

Features

13.01 - Quiet operating electronic step/monostable relay
1 Pole output contact

13.11 - Call & Reset Relay 1 Pole output contact

13.12 - Call & Reset Relay 2 Pole output contact

- Selectable Step or Monostable operation (type 13.01)
- Call relay with reset command suitable for residential and commercial applications: public bathroom, hospital, hotel (type 13.11/13.12)
- Control input can be continuously applied
- Longer mechanical and electrical life, and much quieter than electromechanical step relays
- Suitable for SELV applications according to IEC 364, (type 13.01)
- Type 13.01 available also for supply 12 and 24 V AC/DC
- Type 13.12 available at 12 V AC/DC and 24 V AC/DC only
- 35 mm rail (EN 60715) mount
- Cadmium free contact material (type 13.01)

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

** During impulse only.

For outline drawing see page 7

Contact specification

Contact configuration	1 CO (SPDT)	1 CO (SPDT)	1 CO (SPDT) + 1 NO (SPST-NO)
Rated current/Maximum peak current A	16/30 (120 A - 5 ms)	12/30	8/15
Rated voltage/Maximum switching voltage V AC	250/400	250/400	250/400
Rated load AC1 VA	4,000	3,000	2,000
Rated load AC15 (230 V AC) VA	750	750	400
Nominal lamp rating: incandescent (230 V) W	2,000	1,200	800
compensated fluorescent (230 V) W	750	400	250
uncompensated fluorescent (230 V) W	1,000	600	400
halogen (230 V) W	2,000	1,200	800
Minimum switching load mW (V/mA)	1,000 (10/10)	500 (5/5)	300 (5/5)
Standard contact material	AgSnO ₂	AgCdO	AgCdO

Supply specification

Nominal voltage (U_N)	V AC (50/60 Hz)	12 - 24 * - 110...125 - 230...240	230...240	12 - 24
	V DC	12 - 24 *	—	12 - 24
Rated power AC/DC	V A (50 Hz)/W	2.5/2.5	1.7/0.7 **	3/2.5 **
Operating range	AC (50 Hz)	(0.8...1.1) U_N	(0.8...1.1) U_N	(0.8...1.1) U_N
	DC	(0.9...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	100 · 10 ³
Maximum impulse duration		continuous	continuous (100 ms minimum)	continuous (100 ms minimum)
Dielectric strength between:	open contacts V AC	1,000	1,000	1,000
	supply - contacts V AC	4,000	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)



13.01



- Step or monostable relay
- 35 mm rail (EN 60715) mount

NEW 13.11



- Call relay with reset command
- 1 CO (SPDT)
- 35 mm rail (EN 60715) mount
- 17.5 mm wide

13.12



- Call relay with reset command
- 1 CO (SPDT) + 1 NO (SPST-NO)
- 35 mm rail (EN 60715) mount
- 17.5 mm wide

Features

**13.81 - Quiet operation - electronic step relay
Rail mount - 1 Pole output contact**

**13.91 - Quiet operation - electronic step relay
and timing step relay (10 minutes)**

- 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
- 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 ... (type 13.91)
- Box clamp terminals (type 13.81 and 13.91)
- "Zero crossing" load switching (type 13.81 and 13.91)
- 35 mm rail (EN 60715) or flange mount
- Cadmium free contact material

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

For outline drawing see page 7

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: (230 V)	incandescent	3,000	800
	compensated fluorescent	1,000	300
	uncompensated fluorescent	1,000	400
	halogen	3,000	800
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 · 10 ³	100 · 10 ³
Maximum impulse duration		continuous	continuous
Dielectric strength between:	open contacts	1,000	1,000
	supply - contacts	—	—
Ambient temperature range	°C	-10...+60	-10...+50
Protection category		IP 20	IP 20
Approvals (according to type)		CE PG NY NF	CE PG NY

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.

