relpol S.A.

Installation relays

Time, monitoring, installation relays
Bistable - impulse relays
Signal lamps

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Installation relays

Time relays
RPC
page 4

Monitoring relays
RPN
page 16

Bistable - impulse relays

RPB

page 26

Signal lamps

RLK

page 31

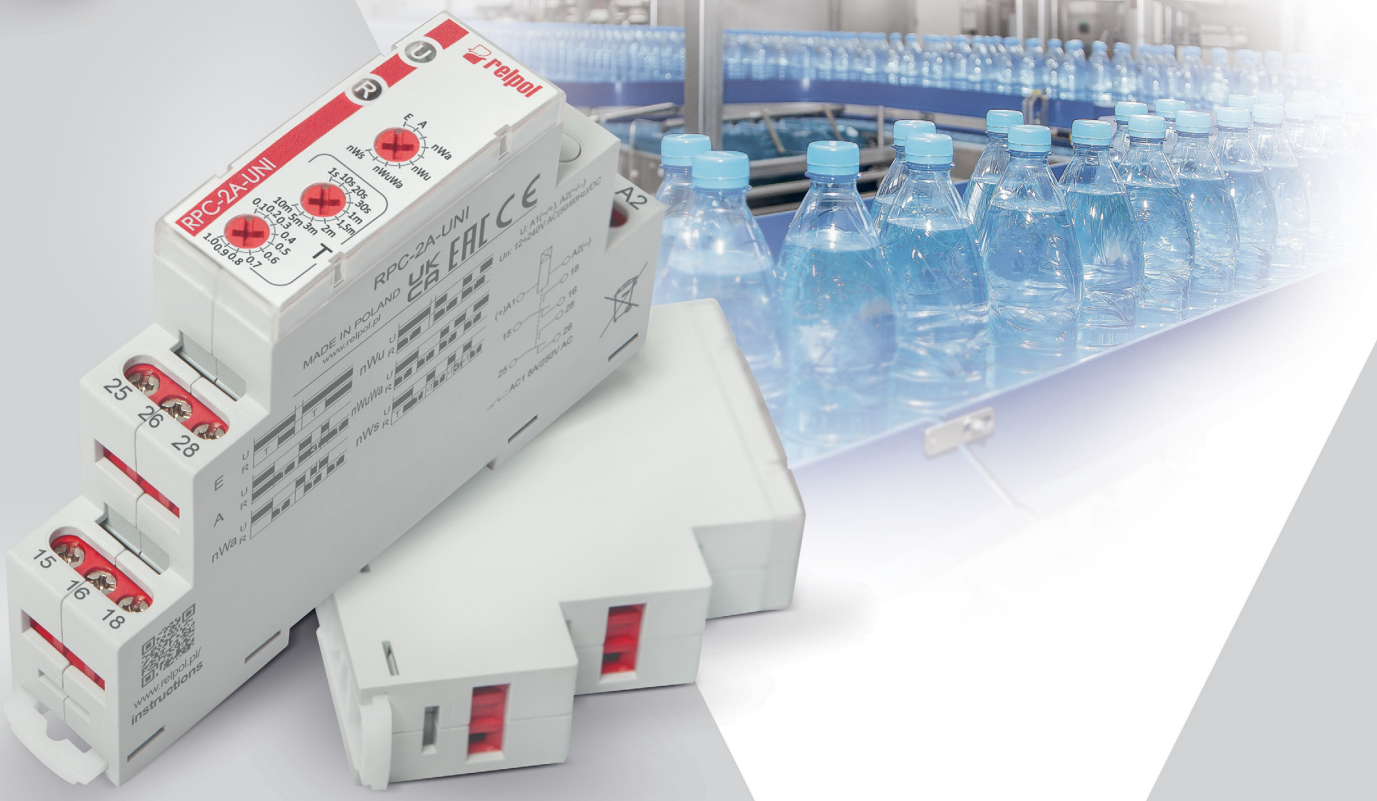
Installation relays

RPI

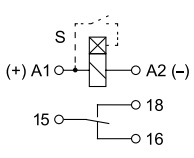
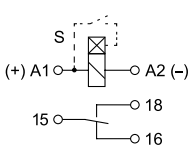
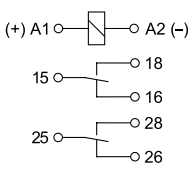
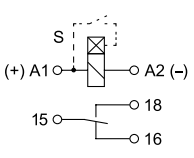
page 22

RPC

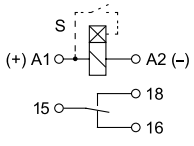
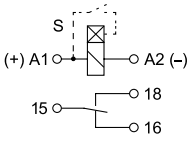
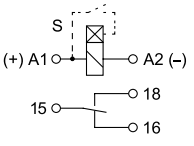
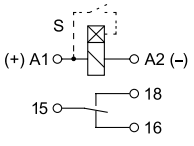
- Load: 8 A, 16 A
- Contacts: 1 CO, 1 NO, 2 CO, 3 CO
- Supply: 12...240 V AC/DC, 230 V AC
- Functionality:
  - single-functions, multifunctions
  - settings of T interval
  - independent settings of T1, T2 intervals
- Applications:
  - industrial, building automation
  - air-conditioning, ventilation, heating systems
  - protection, signalling, alarm systems
  - control of lighting circuits



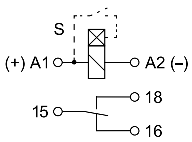
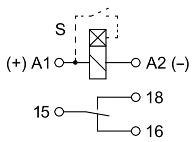
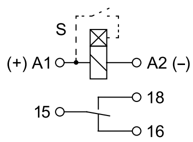
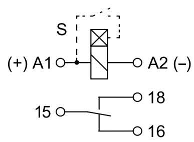
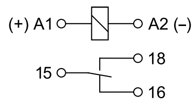
data sheets

Type		RPC-.MA-...	RPC-.MB-...	RPC-2A-UNI	RPC-1MC-UNI
Output circuit					
Number and type of contacts		1 CO, 2 CO	1 CO, 2 CO	2 CO	1 CO
Contact material		$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Max. voltage	AC	300 V	300 V	300 V	300 V
Rated load	AC1 AC1 DC1 DC1	1 CO: 16 A / 250 V AC 2 CO: 8 A / 250 V AC 1 CO: 16 A / 24 V DC 2 CO: 8 A / 24 V DC	1 CO: 16 A / 250 V AC 2 CO: 8 A / 250 V AC 1 CO: 16 A / 24 V DC 2 CO: 8 A / 24 V DC	8 A / 250 V AC 8 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC
Input circuit					
Rated voltage	AC	230 V 50/60 Hz	230 V 50/60 Hz		
	AC/DC	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz
Control contact S		yes ❹	yes ❹	no	yes ❹
Time module					
Functions	number	multifunctions	multifunctions	multifunctions	multifunctions
Functions ❸		E, Wu, Bp, Bi, R, Ws, Wa, Esa, B, T	E, Wu, Bp, Bi, Ra, Wst, Wi, Esf, Esp, Est	E, A, nWa, nWu, nWuWa, nWs	E, E(S), Wu, Wu(S), Bp, Bp(S), Bi, Bi(S), R, Ws, Wa, Esa(R), E(R), Wu(R)
Time ranges		OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	1 s; 10 s; 20 s; 30 s; 1 min.; 1,5 min.; 2 min.; 3 min.; 5 min.; 10 min.	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d
Indicator		LED green and yellow	LED green and yellow	LED green and yellow	LED green and yellow
Insulation					
Insulation rated voltage		250 V AC	250 V AC	250 V AC	250 V AC
Dielectric strength • input - output • contact clearance		4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷
Overvoltage category		III	III	III	III
General data					
Dimensions	mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Mechanical life		> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)
Protection category		IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
Connection diagrams		 version 1 CO, AC/DC ❹	 version 1 CO, AC/DC ❹	 version 2 CO	 version 1 CO ❹
Recognitions, certifications, directives		CE EAC UK CA RoHS	CE EAC UK CA RoHS	CE EAC UK CA RoHS	CE EAC UK CA RoHS

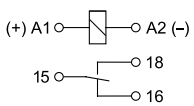
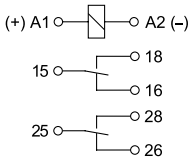
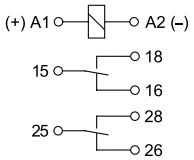
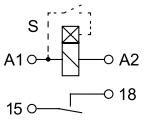
❶ Type of insulation: basic
❷ Type of clearance: micro-disconnection
❸ Descriptions and diagrams of time functions - see page 9-14.
❹ The control terminal S is activated by connection to A1 terminal via the external control contact S.

Type	RPC-.MD-UNI	RPC-1ER-...	RPC-1EA-...	RPC-1ES-...
		adjustment T1, T2	adjustment T1, T2	adjustment T1, T2
Output circuit				
Number and type of contacts	1 CO, 3 CO	1 CO	1 CO	1 CO
Contact material	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Max. voltage AC	300 V	300 V	300 V	300 V
Rated load AC1 AC1 DC1 DC1	1 CO: 16 A / 250 V AC 3 CO: 8 A / 250 V AC 1 CO: 16 A / 24 V DC 3 CO: 8 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC
Input circuit				
Rated voltage AC		230 V 50/60 Hz	230 V 50/60 Hz	230 V 50/60 Hz
AC/DC	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz
Control contact S	yes ❹	yes ❹	yes ❹	yes ❹
Time module				
Functions number	multifunctions	single-functions	single-functions	single-functions
Functions ❸	E, Wu, Bp, Bi, R, Ws, Wa, Esa, B, T	ER	EWa	EWs
Time ranges	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d
Indicator	LED green and yellow	LED green and yellow	LED green and yellow	LED green and yellow
Insulation				
Insulation rated voltage	250 V AC	250 V AC	250 V AC	250 V AC
Dielectric strength • input - output • contact clearance	 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷
Overvoltage category	III	III	III	III
General data				
Dimensions mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Mechanical life	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)
Protection category	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
Connection diagrams	 version 1 CO ❹	 version 1 CO, AC/DC ❹	 version 1 CO, AC/DC ❹	 version 1 CO, AC/DC ❹
Recognitions, certifications, directives	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS

❶ Type of insulation: basic
❷ Type of clearance: micro-disconnection
❸ Descriptions and diagrams of time functions - see page 9-14.
❹ The control terminal S is activated by connection to A1 terminal via the external control contact S.
❺ Start by function: EWu, Ip - terminals A1-S are not connected / bridged; start by function: NWu, Ii - terminals A1-S are connected / bridged.

