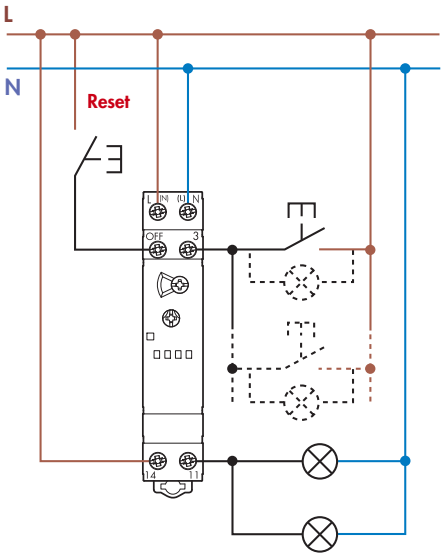
Wiring diagrams (13.61, 13.81 and 13.91)

Type 13.61
3 wire connection
Red LED indication:
Continuous = relay ON
Blinking = relay OFF



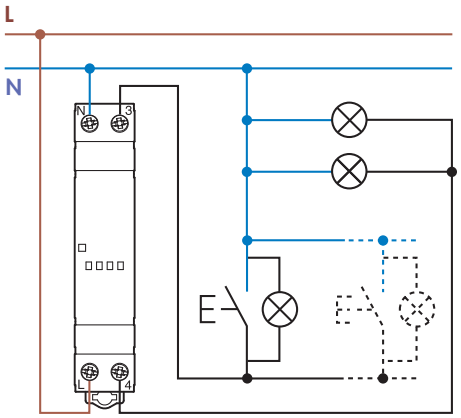
Max 10 (≤ 1 mA)
illuminated push buttons

Type 13.61
4 wire connection
Red LED indication:
Continuous = relay ON
Blinking = relay OFF



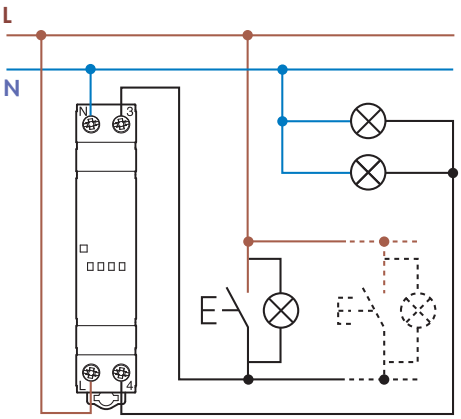
Max 10 (≤ 1 mA)
illuminated push buttons

Type 13.81
3 wire connection
Red LED indication:
Continuous = relay ON
Blinking = relay OFF



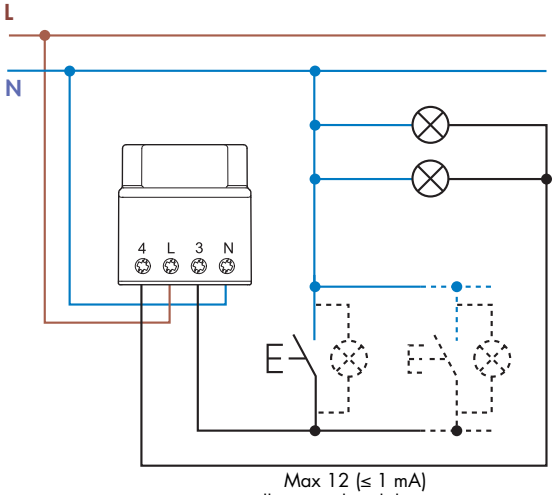
Max 15 (≤ 1 mA)
illuminated push buttons

Type 13.81
4 wire connection
Red LED indication:
Continuous = relay ON
Blinking = relay OFF



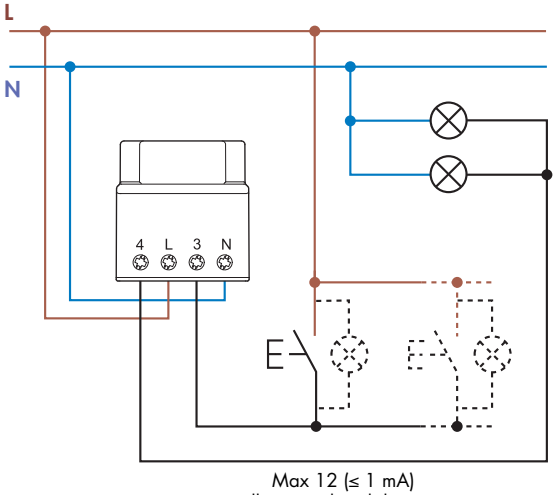
Max 15 (≤ 1 mA)
illuminated push buttons

