

Electronic Relays and Actuators Multi and Single Function





13.81 - Quiet electronic step relay - Rail mount -1 Pole

13.91 - Quiet 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 terminals



13.81



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

13.91

lacksquarefinder



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

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 incand	descent/halogen W	3000	1000
	scent tubes with electronic ballast W	1500	500
	scent tubes with magnetic ballast W	1000	350
	CFL W	600	300
	230 V LED W	600	300
	ogen or LED with electronic ballast W	600	300
	ogen or LED with magnetic ballast W	1500	500
Minimum switching load	mW (V/mA)	1000 (10/10)	1000 (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)	(0.81.1)U _N	(0.81.1)U _N
	DC	_	-
Technical data			
Electrical life at rated load in A	C1 cycles	100 · 10³	100 · 10 ³
Maximum impulse duration		continuous	continuous
Dielectric strength between:	ppen contacts V AC	1000	1000
sup	ply - contacts V AC	_	_
Ambient temperature range	°C	-10+60	-10+50
Protection category		IP 20	IP 20
Approvals (according to type)		C€ EHE ᡂ	C€ EHE @

13 SERIES Electronic step/monostable relays 16 A



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)
- Set feature, for centralized on command (13.61.0.024)
- Control input can be continuously applied
- Longer mechanical and electrical life, and much quieter than electromechanical step relays
- 12...24 V AC/DC and 110...240 V AC supply versions (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 terminals



13.01



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

13.61.0.024.0000



- 1 CO (SPDT)
- Reset feature, for centralized off command
- Set feature, for centralized on command
- Multifunction:
- step relay
- timing step relay (30s...20min)
- monostable relay
- light on
- 35 mm rail (EN 60715) mount
- 17.5 mm wide

13.61.8.230.0000



- 1 NO (SPST-NO)
- Reset feature, for centralized off command
- Multifunction:
- step relay
- timing step relay (30s...20min)
- monostable relay
- light on
- 35 mm rail (EN 60715) mount
- 17.5 mm wide

For outline drawing see page 16

Contact specification					
Contact configuration		1 CO ((SPDT)	1 CO (SPDT)	1 NO (SPST-NO)
Rated current/Maximum peak c	current A	16/30 (12	0 A - 5 ms)	16/30 (120 A - 5 ms)	16/30 (120 A - 5 ms)
Rated voltage/					
laximum switching voltage V AC				250/400	250/400
Rated load AC1	VA	40	000	4000	4000
Rated load AC15 (230 V AC)	VA	7.	50	750	750
Nominal lamp rating:					
230 V incande	escent/halogen W	20	000	2000	3000
	cent tubes with lectronic ballast W	10	000	1000	1500
	cent tubes with nagnetic ballast W	7:	50	750	1000
	CFLW		00	400	600
	230 V LED W	41	00	400	
-	gen or LED with lectronic ballast W	400 800		400	600
	gen or LED with nagnetic ballast W			800	1500
Minimum switching load	mW (V/mA)	1000 (10/10)		1000 (10/10)	1000 (10/10)
Standard contact material		AgSnO₂		AgSnO ₂	AgSnO₂
Supply specification					
Nominal voltage (U _N)	V AC (50/60 Hz)	110125	230240	_	110240
V	DC/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	_
Technical data					
Electrical life at rated load in AC	.1 cycles	100 · 10³		100 · 10³	100 · 10³
Maximum impulse duration		continuous		continuous	continuous
Dielectric strength between: o	pen contacts V AC	10	000	1000	1000
supp	oly - contacts V AC	40	000	2000	2000
Ambient temperature range	°C	-10.	+60	-10+60 -10+60	
Protection category		IP	20	IP 20	IP 20
Approvals (according to type)				C€ ERE	

- 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 terminals



13.11



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

13.12



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

13.31



- 1 NO (SPST-NO)
- Interposing monostable relay
- For mounting within residential switch boxes

* During impulse only.

