RPC-1E/WU/BP-UNI
RPC-2E/WU/BP-UNI

RPC-2E30-UNI ❶
RPC-2E30-UNI-01 ❶ ❷

- **Single-function time relays (8 time ranges ❶)**
- Cadmium - free contacts 1 CO and 2 CO • AC/DC input voltages
- Cover - modular, width 17,5 mm • Direct mounting on 35 mm rail mount acc. to EN 60715 • Applications: in low-voltage systems, available special version for low-current applications ❷
- Compliance with standard EN 61812-1 • Directive RoHS

- **Codes of versions** - time functions performed:

RPC-.E-...	RPC-2E30-... ❶	RPC-.WU-...	RPC-.BP-...
function E	function E30	function Wu	function Bp

Output circuit - contact data

Number and type of contacts		1 CO	2 CO
Contact material		$AgSnO_2$ AgNi ❷	
Max. switching voltage		300 V AC	
Rated load	AC1	16 A / 250 V AC	8 A / 250 V AC
	DC1	16 A / 24 V DC	8 A / 24 V DC
	DC1	0,3 A / 250 V DC	0,3 A / 250 V DC
Rated current		16 A / 250 V AC	8 A / 250 V AC
Max. breaking capacity	AC1	4 000 VA	2 000 VA
Min. breaking capacity		1 W 10 mA, $AgSnO_2$, 0,3 W 5 mA, AgNi ❷	
Contact resistance		≤ 100 mΩ	
Max. operating frequency		600 cycles/hour at rated load AC1	

Input circuit

Rated voltage	AC: 50/60 Hz AC/DC	12...240 V terminals (+)A1, (-)A2	
Must release voltage		≥ 0,1 U_n	
Operating range of supply voltage		0,9...1,1 U_n	
Rated power consumption	AC	≤ 2,8 VA 50 Hz	
	DC	≤ 1,5 W	
Range of supply frequency	AC	48...63 Hz	

Insulation according to EN 60664-1

Insulation rated voltage		250 V AC	
Rated surge voltage		4 000 V 1,2 / 50 µs	
Overvoltage category		III	
Insulation pollution degree		2	
Flammability class		V-0	for modular cover, UL 94
Dielectric strength	• input - output	4 000 V AC	type of insulation: basic
	• contact clearance	1 000 V AC	type of clearance: micro-disconnection
	• pole - pole	2 000 V AC	contacts 2 CO, type of insulation: basic

General data

Electrical life	• resistive AC1	> 0,5 x 10^5	16 A, 8 A, 250 V AC
Mechanical life (cycles)		> 3 x 10^7	
Dimensions (L x W x H)		90 ❸ x 17,5 x 64,6 mm	
Weight		contact 1 CO: 64...71 g	contacts 2 CO: 70...71 g
Ambient temperature	• storage	-40...+70 °C	
(non-condensation and/or icing)	• operating	-20...+50 °C	
Cover protection category		IP 20	EN 60529
Relative humidity		up to 85%	
Shock / vibration resistance		15 g / 0,35 mm DA 10...55 Hz	

❶ RPC-2E30-...: relays do not have any time ranges - they measure a fixed delayed switch-on time of 30 s.
❷ Special version - relays with two changeover contacts 2 CO, contact material AgNi, for low-current applications - min. switching current 5 mA.
❸ Length with 35 mm rail catches: 98,8 mm.

Table of codes Table 1

Time relay code		Rated input voltage	Recognitions, certifications
with 1 CO contact	**with 2 CO contacts**		
RPC-1E-UNI	RPC-2E-UNI	12...240 V AC/DC AC: 50/60 Hz	CE, cULus, UKCA
–	RPC-2E30-UNI		CE, UKCA
–	RPC-2E30-UNI-01		
RPC-1WU-UNI	RPC-2WU-UNI		CE, cULus, UKCA
RPC-1BP-UNI	RPC-2BP-UNI		

