RPC-1AS-A230

- **Staircase switches** - switching lighting circuits equipped with gas-discharge lamps or bulbs

- **Multifunction time relays (5 time functions; 10 time ranges)**
- **Resistance to inrush current 120 A (20 ms)**
- Cadmium - free contacts 1 NO • AC 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,

Output circuit - contact data

Number and type of contacts		1 NO
Contact material		$AgSnO_2$
Max. switching voltage		300 V AC
Rated load	AC1	16 A / 250 V AC
	AC5a	3 A / 230 V AC 690 VA, gas-discharge lamps ❶
	AC5b	230 V AC 1 000 W, bulbs ❶
Rated current		16 A / 250 V AC
Max. breaking capacity	AC1	4 000 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
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 50 Hz
Range of supply frequency	AC	48...63 Hz
Control contact S ❷	• min. voltage ❸	0,7 U_n
	• min. time of pulse duration ❸	AC: ≥ 50 ms
	• max. length of control line	10 m
	• max. load	10 mA

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

General data

Electrical life	• resistive AC1	> 0,5 x 10^5 16 A, 250 V AC
Mechanical life (cycles)		> 3 x 10^7
Dimensions (L x W x H) / Weight		90 ❹ x 17,5 x 64,6 mm / 66 g
Ambient temperature	• storage	-30...+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

Time module data

Functions	ON, OFF, AUTO, R, Wi, Extra Time
Time ranges	1 s ❺; 10 s; 20 s; 30 s; 1 min.; 1,5 min.; 2 min.; 3 min.; 5 min.; 10 min.
Timing adjustment	(1...10) x time range
Setting accuracy / Repeatability	± 5% ❻ ❺ / ± 0,5% ❺
Values affecting the timing adjustment	temperature: ± 0,05% / °C supply voltage: ± 0,01% / V
Recovery time	AC: ≤ 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

❶ Acc. to EN 60669-2-1; AC5a - without an additional capacitor or test with a 14 µF capacitor. ❷ The control terminal S is activated by connection to A1 terminal via the external control contact S. ❸ Where the control signal is recognizable. ❹ Length with 35 mm rail catches: 98,8 mm. ❺ 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). ❻ Calculated from the final range values, for the setting direction from minimum to maximum.

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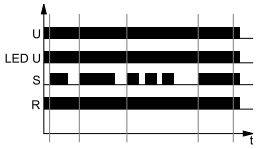
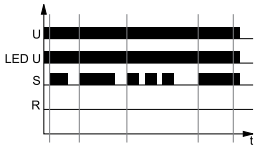
Time functions

ON - Stable ON.



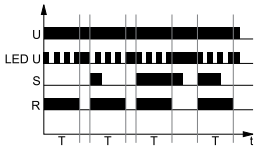
Applying the supply voltage U results in stable switching on the R contact. Switching the control contact S does not affect the status of the R contact.

OFF - Stable OFF.



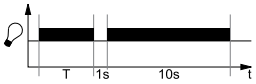
Applying the supply voltage U does not result in any change of the status of the relay - the R contact remains switched off permanently. Switching the control contact S on and off does not affect the status of the R contact.

AUTO - ON for a set interval triggered by applying the supply voltage U or closing of the control contact S.



Each application of the supply voltage U or closing of the control contact S while supply voltage U is applied results in immediate switching the R contact on for an adjustable interval T. After the T interval has lapsed, the R contact remains off. Opening and closing of the control contact S within the T interval does not affect the function to be fulfilled.

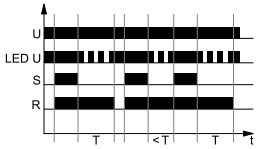
AUTO + Extra Time



If the AUTO function is activated in the "Extra Time" Mode, after the T interval has lapsed, the R contact is switched off for 1 s, and switched on again for 10 s. After the time of 10 s has been measured, the R contact is switched off.

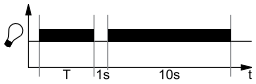
U - supply voltage; **R** - output state of the relay; **S** - control contact state; **T** - measured time; **t** - time axis

R - OFF delay with the control contact S.



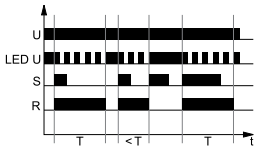
The input of the time relay is supplied with voltage U continuously. Closing of the control contact S immediately switches on the output relay R. Opening of the control contact S starts the set time of the delayed switching off of the output relay R. After the interval T has lapsed, the output relay R switches off. If the control contact S is closed during the interval T, the already measured time is reset, and the output relay R is switched on again. The OFF delay of the output relay R will start when the control contact S is opened again.

R + Extra Time



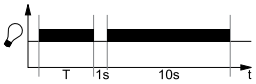
If the R function is activated in the "Extra Time" Mode, after the T interval has lapsed, the R contact is switched off for 1 s, and switched on again for 10 s. After the time of 10 s has been measured, the R contact is switched off.

Wi - ON for the set interval controlled by closing of the control contact S, with the function of switching off the output relay R prior to the lapse of the interval T.



The input of the time relay is supplied with voltage U continuously. Closing of the control contact S immediately switches the output relay R on for the set interval T. After the interval T has lapsed, the output relay R is switched off. Any next closing of the control contact S switches on the output relay R again. In case the control contact S is closed again during the interval T, the output relay is immediately switched off, and the measured interval is cancelled. In the course of the interval T, any opening of the control contact S does not affect the function to be performed.

Wi + Extra Time



If the Wi function is activated in the "Extra Time" Mode, after the T interval has lapsed, the R contact is switched off for 1 s, and switched on again for 10 s. After the time of 10 s has been measured, the R contact is switched off.