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
- 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 voltage

- 012 = 12 V AC/DC (13.01 and 13.12 only)
- 024 = 24 V AC/DC (13.01 and 13.12 only)
- 125 = (110...125)V AC (13.01 only)
- 230 = (230...240)V AC (13.01 and 13.11)
- 230 = 230 V AC (13.81 and 13.91)

Supply version

- 0 = AC (50/60 Hz)/DC
- 8 = AC (50/60 Hz)

Technical data

Insulation	13.01.8	13.01.0	13.11 - 13.12	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	—	—	—
between open contacts V AC	1,000	1,000	1,000	1,000	1,000
Other data	13.01		13.11 - 13.12	13.81	13.91
Power lost to the environment					
without contact current W	2.2	—	—	1.2	0.7
with rated current W	3.5	—	1.5	2	1.8
Max cable length for push-button connection m	100	—	100	200	100
Max. no. of illuminated push-button (≤ 1 mA)	—	—	—	15	12
Terminals	13.01		13.11 - 13.12 - 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		

Functions

Type	Functions
13.01	<p>Monostable On closure of a switch between terminals (B2-B3) the output contact will close, and remain so, until the switch opens.</p>
	<p>Step relay (bistable) After every impulse (B1-B2), the output contact changes state - alternately switching from open to closed and vice versa.</p>
13.11 13.12	<p>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.</p>
13.81	<p>(RI) Step relay After every impulse, the output contact changes state - alternately switching from open to closed and vice versa.</p>
13.91	<p>(RI) Step relay After every impulse, the output contact changes state - alternately switching from open to closed and vice versa.</p>
	<p>(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.</p>

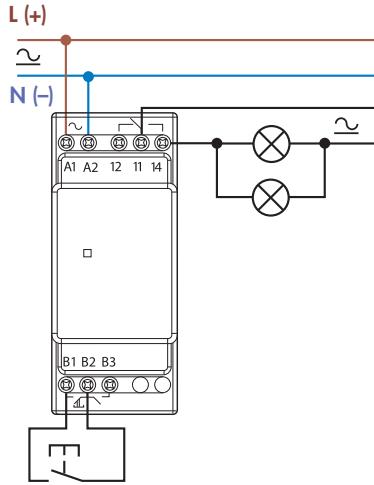
Operating mode setup for type 13.91

RI → IT		<ol style="list-style-type: none"> Remove the supply voltage Press the control button 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.
IT → RI		

Wiring diagrams (13.01, 13.11 and 13.12)

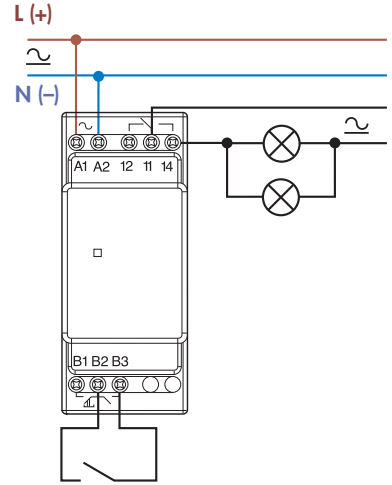
Type 13.01
Step wiring diagram

Red LED indication:
Continuous = relay ON

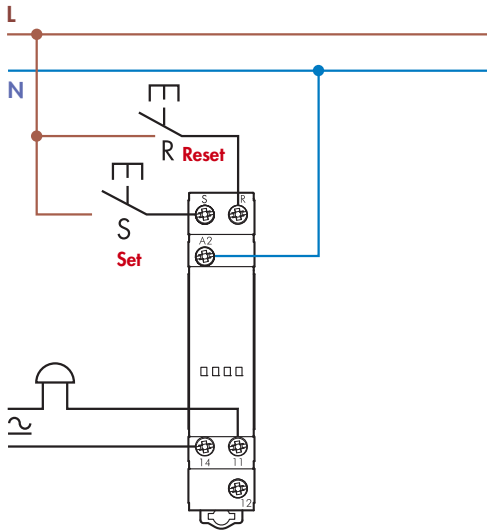


Type 13.01
Monostable wiring diagram

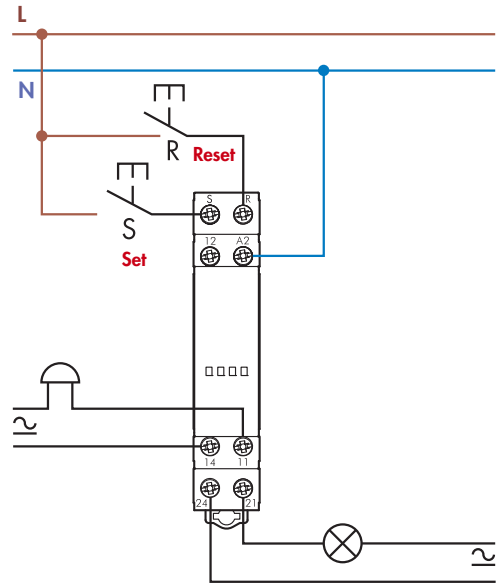
Red LED indication:
Continuous = relay ON