For outline drawing see page 16	5			
Contact specification				
Contact configuration		1 CO (SPDT)	1 CO (SPDT) + 1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak of	urrent 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	3000	2000	3000
Rated load AC15 (230 V AC)	VA	750	400	450
Nominal lamp rating:				
230 V incand	escent/halogen W	1200	800	800
	cent tubes with lectronic ballast W	500	300	400
	cent tubes with nagnetic ballast W	400	250	300
	CFL W	300	150	200
	230 V LED W	300	150	200
	gen or LED with lectronic ballast W	300	150	200
	gen or LED with nagnetic ballast W	500	300	400
Minimum switching load	mW (V/mA)	500 (5/5)	300 (5/5)	1000 (10/10)
Standard contact material		AgCdO	AgCdO	$AgSnO_2$
Supply specification				
Nominal voltage (U _N)	V AC (50/60 Hz)	230240	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)	(0.81.1)U _N	(0.81.1)U _N	(0.81.1)U _N
	DC	_	(0.81.1)U _N	(0.81.1)U _N
Technical data				
Electrical life at rated load in AC	1 cycles	100 · 10³	100 · 10³	70 · 10³
Maximum impulse duration		10 s (100 ms minimum)	10 s (100 ms minimum)	continuous
Dielectric strength between: o	pen contacts V AC	1000	1000	1000
supp	oly - contacts V AC	2000	2000	2000
Ambient temperature range	°C	-10+60	-10+60	-10+60
Protection category		IP 20	IP 20	IP 20

C€ ERI

Approvals (according to type)

Multi and Single function electronic relays with Bluetooth

13.22 - Electronic multifunction relay 2 Pole

- Round wall box (ie: Ø 60 mm) mounting
- 21 available functions (step relays, timer, staircase timer) for lighting and fan motor control

13.72 - Electronic multifunction relay 2 Pole

- Wall mounting, compatible with most popular Italian residential switch boxes: AVE, BTicino, Gewiss, Simon-Urmet, Vimar
- 21 available functions: step relays, timing (1s - 24h), electric shutter, blind or curtain control

13.S2 - Electronic roller shutter actuator

- Round wall box (ie: Ø 60 mm) mounting
- For electric shutter, blind or curtain control
- 2 contacts NO 6 A 230 V AC independent and programmable channels
 2 inputs for wired purphyttens (one input per
- 2 inputs for wired pushbuttons (one input per channel)
- Transmission range: approximately 10 m in free space and without obstacles

13.22/S2/72 Screw terminals



For outline drawing see page 17

13.22





- Offering a variety of ON/OFF functions associated with lighting and fan motor control
- Transmission protocol
 Bluetooth 4.2 Low Energy
- Safe connection with 128-bit encryption
- App programming with iOS or Android Smartphone: Finder TOOLBOX
- Can be managed through standard pushbuttons, BEYON and Type 013.89 wireless buttons







- Offering a variety of ON/OFF functions associated with lighting, electric shutters, blinds or curtains
- Transmission protocol Bluetooth 4.2 Low Energy
- Safe connection with 128-bit encryption
- App programming with iOS or Android Smartphone: Finder TOOLBOX
- Can be managed through standard pushbuttons, BEYON and Type 013.B9 wireless buttons







- Suitable for electric shutters, blind or curtain control
- Transmission protocol Bluetooth 4.2 Low Energy
- Safe connection with 128-bit encryption
- App programming with iOS or Android Smartphone: Finder TOOLBOX
- Can be managed through standard pushbuttons, BEYON and Type 013.B9 wireless buttons

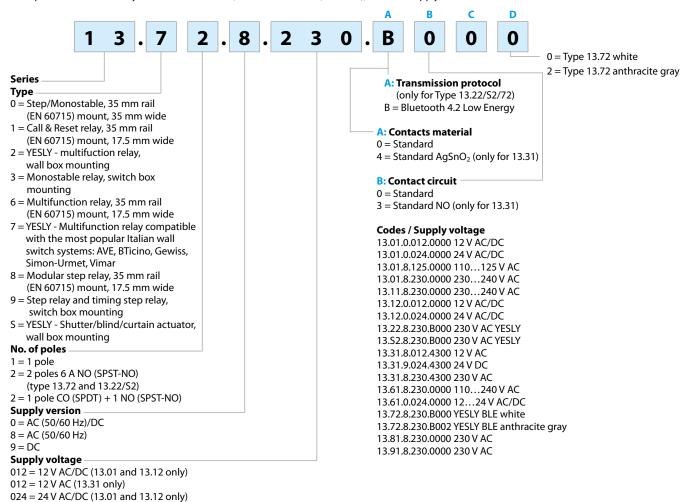
Contact specification				
Contact configuration		2 NO (DPST-NO)	2 NO (DPST-NO)	2 NO (DPST-NO)
Rated current/Maximum peak	current A	6/40	6/40	6/40
Rated voltage/				
Maximum switching voltage	V AC	230/—	230/—	230/—
Rated load AC1	VA	1380	1380	1380
Rated load AC15 (230 V AC)	VA	300	300	300
Single phase motor rating (23	0 V AC) W	200	200	200
Nominal lamp rating 230V:				
incar	ndescent/halogen W	200	200	_
	escent tubes with			
	electronic ballast W	200	200	-
	escent tubes with	200	200	
electro	omagnetic ballast W CFL W	200	200	-
		200	200	-
10/1	LED 230 V W	200	200	-
Lv na	logen or LED with electronic ballast W	200	200	_
	LV halogen or LED with electromagnetic ballast W		200	_
Supply specification				
Naminal valtana (III.)	V AC (50/60 Hz)	230	230	230
Nominal voltage (U _N)	V DC	_	_	_
Rated power AC/DC	VA (50 Hz)/W	2 / 0.5	2 / 0.5	2 / 0.5
Operating range	AC (50 Hz)	(0.81.1)U _N	(0.81.1)U _N	(0.81.1)U _N
-	DC	_	_	_
Technical data				
Electrical life at rated load in A	AC1 cycles	60 ⋅ 10³	60 · 10³	60 · 10³
Maximum impulse duration		continuous	continuous	continuous
Dielectric strength between:	open contacts VAC	1000	1000	1000
Ambient temperature range	°C	-10+50	-10+50	-10+50
Protection category		IP 20	IP 20	IP 20
Approvals (according to type	e)	C€	CE	C€