RPC-1EU-...	RPC-1IP-...	RPC-1SA-...	RPC-1WT-...	RPC-.E-...
adjustment T1, T2	adjustment T1, T2	adjustment T1, T2	adjustment T1, T2	
				
1 CO	1 CO	1 CO	1 CO	1 CO, 2 CO
$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
300 V	300 V	300 V	300 V	300 V
16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC	1 CO: 16 A / 250 V AC 2 CO: 8 A / 250 V AC 1 CO: 16 A / 24 V DC 2 CO: 8 A / 24 V DC
230 V 50/60 Hz	230 V 50/60 Hz	230 V 50/60 Hz	230 V 50/60 Hz	230 V 50/60 Hz
12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz
yes ❹	yes ❹	yes ❹	yes ❹	no
single-functions	single-functions	single-functions	single-functions	single-functions
EWu + NWu ❺	Ii + Ip ❺	WsWa	Wt	E
OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d
LED green and yellow	LED green and yellow	LED green and yellow	LED green and yellow	LED green and yellow
250 V AC	250 V AC	250 V AC	250 V AC	250 V AC
4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷
III	III	III	III	III
90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)
IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
 version 1 CO, AC/DC ❹	 version 1 CO, AC/DC ❹	 version 1 CO, AC/DC ❹	 version 1 CO, AC/DC ❹	 version 1 CO, AC/DC
CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS

Time relays

Type		RPC-.WU-...	RPC-.BP-...	RPC-2SD-UNI	RPC-1AS-A230
				adjustment T1, T2	120 A, 20 ms
Output circuit					
Number and type of contacts		1 CO, 2 CO	1 CO, 2 CO	2 x 1 CO	1 NO
Contact material		$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Max. voltage	AC	300 V	300 V	300 V	300 V
Rated load	AC1 AC1 DC1 DC1	1 CO: 16 A / 250 V AC 2 CO: 8 A / 250 V AC 1 CO: 16 A / 24 V DC 2 CO: 8 A / 24 V DC	1 CO: 16 A / 250 V AC 2 CO: 8 A / 250 V AC 1 CO: 16 A / 24 V DC 2 CO: 8 A / 24 V DC	8 A / 250 V AC 8 A / 24 V DC	16 A / 250 V AC
Input circuit					
Rated voltage	AC	230 V 50/60 Hz	230 V 50/60 Hz		230 V 50/60 Hz
	AC/DC	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	
Control contact S		no	no	no	yes ❹
Time module					
Functions	number	single-functions	single-functions	Star-Delta	multifunctions
Functions ❸		Wu	Bp	SD	ON, OFF, AUTO, R, Wi, Extra Time
Time ranges		OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	OFF; ON; 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d	1 s; 10 s; 30 s; 1 min.; 1,5 min.; 3 min.; 5 min.; 10 min.; 30 min.; 1 h ❻	1 s; 10 s; 20 s; 30 s; 1 min.; 1,5 min.; 2 min.; 3 min.; 5 min.; 10 min.
Indicator		LED green and yellow	LED green and yellow	LED green and yellow	LED green and yellow
Insulation					
Insulation rated voltage		250 V AC	250 V AC	250 V AC	250 V AC
Dielectric strength • input - output • contact clearance		 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷
Overvoltage category		III	III	III	III
General data					
Dimensions	mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Mechanical life		> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)
Protection category		IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
Connection diagrams		 version 1 CO, AC/DC	 version 2 CO, AC/DC	 version 2 x 1 CO	 version 1 NO ❹
Recognitions, certifications, directives		CE EAC UK CA RoHS	CE EAC UK CA RoHS	CE EAC UK CA RoHS	CE EAC UK CA RoHS

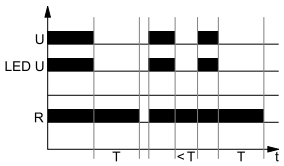
❶ Type of insulation: basic
❷ Type of clearance: micro-disconnection
❸ Descriptions and diagrams of time functions - see page 9-14.
❹ The control terminal S is activated by connection to A1 terminal via the external control contact S.
❻ Time ranges T1 (start-up for the star); transit time T2: 0,05...0,9 s.

Time relays – description of functions

	RPC-.MA-...	RPC-.MB-...	RPC-2A-UNI	RPC-1MC-UNI	RPC-.MD-UNI	RPC-1ER-...	RPC-1EA-...	RPC-1ES-...	RPC-1EU-...	RPC-1IP-...	RPC-1SA-...	RPC-1WT-...	RPC-.E-...	RPC-.WU-...	RPC-.BP-...	RPC-2SD-UNI	RPC-1AS-A23
A - OFF delay without supply voltage.			✓														
AUTO - ON for the set interval, triggered by applying voltage or contact S, mode "Extra Time".																	✓
B - Cyclical operation, with the control contact S.	✓				✓												
Bi - Symmetrical cyclical operation, pulse first.	✓	✓		✓	✓												
Bi(S) - Symmetrical cyclical operation, pulse first, time T measuring stop by contact S.				✓													
Bp - Symmetrical cyclical operation, pause first.	✓	✓		✓	✓										✓		
Bp(S) - Symmetrical cyclical operation, pause first, time T measuring stop by contact S.				✓													
E - ON delay.	✓	✓	✓	✓	✓								✓				
ER - ON and OFF delay, with the control contact S, independent intervals T1, T2.						✓											
E(R) - ON delay, with the Reset function.				✓													
E(S) - ON delay, time T measuring stop by contact S.				✓													
Esa - ON and OFF delay, with the control contact S.	✓				✓												
Esa(R) - ON and OFF delay, with the control contact S, with the Reset function.				✓													
Esf - ON delay, with the control contact S, without the interval T extension.		✓															
Esp - ON delay - one cycle, with the control contact S.		✓															
Est - ON delay, with the control contact S, with the interval T extension.		✓															
EWa - OFF delay and breaking time delay, with the control contact S, independent intervals T1, T2.							✓										
EWs - ON delay and ON for the set interval, with the control contact S, independent intervals T1, T2.								✓									
EWu + NWu - ON delay for interval, continuous ON, with the control contact S, independent intervals T1, T2.									✓								
Ii + Ip - Cyclical operation, pulse or pause first, with the control contact S, independent intervals T1, T2.										✓							
nWa - Maintained single shot trailing edge.			✓														
nWs - Latching ON delay.			✓														
nWu - Maintained single shot leading edge.			✓														
nWuWa - Maintained single shot leading and trailing edge.			✓														
R - OFF delay, with the control contact S, mode "Extra Time".	✓			✓	✓												✓
Ra - OFF delay, with the control contact S, without the interval T extension.		✓															
SD - Star-Delta start-up, independent intervals T1, T2.																✓	
T - Generation of the 0,5 s pulse after the interval T.	✓				✓												
Wa - ON for the set interval, with the control contact S.	✓			✓	✓												
Wi - ON for the set interval, switching off prior the interval T, with the control contact S, mode "Extra Time".		✓															✓
Ws - Single shot for the set interval, with the control contact S.	✓			✓	✓												
Wst - ON for the set interval, with the control contact S, with the interval T extension.		✓															
WsWa - ON for the set intervals, with the control contact S, independent intervals T1, T2.											✓						
Wt - Monitoring of the sequence of pulses, switching on extended with contact S, independent intervals T1, T2.												✓					
Wu - ON for the set interval.	✓	✓		✓	✓									✓			
Wu(R) - ON for the set interval, with the Reset function.				✓													
Wu(S) - ON for the set interval, time T measuring stop by contact S.				✓													
ON - Stable ON.	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
OFF - Stable OFF.	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓

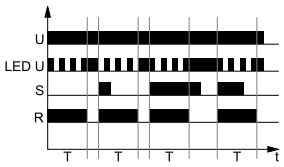
Time relays – description of functions

A - OFF delay without supply voltage.
Relays: RPC-2A-UNI

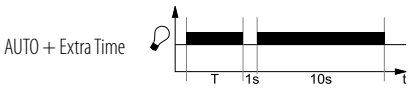


When the supply voltage U is supplied, the output relay R switches into on-position (green LED U illuminated). If the supply voltage is interrupted (green LED U not illuminated), the set interval T begins. After the set interval T has lapsed, the output relay R switches into off-position. If the supply voltage is reconnected before the interval T has lapsed, the interval already measured is erased and is restarted with the next cycle.

AUTO - ON for a set interval triggered by applying the supply voltage U or closing of the control contact S.
Relays: RPC-1AS-A23

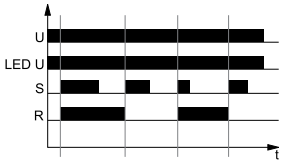


Each application of the supply voltage U or closing of the control contact S while supply voltage U is applied results in immediate switching the R contact on for an adjustable interval T. After the T interval has lapsed, the R contact remains off. Opening and closing of the control contact S within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



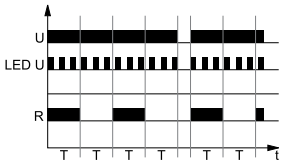
If the AUTO function is activated in the "Extra Time" Mode, after the T interval has lapsed, the R contact is switched off for 1 s, and switched on again for 10 s. After the time of 10 s has been measured, the R contact is switched off.

B - Cyclical operation controlled with closing of the control contact S.
Relays: RPC-.MA-..., RPC-.MD-UNI



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).

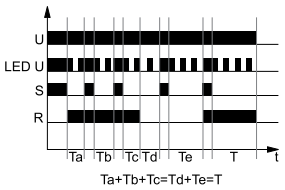
Bi - Symmetrical cyclical operation pulse first.
Relays: RPC-.MA-..., RPC-.MB-..., RPC-1MC-UNI, RPC-.MD-UNI



Applying the supply voltage U starts the cyclical operation from switching on the output relay R for the set interval T. After the interval T has lapsed, the output relay R switches off for the interval T. The cyclical operation lasts until the supply voltage U is interrupted.

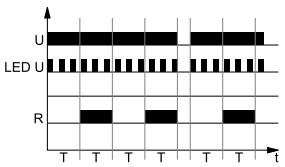
U - supply voltage; **R** - output state of the relay
S - control contact state; **T**, **T1**, **T2** - measured times; **t** - time axis

Bi(S) - Symmetrical cyclical operation pulse first, with interval T measurement stopped for the time the S contact is switched on.
Relays: RPC-1MC-UNI



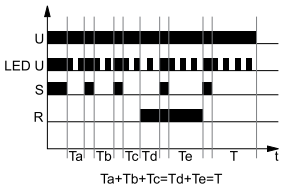
Applying the supply voltage U starts cyclical operation from measurement of the interval T - switching on the output relay R. If in the course of measurement of interval T the control contact S is closed, the measurement of the time of switching off the R relay will be interrupted for the time the S contact remains closed. Opening of the control contact S triggers further measurement of the interval T. After the interval T has lapsed, the output relay R switches on for the set interval T. If during the measurement of the interval T the control contact S is closed, measurement of the time of switching off the R relay will be interrupted for the time the S contact remains closed. Opening of the control contact S triggers further measurement of the interval T. The cyclical operation lasts until the supply voltage U is interrupted.

Bp - Symmetrical cyclical operation pause first.
Relays: RPC-.MA-..., RPC-.MB-..., RPC-1MC-UNI, RPC-.MD-UNI,RPC-.BP-...



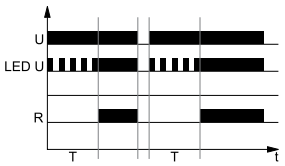
Applying the supply voltage U starts the cyclical operation from the interval T - switching the output relay R off followed by switching on the output relay R for the interval T. The cyclical operation lasts until the supply voltage U is interrupted.

Bp(S) - Symmetrical cyclical operation pause first, with interval T measurement stopped for the time the S contact is switched on.
Relays: RPC-1MC-UNI



Applying the supply voltage U starts the cyclical operation from the interval T - switching the output relay R off. If in the course of measurement of interval T the control contact S is closed, the measurement of the time of switching off the R relay will be interrupted for the time the S contact remains closed. Opening of the control contact S triggers further measurement of the interval T. After the interval T has lapsed, the output relay R switches on for the set interval T. If during the measurement of the interval T the control contact S is closed, measurement of the time of switching on the R relay will be interrupted for the time the S contact remains closed. Opening of the control contact S triggers further measurement of the interval T. The cyclical operation lasts until the supply voltage U is interrupted.

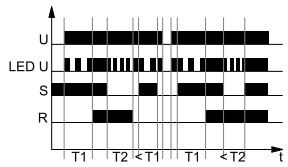
E - ON delay.
Relays: RPC-.MA-..., RPC-.MB-..., RPC-2A-UNI, RPC-1MC-UNI, RPC-.MD-UNI, RPC-.E-...



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.

ER - ON delay and OFF delay with control contact S. Independent settings of T1 and T2 intervals.

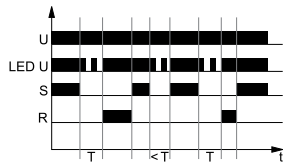
Relays: RPC-1ER-...



The input of the time relay is supplied with voltage U continuously. Closing of the control contact S starts the interval T1, and after it has lapsed, the output relay R switches on. Opening of the control contact S starts the interval T2, and after it has lapsed, the output relay R switches off. In case the control contact S is closed in the course of the interval T2, the measured time is reset and the output relay R remains switched on. In case the control contact S is closed for time shorter than T1, the unit will not switch the output relay R on.

E(R) - ON delay with the Reset function.

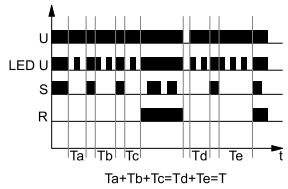
Relays: RPC-1MC-UNI



On applying the supply voltage U the set interval T begins. After the interval T has lapsed, output relay R turns on. If control contact S is closed during the measurement T, measuring of interval T is stopped for the time the S contact remains closed. After opening contact S, time T is measured from the start. After the interval T has lapsed, the output relay R switches on until the moment of turning off supply voltage U or when the control contact S is closed again.

E(S) - ON delay, with time measurement stopped with contact S.