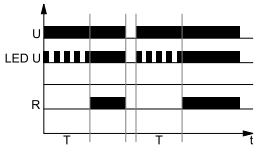
Time module data

Functions		E, E30, Wu, Bp
Time ranges		RPC-.E/WU/BP-UNI: OFF - permanent switching off; ON - permanent switching on RPC-.E/WU/BP-UNI: 1 s ❹; 10 s; 1 min.; 1 h; 10 h; 1 d; 10 d RPC-2E30-...: fixed time range 30 s
Timing adjustment		RPC-.E/WU/BP-UNI: smooth - (0,1...1) x time range (does not refer to range ON / OFF)
Setting accuracy		± 5% ❺ ❹
Repeatability		± 0,5% ❹
Values affecting the timing adjustment		temperature: ± 0,05% / °C supply voltage: ± 0,01% / V
Recovery time	AC	≤ 400 ms AC: 50 Hz
	DC	≤ 150 ms
LED indicator		green LED U ON - indication of supply voltage U green LED U flashing - measurement of T time yellow LED R ON/OFF - output relay status

❹ For first range setpoint (1 s) setting accuracy and repeatability are smaller than the given ones in technical parameters (significant influence of the operational relay operating time, processor start-time, and the moment of supply switching as referred to the AC supply course). ❺ Calculated from the final range values, for the setting direction from minimum to maximum.

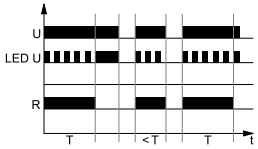
Time functions

E - ON delay.
Codes of versions: **RPC-.E-...**



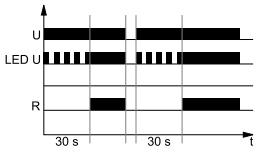
On applying the supply voltage U the set interval T begins - off-delay of the output relay R. After the interval T has lapsed, the output relay R switches on and remains on until supply voltage U is interrupted.

Wu - ON for the set interval.
Codes of versions: **RPC-.WU-...**



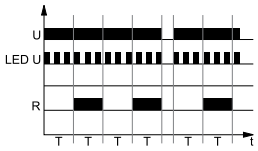
Applying the supply voltage U immediately switches the output relay R on for the set interval T. After the interval T has lapsed, the output relay R switches off.

E30 - Opóźnione załączenie ze stałym czasem opóźnienia 30 s.
Kody wykonań: **RPC-2E30-UNI, RPC-2E30-UNI-01**



On applying the supply voltage U the interval 30 s begins - off-delay of the output relay R. After the interval 30 s has lapsed, the output relay R switches on and remains on until supply voltage U is interrupted.

Bp - Symmetrical cyclical operation pause first.
Codes of versions: **RPC-.BP-...**



Applying the supply voltage U starts the cyclical operation from the interval T - switching the output relay R off followed by switching on the output relay R for the interval T. The cyclical operation lasts until the supply voltage U is interrupted.

ON / **OFF** - Permanent switching on / off.
The functions ON and OFF are selected with T time range adjusting knob. In the ON function, the normally open contacts are closed all the time whereas in the OFF function they are open. The preset measurement time is of no significance in these functions. The ON or OFF functions are used for the time relay operation control in electric systems.

U - supply voltage; **R** - output state of the relay; **S** - control contact state; **T** - measured time; **t** - time axis

Additional functions

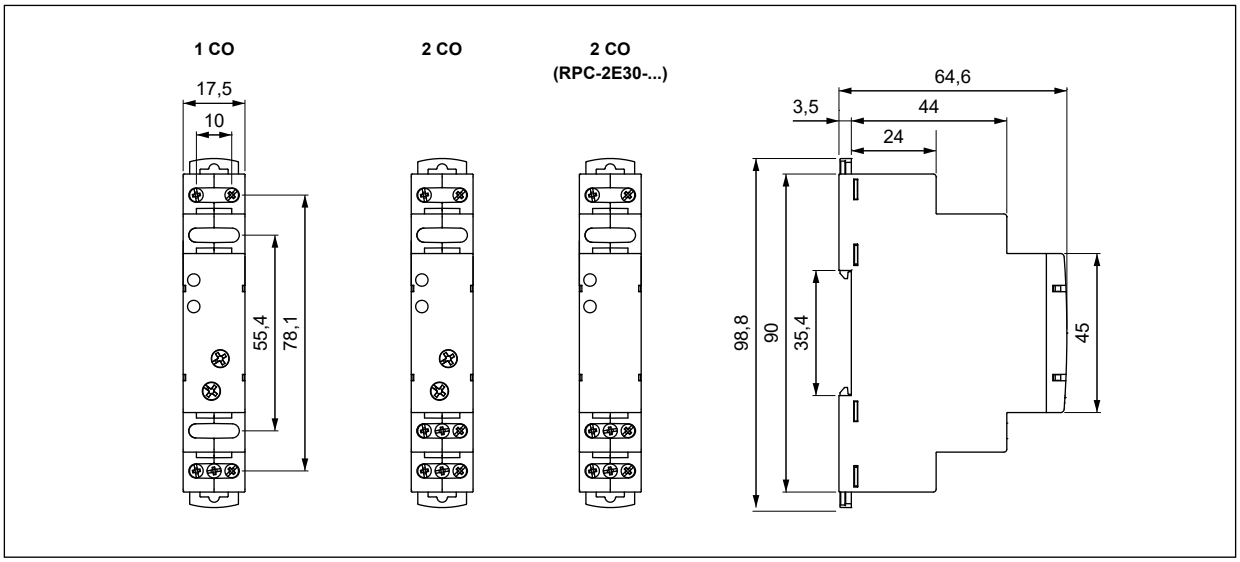
Supply diode: it is lit permanently when the time is not being measured. In course of the T time measurement, it flashes at 500 ms period where it is lit for 50% of the time, and off for 50% of the time.

