

# Electronic step, call/reset and monostable relays



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# **13 SERIES** Electronic step relays 10 - 16 A



**13** SERIES

13.81 - Electronic step relay - Rail mount - 1 Pole	13.81	13.91
13.91 - Electronic step relay and timing step relay	C C	
<ul> <li>Switch box mount - 1 Pole</li> <li>Fixed time (10 minutes) timing function selectable (13.91)</li> <li>Use with 3 or 4 wire connection, with automatic recognition by the relay</li> <li>Control input can be continuously applied</li> <li>Longer mechanical and electrical life, and much quieter than electromechanical step relays</li> <li>"Zero crossing" load switching</li> <li>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)</li> <li>35 mm rail (EN 60715) mount (13.81)</li> <li>Cadmium free contact material</li> </ul>	<ul> <li>1 NO (SPST-NO)</li> <li>35 mm rail (EN 60715) mount</li> <li>17.5 mm wide</li> </ul>	<ul> <li>1 NO (SPST-NO)</li> <li>Step relay and timing step relay (10 minutes)</li> <li>For mounting within residential switch boxes</li> </ul>
13.81/91 Screw terminals		
For outline drawing see page 16		
Contact specification		
Contact configuration	1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak current A	16/30 (120 - 5 ms)	10/20 (80 - 5 ms)
Rated voltage/		
Maximum switching voltage V AC	230/—	230/—
Rated load AC1 VA	3700	2300
Rated load AC15 (230 V AC) VA	750	450
Nominal lamp rating:		
230 V incandescent/halogen W	3000	1000
fluorescent tubes with	1500	500
electronic ballast W fluorescent tubes with	1500	500
electromagnetic ballast W	1000	350
CFL W	600	300
230 V LED W	600	300
LV halogen or LED with electronic ballast W	600	300
LV halogen or LED with	1500	500
electromagnetic ballast W Minimum switching load mW (V/mA)	1500	500 1000 (10/10)
Standard contact material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
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)	(0.81.1)U <sub>N</sub>	(0.81.1)U <sub>N</sub>
	(0.0)0	(0.0)O <sub>N</sub>
Technical data		
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	1000	1000
supply - contacts V AC		_
Ambient temperature range °C		
Protection category	IP 20	IP 20
Approvals (according to type)	CE ERE ®	CE ERE ®
APPI OVAIS (according to type)		



13.01 - Electronic step/monosta Rail mount - 1 Pole	ıble relay	13.	01	13.61.0.024.0000	13.61.8.230.0000			
<ul> <li>13.61 - Multifunction step/mone with reset command - Ra</li> <li>Selectable Step or Monostable of Multifunction (Step, Timing step Light ON) (13.61)</li> <li>Reset feature, for centralized off (13.61)</li> <li>Set feature, for centralized on co (13.61.0.024)</li> <li>Control input can be continuou</li> </ul>	<b>iil mount 1 Pole</b> operation (13.01) o, Monostable, f command ommand sly applied	• 1 CO (SPDT)		• 1 CO (SPDT)	• 1 NO (SPST-NO)			
<ul> <li>Longer mechanical and electrical quieter than electromechanical</li> <li>1224 V AC/DC and 110240 versions (13.61)</li> <li>Suitable for SELV applications an also for supply 12 and 24 V AC/C</li> <li>"Zero-crossing" load switching (</li> <li>35 mm rail (EN 60715) mount</li> <li>Cadmium free contact material</li> <li>13.01/61</li> </ul>	step relays V AC supply nd available DC (13.01)	<ul> <li>Step or monos</li> <li>35 mm rail (EN</li> <li>35 mm wide</li> </ul>	,	<ul> <li>Reset feature, for centralized off command</li> <li>Set feature, for centralized on command</li> <li>Multifunction: <ul> <li>step relay</li> <li>timing step relay</li> <li>(30s20min)</li> <li>monostable relay</li> <li>light on</li> </ul> </li> </ul>	• Reset feature, for centralized off command			
Screw terminals				• 35 mm rail (EN 60715) mount • 17.5 mm wide				
Contact specification								
Contact configuration		1 CO (	SPDT)	1 CO (SPDT)	1 NO (SPST-NO)			
Rated current/Maximum peak cu	rrent A			16/30 (120 A - 5 ms)	16/30 (120 A - 5 ms)			
Rated voltage/ Maximum switching voltage	V AC	250/		250/400	250/400			
Rated load AC1	VA	40		4000	4000			
Rated load AC15 (230 V AC)	VA	75	0	750	750			
Nominal lamp rating:		20		2000	2000			
	cent/halogen W	20	00	2000	3000			
	ctronic ballast W	10	00	1000	1500			
	ent tubes with							
electroma	ignetic ballast W	75		750	1000			
	CFL W	40		400	600			
1\/ h_1	230 V LED W	40	U .	400	600			
	en or LED with ctronic ballast W	40	00	400	600			
5	en or LED with			202	1500			
	ignetic ballast W	80	-	800	1500			
Minimum switching load Standard contact material	mW (V/mA)	1000 ( AgS		1000 (10/10) AgSnO <sub>2</sub>	AgSnO <sub>2</sub>			
Supply specification		луэ		Ag51102	Ag51102			
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	110125	230240	_	110240			
<b>.</b>	OC/AC (50/60 Hz)	12	24	1224	_			
Rated power AC/DC V	/ A (50/60 Hz)/W	2.5/	2.5	1/0.5	3.2/1			
Operating range	V AC (50 Hz)	90130	184253	—	90264			
	V DC/AC (50 Hz)	10.813.2	20.633.6	10.226.4	—			
		100	10 <sup>3</sup>	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>			
lectrical life at rated load in AC1	cycles							
ilectrical life at rated load in AC1 Aaximum impulse duration		contir		continuous	continuous			
Electrical life at rated load in AC1 Maximum impulse duration Dielectric strength between: ope	en contacts V AC	contir 10	00	1000	1000			
Electrical life at rated load in AC1 Maximum impulse duration Dielectric strength between: ope supply	en contacts V AC y - contacts V AC	contir 10 40	00 00	1000 2000	1000 2000			
Technical data Electrical life at rated load in AC1 Maximum impulse duration Dielectric strength between: ope supply Ambient temperature range Protection category	en contacts V AC	contir 10	00 00 .+60	1000	1000			

