

## Features

**13.01 - Quiet operating electronic step/monostable 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 13.12).
- 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 only
- 35 mm rail (EN 60715) mount
- Cadmium free contact material (type 13.01)

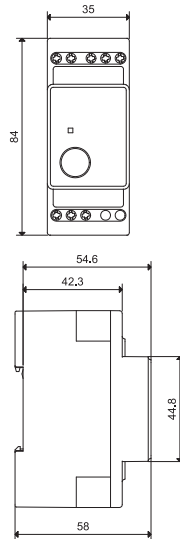
\* For version 24 V  $U_{max} = 33.6$  V

\*\* During impulse only.

**13.01**



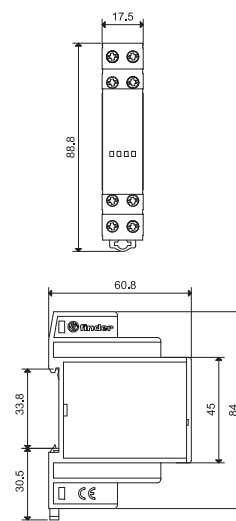
- Step or monostable relay
- 35 mm rail (EN 60715) mount



**13.12**



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



<b>Contact specification</b>				
Contact configuration		1 CO (SPDT)	1 CO (SPDT) + 1 NO (SPST-NO)	
Rated current/Maximum peak current	A	16/30 (120 A - 5 ms)	8/15	
Rated voltage/Maximum switching voltage V AC		250/400	250/400	
Rated load AC1	VA	4,000	2,000	
Rated load AC15 (230 V AC)	VA	750	400	
Nominal lamp rating: incandescent (230 V)	W	2,000	800	
	compensated fluorescent (230 V)	W	750	250
	uncompensated fluorescent (230 V)	W	1,000	400
	halogen (230 V)	W	2,000	800
Minimum switching load	mW (V/mA)	1,000 (10/10)	300 (5/5)	
Standard contact material		AgSnO <sub>2</sub>	AgCdO	
<b>Supply specification</b>				
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	12 - 24 * - 110...125 - 230...240	12 - 24	
	V DC	12 - 24 *	12 - 24	
Rated power AC/DC	V A (50 Hz)/W	2.5/2.5	3/2.5 **	
Operating range	AC (50 Hz)	(0.8...1.1)U <sub>N</sub>	(0.8...1.1)U <sub>N</sub>	
	DC	(0.9...1.1)U <sub>N</sub>	(0.8...1.1)U <sub>N</sub>	
<b>Technical data</b>				
Electrical life at rated load in AC1	cycles	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>	
Maximum impulse duration		continuous	continuous (100 ms minimum)	
Dielectric strength between:	open contacts V AC	1,000	1,000	
	supply - contacts V AC	4,000	2,000	
Ambient temperature range	°C	-10...+60	-10...+60	
Protection category		IP 20	IP 20	
<b>Approvals</b> (according to type)				

## 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**



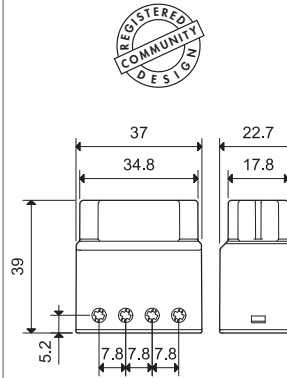
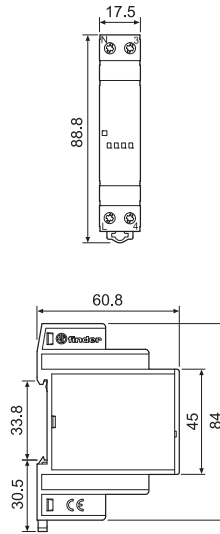
- 1 NO (SPST-NO)
- 35 mm rail (EN 60715) mount
- 17.5 mm wide