Adjustment of the set values: the values of time and range are read in the course of the relay's operation. The set values may be modified at any moment.

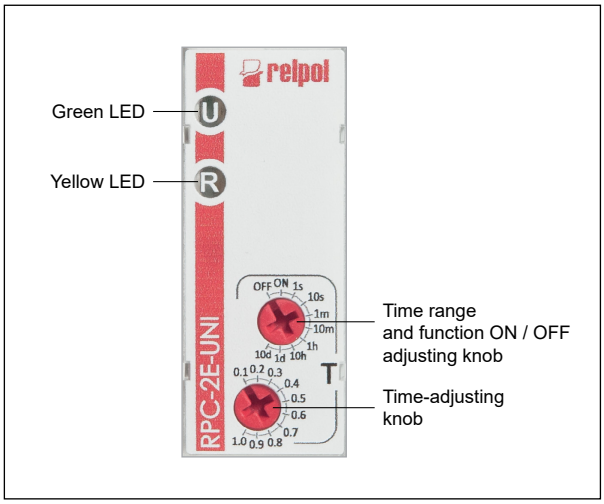
Triggering: the relay is triggered with the supply voltage.

Supply: the relay may be supplied with DC voltage or AC voltage 48...63 Hz of 10,8...264 V.

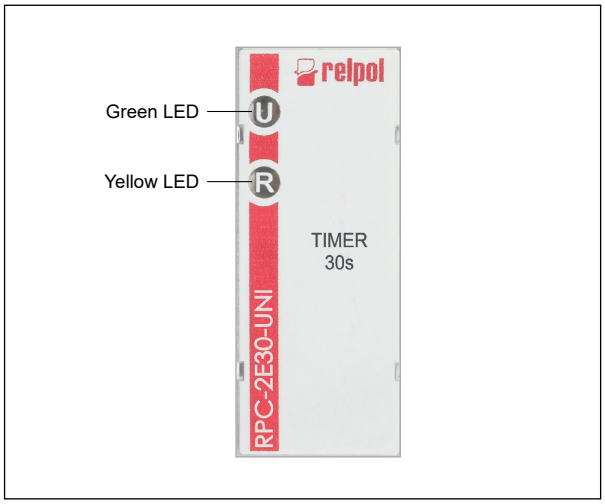
Dimensions



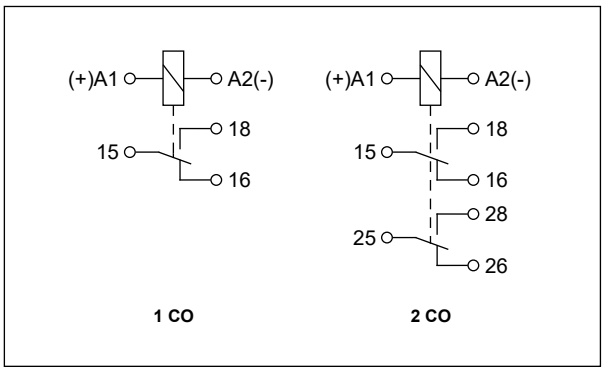
Front panel description



Front panel description (RPC-2E30-...)