/-2019, www.findercn.com



Ordering information

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



Technical data

230 = 230 V AC (13.31, 13.22, 13.52, 13.72, 13.81 and 13.91)

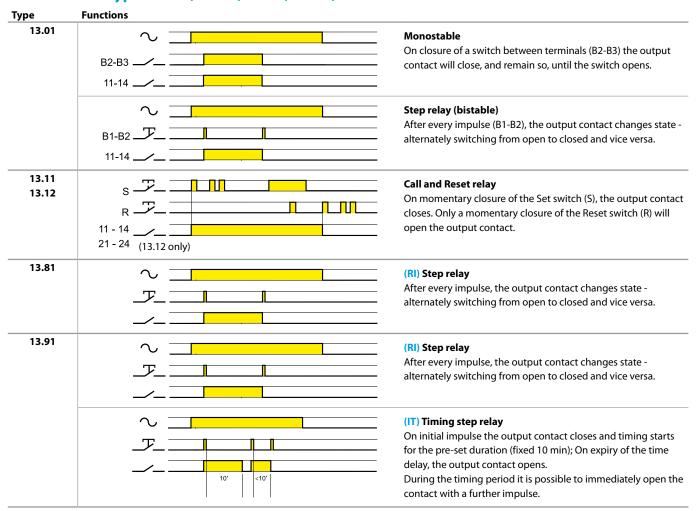
024 = 24 V DC (13.31 only) 024 = 12...24 V AC/DC (13.61 only) 125 = (110...125)V AC (13.01 only) 230 = (230...240)V AC (13.01 and 13.11) 230 = 110...240 V AC (13.61 only)

Insulation		13.01.8	13.01.0	13.11 - 13.12	13.	31 - 13	3.61	13.81 - 1	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	91	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 length for pushbutton connection	n m	1	00	100	_		200	200	100		100
Max. no. of illuminated pushbutton (≤	1mA)	_	_	_	_		10*	15	12		5
Terminals		13.01		13.11 - 13.12 - 13.31 - 13.61 - 13.72 - 13.81 - 13.91		.61 -	13.22 - 13.S2				
Max. wire size		solid cable	stranded cable	solid cable		strand	led cable	solid cab	le	strar	nded cable
	mm²	1x6/2x4	1 x 6 / 2 x 2.5	1x6/2x4		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.



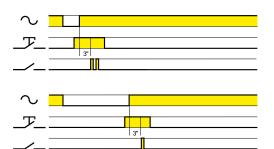
Functions for types 13.01, 13.11, 13.12, 13.81, 13.91



Operating mode setup for type 13.91

RI → IT

 $IT \rightarrow RI$



- 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.