Type 13.11
Call & reset relay



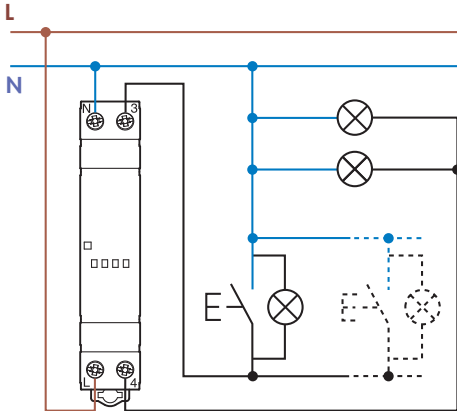
Type 13.12
Call & reset relay



Wiring diagrams (13.81 and 13.91)

Type 13.81

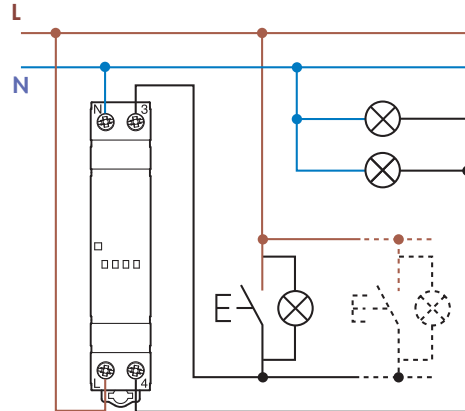
3 wire connection
 Red LED indication:
 Continuous = relay ON
 Blinking = relay OFF



Max 15 (≤ 1 mA)
 illuminated push buttons

Type 13.81

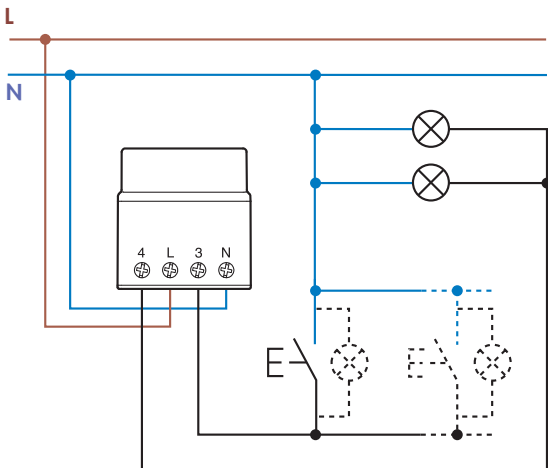
4 wire connection
 Red LED indication:
 Continuous = relay ON
 Blinking = relay OFF