**13.91**



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



<b>Contact specification</b>			
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	W	3,000
	compensated fluorescent	W	1,000
	uncompensated fluorescent	W	1,000
	halogen	W	3,000
Minimum switching load	mW (V/mA)	1,000 (10/10)	1,000 (10/10)
Standard contact material		AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
<b>Supply specification</b>			
Nominal voltage (U <sub>N</sub> )	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 <sub>N</sub>	(0.8...1.1)U <sub>N</sub>
	DC	—	—
<b>Technical data</b>			
Electrical life at rated load in AC1	cycles	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>
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
<b>Approvals</b> (according to type)			

## 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 only)
- 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	13.12	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
<b>Other data</b>	<b>13.01</b>		<b>13.12</b>	<b>13.81</b>	<b>13.91</b>
Power lost to the environment					
without contact current W	2.2	—	—	1.2	0.7
without 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
<b>Terminals</b>	<b>13.01</b>		<b>13.12 - 13.81 - 13.91</b>		
Max. wire size	solid cable	stranded cable	solid cable	stranded cable	
mm <sup>2</sup>	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><b>Monostable</b> On closure of a switch between terminals (B2-B3) the output contact will close, and remain so, until the switch opens.</p>
	<p><b>Step relay (bistable)</b> After every impulse (B1-B2), the output contact changes state - alternately switching from open to closed and vice versa.</p>
13.12	<p><b>Call and Reset relay</b> 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><b>(RI) Step relay</b> After every impulse, the output contact changes state - alternately switching from open to closed and vice versa.</p>
13.91	<p><b>(RI) Step relay</b> After every impulse, the output contact changes state - alternately switching from open to closed and vice versa.</p>
	<p><b>(IT) Timing step relay</b> 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

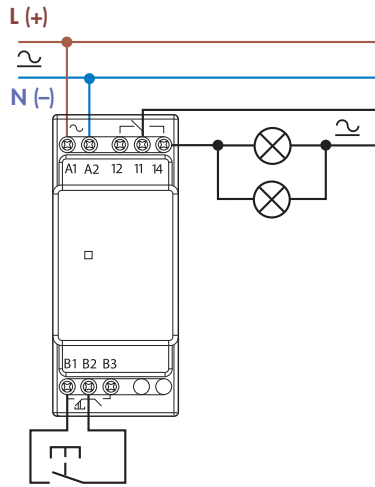
RI → IT		<ol style="list-style-type: none"> <li>Remove the supply voltage</li> <li>Press the control button</li> <li>Apply the supply to the relay, keeping the button closed. After 3 second, the light will flash twice to indicate the selection of the "IT" function, or flash once for "RI" function.</li> </ol>
IT → RI		

## Wiring diagrams (13.01 and 13.12)

### Type 13.01

Step wiring diagram

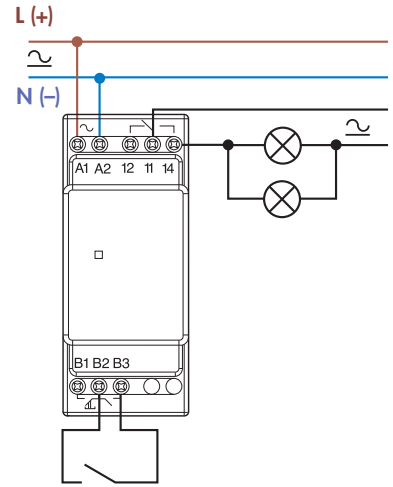
Red LED indication:  
Continuous = relay ON