<b>13 SERIES</b> Electronic call/reset relays and mon	ostable relays 8 - 12 A	(t)	inder	<b>13</b> SERIES
13.11 - Call & Reset Relay - Rail mount - 1 Po	e 13.11	13.12	13.31	
<ul> <li>13.12 - Call &amp; Reset Relay - Rail mount - 2 Pol 13.31 - Electromechanical monostable relay Switch box mount - 1 Pole</li> <li>Call relay with reset command suitable for residential and commercial applications: pub bathroom, hospital, hotel (type 13.11/13.12)</li> <li>Can be mounted behind blanking plates, as widely used in residential wiring systems such as; BTicino: Axolute, Matix, Living e Magic,</li> </ul>			Constant Statator C Statator	
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	<ul> <li>1 CO (SPDT)</li> <li>Call relay with reset command</li> <li>35 mm rail (EN 60715) mount</li> <li>17.5 mm wide</li> </ul>	<ul> <li>1 CO (SPDT) + 1 NO (SPST-NO)</li> <li>Call relay with reset command</li> <li>35 mm rail (EN 60715) mount</li> <li>17.5 mm wide</li> </ul>	<ul> <li>1 NO (SPST-NO)</li> <li>Interposing monostable relay</li> <li>For mounting within residential switch boxes</li> </ul>	1
* During impulse only. For outline drawing see page 16				
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/	250/400	250/400	250/400	
	AC 250/400 VA 3000	250/400	250/400 3000	-
	VA 5000 VA 750	400	450	_
Nominal lamp rating:	///	-100	-130	-
230 V incandescent/halogen	W 1200	800	800	
fluorescent tubes with				
electronic ballast		300	400	_
fluorescent tubes with electromagnetic ballast		250	300	
CFL		150	200	-
230 V LED		150	200	-
LV halogen or LED with electronic ballast	W 300	150	200	
LV halogen or LED with electromagnetic ballast		300	400	
Minimum switching load mW (V/m		300 (5/5)	1000 (10/10)	
Standard contact material	AgCdO	AgCdO	AgSnO <sub>2</sub>	
Supply specification				K
Nominal voltage (U <sub>N</sub> ) V AC (50/60 H		12 - 24	12 - 230	_
V		12 - 24	24	_
Rated power AC/DC V A (50 Hz).		3/2.5*	1/0.4	_
Operating range AC (50 H		(0.81.1)U <sub>N</sub>	(0.81.1)U <sub>N</sub>	_
Technical data		(0.81.1)U <sub>N</sub>	(0.81.1)U <sub>N</sub>	
Electrical life at rated load in AC1 cyc	les 100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>	70 · 10 <sup>3</sup>	
Maximum impulse duration	10 s (100 ms minimum)	10 s (100 ms minimum)	continuous	-
Dielectric strength between: open contacts V		1000	1000	-
supply - contacts V		2000	2000	
	°C –10+60	-10+60	-10+60	
Ambient temperature range				
Protection category	IP 20	IP 20	IP 20	