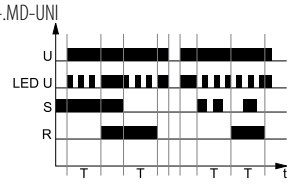
Relays: RPC-1MC-UNI



On applying the supply voltage U the set interval T begins. If during measuring time T control contact S is closed, measuring of time T is stopped for the time of closing contact S. Opening of control contact S resumes measuring of time T. After finishing measuring time T, the output relay R switches on and remains on until supply voltage U is interrupted.

Esa - ON and OFF delay with the control contact S.

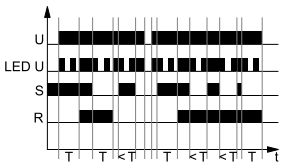
Relays: RPC-.MA-..., RPC-.MD-UNI



The input of the time relay is supplied with voltage U continuously. Closing of the control contact S starts the interval T - on-delay of the output relay R. After the interval T has lapsed, the output relay R switches on. Opening of the control contact S begins further measurement of the interval T - off-delay of the output relay R, and after the interval has lapsed, the output relay switches off. In case the time for which the control contact S is closed in the course of measurement of the on-delay of the output relay R is shorter than the set interval T, the output relay R will switch on after the set interval T, and the output relay R will remain in on position for the interval T. When the output relay R is in on position, closing of the control contact S does not affect the function to be performed.

Esa(R) - ON and OFF delay controlled with on and off of the S contact with the Reset function.

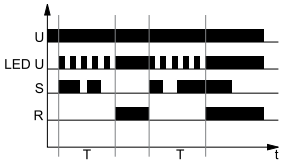
Relays: RPC-1MC-UNI



The input of the time relay is supplied with voltage U continuously. Closing of the control contact S begins the measurement of the set interval T - ON delay of the output relay R. If the control contact S is opened during the measurement of the interval T - ON delay of the output relay R, the measured time will be reset. The interval T measurement will start after the control contact S has been closed. After the set interval T has lapsed, the output relay R switches on. Opening of the control contact S will again trigger measurement of the set interval T - OFF delay of the output relay R, and after the interval has been measured, the output relay R switches off. If the control contact S is closed during the interval T measurement, the measured time will be reset. Opening of the control contact S will again trigger measurement of the interval T.

Esf - ON delay with the control contact S, without the interval T extension.

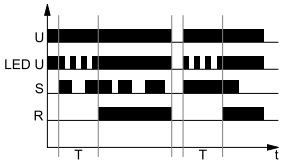
Relays: RPC-.MB-...



The input of the time relay is supplied with voltage U continuously. Closing of the control contact S starts the interval T - on-delay of the output relay R. 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, which instantly switches the output relay off for the time T, and after the interval T has lapsed, the output relay R switches on again. In the course of measurement of the interval T, opening or closing of the control contact S does not affect the status of the output relay R. The output relay R may be switched on again after the current cycle has been completed.

Esp - ON delay - one cycle, with closing of the control contact S.

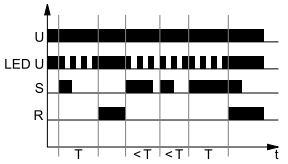
Relays: RPC-.MB-...



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 supply voltage U is interrupted. When the output relay R is on, opening or closing of the control contact S does not affect its status.

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

Relays: RPC-.MB-...

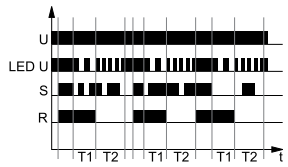


The input of the time relay is supplied with voltage U continuously. Closing of the control contact S starts the interval T, and after the interval T has lapsed, the output relay R switches on and remains in this position until the control contact S is closed again or until the supply voltage U is interrupted.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

Time relays – description of functions

EWa - OFF delay and breaking time delay with opening of the control contact S. Independent settings of T1 and T2 intervals.

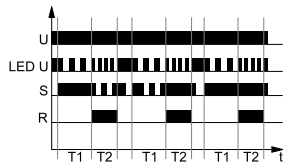
Relays: RPC-1EA-...



The input of the time relay is supplied with voltage U continuously. Closing of the control contact S switches on the output relay R. Opening of the control contact S starts the interval T1, and after the interval has lapsed, the output relay R switches off for the interval T2. Following the interval T2, the output relay R will be switched on again when the control contact S is closed on the lapse of the interval. In the course of the intervals T1 and T2 the position of the control contact S is of no importance.

EWs - ON delay and ON for the set time with closing of the control contact S. Independent settings of T1 and T2 intervals.

Relays: RPC-1ES-...

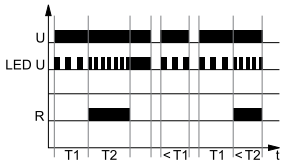


The input of the time relay is supplied with voltage U continuously. Closing of the control contact S starts the interval T1, and after the interval has lapsed, the output relay R switches on for the interval T2. Following the interval T2, the output relay switches off, and the circuits awaits for the control contact S to be closed again. In the course of the intervals T1 and T2 the position of the control contact S is of no importance.

EWu + NWu - ON delay for the set interval (EWu) or switching ON for the set interval -switching OFF for the set interval-continuous ON (NWu), with the control contact S. Independent settings of T1 and T2 intervals.

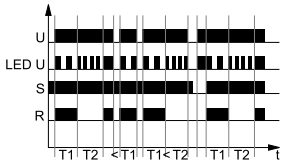
Relays: RPC-1EU-...

function EWu



When the control contact S is open, application of the supply voltage U starts operation in the EWu function - the interval T1, and after the interval T1 has lapsed, the output relay switches on for the interval T2.

function NWu



When the control contact S is closed, application of the supply voltage U starts operation in the NWu function - from switching on the output relay R for the interval T1, and after the interval T1 has lapsed, the output relay switches off for the interval T2, and following the interval T2, the output relay R switches on for continuous time. In the course of the relay operation, closing of the control contact S at any time will cause reset and the operation in the NWu function will start whereas opening of the control contact S at any time will cause reset and the operation in the EWu function will start.

Ii + Ip - Cyclical operation in two independent intervals T1 and T2. Operation in the function Ii or Ip depending on the position of the control contact S.

Relays: RPC-1IP-...

function Ip

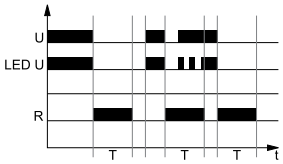
Application of the supply voltage U when the control contact S is open start the cyclical operation in the Ip function - from the interval T1 (time of switching off the output relay R), following which the output relay R is switched on for the interval T2. The cyclical operation continues until the supply voltage U is interrupted.

function Ii

When the control contact S is closed, application of the supply voltage U starts operation in the Ii function - from switching on the output relay R for the interval T1, and after the interval T1 has lapsed, the output relay switches off for the interval T2. The cyclical operation continues until the supply voltage U is interrupted. In the course of the relay operation, closing of the control contact S at any time will cause reset and the operation in the Ii function will start whereas opening of the control contact S at any time will cause reset and the operation in the Ip function will start.

nWa - Maintained single shot trailing edge.

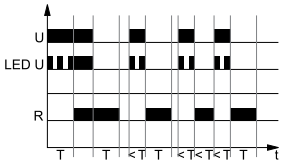
Relays: RPC-2A-UNI



When the supply voltage U is supplied, the output relay R remains in off-position (green LED U illuminated). As soon as the supply voltage is interrupted, the output relay switches into on-position and the set interval T begins (green LED not illuminated). After the set interval T has lapsed, the output relay switches into off-position. When the supply voltage is reconnected before the interval T has lapsed, the unit continues to perform the actual single shot.

nWs - Latching ON delay.

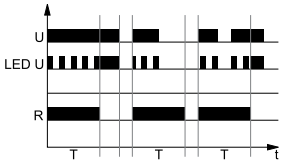
Relays: RPC-2A-UNI



Applying the supply voltage U triggers the operation with delay in switching on the R contact by the set T interval. The R contact is switched on after the delay interval has lapsed. Interrupting the supply voltage while the R contact starts measurement of the T interval after which the R contact is to be switched off. After the T interval of switching the R contact off has lapsed, the R contact is switched off. Interruption of the supply voltage U while ON-delay by the set T interval is being measured for the R contact stops measurement of the T interval and switches the R contact immediately for the set T interval; after the interval has lapsed, the R contact is switched off. Applying the supply voltage U when the T interval is being measured for the R contact to be switched off stops measurement of the interval, switches the R contact off, and starts measurement of ON-delay for the R contact.

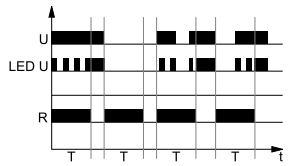
nWu - Maintained single shot leading edge.

Relays: RPC-2A-UNI



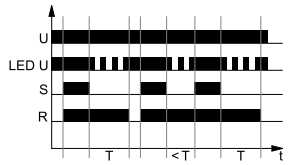
When the supply voltage U is applied (green LED U illuminated), the output relay R switches into on-position and the set interval T begins (green LED U flashes). After the interval T has lapsed, the output relay switches into off-position. This status remains until the supply voltage is interrupted. If the supply voltage is reconnected before the interval T has lapsed, the unit continues to perform the actual single shot.

nWuWa - Maintained single shot leading and trailing edge.
Relays: RPC-2A-UNI

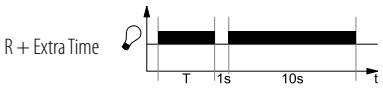


When the supply voltage U is applied, the output relay R switches into on-position and the set interval T begins (green LED U illuminated). After the interval T has lapsed, the output relay switches into off-position. As soon as the supply voltage is interrupted the output relay switches into on-position again, and the set interval T begins (green LED not illuminated). After the set interval T has lapsed, the output relay switches into off-position. If the supply voltage is interrupted (nWu) or reconnected (nWa) before the interval T has lapsed, the unit continues to perform the actual single shot.

R - OFF delay with the control contact S.
Relays: RPC-.MA-..., RPC-1MC-UNI, RPC-.MD-UNI, RPC-1AS-A23

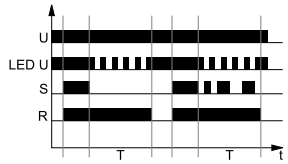


The input of the time relay is supplied with voltage U continuously. Closing of the control contact S immediately switches on the output relay R. Opening of the control contact S starts the set time of the delayed switching off of the output relay R. After the interval T has lapsed, the output relay 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.



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.

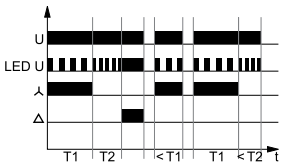
Ra - OFF delay with the control contact S, without the interval T extension.
Relays: RPC-.MB-...



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. Opening or closing of the control contact S within the interval T does not affect the function to be performed.

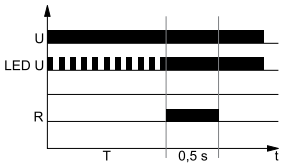
U - supply voltage; **R** - output state of the relay
S - control contact state; **T**, **T1**, **T2** - measured times; **t** - time axis

SD - Star-Delta start-up.
Relays: RPC-2SD-UNI



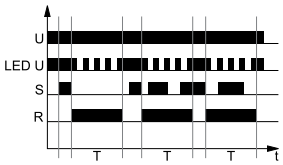
When the supply voltage U is applied, the operating star-contact (15-18) becomes closed, which is signaled with illumination of the yellow LED. Measurement of the set time T1 starts, and the greed LED slow flashes. After the T1 time has lapsed, the star contact is disconnected and the relay begins measuring the T2 time, which is signaled with the green LED fast flashing. After the T2 time has lapsed, the delta contact (25-28) is switched on together with the yellow LED, and the green LED remains illuminated.

T - Generation of the 0,5 s pulse after the interval T.
Relays: RPC-.MA-..., RPC-.MD-UNI



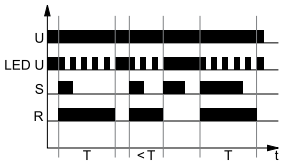
Applying the supply voltage U starts the interval T. After the interval T has lapsed, the output relay switches on for 0,5 s (the time of the NO contact of the output relay).

