



RPC-1MA-UNI



RPC-2MA-A230



- **Multifunction time relays (10 time functions; 8 time ranges)** • Cadmium - free contacts 1 CO and 2 CO
- AC and 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
- Compliance with standard EN 61812-1
- Recognitions, certifications, directives: RoHS, **CE ENEC**

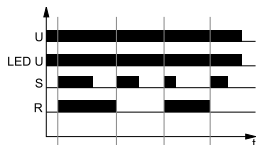
Output circuit - contact data

Number and type of contacts		1 CO	2 CO
Contact material		AgSnO ₂	
Max. switching voltage	AC	300 V	
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	
Contact resistance		≤ 100 mΩ	
Max. operating frequency		600 cycles/hour at rated load AC1	
Input circuit			
Rated voltage	50/60 Hz AC	230 V	terminals A1, A2
	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	≤ 3,5 VA 230 V AC, 50 Hz	≤ 1,5 VA 12...240 V AC/DC, AC: 50 Hz
	DC	≤ 1,5 W 12...240 V AC/DC	
Range of supply frequency	AC	48...63 Hz	
Control contact S ①	• min. voltage ②	0,7 U _n	
	• min. time of pulse duration ③	AC: ≥ 50 ms	DC: ≥ 30 ms
	• max. length of control line	10 m	
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		cover: V-0	front panel: V-2 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	8 A/16 A, 250 V AC
Mechanical life (cycles)		> 3 x 10 ⁷	
Dimensions (L x W x H) / Weight		90 ④ x 17,5 x 64,5 mm / contact 1 CO: 65...66 g, contacts 2 CO: 72...73 g	
Ambient temperature (non-condensation and/or icing)	• storage	-40...+70 °C	
	• 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	
Time module data			
Functions		E, Wu, Bp, Bi, R, Ws, Wa, Esa, B, T	
Time ranges		OFF - permanent switching off; ON - permanent switching on 1 s ⑤; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	
Timing adjustment		smooth - (0,1...1) x time range (does not refer to range ON / OFF)	
Setting accuracy / Repeatability		± 5% ⑥ ⑦ / ± 0,5% ⑧	
Values affecting the timing adjustment		temperature: ± 0,05% / °C	supply voltage: ± 0,01% / V
Recovery time	AC	≤ 150 ms 230 V AC, 50 Hz	≤ 400 ms 12...240 V AC/DC, AC: 50 Hz
	DC	≤ 150 ms 12...240 V AC/DC	
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	

① The control terminal S is activated by connection to A1 terminal via the external control contact S. ② Where the control signal is recognizable. ③ Length with 35 mm rail catches: 98,8 mm. ④ 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). ⑤ Calculated from the final range values, for the setting direction from minimum to maximum.

Time functions

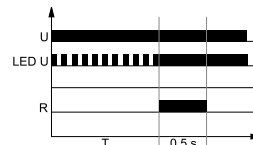
B - Cyclical operation controlled with closing of the control contact S.



The input of the time relay is supplied with U voltage continuously. Closing of the control contact S immediately switches on the output relay R. Each next closing of the control contact S results in a change of the status of the output relay R to an opposite one (the feature of a bistable relay).

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

T - Generation of the 0,5 s pulse after the interval T.



Applying the supply voltage U starts the interval T. After the interval T has lapsed, the output relay switches on for 0,5 s (the time of the NO contact of the output relay).

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 position of the function-adjusting knob is of no significance in these functions as is the preset measurement time. The ON or OFF functions are used for the time relay operation control in electric systems.

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:

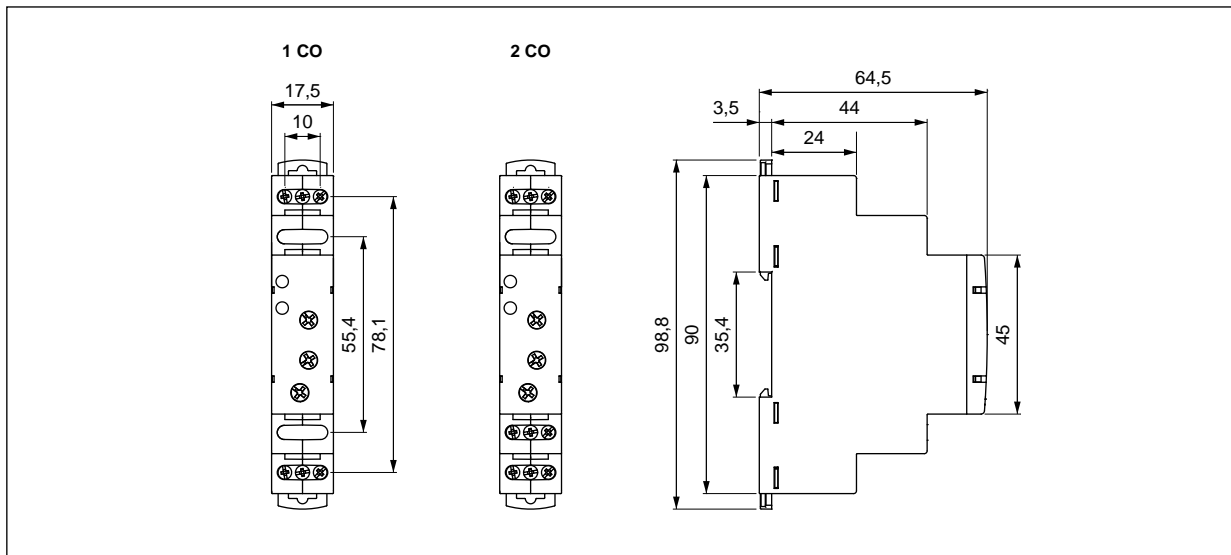
- the values of time and range are read in the course of the relay's operation. The set values may be modified at any moment,
- no change of the function is possible in the course of the relay's operation. Any change of the settings of the relay shall be read only after the supply voltage has been switched off and on again.