K

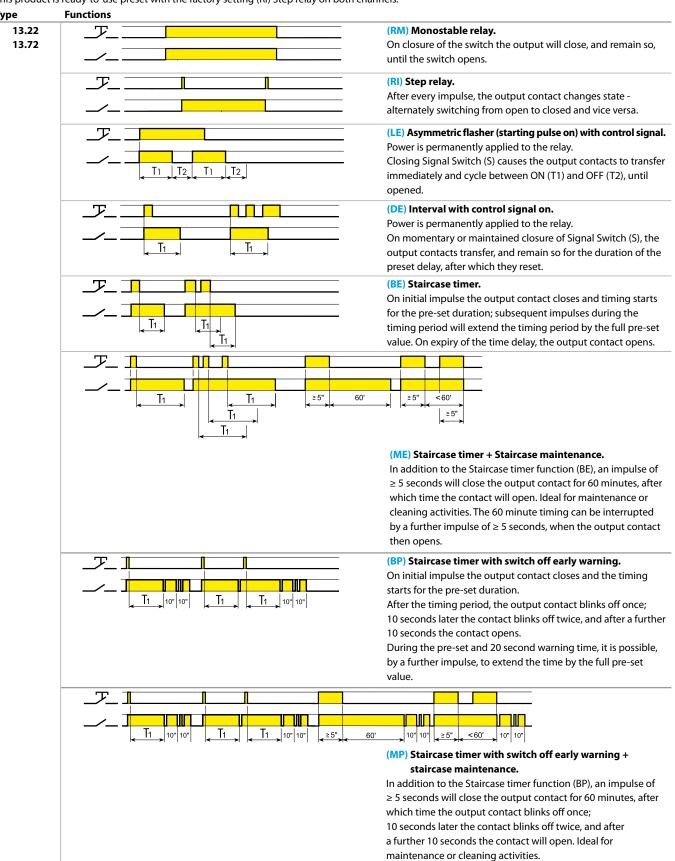
Functions for type 13.61 Functions Type 13.61.8.230 (RM) Monostable On closure of a switch between terminal 3 and Line (or Neutral, in case of 3-wire connection) the output contact will close, and remain so, until the switch opens. (IT) Timing step relay On initial impulse the output contact closes and 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: 30s...20min (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 T≥3s 11-14 _____ ____ 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 ON ________ contact with a further impulse. Switch-off delay time: 30s...20min t<T (RI) Step relay After every impulse, the output contact changes state alternately switching from open to closed and vice versa. T≥1s. Light ON With this function set - the output contact stays permanently closed. OFF _T_



Functions for type 13.22, 13.52, 13.72

Relay settings

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.



The 60 minute timing can be interrupted by a further impulse of \geq 5 seconds, when the output contact then opens.

Functions for type 13.22, 13.52, 13.72

Type	Functions	
13.22 13.72	T	(IT) Timing step relay. On initial impulse the output contact closes and timing starts. 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.
	T1 10" 10" T1 10" 10"	(IP) Timing step relay with switch off early warning. On initial impulse the output contact closes and timing starts. After the timing period, the output contact blinks off once; 10 seconds later the contact blinks off twice, and after a further 10 seconds the contact opens. During the pre-set and 20 second warning time, it is possible to immediately open the output contact by a further impulse.
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(FZ) Timing monostable. The output will be closed when the switch is closed, except where the switch is closed for greater than the preset time T1 - in which case the output contact opens.
	P1	(VB) Bathroom light + fan. Channels Ch1 and Ch2 both close when the P1 command is pressed. At the expiry of T1 Ch1 opens and after a further delay of T2, Ch2 opens. Ch1 can be prematurely opened by another press of P1.
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(CP) Ringbell + light. A press to P1 closes Ch1 for the pre-set time T1. While Ch1 is closed Ch2 executes a blinking function, at a rate set by T2. Subsequent presses to P1 extends the Ch1 closed time by re-triggering T1.
13.52 13.72	P1	(TP) Roller shutter. A short press (<1 second) to P1 ("up" push-button) initiates a 500ms delay before Ch1 closes for time T1. Pressing P1 again within time period T1 will immediately open Ch1 contact. If P1 is closed for more than 1 second the Ch1 contact will open immediately P1 opens. The same operation applies to P2 and Ch2 contact, used to control the "down" function.