Wa - ON for the set interval triggered with the control contact S.
Relays: RPC-.MA-..., RPC-1MC-UNI, RPC-.MD-UNI

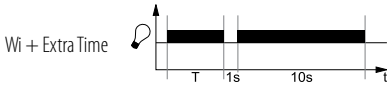


The input of the time relay is supplied with voltage U continuously. Closing of the control contact S does not start the interval T, and it does not change the position of the output relay R. Opening of the control contact S immediately switches on the output relay R for the set time. After the interval T has lapsed, the output relay R switches off. Opening and closing of the control contact S in the course of the interval T does not affect the function to be performed. The output relay R may be switched on again for the set interval with another closing and opening of the control contact S.

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.
Relays: RPC-.MB-..., RPC-1AS-A23



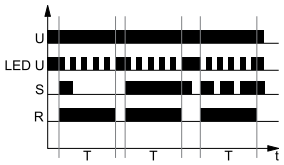
The input of the time relay is supplied with voltage U continuously. Closing of the control contact S immediately switches the output relay R on for the set interval T. After the interval T has lapsed, the output relay R is switched off. Any next closing of the control contact S switches on the output 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.



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.

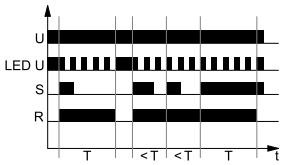
Time relays – description of functions

Ws - Single shot for the set interval triggered by closing of the control contact S.
Relays: RPC-.MA-..., RPC-1MC-UNI, RPC-.MD-UNI



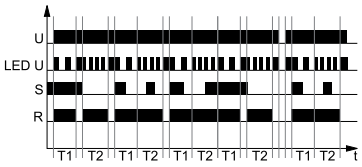
The input of the time relay is supplied with voltage U continuously. Closing of the control contact S immediately switches the output relay R on for the set interval T. After the interval T has lapsed, the output relay R is switched off. In the course of the interval T, any opening of the control contact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

Wst - ON for the set interval by closing the control contact S, with extension of the interval T - extension of the time of switching on the output relay R.
Relays: RPC-.MB-...



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. The next closing of the control contact S immediately switches on the output relay R for the interval T. In case the control contact S is closed within the interval T, the measured time is cancelled, and the interval T starts again.

WsWa - ON for the set intervals T1 and T2 with the control contact S. Independent settings of T1 and T2 intervals.
Relays: RPC-1SA-...



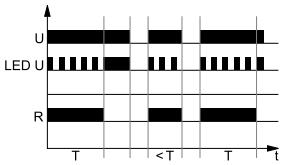
The input of the time relay is supplied with voltage U continuously. Closing of the control contact S switches the output relay R for the interval T1, and after the interval has lapsed, the relay R is switched off. Opening of the control contact S switches on the output relay R for the interval T2. If the control contact S is open when the interval T1 lapses, the output relay R will remain on for the interval T2. If the control contact S is closed when the interval T2 lapses, the output relay R will remain on for the interval T1.

Wt - Monitoring of the sequence of pulses. Switching on extended with consecutive pulses / closings of the contact S. Independent settings of T1 and T2 intervals.
Relays: RPC-1WT-...

On applying the supply voltage U the output relay R is switched on for the set interval T1. After the interval T1 has lapsed, the interval T2 starts with the output relay R still switched on. For the output relay to switch on, the control contact S must be closed and then opened (single pulse) during the interval T2, which cancels the time already measured an starts the interval T2 again. In case of absence of a single pulse prior to lapse of the interval T2, the output relay R will switch off, and it may be switched on after the supply voltage has been interrupted and applied again.

U - supply voltage; **R** - output state of the relay
S - control contact state; **T**, **T1**, **T2** - measured times; **t** - time axis

Wu - ON for the set interval.
Relays: RPC-.MA-..., RPC-.MB-..., RPC-1MC-UNI, RPC-.MD-UNI, RPC-.WU-...

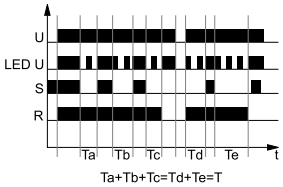


Applying the supply voltage U immediately switches the output relay R on for the set interval T. After the interval T has lapsed, the output relay R switches off.

Wu(R) - ON for the set interval with the Reset function.
Relays: RPC-1MC-UNI

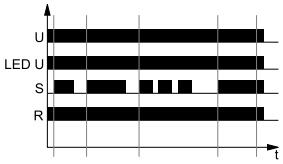
Applying the supply voltage U immediately switches the output relay R on for the set interval T. When control contact S is closed, measurement of the interval T is stopped for the time of closing contact S (with output relay R on). After opening contact S, time T is measured from the beginning. After the interval T has lapsed, the output relay R switches off.

Wu(S) - ON for the set interval, with time measurement stopped with closing of contact S.
Relays: RPC-1MC-UNI



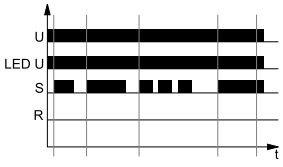
Applying the supply voltage U immediately switches the output relay R on for the set interval T. If the control contact S is closed, the interval T measurement will be stopped until the moment when control contact is opened. Opening contact S starts further measuring of time T. After finishing measuring time T, the output relay R switches off.

ON - Stable ON.
Relays: RPC-.MA-..., RPC-.MB-..., RPC-1MC-UNI, RPC-.MD-UNI, RPC-1ER-..., RPC-1EA-..., RPC-1ES-..., RPC-1EU-..., RPC-1IP-..., RPC-1SA-..., RPC-1WT-..., RPC-.E-..., RPC-.WU-..., RPC-.BP-..., RPC-1AS-A23

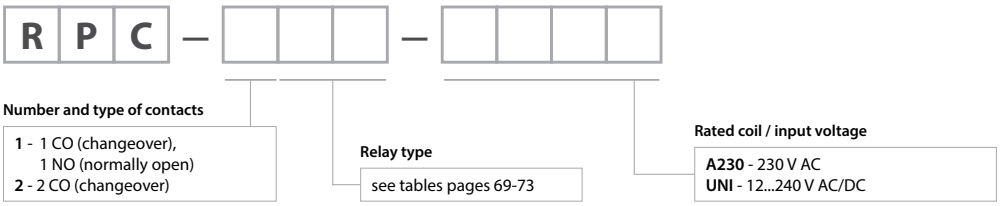


Applying the supply voltage U results in stable switching on the R contact. Switching the control contact S does not affect the status of the R contact.

OFF - Stable OFF.
Relays: RPC-.MA-..., RPC-.MB-..., RPC-1MC-UNI, RPC-.MD-UNI, RPC-1ER-..., RPC-1EA-..., RPC-1ES-..., RPC-1EU-..., RPC-1IP-..., RPC-1SA-..., RPC-1WT-..., RPC-.E-..., RPC-.WU-..., RPC-.BP-..., RPC-1AS-A23



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.



ORDERING CODES

Index	Code	Description
863199 863181	RPC-1MA-A230 RPC-1MA-UNI	multifunction (10 functions, 8 ranges), one changeover contact 16 A
863201 863183	RPC-2MA-A230 RPC-2MA-UNI	multifunction (10 functions, 8 ranges), two changeover contacts 8 A
863200 863182	RPC-1MB-A230 RPC-1MB-UNI	multifunction (10 functions, 8 ranges), one changeover contact 16 A
863202 863184	RPC-2MB-A230 RPC-2MB-UNI	multifunction (10 functions, 8 ranges), two changeover contacts 8 A
863217	RPC-2A-UNI	multifunction (6 functions, 10 ranges), operation after the power supply is switched off, two changeover contacts 8 A
863216	RPC-1MC-UNI	multifunction (14 functions, 8 ranges), immediate activation of the function, one changeover contact 16 A
863218	RPC-1MD-UNI	multifunction (10 functions, 8 ranges), immediate activation of the function, one changeover contact 16 A
863219	RPC-3MD-UNI	multifunction (10 functions, 8 ranges), immediate activation of the function, three changeover contacts 8 A
863203 863185	RPC-1ER-A230 RPC-1ER-UNI	single-function (function ER, 8 ranges - times T1, T2), one changeover contact 16 A
863204 863204	RPC-1EA-A230 RPC-1EA-A230	single-function (function EWa, 8 ranges - times T1, T2), one changeover contact 16 A
863205 863187	RPC-1ES-A230 RPC-1ES-UNI	single-function (function EWs, 8 ranges - times T1, T2), one changeover contact 16 A
863206 863188	RPC-1EU-A230 RPC-1EU-UNI	single-function (function EWu + NWu, 8 ranges - times T1, T2), one changeover contact 16 A
863207 863189	RPC-1IP-A230 RPC-1IP-UNI	single-function (function Ii + Ip, 8 ranges - times T1, T2), one changeover contact 16 A
863208 863190	RPC-1SA-A230 RPC-1SA-UNI	single-function (function WsWa, 8 ranges - times T1, T2), one changeover contact 16 A
863209 863191	RPC-1WT-A230 RPC-1WT-UNI	single-function (function Wt, 8 ranges - times T1, T2), one changeover contact 16 A
863210 863193	RPC-1E-A230 RPC-1E-UNI	single-function (function E, 8 ranges), one changeover contact 16 A
863213 863196	RPC-2E-A230 RPC-2E-UNI	single-function (function E, 8 ranges), two changeover contacts 8 A
863211 863194	RPC-1WU-A230 RPC-1WU-UNI	single-function (function Wu, 8 ranges), one changeover contact 16 A
863214 863197	RPC-2WU-A230 RPC-2WU-UNI	single-function (function Wu, 8 ranges), two changeover contacts 8 A
863212 863195	RPC-1BP-A230 RPC-1BP-UNI	single-function (function Bp, 8 ranges), one changeover contact 16 A
863215 863198	RPC-2BP-A230 RPC-2BP-UNI	single-function (function Bp, 8 ranges), two changeover contacts 8 A
863192	RPC-2SD-UNI	Star-Delta start-up (10 ranges - times T1, T2), two changeover contacts 8 A
863220	RPC-1AS-A230	staircase switch (5 functions, 10 ranges), one normally open contact 16 A

Monitoring relays

RPN

RPN

- Load: 6 A, 12 A
- Contacts: 1 CO, 2 CO
- Supply: 230 V AC, 400/230 V AC
- Functionality:
  - AC voltage monitoring in 3-phase network
  - AC current monitoring in 1-phase network
  - motor temperature monitoring
- Applications:
  - power-engineering, industrial automation
  - low voltage switchboards
  - electric installations

data sheets

relpol® S.A.

	NEW	NEW	NEW	NEW
Type	**RPN-.VF-A400**	**RPN-.VFS-A400**	**RPN-.VFR-A400**	**RPN-.VFT-A400**
				
Output circuit				
Number and type of contacts	1 CO, **2 CO**	1 CO, **2 CO**	1 CO, **2 CO**	1 CO, **2 CO**
Contact material	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Max. voltage AC	300 V	300 V	300 V	300 V
Rated load AC1 AC1 DC1 DC1	1 CO: 12 A / 250 V AC 2 CO: 6 A / 250 V AC 1 CO: 12 A / 24 V DC 2 CO: 6 A / 24 V DC	1 CO: 12 A / 250 V AC 2 CO: 6 A / 250 V AC 1 CO: 12 A / 24 V DC 2 CO: 6 A / 24 V DC	1 CO: 12 A / 250 V AC 2 CO: 6 A / 250 V AC 1 CO: 12 A / 24 V DC 2 CO: 6 A / 24 V DC	1 CO: 12 A / 250 V AC 2 CO: 6 A / 250 V AC 1 CO: 12 A / 24 V DC 2 CO: 6 A / 24 V DC
Input circuit				
Supply voltage	= monitoring voltage	= monitoring voltage	= monitoring voltage	= monitoring voltage
Rated voltage	AC: 3(N)~ 400/230 V	AC: 3(N)~ 400/230 V	AC: 3(N)~ 400/230 V	AC: 3(N)~ 400/230 V
Range of supply voltage / frequency	0,7...1,15 U_n / AC: 48...63 Hz	0,7...1,15 U_n / AC: 48...63 Hz	0,7...1,15 U_n / AC: 48...63 Hz	0,7...1,15 U_n / AC: 48...63 Hz
Measuring circuit				
Functions number	multifunctions	multifunctions	multifunctions	multifunctions
Functions ❶	AC voltage monitoring in 3-phase network 3(N)~ 400/230 V, LOST D, ASYM D	AC voltage monitoring in 3-phase network 3(N)~ 400/230 V, LOST D, ASYM D, SEQ D	AC voltage monitoring in 3-phase network 3(N)~ 400/230 V, LOST D, ASYM D, SEQ D	AC voltage monitoring in 3-phase network 3(N)~ 400/230 V, LOST D, ASYM D, SEQ D, tripping delay
Measured value	3(N)~, sinus, 48...63 Hz	3(N)~, sinus, 48...63 Hz	3(N)~, sinus, 48...63 Hz	3(N)~, sinus, 48...63 Hz
Measuring inputs	= supply voltage AC: 3(N)~ 400/230 V	= supply voltage AC: 3(N)~ 400/230 V	= supply voltage AC: 3(N)~ 400/230 V	= supply voltage AC: 3(N)~ 400/230 V
Overload capacity	≥ 1,2 U_n	≥ 1,2 U_n	≥ 1,2 U_n	≥ 1,2 U_n
Switching thresholds	PHASE: 175 V AC ASYMMETRY: 55 V AC	PHASE: 175 V AC ASYMMETRY: 55 V AC	PHASE: 175 V AC ASYMMETRY (adjustment): 5...80 V AC	PHASE: 175 V AC ASYMMETRY (adjustment): 5...80 V AC
Indicator	LED green/red	LED green/red and yellow	LED green/red and yellow	LED green/red and yellow
Insulation				
Insulation rated voltage	400 V AC	400 V AC	400 V AC	400 V AC
Rated surge voltage	4 000 V	4 000 V	4 000 V	4 000 V
Overvoltage category	III	III	III	III
General data				
Dimensions mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Mechanical life	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)
Protection category	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
Recognitions, certifications, directives	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS

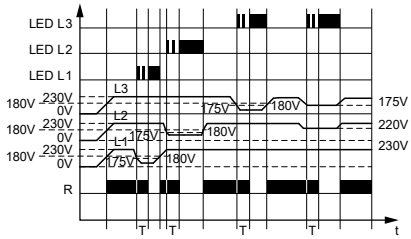
❶ Descriptions and diagrams monitoring functions - see page 19-21. Connection diagrams - see www.relpol.com.pl

Monitoring relays

Type	RPN-1A..-A230	RPN-1TMP-A230	NEW RPN-1AT-A230
			
Output circuit			
Number and type of contacts	1 CO	1 CO	1 CO
Contact material	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Max. voltage AC	300 V	300 V	300 V
Rated load AC1 DC1	12 A / 250 V AC 12 A / 24 V DC	12 A / 250 V AC 12 A / 24 V DC	12 A / 250 V AC 12 A / 24 V DC
Input circuit			
Supply voltage	AC: 230 V	AC: 230 V	AC: 230 V
Rated voltage	AC: 230 V	AC: 230 V	AC: 230 V
Range of supply voltage / frequency	0,85...1,15 U_n / AC: 48...63 Hz	0,85...1,15 U_n / AC: 48...63 Hz	0,85...1,15 U_n / AC: 48...63 Hz
Measuring circuit			
Functions number	multifunctions	single-functions	single-functions
Functions ❶	AC current monitoring in 1-phase network, OD, OD+L, UD, UD+L, WD, WD+L, tripping delay	TEMP, button TEST/RESET	TEMP(RESET), self-RESET
Measured value	AC sinus, 48...63 Hz		
Measuring inputs	AC: 0,5 ... 16 A ❷ / 230 V AC		
Overload capacity	2 ... 20 A ❷	SHORT-CIRCUIT: ≤ 10 Ω	SHORT-CIRCUIT: ≤ 10 Ω
Switching thresholds	MIN: 0,05...0,95 I_n MAX: 0,1...1,0 I_n	MIN: 1,65 kΩ WARNING: 3,3 kΩ MAX: 3,6 kΩ	MIN: 1,65 kΩ WARNING: 3,3 kΩ MAX: 3,6 kΩ
Indicator	LED green, yellow and red	LED green, yellow and red	LED green, yellow and red
Insulation			
Insulation rated voltage	250 V AC	250 V AC	250 V AC
Rated surge voltage	4 000 V	4 000 V	4 000 V
Overvoltage category	III	III	III
General data			
Dimensions mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Mechanical life	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)	> 3 x 10^7 (cycles)
Protection category	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
Recognitions, certifications, directives	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS

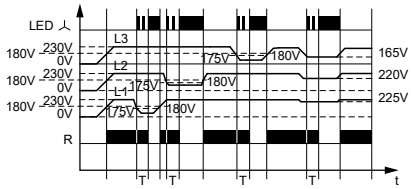
❶ Descriptions and diagrams monitoring functions - see page 19-21. Connection diagrams - see www.relpol.com.pl
❷ Depending on relay version (RPN-1A05/1/2/5/8/16) - see www.relpol.com.pl

ASYM D - Asymmetry monitoring (with delayed disconnection of contact R).
Relays: RPN-.VF-A400



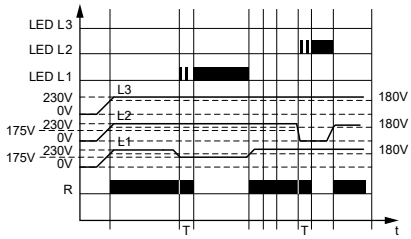
The operational relay R switches to the off position when the asymmetry exceeds the value 55 V. The asymmetry caused by the return voltage of the receiver (e.g. a motor that still operates in only two phases) does not disconnect.

ASYM D - Asymmetry monitoring (with delayed disconnection of contact R).
Relays: RPN-.VFS-A400, RPN-.VFR-A400, RPN-.VFT-A400



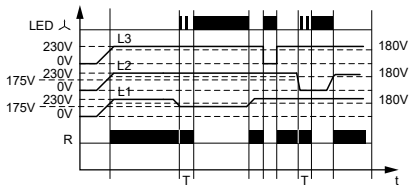
The operational relay R switches to the off position when the asymmetry exceeds the setpoint value (diagram: switching threshold of asymmetry error 60 V). The asymmetry caused by the return voltage of the receiver (e.g. a motor that still operates in only two phases) does not disconnect.

LOST D - Phase failure monitoring (with delayed disconnection of contact R).
Relays: RPN-.VF-A400



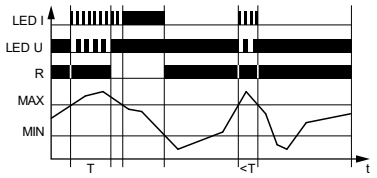
If the voltage at all phases will exceed 175 V and no error condition occurred earlier, then the operational relay R is switched on. If voltage at one of the three phases, L1, L2, L3 falls to a value of 175 V, then after applying a delay time 4 s, the R contact is switched off. The operational relay R will be switched back on when the voltage value at the given phase rises to 180 V.

LOST D - Phase failure monitoring (with delayed disconnection of contact R).
Relays: RPN-.VFS-A400, RPN-.VFR-A400, RPN-.VFT-A400



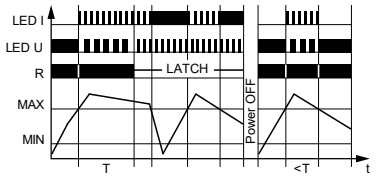
If the voltage at all phases will exceed 175 V and no error condition occurred earlier, then the operational relay R is switched on. If voltage at one of the three phases, L1, L2, L3 falls to a value of 175 V, then after applying a setpoint delay time, the R contact is switched off. The operational relay R will be switched back on when the voltage value at the given phase rises to 180 V. A rapid phase loss is treated as a phase sequence error and no delay is then applied.

OD (OVER D) - Overcurrent monitoring (with delayed disconnection of contact R).
Relays: RPN-1A..-A230



General principle: for the correct operation of the relay the current setpoints should meet the MAX > MIN condition. If the measured current has a value lower than MAX, then the operational relay R is switched on. When the measured current exceeds the MAX value, then after the set delay time the operational relay R will be switched off. The operational relay R will be switched on again when the current falls below the MIN value.

OD+L (OVER D+LATCH) - Overcurrent monitoring with fault latch (with delayed disconnection of contact R).
Relays: RPN-1A..-A230



General principle: for the correct operation of the relay the current setpoints should meet the MAX > MIN condition. If the measured current has a value lower than MAX, then the operational relay R is switched on. When the measured current exceeds the MAX value, then after the set delay time the operational relay R will be switched off. The operational relay R will remain switched on until the "error memory" is reset (the supply voltage is disconnected and connected again). After resetting the power supply voltage the operational relay R is switched on if the measured current has a value lower than MAX. The control of the current in the circuit is then commenced in accordance with the selected function.

SEQ D - Phase sequence monitoring (without delay for disconnection of contact R).
Relays: RPN-.VFS-A400, RPN-.VFR-A400, RPN-.VFT-A400

If all the phases are connected to the terminals in the correct sequence (L1->L1, L2->L2, L3->L3) or in a consecutive sequence, then the operational relay R switches on. When the phase sequence changes, the operational relay R is immediately switched off.

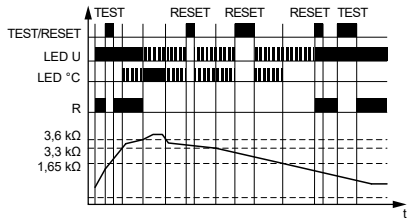
Allowed connections combinations phases with terminal:

Terminal	Phase
L1 ->	L1
L2 ->	L2
L3 ->	L3
L1 ->	L2
L2 ->	L3
L3 ->	L1
L1 ->	L3
L2 ->	L1
L3 ->	L2

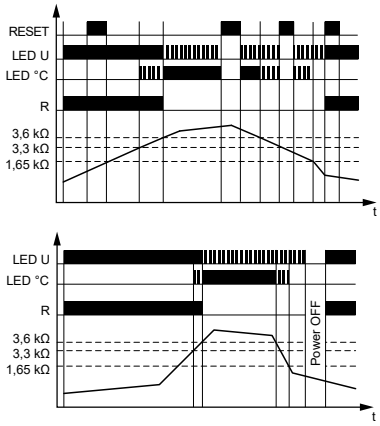
L1: misalignment phase 0°
L2: misalignment phase 2π/3=120°
L3: misalignment phase 4π/3=240

L1, **L2**, **L3** - phase supply voltages; **U** - supply voltage; **I** - current
R - output state of the relay; **MIN**, **MAX** - set current thresholds
LATCH - fault latch; **T** - delay time; **t** - time axis

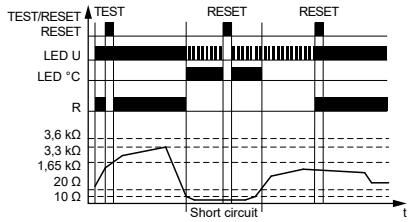
TEMP - Temperature monitoring of the motor winding with fault latch (with delayed connection/disconnection of contact R).
Relays: RPN-1TMP-A230



If the supply voltage U is switched on and the total resistance of the PTC sensor circuit is less than 3,6 kΩ (standard motor temperature), the operational relay R switches on. In these conditions pressing the built-in TEST/RESET button will activate the "Test" function - switching off the operational relay R. The operational relay R will remain switched on as long as the TEST/RESET button is pressed, activating the "Test" function. The test function does not work with the use of the external RESET button.



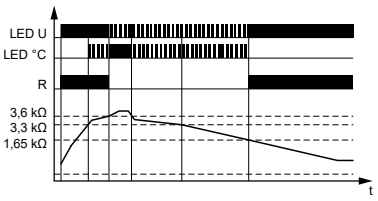
When the total resistance of the PTC circuit exceeds 3,6 kΩ (temperature increases), the operational relay R will be disconnected. The operational relay R will be switched back on when the total resistance of the sensors falls below 1,65 kΩ (the system is cooled) and one of the three conditions below is met: the TEST/RESET button is pressed (the "Reset" function), the external RESET button is pressed (NO type, connected between the R1, R2 terminals), the supply voltage is switched off and back on again.



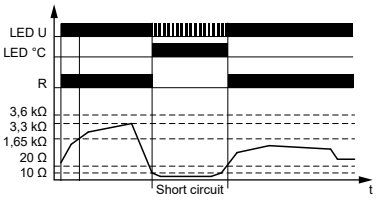
In case of a sensor short-circuit, when the resistance of the connected sensors falls below 10 Ω, the operational relay R will be disconnected. The operational relay R will be switched back on the moment the sensor resistance increases back above 20 Ω and one of the three conditions below is met: the TEST/RESET button is pressed (the "Reset" function), the external RESET button is pressed (NO type, connected between the R1, R2 terminals), the supply voltage is switched off and back on again.