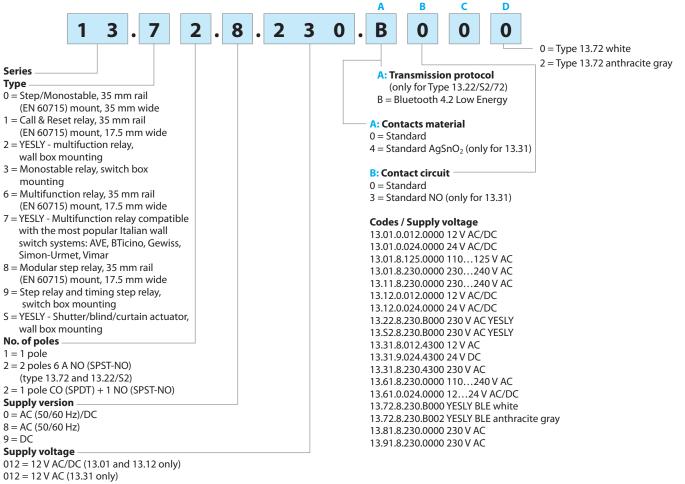
Multifunction electronic relay with	Bluetooth	<b>NFW 13.22</b>	<b>WEW 13.72</b>	<b>VFW 13.S2</b>
13.22 - Electronic multifunction rel	ay	VECLV	VECLV	VECLV
2 contacts - Round wall box (ie: Ø 60 mm) mou	oting	YESLY	YESLY	YESLY
<ul> <li>20 available functions (step relays, staircase timer) for lighting and far control</li> <li>13.72 - Electronic multifunction relation</li> <li>2 contacts</li> </ul>	timer, motor	⊕ ffr; cf c= r 13:22:8:230:8000 12:280-200 12:280-200 12:291-12:00 12:201-12:00 12:201-12:00 12:201-12:00 12:201-12:00 12:201-12:00 12:201-12:00 12:201-12:00 12:200-100 12:200-100 12:200-100 12:200-1	An and a second an	() firr d c r     13.52.8.230.8000     () (200%)     200%     20%
<ul> <li>Wall mounting, compatible with m popular Italian residential switch b AVE, BTicino, Gewiss, Simon-Urmet</li> <li>21 available functions: step relays,</li> <li>(1-24b) all striggebutter blind en</li> </ul>	oxes: ;, Vimar timing			
<ul> <li>(1s - 24h), electric shutter, blind or control</li> <li>13.52 - Electronic multifunction rel</li> </ul>		Offering a variety of ON/OFF functions associated with lighting and fan motor control	<ul> <li>Offering a variety of ON/OFF functions associated with lighting, electric shutters,</li> </ul>	<ul> <li>Suitable for electric shutters, blind or curtain control</li> <li>Transmission protocol</li> </ul>
2 contacts - Round wall box (ie: Ø 60 mm) mou - For electric shutter, blind or curtair		<ul> <li>Transmission protocol Bluetooth 4.2 Low Energy</li> <li>Safe connection with 128-bit</li> </ul>	blinds or curtains <ul> <li>Transmission protocol</li> <li>Bluetooth 4.2 Low Energy</li> </ul>	Bluetooth 4.2 Low Energy • Safe connection with 128-bit encryption
<ul> <li>2 contacts NO 6 A - 230 V AC indeper programmable channels</li> <li>2 inputs for wired pushbuttons (one channel)</li> </ul>	e input per	encryption • App programming with iOS or Android Smartphone: Finder TOOLBOX	<ul> <li>Safe connection with 128-bit encryption</li> <li>App programming with iOS or Android Smartphone: Finder</li> </ul>	• App programming with iOS or Android Smartphone: Finder TOOLBOX
Transmission range: approximately space and without obstacles	10 m in free	<ul> <li>Can be managed through standard pushbuttons, BEYON and Type 013.89 wireless</li> </ul>	<ul> <li>TOOLBOX</li> <li>Can be managed through standard pushbuttons, BEYON</li> </ul>	<ul> <li>Can be managed through standard pushbuttons, BEYON and Type 013.B9 wireless buttons</li> </ul>
13.22/S2/72 Screw terminals		buttons	and Type 013.B9 wireless buttons	buttons
For outline drawing see page				
Contact specification				
Contact configuration		2 NO (DPST-NO)	2 NO (DPST-NO)	2 NO (DPST-NO)
Rated current/Maximum peak curren	t A	6/40	6/40	6/40
Rated voltage/ Maximum switching voltage	V AC	230/—	230/—	230/—
Rated load AC1	VA	1380	1380	1380
Rated load AC15 (230 V AC)	VA	300	300	300
Single phase motor rating (230 V AC)	W	200	200	200
Nominal lamp rating 230V: incandescen	5	200	200	
fluorescent t electro fluorescent t	nic ballast W	200	200	
electromagne		200	200	_
	CFL W	200	200	
	LED 230 V W	200	200	
LV halogen o electro LV halogen o	nic ballast W	200	200	
electromagne		200	200	_
Supply specification				
Nominal voltage (U <sub>N</sub> )	C (50/60 Hz) V DC	230	230	230
Rated power AC/DC	/A (50 Hz)/W	2 / 0.5	2 / 0.5	2/0.5
Operating range	AC (50 Hz)	(0.81.1)U <sub>N</sub>	(0.81.1)U <sub>N</sub>	(0.81.1)U <sub>N</sub>
	DC		_	—
Technical data				
Electrical life at rated load in AC1	cycles	60 · 10 <sup>3</sup>	60 · 10 <sup>3</sup>	60 · 10 <sup>3</sup>
Maximum impulse duration		continuous	continuous	continuous
Dielectric strength between: open co	ntacts VAC	1000	1000	
Ambient temperature range	°C	-10+50	-10+50	
Protection category		IP 20 IP 20 IP 20		
Approvals (according to type)		CE	CE	CE