Type 13.91
3 wire connection



Max 12 (≤ 1 mA)
illuminated push buttons

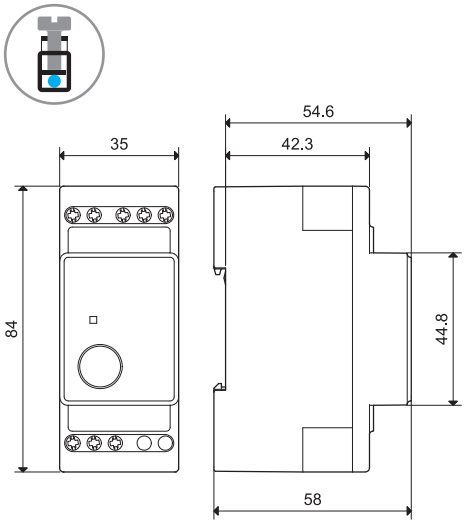
Type 13.91
4 wire connection



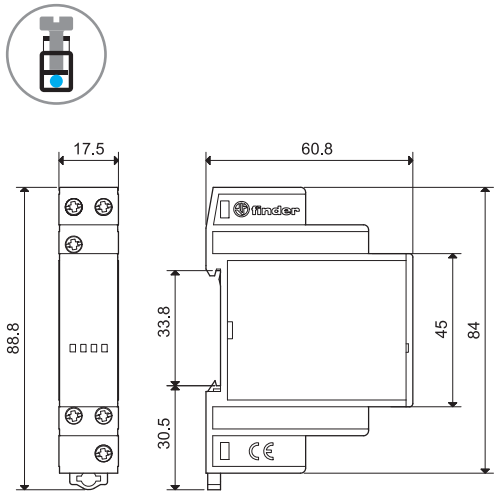
Max 12 (≤ 1 mA)
illuminated push buttons

Outline drawings

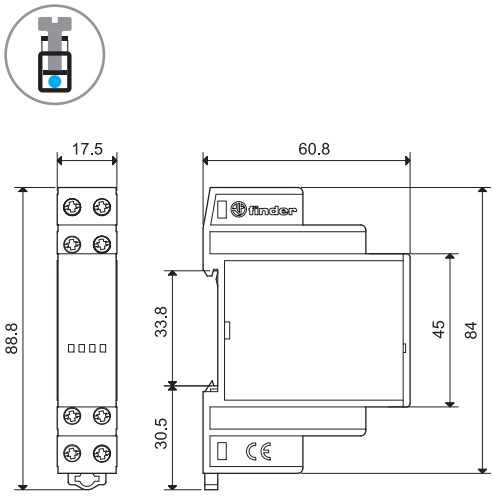
13.01
Screw terminal



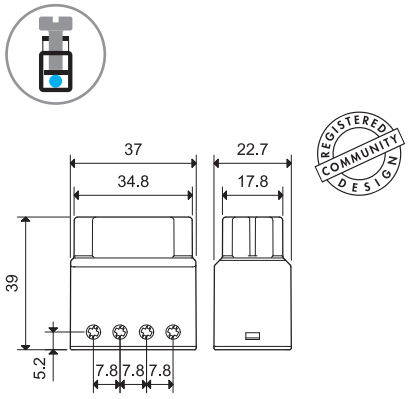
13.11
Screw terminal



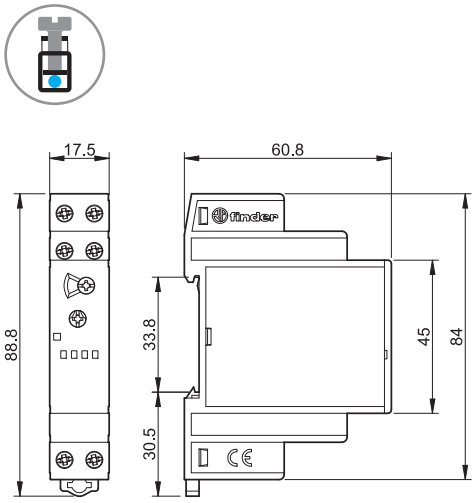
13.12
Screw terminal



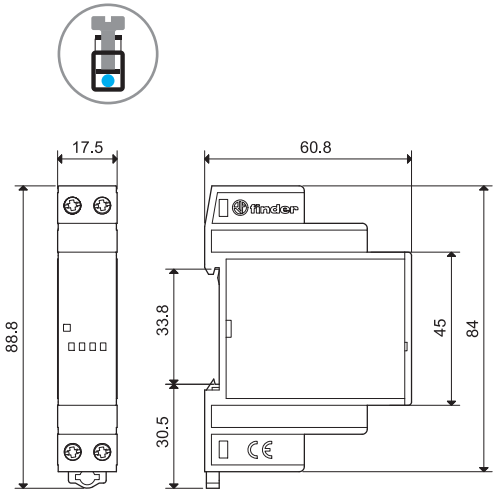
13.31/13.91
Screw terminal



13.61
Screw terminal



13.81
Screw terminal



X-2013, www.findernet.com

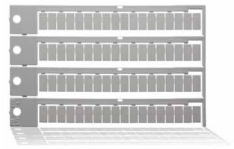
Accessories

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 and 13.81, 17.5 mm wide	020.01



060.72

Sheet of marker tags for type 13.11, 13.12, 13.61 and 13.81, plastic, 72 tags, 6x12 mm	060.72