Max 15 (≤ 1 mA)
 illuminated push buttons

Type 13.91

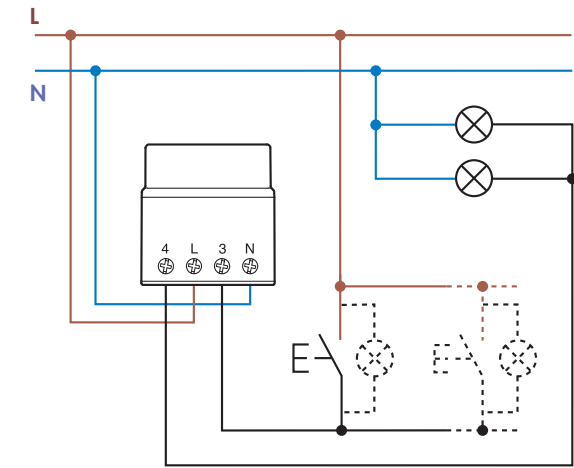
3 wire connection



Max 12 (≤ 1 mA)
 illuminated push buttons

Type 13.91

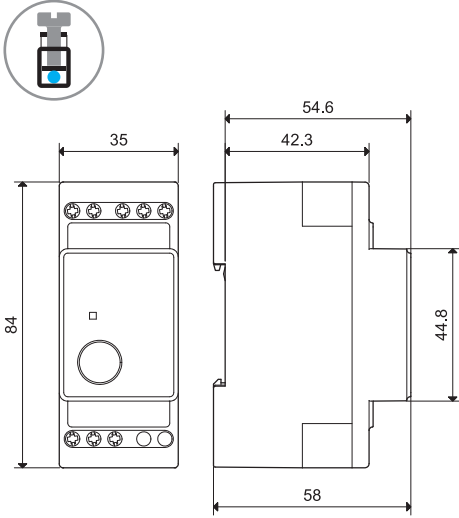
4 wire connection



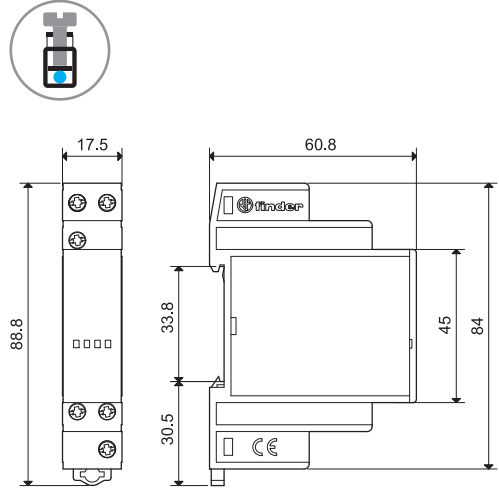
Max 12 (≤ 1 mA)
 illuminated push buttons

Outline drawings

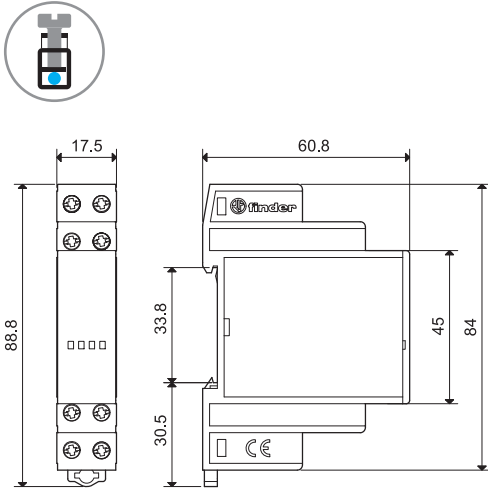
13.01
Screw terminal



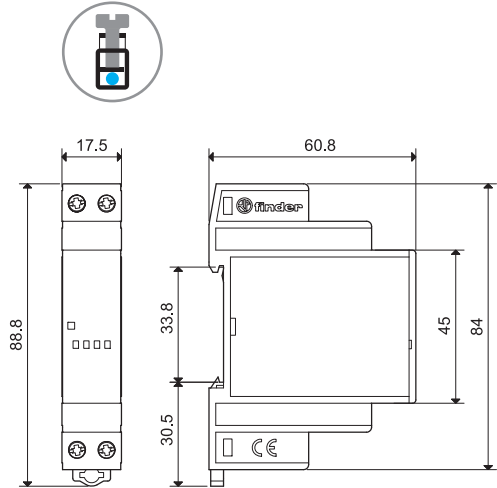
13.11
Screw terminal



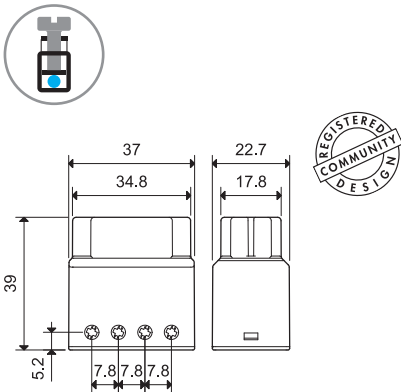
13.12
Screw terminal



13.81
Screw terminal



13.91
Screw terminal



Accessories



011.01

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

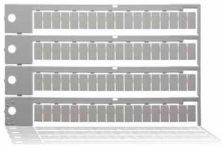
011.01



020.01

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

020.01



060.72

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

060.72