



RPC-1MB-UNI



RPC-2MB-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**

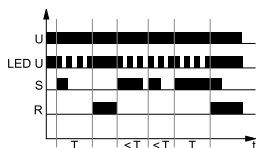
Output circuit - contact data

| | | | |
|---|---------------------------------|--|--|
| 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 | • 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, Ra, Wst, Wi, Esp, Est | |
| 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

Est - ON delay with closing of the control contact S, with the interval T extended.



The input of the time relay is supplied with voltage U continuously. Closing of the control contact S starts the interval T, and after the interval T has lapsed, the output relay R switches on and remains in this position until the control contact S is closed again or until the supply voltage U is interrupted. Closing of the control contact S resets the thus far measured time and starts the new interval T.

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.

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:

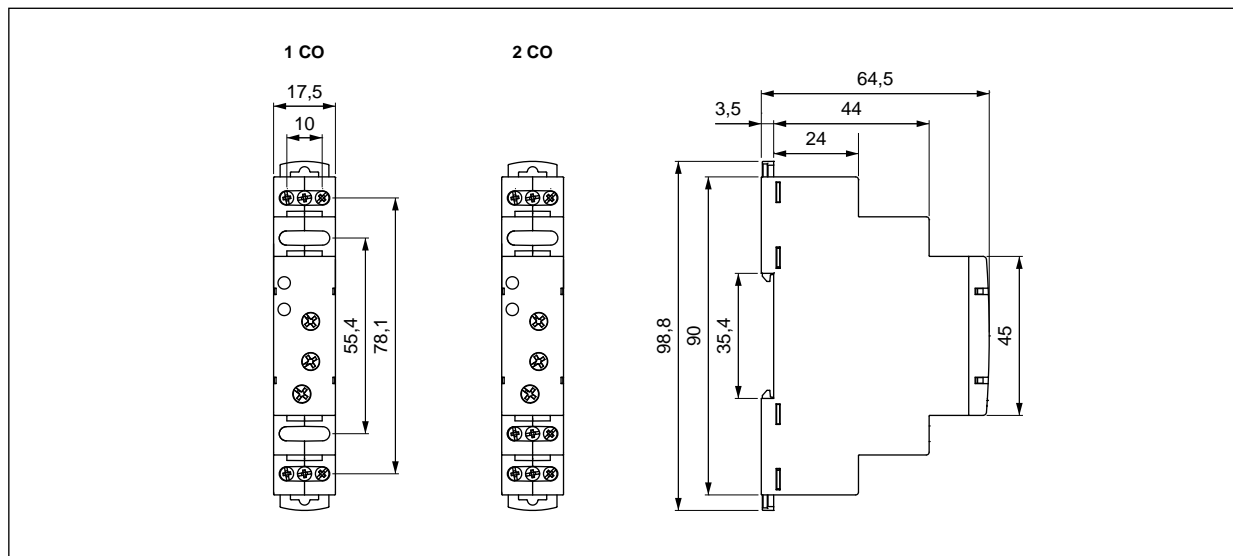
- the values of time and range are read in the course of the relay's operation. The set values may be modified at any moment,
- no change of the function is possible in the course of the relay's operation. Any change of the settings of the relay shall be read only after the supply voltage has been switched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

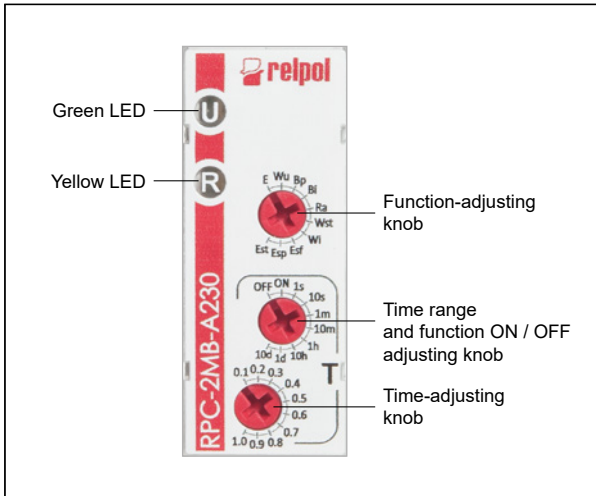
- **RPC-...-A230:** the relay may be supplied with AC voltage 48...63 Hz of 207...253 V,
- **RPC-...-UNI:** the relay may be supplied with DC voltage or AC voltage 48...63 Hz of 10,8...264 V.

Dimensions

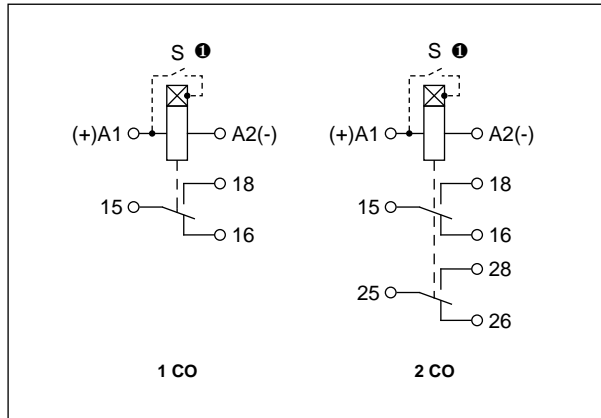


TIME

Front panel description



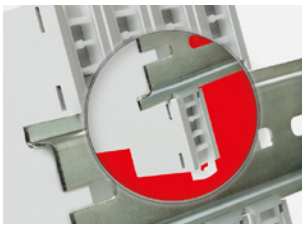
Connection diagrams



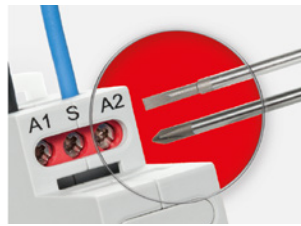
Note: the indicated polarity of the supply refers only to the relays RPC-...-UNI. ❶ The control terminal S is activated by connection to A1 terminal via the external control contact S.

Mounting

Relays **RPC-.MB-...** 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.

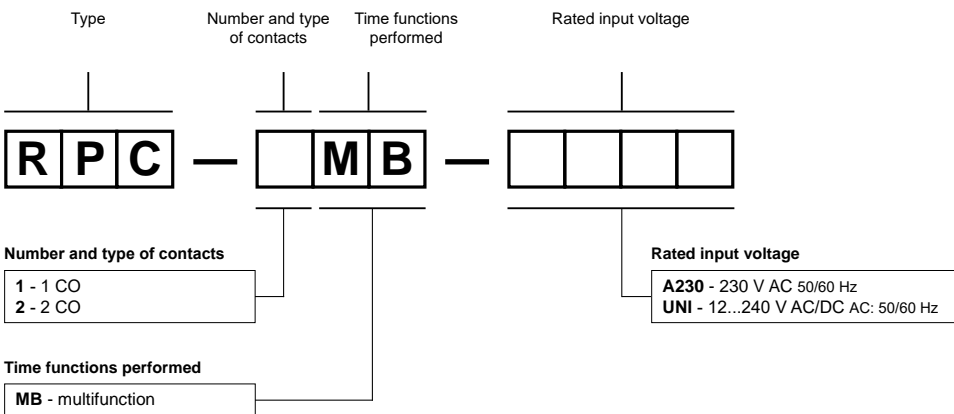


Two catches:
easy mounting
on 35 mm rail,
firm hold
(top and bottom).



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

Ordering codes



Examples of ordering codes:

RPC-1MB-A230

time relay **RPC-.MB-...**, 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-2MB-UNI

time relay **RPC-.MB-...**, 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