Release: depending on the function to be performed, the relay is released with the supply voltage or by connection of the S contact to the A1 line. For DC supply, the positive pole must be connected to the A1 line. The level of the S contact activation is adjusted automatically depending on the supply voltage.

Supply:

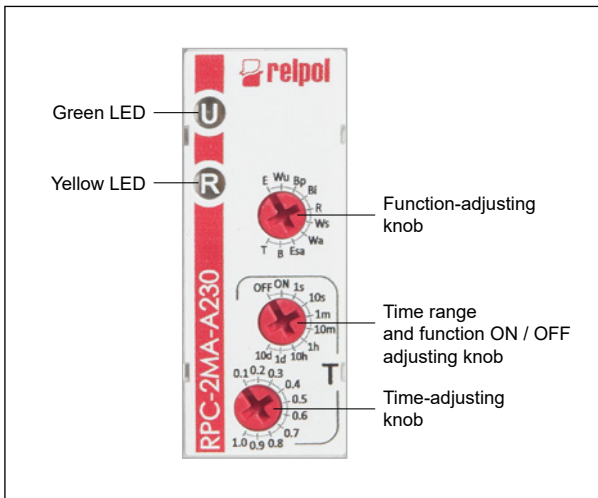
- **RPC-...-A230:** the relay may be supplied with AC voltage 48...63 Hz of 207...253 V,
- **RPC-...-UNI:** the relay may be supplied with DC voltage or AC voltage 48...63 Hz of 10,8...264 V.

Dimensions

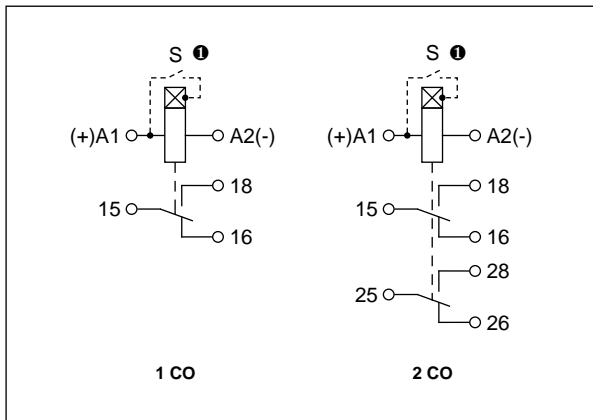


TIME

Front panel description



Connection diagrams



Note: the indicated polarity of the supply refers only to the relays RPC-...-UNI. ❶ The control terminal S is activated by connection to A1 terminal via the external control contact S.

Mounting

Relays **RPC-.MA-...** 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.

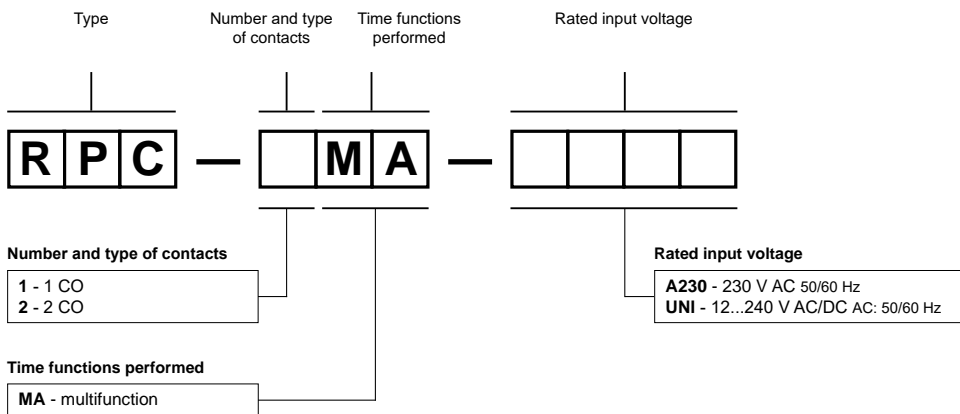


Two catches:
easy mounting
on 35 mm rail,
firm hold
(top and bottom).



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

Ordering codes



Examples of ordering codes:

RPC-1MA-A230

time relay **RPC-.MA-...**, multifunction (relay perform 10 functions), cover - modular, width 17,5 mm, one changeover contact, contact material AgSnO₂, rated input voltage 230 V AC 50/60 Hz

RPC-2MA-UNI

time relay **RPC-.MA-...**, multifunction (relay perform 10 functions), cover - modular, width 17,5 mm, two changeover contacts, contact material AgSnO₂, rated input voltage 12...240 V AC/DC AC: 50/60 Hz