SERIES

#### **Ordering information**

Example: Multifunction relay with YESLY Bluetooth, 2 contacts 6 A NO (SPST-NO), 230 V AC supply.



 Suppy 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)

 024 = 24 V DC (13.31 only)

 024 = 12...24 V AC/DC (13.61 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, 13.22, 13.52, 13.72, 13.81 and 13.91)

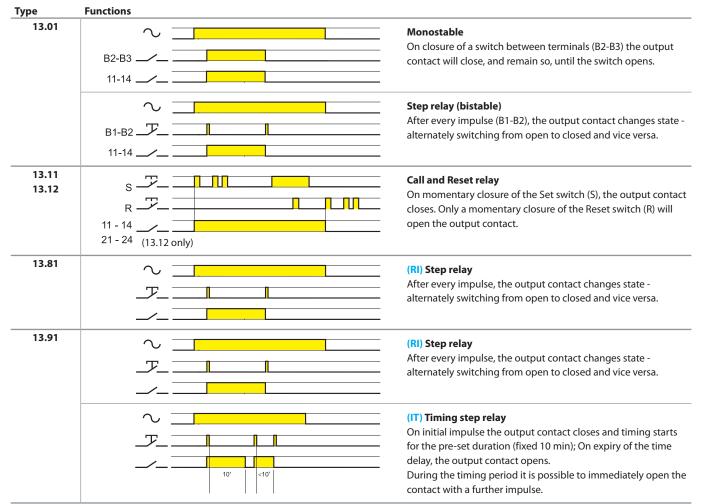
#### **Technical data**

lecinical uata												
Insulation		13.01.8	13.01.0	13.11 - 13.12	13	.31 - 13	8.61	13.81 - 13	3.91			
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	—	200	00		—				
between open contacts	V AC	1000	1000	1000	100	00		1000				
Other data		13	.01	13.11 - 13.12	13.	.31	13.61	13.81	13.9	1	13.22 13.52 13.72	
Power lost to the environment												
without contact current	W	2	2.2	_	0.4		1	1.2	0.7		0.5	
with rated current	W	3	.5	1.5	1.6		1.8	2	1.8		1.5	
Max cable lenght for push-button connec	tion m	1	00	100	-		200	200	100		100	
Max. no. of illuminated push-button	(≤1mA)	-	_	—	-		10*	15	12		5	
Terminals		13	13.01 13.72 - 13.81 - 13.61 - 13.72 - 13.81 - 13.91		.61 -	13.22 - 13	3.52					
Max. wire size		solid cable	stranded cable	solid cable		strand	led cable	solid cabl	e	stran	ded cable	
	mm <sup>2</sup>	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	2 x 1.5		2 x 1		
	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	2 x 16		2 x 1	6	-
🕀 Screw torque	Nm	0.8	*	0.8			-					

\* For 8.230 version.