L1, L2, L3 - phase supply voltages; U - supply voltage; I - current
R - output state of the relay; MIN, MAX - set current thresholds
LATCH - fault latch; T - delay time; t - time axis

TEMP(RESET) - Temperature monitoring of the motor winding with fault latch with self-reset (with delayed connection/disconnection of contact R).
Relays: RPN-1AT-A230

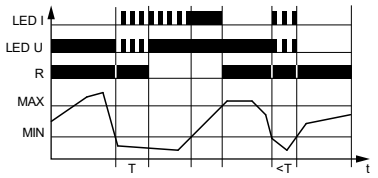


If the supply voltage U is switched on and the total resistance of the PTC sensor circuit is less than 3,6 kΩ (standard motor temperature), the operational relay R switches on. When the total resistance of the PTC circuit exceeds 3,6 kΩ (temperature increases), the operational relay R will be disconnected. The operational relay R will be switched back on when the total resistance of the sensors falls below 1,65 kΩ (the system is cooled).



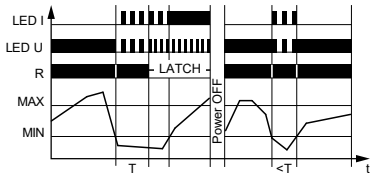
In case of a sensor short-circuit, when the resistance of the connected sensors falls below 10 Ω, the operational relay R will be disconnected. The operational relay R will be switched back on the moment the sensor resistance increases back above 20 Ω.

UD (UNDER D) - Undercurrent monitoring (with delayed disconnection of contact R).
Relays: RPN-1A..-A230



General principle: for the correct operation of the relay the current setpoints should meet the MAX > MIN condition. If the measured current has a value higher than MIN, then the operational relay R is switched on. When the measured current is lower than MIN, then after the set delay time the operational relay R will be switched off. The operational relay R will be switched on again when the current exceeds the MAX value.

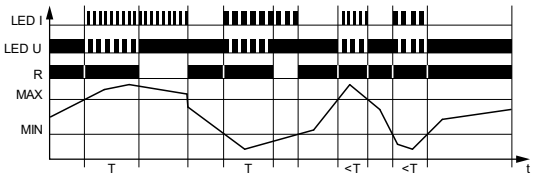
UD+L (UNDER D+LATCH) - Undercurrent monitoring with fault latch (with delayed disconnection of contact R).
Relays: RPN-1A..-A230



General principle: for the correct operation of the relay the current setpoints should meet the MAX > MIN condition. If the measured current has a value higher than MIN, then the operational relay R is switched on. When the measured current is lower than MIN, then after the set delay time the operational relay R will be switched off. The operational relay R will remain switched on until the "error memory" is reset (the supply voltage is disconnected and connected again). After resetting the power supply voltage the operational relay R is switched on if the measured current has a value higher than MIN. The control of the current in the circuit is then commenced in accordance with the selected function.

WD (WIN D) - Current monitoring in windowfunction between MIN and MAX values (with delayed disconnection of contact R).

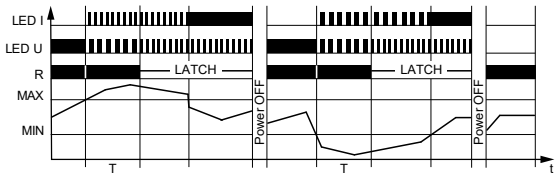
Relays: RPN-1A..-A230



General principle: for the correct operation of the relay the current setpoints should meet the MAX > MIN condition. If the measured current is within the set window (MIN < measured I < MAX), then the operational relay R is switched on. When the measured current exceeds the set window between MIN and MAX (measured I < MIN or measured I > MAX), then after the set delay time the operational relay R will be switched off. The operational relay R will be switched on again when the current is back within the set window (MIN < measured I < MAX).

WD+L (WIN D+LATCH) - Current monitoring in windowfunction between MIN and MAX values with fault latch (with delayed disconnection of contact R).

Relays: RPN-1A..-A230



General principle: for the correct operation of the relay the current setpoints should meet the MAX > MIN condition.If the measured current is within the set window (MIN < measured I < MAX), then the operational relay R is switched on. When the measured current exceeds the set window between MIN and MAX (measured I < MIN or measured I > MAX), then after the set delay time the operational relay R will be switched off. The operational relay R will remain switched on until the "error memory" is reset (the supply voltage is disconnected and connected again). After resetting the power supply voltage the operational relay R is switched on if the measured current is within the set window. The control of the current in the circuit is then commenced in accordance with the selected function.

ORDERING CODES

Index	Code	Description
864371	RPN-1VF-A400	AC voltage monitoring in 3-phase network (supply voltage = monitoring), multifunction (2 functions, fixed asymmetry), one changeover contact 12 A, input voltage 3(N)~ 400/230 V AC
865172	RPN-2VF-A400	AC voltage monitoring in 3-phase network (supply voltage = monitoring), multifunction (2 functions, fixed asymmetry), two changeover contacts 6 A, input voltage 3(N)~ 400/230 V AC
864372	RPN-1VFS-A400	AC voltage monitoring in 3-phase network (supply voltage = monitoring), multifunction (3 functions, fixed asymmetry, fixed tripping delay), one changeover contact 12 A, input voltage 3(N)~ 400/230 V AC
865174	RPN-2VFS-A400	AC voltage monitoring in 3-phase network (supply voltage = monitoring), multifunction (3 functions, adjustment asymmetry, fixed tripping delay), two changeover contacts 6 A, input voltage 3(N)~ 400/230 V AC
864373	RPN-1VFR-A400	AC voltage monitoring in 3-phase network (supply voltage = monitoring), multifunction (3 functions, adjustment asymmetry, fixed tripping delay), one changeover contact 12 A, input voltage 3(N)~ 400/230 V AC
865176	RPN-2VFR-A400	AC voltage monitoring in 3-phase network (supply voltage = monitoring), multifunction (3 functions, adjustment asymmetry, fixed tripping delay), two changeover contacts 6 A, input voltage 3(N)~ 400/230 V AC
864374	RPN-1VFT-A400	AC voltage monitoring in 3-phase network (supply voltage = monitoring), multifunction (3 functions, adjustment asymmetry, adjustment tripping delay), one changeover contact 12 A, input voltage 3(N)~ 400/230 V AC
865178	RPN-2VFT-A400	AC voltage monitoring in 3-phase network (supply voltage = monitoring), multifunction (3 functions, adjustment asymmetry, adjustment tripping delay), two changeover contacts 6 A, input voltage 3(N)~ 400/230 V AC
864364	RPN-1A05-A230	AC current monitoring in 1-phase network, multifunction (6 functions, measuring input 0,5 A, adjustment tripping delay), one changeover contact 12 A, input voltage 230 AC
864365	RPN-1A1-A230	AC current monitoring in 1-phase network, multifunction (6 functions, measuring input 1 A, adjustment tripping delay), one changeover contact 12 A, input voltage 230 AC
864366	RPN-1A2-A230	AC current monitoring in 1-phase network, multifunction (6 functions, measuring input 2 A, adjustment tripping delay), one changeover contact 12 A, input voltage 230 AC
864367	RPN-1A5-A230	AC current monitoring in 1-phase network, multifunction (6 functions, measuring input 5 A, adjustment tripping delay), one changeover contact 12 A, input voltage 230 AC
864368	RPN-1A8-A230	AC current monitoring in 1-phase network, multifunction (6 functions, measuring input 8 A, adjustment tripping delay), one changeover contact 12 A, input voltage 230 AC
864369	RPN-1A16-A230	AC current monitoring in 1-phase network, multifunction (6 functions, measuring input 16 A, adjustment tripping delay), one changeover contact 12 A, input voltage 230 AC
864370	RPN-1TMP-A230	motor temperature monitoring (short circuit of the thermistor line, button TEST/RESET), one changeover contact 12 A, input voltage 230 AC
865143	RPN-1AT-A230	motor temperature monitoring (short circuit of the thermistor line, self- RESET), one changeover contact 12 A, input voltage 230 AC

Installation relays

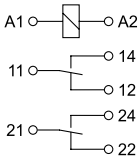
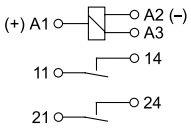
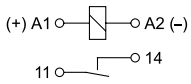
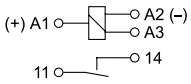
RPI

RPI

- Load: 8 A, 16 A
- Contacts: 1 CO, 1 NO, 2 CO, 2 NO, 3 CO, 4 CO
- Supply: 12...240 V AC/DC,
  12, 24, 48, 115 V AC/DC,
  24, 115, 230 V AC, 12, 24, 48 V DC
- Applications:
  – industrial, building automation
  – alarm systems
  – control of lighting circuits
  – control of electric devices

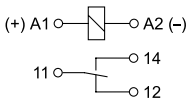
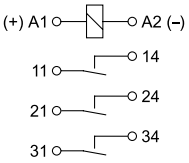
data sheets

NEW

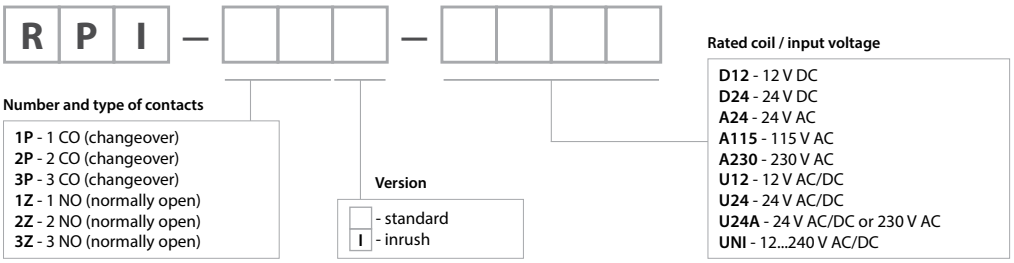
Type		RPI-.P-...	RPI-.Z-...	RPI-1ZI-D12	RPI-1ZI-U24A
				120 A / 20 ms	120 A / 20 ms
Output circuit					
Number and type of contacts		1 CO, 2 CO	1 NO, 2 NO	1 NO	1 NO
Contact material		$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Max. voltage	AC	300 V	300 V	300 V	300 V
Rated load	AC1 AC1 DC1 DC1	1 CO: 16 A / 250 V AC 2 CO: 8 A / 250 V AC 1 CO: 16 A / 24 V DC 2 CO: 8 A / 24 V DC	1 NO: 16 A / 250 V AC 2 NO: 8 A / 250 V AC 1 NO: 16 A / 24 V DC 2 NO: 8 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC
Input circuit					
Rated voltage	AC	24, 115, 230 V 50/60 Hz	230 V ❸ 50 Hz		230 V ❸ 50 Hz
	DC	12, 24, 48 V		12 V	
	AC/DC		12, 24 ❸, 48, 115 V AC: 50 Hz		24 V ❸ AC: 50 Hz
Insulation					
Insulation rated voltage		250 V AC	250 V AC	250 V AC	250 V AC
Dielectric strength • input - output • contact clearance		4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷
Overvoltage category		III	III	III	III
General data					
Dimensions	mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Mechanical life		10^7 (cycles)	10^7 (cycles)	10^7 (cycles)	10^7 (cycles)
Protection category		IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
Connection diagrams		 version 2 CO, AC	 version 2 NO, AC/DC ❸	 version 1 NO, DC	 version 1 NO, AC/DC ❸
Indicator		LED green	LED green	LED green	LED green
Recognitions, certifications, directives		CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS

❶ Type of insulation: basic
❷ Type of clearance: micro-disconnection
❸ Terminal A3 occurs only in versions RPI-.Z.-U24A.
Selection of relays supply voltage: 24 V AC/DC - wires connection to the terminals A1-A2; 230 V AC - to the terminals A1-A3.