Additional functions

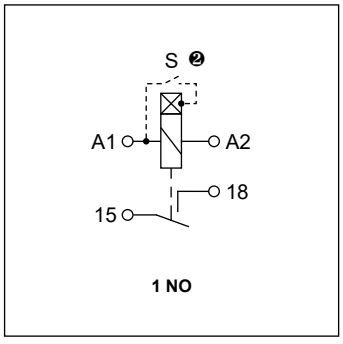
Supply diode: it is lit permanently when the time is not being measured. In course of the T time measurement, it flashes at 500 ms period where it is lit for 50% of the time, and off for 50% of the time.

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,
- it is possible to change the function during operation of the relay, which results in triggering operation with a new setting. It is not necessary to switch the supply off and on again for the relay to start operating with a new setting.

Triggering: depending on the function to be performed, the relay is triggered with the supply voltage or by connection of the S contact to the A1 line.

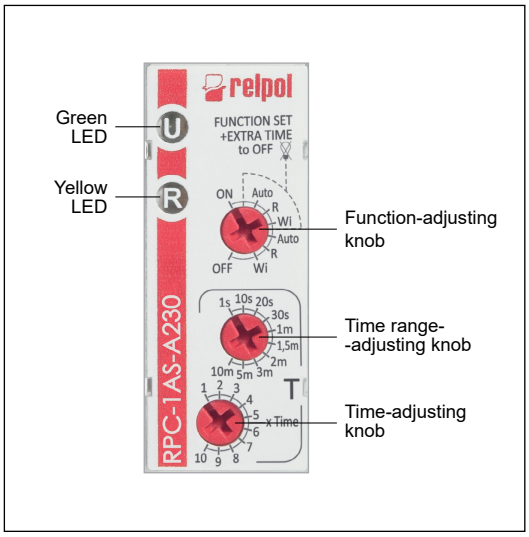
Supply: the relay may be supplied with AC voltage 48...63 Hz with a nominal value 230 V.

Connection diagram

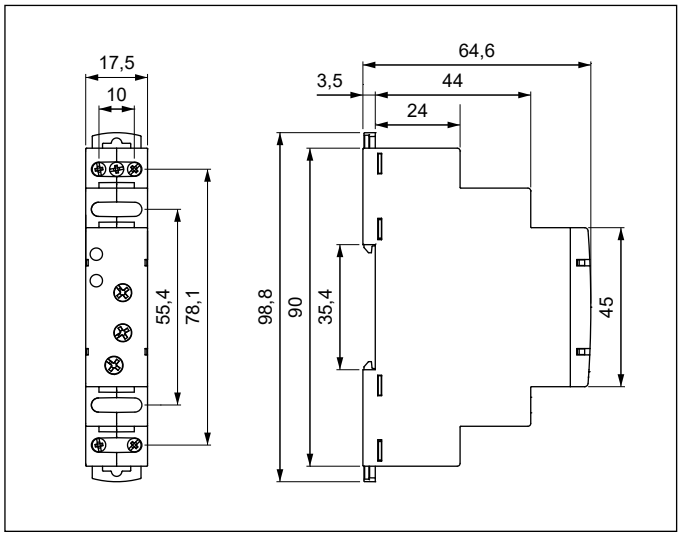


❷ The control terminal S is activated by connection to A1 terminal via the external control contact S.

Front panel description

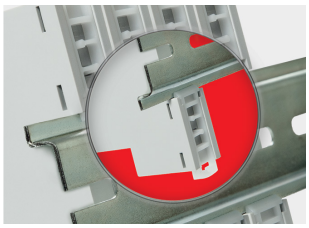


Dimensions

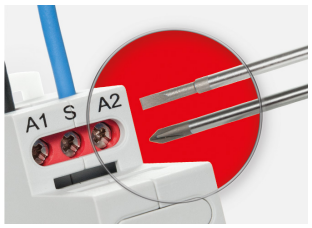


Mounting

Relays **RPC-1AS-A230** 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.

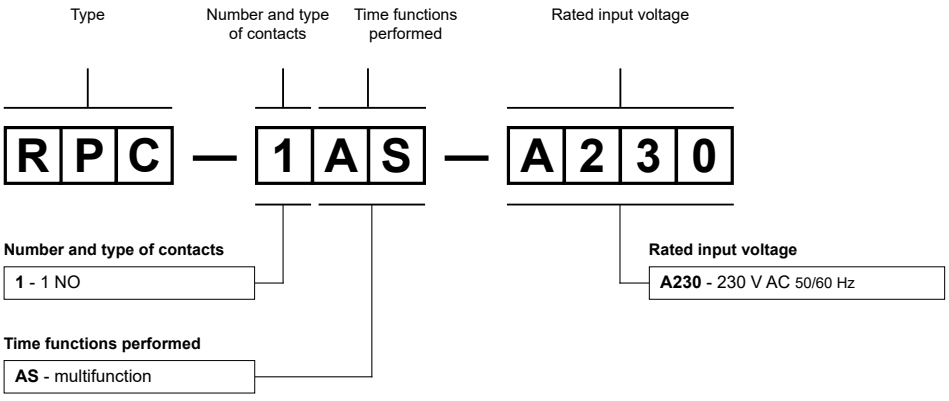


Two catches: easy mounting on 35 mm rail, firm hold (top and bottom).



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

Ordering codes



Example of ordering codes:

RPC-1AS-A230 time relay **RPC-1AS-A230**, multifunction (relay perform 5 functions), cover - modular, width 17,5 mm, one normally open contact, contact material $AgSnO_2$, rated input voltage 230 V AC 50/60 Hz

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.