Sequences

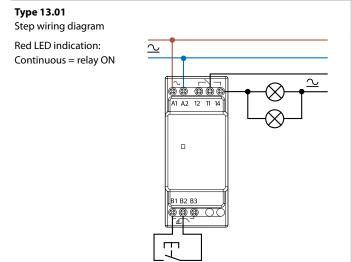
P1 (SET): press to advance through the sequence

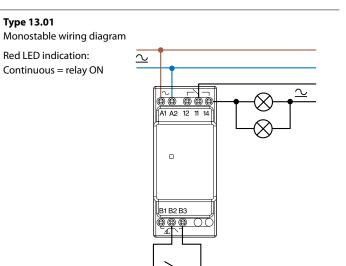
P2 (RESET): press to return to Step 1

Type	Functions		Sequ	ences	
Type	runctions	1	2	3	4
13.22 13.72	02	11	 		
	03	14			
	04	11	77	1 1	
	05	11	14	41	77
	06	11	17	77	
	07	11	77	<u> </u>	
	08	11	71	11	14



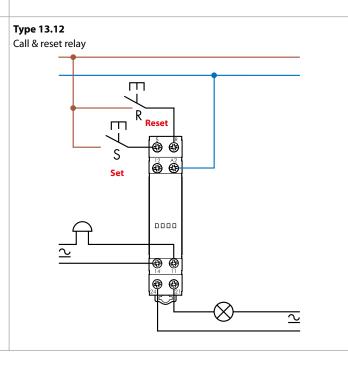
Wiring diagrams (13.01, 13.11, 13.12 and 13.31)



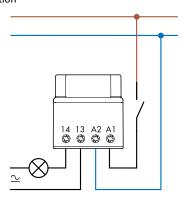


Type 13.11
Call & reset relay

Reset
S
Set



Type 13.31 Connection

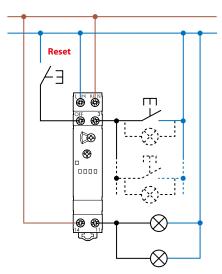


Wiring diagrams (13.61)

Type 13.61.8.230 3 wire connection

Red LED indication: Continuous = relay ON

Blinking = relay OFF

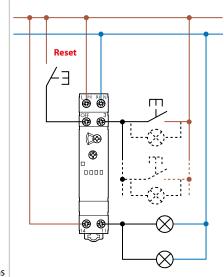


Maximum 10 (≤ 1 mA) illuminated push buttons

Type 13.61.8.230

4 wire connection Red LED indication:

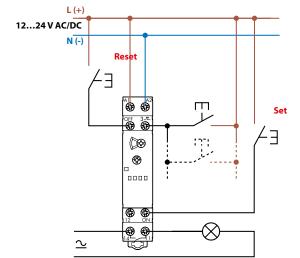
Continuous = relay ON Blinking = relay OFF



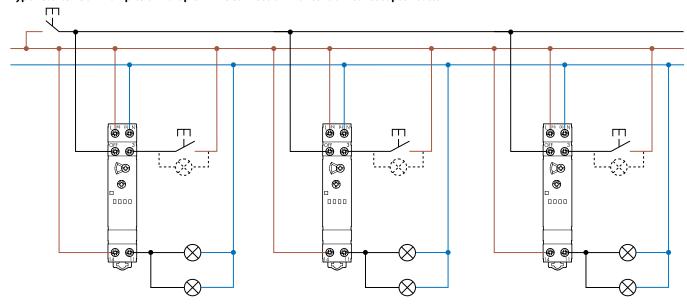
Maximum 10 (\leq 1 mA) illuminated push buttons

Type 13.61.0.024

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



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

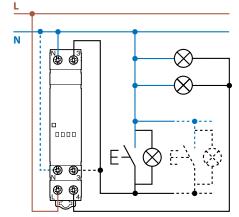




Wiring diagrams (13.81, 13.91, 13.22 and 13.52)

Type 13.81 3 wire connection

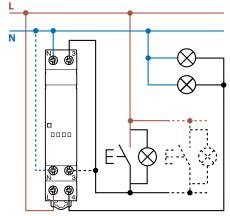
Red LED indication: a Continuous = relay ON Blinking = relay OFF



Maximum 15 (≤ 1 mA) illuminated push buttons

Type 13.81

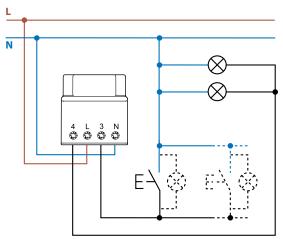
4 wire connection Red LED indication: Continuous = relay ON Blinking = relay OFF