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



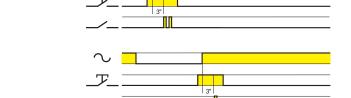
#### **Operating mode setup for type 13.91**

 $\text{RI} \rightarrow \text{IT}$ 

 $IT \rightarrow RI$ 

13

SERIES



a) Remove the supply voltage

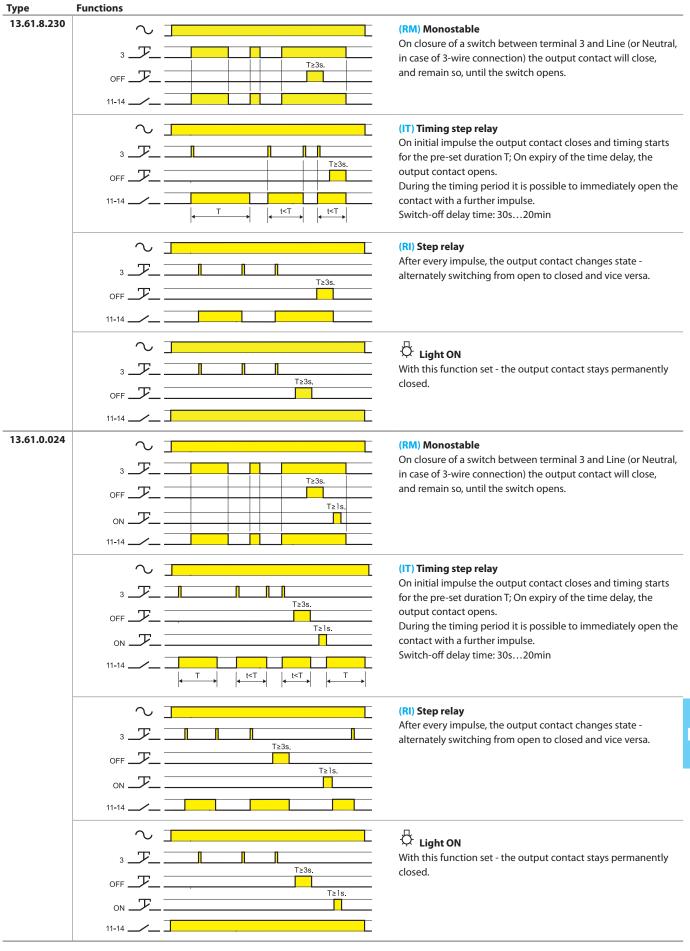
b) Press the control button

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





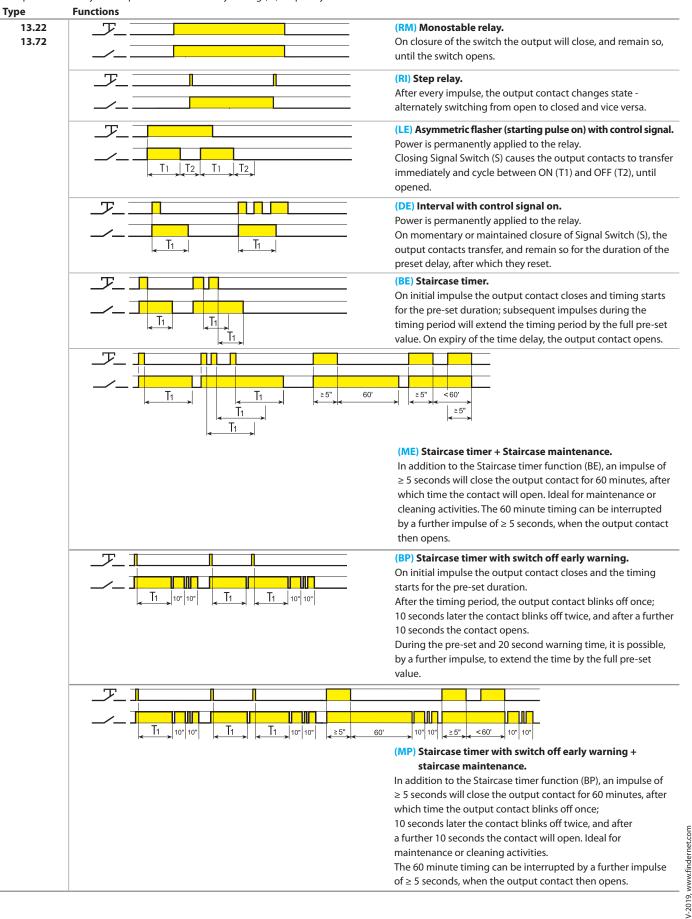
#### Functions for type 13.22, 13.S2, 13.72