Connection diagrams

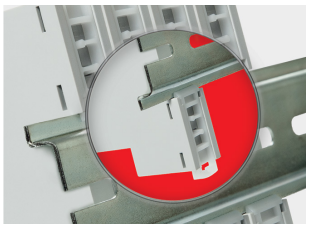


PRECAUTIONS:

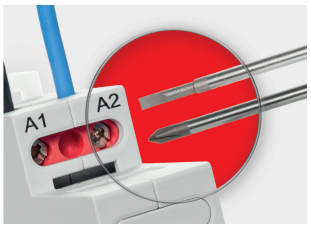
1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. **2.** Never touch any live parts of the device. **3.** Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. **4.** In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.

Mounting

Relays **RPC-.E/E30/WU/BP-...** are designed for direct mounting on 35 mm rail mount acc. to EN 60715. Operational position - any. **Connections:** max. cross section of the cables: 1 x 2,5 mm² (1 x 14 AWG), stripping length: 6,5 mm, max. tightening moment for the terminal: 0,5 Nm.

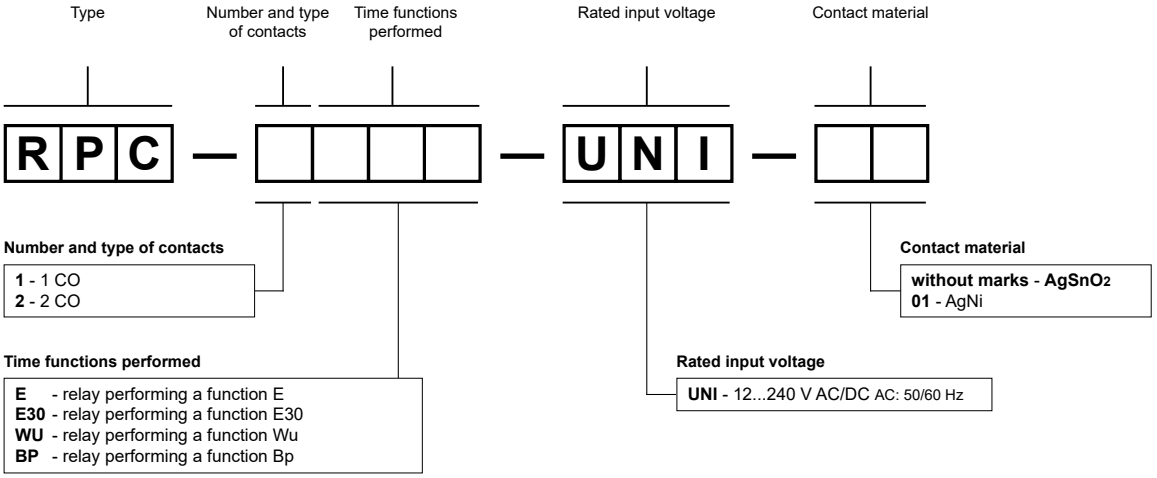


Two catches: easy mounting on 35 mm rail, firm hold (top and bottom).



Mounting wires in clamps: universal screw (cross-recessed or slotted head).

Ordering codes



Examples of ordering codes ⓫:

RPC-1E-UNI time relay **RPC-1E-UNI**, single-function (relay perform function E), cover - modular, width 17,5 mm, one changeover contact, contact material $AgSnO_2$, rated input voltage 12...240 V AC/DC AC: 50/60 Hz

RPC-2E30-UNI-01 time relay **RPC-2E30-UNI-01**, single-function (relay perform function E30), cover - modular, width 17,5 mm, two changeover contacts, contact material AgNi, rated input voltage 12...240 V AC/DC AC: 50/60 Hz

ⓑ Ordering codes **RPC-.E/E30/WU/BP-UNI** are specified in Table 1, "Time relay code" column.

Table of codes

Table 1

Time relay code		Rated input voltage	Recognitions, certifications
with 1 CO contact	**with 2 CO contacts**		
RPC-1E-UNI	RPC-2E-UNI	12...240 V AC/DC AC: 50/60 Hz	CE, cULus, UKCA
–	RPC-2E30-UNI		CE, UKCA
–	RPC-2E30-UNI-01		
RPC-1WU-UNI	RPC-2WU-UNI		CE, cULus, UKCA
RPC-1BP-UNI	RPC-2BP-UNI		