Maximum 15 (≤ 1 mA) illuminated push buttons

Type 13.91

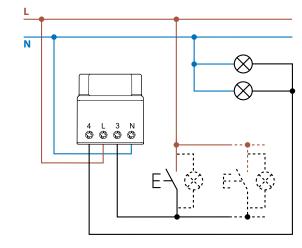
3 wire connection



Maximum 12 (≤ 1 mA) illuminated push buttons

Type 13.91

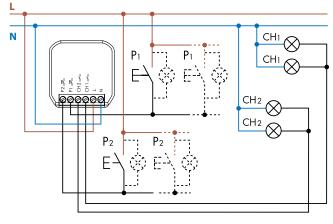
4 wire connection



Maximum 12 (≤ 1 mA) illuminated push buttons

Type 13.22

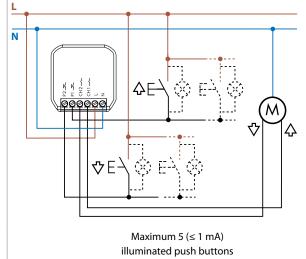
4 wire connection



Maximum 5 (≤ 1 mA) illuminated push buttons

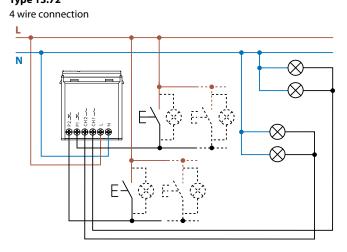
Type 13.S2

4 wire connection



Wiring diagrams (13.72)

Type 13.72

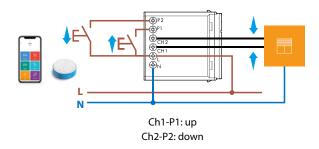


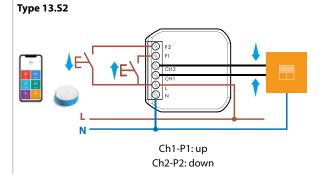
Maximum 5 (≤ 1 mA) illuminated push buttons

Examples of applications

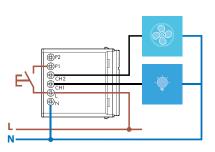
Function TP - Roller Blinds, Shutters and Curtains

Type 13.72



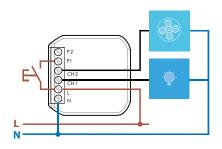


Type 13.72

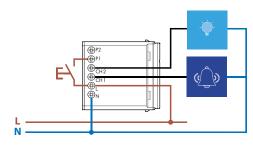


Function VB – Bathroom light + fan

Type 13.22

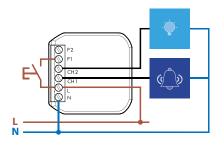


Type 13.72



Function CP - Ringbell + Lights

Type 13.22

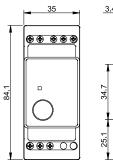


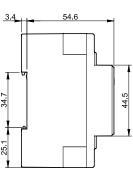


Outline drawings

Type 13.01 Screw terminal

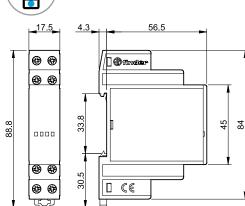






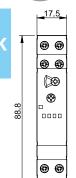
Type 13.12 Screw terminal

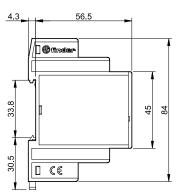




Type 13.61 Screw terminal

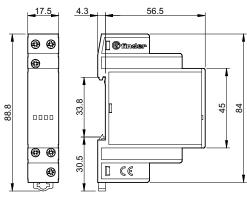






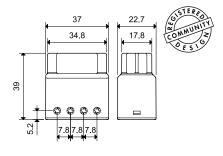
Type 13.11 Screw terminal





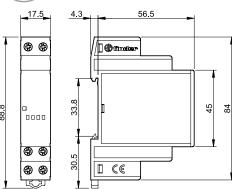
Types 13.31/13.91 Screw terminal





Type 13.81 Screw terminal

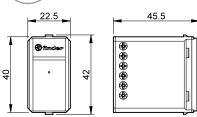




Outline drawings

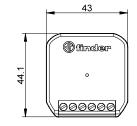
Type 13.72 Screw terminal

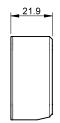




Type 13.22 / 13.S2 Screw terminal







finder

Accessories



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

011.01



Adaptor for panel mounting, for type 13.11, 13.12, 13.61 and 13.81, 17.5 mm wide

020.01



Sheet	of ma	arker	tags	(CEMB	RE The	rmal	transfer	printers)	for relays	types
12 11	12 12	13 61	l and	12 21 /	18 tags)	1 6 v	12 mm			

060.48