#### **Relay settings**

13

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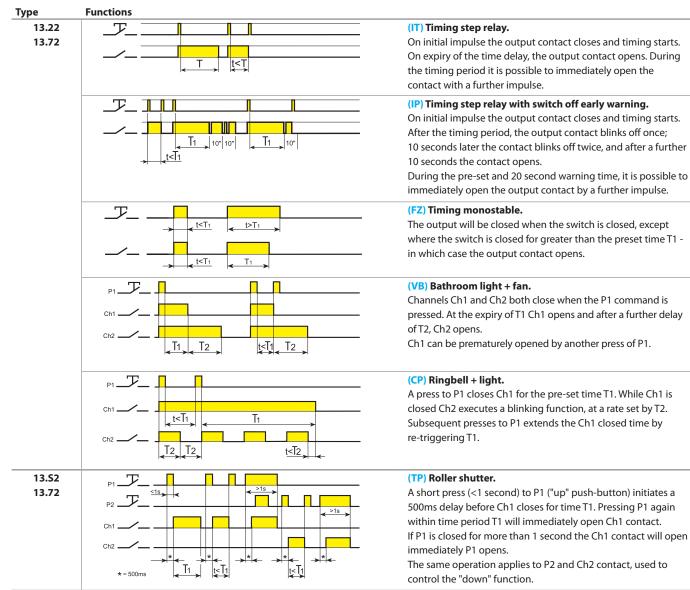
Multifunction electronic relays can be configured with the Finder TOOLBOX App, available for iOS or Android systems. This product is ready-to-use preset with the factory setting (RI) Step relay on both channels.





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#### Functions for type 13.22, 13.52, 13.72