### Type 13.01

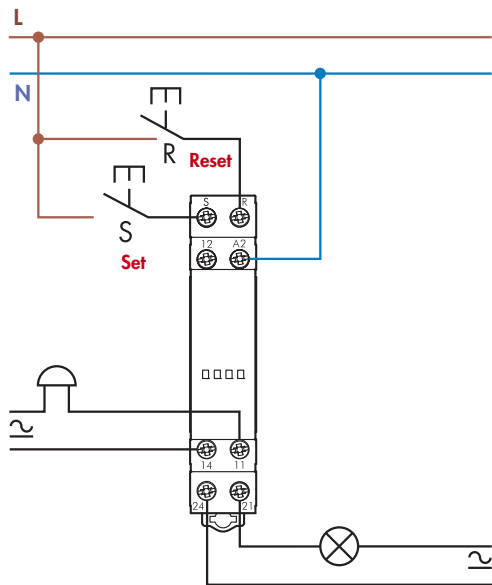
Monostable wiring diagram

Red LED indication:  
Continuous = relay ON



### Type 13.12

Call & reset relay



## Wiring diagrams (13.81 and 13.91)

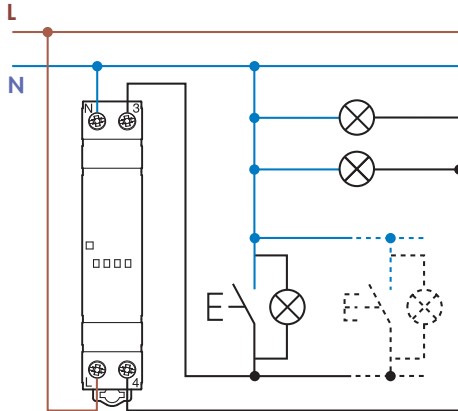
### Type 13.81

3 wire connection

Red LED indication:

Continuous = relay ON

Blinking = relay OFF



Max 15 ( $\leq 1$  mA)  
illuminated push buttons

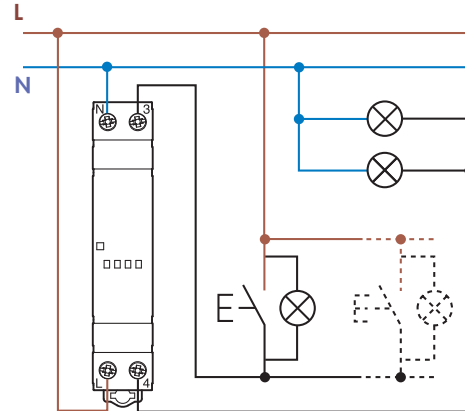
### Type 13.81

4 wire connection

Red LED indication:

Continuous = relay ON

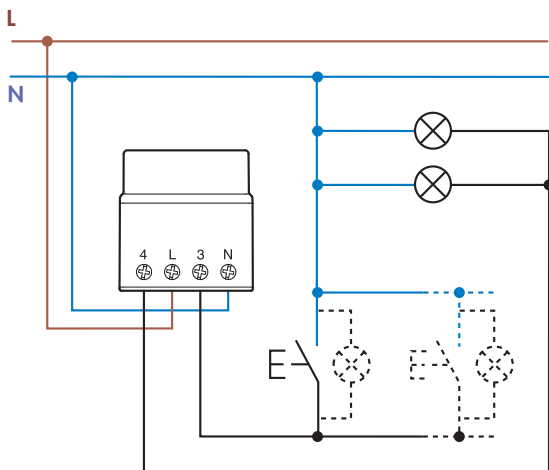
Blinking = relay OFF



Max 15 ( $\leq 1$  mA)  
illuminated push buttons

### Type 13.91

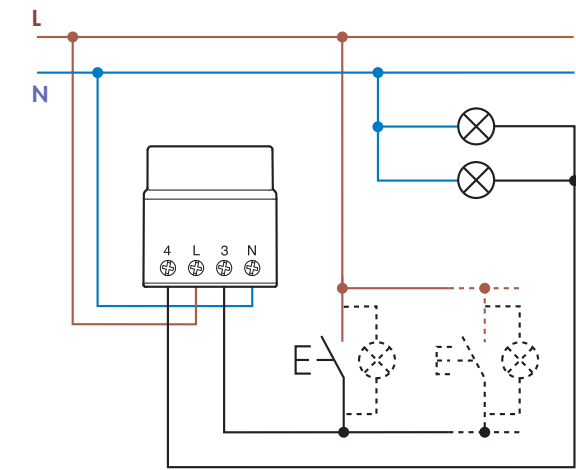
3 wire connection



Max 12 ( $\leq 1$  mA)  
illuminated push buttons

### Type 13.91

4 wire connection



Max 12 ( $\leq 1$  mA)  
illuminated push buttons

## Accessories



011.01

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

011.01



020.01

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

020.01



060.72

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

060.72