Installation relays

Type	RPI-.P-UNI	RPI-.Z-UNI
		
Output circuit		
Number and type of contacts	1 CO, 2 CO, 3 CO	1 NO, 2 NO, 3 NO
Contact material	$AgSnO_2$	$AgSnO_2$
Max. voltage AC	300 V	300 V
Rated load AC1 AC1 DC1 DC1	1 CO: 16 A / 250 V AC 2 CO: 8 A / 250 V AC 1 CO: 16 A / 24 V DC 2 CO, 3 CO: 8 A / 24 V DC	1 NO: 16 A / 250 V AC 2 NO: 8 A / 250 V AC 1 NO: 16 A / 24 V DC 2 NO, 3 NO: 8 A / 24 V DC
Input circuit		
Rated voltage AC/DC	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz
Insulation		
Insulation rated voltage	250 V AC	250 V AC
Dielectric strength • input - output • contact clearance	 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷
Overvoltage category	III	III
General data		
Dimensions mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Mechanical life	> 10^7 (cycles)	> 10^7 (cycles)
Protection category	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
Connection diagrams	 version 1 CO	 version 4 CO
Indicator	LED green	LED green
Recognitions, certifications, directives	CE EAC UKCA RoHS	CE EAC UKCA RoHS

❶ Type of insulation: basic
❷ Type of clearance: micro-disconnection



ORDERING CODES

Index	Code	Description
863355	RPI-1P-D12	one changeover contact 16 A, coil voltage 12 V DC
863356	RPI-1P-D24	one changeover contact 16 A, coil voltage 24 V DC
863358	RPI-1P-A24	one changeover contact 16 A, coil voltage 24 V AC
863360	RPI-1P-A230	one changeover contact 16 A, coil voltage 230 V AC
863361	RPI-2P-D12	two changeover contacts 8 A, coil voltage 12 V DC
863362	RPI-2P-D24	two changeover contacts 8 A, coil voltage 24 V DC
863364	RPI-2P-A24	two changeover contacts 8 A, coil voltage 24 V AC
863365	RPI-2P-A115	two changeover contacts 8 A, coil voltage 115 V AC
863366	RPI-2P-A230	two changeover contacts 8 A, coil voltage 24 V AC
863367	RPI-1Z-U12	one normally open contact 16 A, coil voltage 12 V AC/DC
863368	RPI-1Z-U24	one normally open contact 16 A, coil voltage 24 V AC/DC
863371	RPI-1Z-U24A	one normally open contact 16 A, coil voltage 24 V AC/DC (terminals A1-A2) or 230 V AC (terminals A1-A3)
863372	RPI-2Z-U12	two normally open contacts 8 A, coil voltage 12 V AC/DC
863373	RPI-2Z-U24	two normally open contacts 8 A, coil voltage 24 V AC/DC
863376	RPI-2Z-U24A	two normally open contacts 8 A, coil voltage 24 V AC/DC (terminals A1-A2) or 230 V AC (terminals A1-A3)
864920	RPI-1ZI-D12	inrush version (resistance to inrush current 120 A), one normally open contact 16 A, coil voltage 12 V DC
863377	RPI-1ZI-U24A	inrush version (resistance to inrush current 120 A), one normally open contact 16 A, coil voltage 24 V AC/DC (terminals A1-A2) or 230 V AC (terminals A1-A3)
863378	RPI-1P-UNI	one changeover contact 16 A, input voltage 12...240 V AC/DC
863379	RPI-2P-UNI	two changeover contacts 8 A, input voltage 12...240 V AC/DC
863514	RPI-3P-UNI	three changeover contacts 8 A, input voltage 12...240 V AC/DC
863380	RPI-1Z-UNI	one changeover contact 16 A, input voltage 12...240 V AC/DC
863381	RPI-2Z-UNI	two changeover contacts 8 A, input voltage 12...240 V AC/DC
863515	RPI-3Z-UNI	three changeover contacts 8 A, input voltage 12...240 V AC/DC

Bistable - impulse relays

RPB

RPB

- Load: 8 A, 16 A
- Contacts: 1 CO, 1 NO, 2 CO, 2 NO
- Supply: 12...240 V AC/DC, 230 V AC
- Functionality:
  - cooperating with switches, buttons
- Applications:
  - building automation
  - control of lighting circuits
  - control of electric devices

data sheets

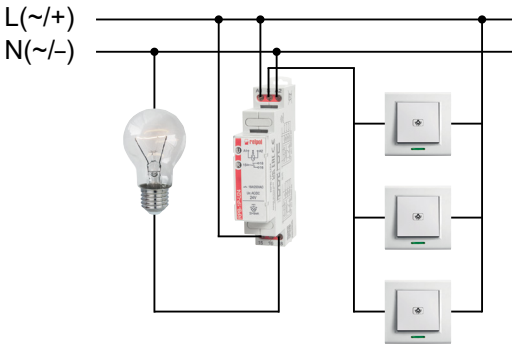
Type		RPB-1P-...	RPB-1PM-...	RPB-2Z-...	RPB-1ZI-...
		NEW	NEW	NEW	NEW
Output circuit					120 A / 20 ms 
Number and type of contacts		1 CO	1 CO	2 NO	1 NO
Contact material		$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Max. voltage	AC	300 V	300 V	300 V	300 V
Rated load	AC1 DC1	16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC	8 A / 250 V AC 8 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC
Input circuit					
Rated voltage	AC	230 V 50/60 Hz	230 V 50/60 Hz	230 V 50/60 Hz	230 V 50/60 Hz
	AC/DC	24 V AC: 50/60 Hz	24 V AC: 50/60 Hz	24 V AC: 50/60 Hz	24 V AC: 50/60 Hz
Control contact S		yes ❹	yes ❹	yes ❹	yes ❹
Function data					
Functions	number	single-functions	single-functions with memory	single-functions	single-functions
Functions ❸		RESET	NORMAL	RESET	RESET
Indicator		LED green and yellow	LED green and yellow	LED green and yellow	LED green and yellow
Insulation					
Insulation rated voltage		250 V AC	250 V AC	250 V AC	250 V AC
Dielectric strength • input - output • contact clearance		4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷	4 000 V AC ❶ 1 000 V AC ❷
Overvoltage category		III	III	III	III
General data					
Dimensions	mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Mechanical life		10^7 (cycles)	10^7 (cycles)	10^7 (cycles)	10^7 (cycles)
Protection category		IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
Recognitions, certifications, directives		CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS

❶ Type of insulation: basic
❷ Type of clearance: micro-disconnection
❸ Connection diagrams - see page 29. Descriptions and diagrams of functions - see www.relpol.com.pl
❹ Control contact S provides control of switching ON/OFF of receivers (lighting or other devices) from a few different points, with the use of connected in parallel: illuminated momentary bell switches or control buttons..

Bistable - impulse relays

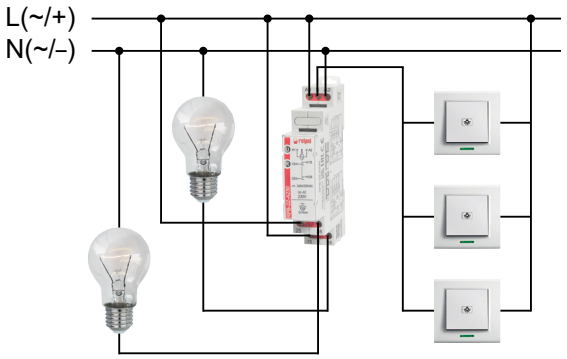
Type	RPB-1PM-UNI	RPB-1ZMI-UNI	RPB-2PSM-UNI	RPB-2ZSMI-UNI
	NEW	NEW	NEW	NEW
Output circuit		80 A / 20 ms 		80 A / 20 ms 
Number and type of contacts	1 CO	1 NO	2 x 1 CO	2 x 1 NO
Contact material	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Max. voltage AC	300 V	300 V	300 V	300 V
Rated load AC1 DC1	16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC	16 A / 250 V AC 16 A / 24 V DC
Input circuit				
Rated voltage AC/DC	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz	12...240 V AC: 50/60 Hz
Control contact S	yes ❺	yes ❺	yes ❺	yes ❺
Function data				
Functions number	multifunctions with memory	multifunctions with memory	multifunctions sequential with memory	multifunctions sequential with memory
Functions ❸	NORMAL, RESET	NORMAL, RESET	BOTH, RESET BOTH, RESET SEQ, SEQ	BOTH, RESET BOTH, RESET SEQ, SEQ
Indicator	LED green and yellow	LED green and yellow	LED green and yellow	LED green and yellow
Insulation				
Insulation rated voltage	250 V AC	250 V AC	250 V AC	250 V AC
Dielectric strength • input - output • contact clearance	 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷	 4 000 V AC ❶ 1 000 V AC ❷
Overvoltage category	III	III	III	III
General data				
Dimensions mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Mechanical life	10^7 (cycles)	10^7 (cycles)	10^7 (cycles)	10^7 (cycles)
Protection category	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)	IP 20 (PN-EN 60529)
Recognitions, certifications, directives	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS

❶ Type of insulation: basic
❷ Type of clearance: micro-disconnection
❸ Connection diagrams - see page 29. Descriptions and diagrams of functions - see www.relpol.com.pl
❺ Control contact S provides control of switching ON/OFF of receivers (lighting or other devices) from a few different points, with the use of connected in parallel: momentary bell switches or control buttons; the relays cannot operate with illuminated switches.



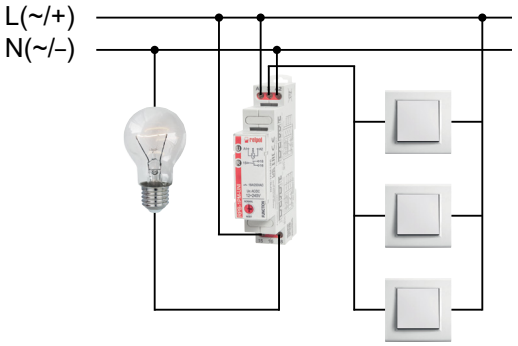
ΣI < 5 mA

RPB-1P-A230
RPB-1P-U24
RPB-1PM-A230
RPB-1PM-U24
RPB-1ZI-A230
RPB-1ZI-U24

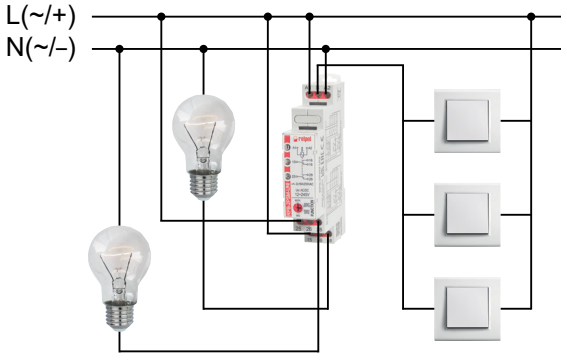


ΣI < 5 mA

RPB-2Z-A230
RPB-2Z-U24

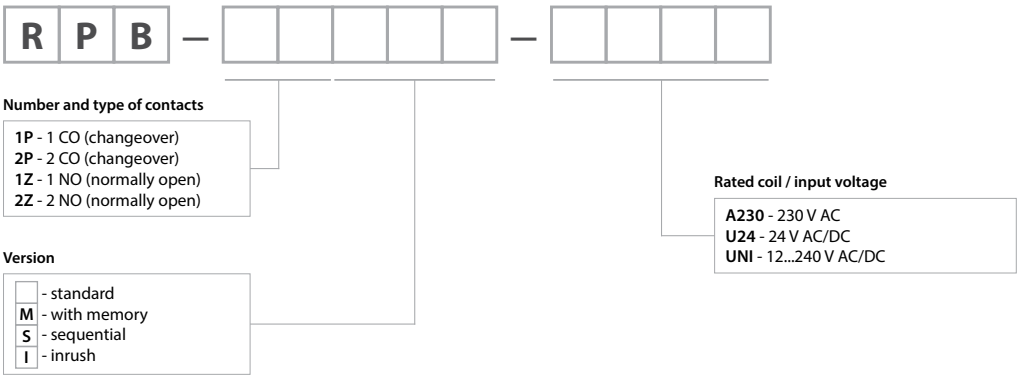


RPB-1PM-UNI
RPB-1ZMI-UNI



RPB-2PSM-UNI
RPB-2ZSMI-UNI

Bistable - impulse relays – coding



ORDERING CODES

Index	Code	Description
864384	RPB-1P-A230	single-function, cooperating with illuminated momentary bell switches or control buttons, one changeover contact 16 A, input voltage 230 V AC
864383	RPB-1P-U24	single-function, cooperating with illuminated momentary bell switches or control buttons, one changeover contact 16 A, input voltage 24 V AC/DC
864390	RPB-1PM-A230	single-function (with memory), cooperating with illuminated momentary bell switches or control buttons, one changeover contact 16 A, input voltage 230 V AC
864389	RPB-1PM-U24	single-function (with memory), cooperating with illuminated momentary bell switches or control buttons, one changeover contact 16 A, input voltage 24 V AC/DC
864386	RPB-2Z-A230	single-function, cooperating with illuminated momentary bell switches or control buttons, two normally open contacts 8 A, input voltage 230 V AC
864385	RPB-2Z-U24	single-function, cooperating with illuminated momentary bell switches or control buttons, two normally open contacts 8 A, input voltage 24 V AC/DC
864388	RPB-1ZI-A230	single-function, inrush version (resistance to inrush current 120 A), cooperating with illuminated momentary bell switches or control buttons, one normally open contact 16 A, input voltage 230 V AC
864387	RPB-1ZI-U24	single-function, inrush version (resistance to inrush current 120 A), cooperating with illuminated momentary bell switches or control buttons, one normally open contact 16 A, input voltage 24 V AC/DC
864391	RPB-1PM-UNI	multifunction (with memory), cooperating with momentary bell switches or control buttons, one changeover contact 16 A, input voltage 12...240 V AC/DC
864393	RPB-1ZMI-UNI	multifunction (with memory), inrush version (resistance to inrush current 80 A), cooperating with momentary bell switches or control buttons, one normally open contact 16 A, input voltage 12...240 V AC/DC
864392	RPB-2PSM-UNI	multifunction (sequential with memory), cooperating with momentary bell switches or control buttons, two changeover contacts 16 A, input voltage 12...240 V AC/DC
864394	RPB-2ZSMI-UNI	multifunction (sequential with memory), inrush version (resistance to inrush current 80 A), cooperating with momentary bell switches or control buttons, two normally open contacts 16 A, input voltage 12...240 V AC/DC