#### **Sequences**

V-2019, www.findernet.com

P1 (SET): press to advance through the sequence

P2 (RESET): press to return to Step 1

4

μ

44

\| \|

3

\| L

44

μ

 $\frac{1}{11}$ 

 $\frac{1}{1}$ 

 $\frac{1}{1}$ 

 $\frac{1}{1}$ 

06

07

08

17

μI

Туре

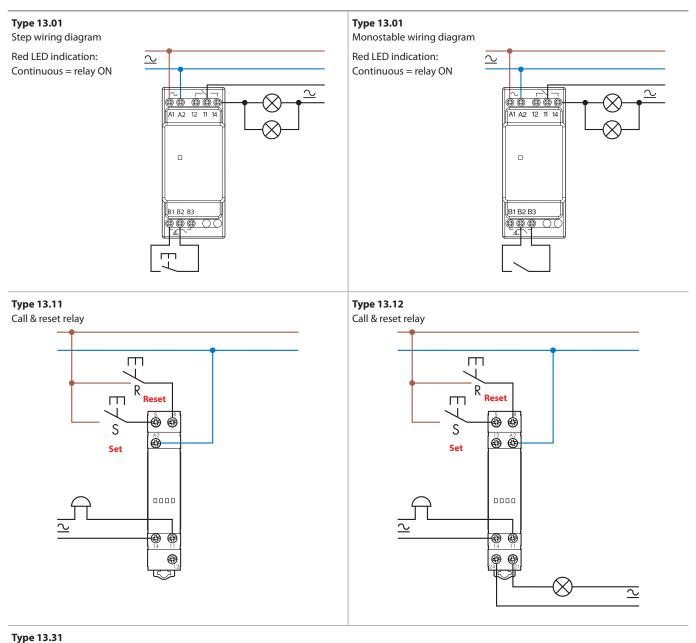
13.22

13.72

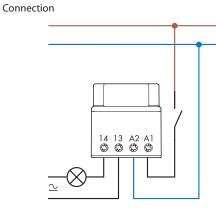
SERIES



#### Wiring diagrams (13.01, 13.11, 13.12 and 13.31)







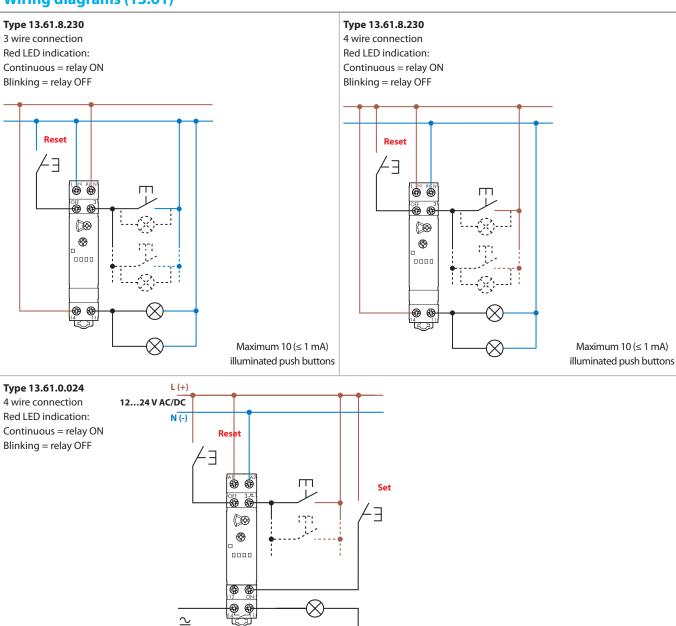
Κ

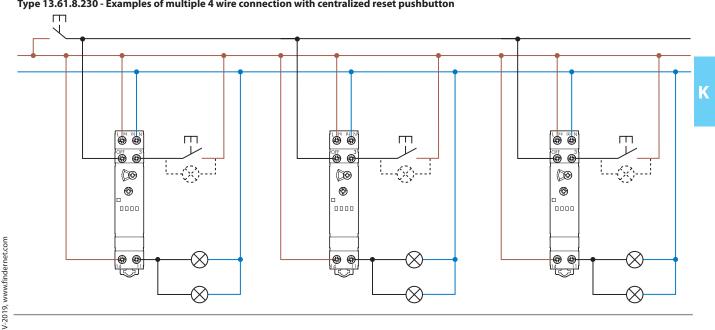




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#### Wiring diagrams (13.61)

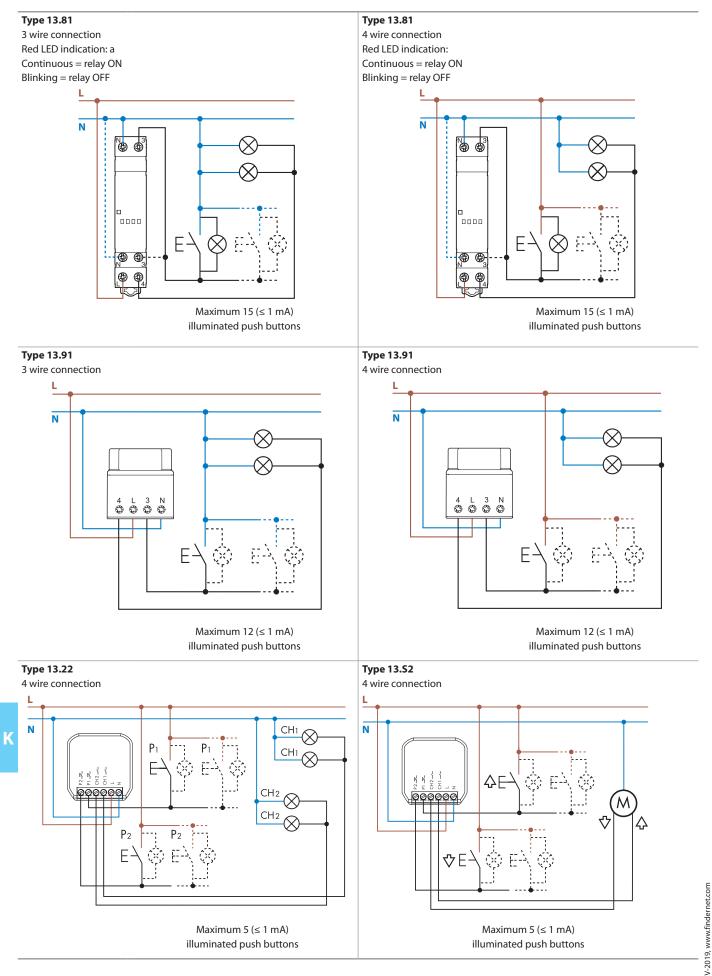




## Type 13.61.8.230 - Examples of multiple 4 wire connection with centralized reset pushbutton



#### Wiring diagrams (13.81, 13.91, 13.22 and 13.52)

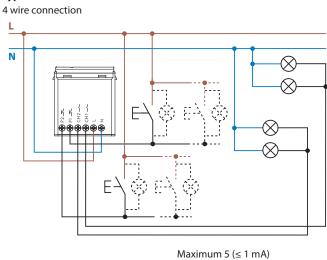




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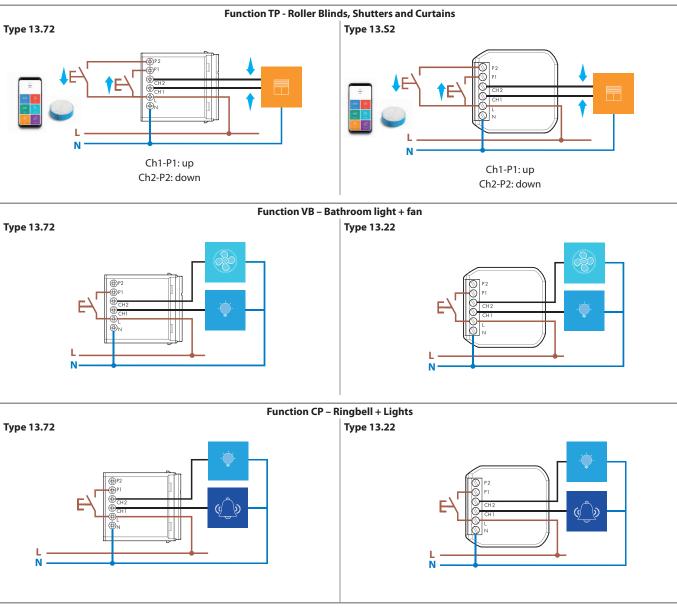
## Wiring diagrams (13.72)





illuminated push buttons

#### **Examples of applications**



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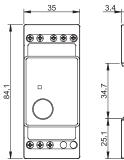
### **Outline drawings**

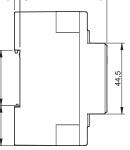
#### Type 13.01 Screw terminal

13

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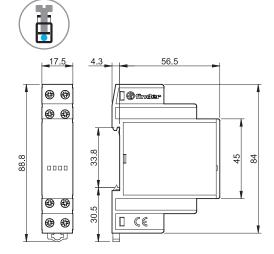




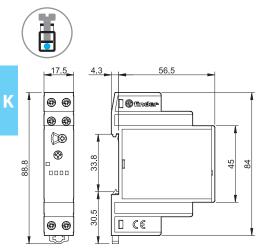


54.6

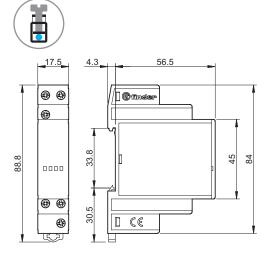
Type 13.12 Screw terminal





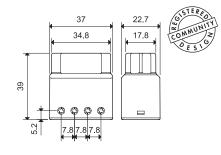


Type 13.11 Screw terminal

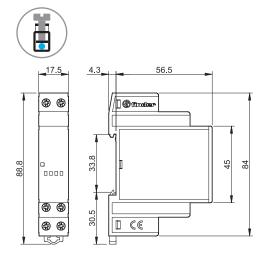


Types 13.31/13.91 Screw terminal





Type 13.81 Screw terminal

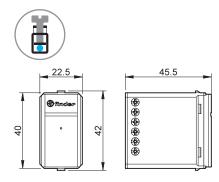


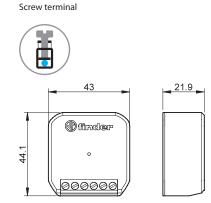
V-2019, www.findernet.com



# Outline drawings

Type 13.72 Screw terminal





Type 13.22 / 13.S2

# Accessories

011.01	Adaptor for panel mounting, for type 13.01, 35 mm wide	011.01
020.01	<b>Adaptor for panel mounting,</b> for type 13.11, 13.12, 13.61 and 13.81, 17.5 mm wide	020.01
	<b>Sheet of marker tags (CEMBRE Thermal transfer printers)</b> for relays types 13.11, 13.12, 13.61 and 13.81 (48 tags), 6 x 12 mm	060.48