Signal lamps

RLK

RLK

- Supply: 130...260 V AC/DC, 400/230 V AC
- Functionality:
  – optic signaling of voltage
- Applications:
  – industrial, building automation
  – low voltage switchboards
  – electric installations

data sheets

Signal lamps

Type	RLK-1G	RLK-1R	RLK-1Y
			
Input circuit			
Supply voltage AC/DC	130...260 V AC: 50/60 Hz	130...260 V AC: 50/60 Hz	130...260 V AC: 50/60 Hz
Range of supply voltage / frequency	0,85...1,1 U_n / AC: 48...63 Hz	0,85...1,1 U_n / AC: 48...63 Hz	0,85...1,1 U_n / AC: 48...63 Hz
Rated power consumption	DC: ≤ 0,7 W	DC: ≤ 0,7 W	DC: ≤ 0,7 W
Control circuit			
Functions	self-operating	self-operating	self-operating
Functions	optic signaling of AC/DC voltage presence in 1-phase network	optic signaling of AC/DC voltage presence in 1-phase network	optic signaling of AC/DC voltage presence in 1-phase network
Indicator	LED green	LED red	LED yellow
Insulation			
Insulation rated voltage	250 V AC	250 V AC	250 V AC
Rated surge voltage	4 000 V	4 000 V	4 000 V
Overvoltage category	II	II	II
General data			
Dimensions mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Protection category	IP 20 (EN 60529)	IP 20 (EN 60529)	IP 20 (EN 60529)
Recognitions, certifications, directives	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS

Type	RLK-3G	RLK-3R	RLK-3K
Input circuit			
Supply voltage AC	3(N)~ 400/230 V 50/60 Hz	3(N)~ 400/230 V 50/60 Hz	3(N)~ 400/230 V 50/60 Hz
Range of supply voltage / frequency	0,85...1,1 U_n / AC: 48...63 Hz	0,85...1,1 U_n / AC: 48...63 Hz	0,85...1,1 U_n / AC: 48...63 Hz
Rated power consumption	DC: ≤ 1,1 W	DC: ≤ 1,1 W	DC: ≤ 1,1 W
Control circuit			
Functions	self-operating	self-operating	self-operating
Functions	optic signaling of AC voltage presence in 3-phase network 3(N)~ 400/230 V	optic signaling of AC voltage presence in 3-phase network 3(N)~ 400/230 V	optic signaling of AC voltage presence in 3-phase network 3(N)~ 400/230 V
Indicator	LED green	LED red	LED red, yellow and green
Insulation			
Insulation rated voltage	250 V AC	250 V AC	250 V AC
Rated surge voltage	4 000 V	4 000 V	4 000 V
Overvoltage category	II	II	II
General data			
Dimensions mm	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6	90(98,8) x 17,5 x 64,6
Protection category	IP 20 (EN 60529)	IP 20 (EN 60529)	IP 20 (EN 60529)
Recognitions, certifications, directives	CE EAC UKCA RoHS	CE EAC UKCA RoHS	CE EAC UKCA RoHS

ORDERING CODES

Index	Code	Description
863027	RLK-1G	signaling of AC/DC voltage in 1-phase network (1x LED green), supply voltage 130...260 V AC/DC
863026	RLK-1R	signaling of AC/DC voltage in 1-phase network (1x LED red), supply voltage 130...260 V AC/DC
863025	RLK-1Y	signaling of AC/DC voltage in 1-phase network (1x LED yellow), supply voltage 130...260 V AC/DC
863030	RLK-3G	signaling of AC voltage in 3-phase network (3x LED green), supply voltage 3(N)~ 400/230 V AC
863029	RLK-3R	signaling of AC voltage in 3-phase network (3x LED red), supply voltage 3(N)~ 400/230 V AC
863028	RLK-3K	signaling of AC voltage in 3-phase network (3x LED red, yellow, green), supply voltage 3(N)~ 400/230 V AC

Time relays

MT-W

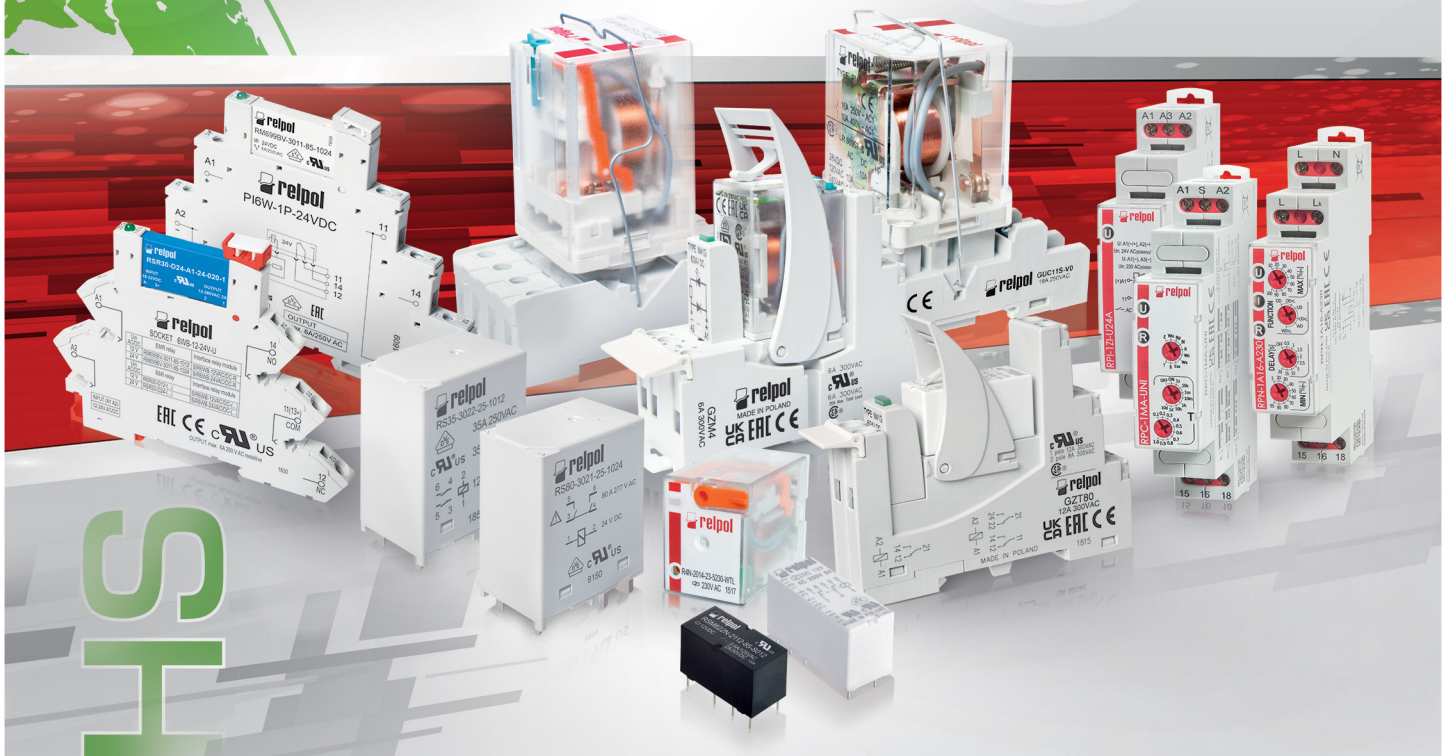
MT-W...M

- Load: 10 A
- Contacts: 1 CO
- Supply: 12...240 V AC/DC
- Functionality:
  - multifunctions (25 functions + ON, OFF)
  - independent settings of T1, T2, T3 intervals
  - two digit LED display
  - programming with two buttons only
- Applications:
  - industrial, building automation
  - air-conditioning, ventilation, heating systems
  - protection, signalling, alarm systems
  - control of lighting circuits

data sheets

Declaration of conformity

RoHS



RoHS

Relpol S.A. hereby confirms that relays and plug-in sockets for relays supplied by our company meet the requirements laid down in **Directive 2011/65/EU** of the European Parliament and of the Council of 8 June 2011 on the restriction of use of certain hazardous substances in electrical and electronic equipment and **Commission Delegated Directive (EU) 2015/863** of 31 March 2015 amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances.

Date: 07.05.2019

Quality and Environmental Management
Department Director
Sylwia Sochoń-Miezio

RoHS conform

relpol S.A.

Export Sales Department
phone +48 68 47 90 832, 951
export@relpol.com.pl

Certificate
Awarded to
RELPOL S.A.
ul. 11 Listopada 37,68-200 Żary
BUREAU VERITAS CERTIFICATION CZ, s.r.o. certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standard detailed below:
Standard
ISO 50001:2018
Scope of supply
Energy Management System Applied to:
§DESIGN, MANUFACTURING AND TRADING OF ELECTROMAGNETIC RELAYS, RELAYS SOCKETS. TRADING OF ELECTROTECHNICAL COMPONENTS.
Original Approval Date: 05-02-2021
Expiry date of previous cycle: NA
Certification Cycle Start Date: 05-02-2021
Certification Cycle End Date: 04-02-2024
Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: 04-02-2024
To check this certificate validity please call: +420 210 088 215
Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.
Version 1 Issue Date: 05-02-2021
Certificate Number: CZE - 210027
S 3100
MANAGING OFFICE: BUREAU VERITAS CERTIFICATION CZ, s.r.o., Olbrachtova 1, 140 02 Praha 4, Czech Republic
ISSUING OFFICE ADDRESS: BUREAU VERITAS CERTIFICATION CZ, s.r.o., Olbrachtova 1, 140 02 Praha 4, Czech Republic
1/1

Certificate
Awarded to
RELPOL S.A.
ul. 11 Listopada 37, 68-200 ŻARY
POLAND
Bureau Veritas Certification certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below
STANDARD
ISO 9001:2015
ISO 14001:2015
SCOPE OF CERTIFICATION
DESIGN, MANUFACTURING AND TRADING OF ELECTROMAGNETIC RELAYS, RELAYS SOCKETS. TRADING OF ELECTROTECHNICAL COMPONENTS.
Certification cycle start date: 15 February 2022
Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: 14 February 2025
To check this certificate validity please call: +48 22 549 04 00
Further clarification regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.
Issue Date: 04 February 2022
Certificate Number: PL013571/P
Joanna Waberska
Local Technical Manager
AC 081

Due to the permanent development policy, Relpol S.A. reserves the right to introduce changes of data and characteristics of the products. The devices shall be operated by skilled personnel in accordance with the regulations in force pertaining to electrical systems. The technical data are of informational nature. Thus, Relpol S.A. does not accept any liability for inappropriate use of the presented products.

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.

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68-200 Żary
relpol@relpol.com.pl

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www.relpol.com.pl

11/2022