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PRI-41 PRI-42

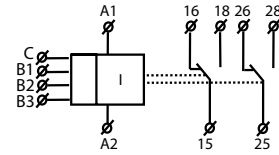
Monitoring current relay



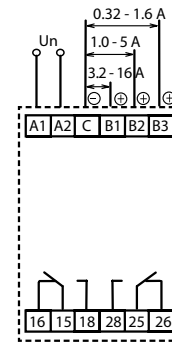
Characteristics

- used to monitor overloading / relief (machine, motor, etc.), check consumption, diagnostics on a remote device (burning, short circuit, increased current draw, etc.)
- relay designed for monitoring DC and AC currents in three ranges
- the relay controls the current size in two independent levels (I_{max} , I_{min})
- setting the monitored level I_{max} (in % of range)
- setting the monitored level I_{min} (in % of range - for PRI-42 - function WINDOW) (in % of the set upper limit - for PRI-41 - function HYSTERESIS)
- adjustable function "MEMORY"
- function of second relay (independently / in parallel)
- adjustable delay for eliminating short-term outages and surges for every level independently
- galvanically separated power supply from monitoring inputs
- output contact: 2x changeover 16 A / 250 V AC1 for each current level
- 3-MODULE, DIN rail mounting

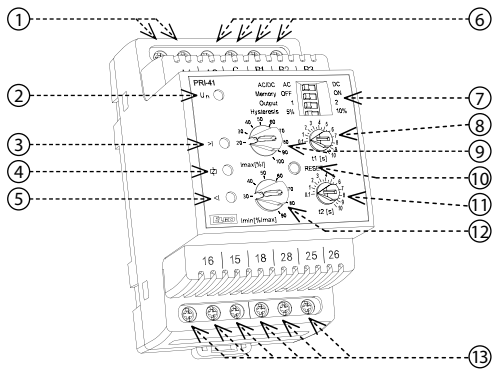
Symbol



Connection



Description



1. Supply voltage terminals
2. Supply indication
3. Indication I_{max}
4. Output indication
5. Indication I_{min}
6. Current monitoring terminals
7. DIP
8. t_1 - time delay for I_{max}
9. Adjusting upper level - I_{max}
10. Button RESET
11. t_2 - time delay for I_{min}
12. Adjusting bottom level - I_{min}
13. Output contact
14. AC/DC - if alternating current is connected when measuring DC or direct current voltage is connected when measuring AC, or if there is incorrect polarity of DC, a polarity error is reported - both red LEDs flash and relays are open
15. Memory - when the memory is switched on, the indication of an error status is maintained until the moment of reset by means of a button (if in between, the OK status occurs)
16. Output
 - position 1 - both relays work simultaneously (they open in error status)
 - position 2 - the relays work independently - relay 15-16-18 corresponds to the upper level (I_{max}), relay 25-26-28 corresponds to the lower level (I_{min})
17. Hysteresis - setting the hysteresis upon returning from an error state

Description of DIP switches

AC/DC AC	<input type="checkbox"/>	DC	←-----⑭
Memory OFF	<input type="checkbox"/>	ON	←-----⑮
Output 1	<input type="checkbox"/>	2	←-----⑯
Hysteresis 5%	<input type="checkbox"/>	10%	←-----⑰

Type of load	$\cos \varphi \geq 0.95$	M	M	AC5a uncompensated	AC5a compensated	HAL.230V	AC6a	AC7b	AC12
Mat. contacts AgNi, contact 16A	250V / 16A	250V / 5A	250V / 3A	230V / 3A (690VA)	x	800W	x	250V / 3A	250V / 10A
Type of load					M	M			
Mat. contacts AgNi, contact 16A	250V / 6A	250V / 6A	250V / 6A	24V / 16A	24V / 6A	24V / 4A	24V / 16A	24V / 2A	24V / 2A

Technical parameters

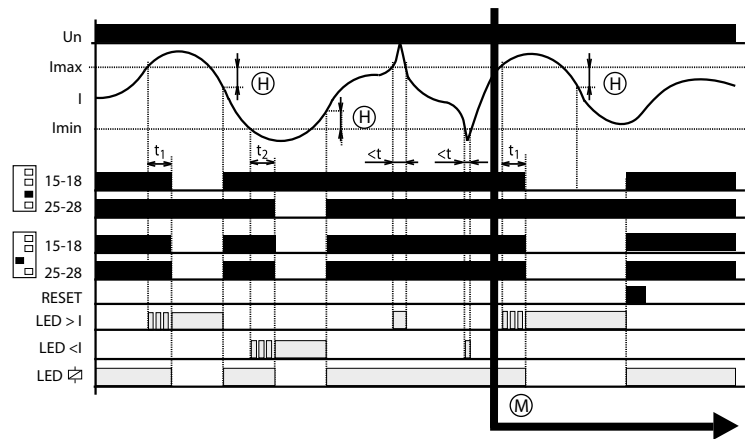
	PRI-41	PRI-42	
Supply			
Supply terminals:	A1 - A2		
Voltage range:	AC 110V, AC 230V, AC 400V or AC/DC 24V (AC 50-60 Hz)		
Power input:	2.5 W / 5 VA (AC 110V, AC 230 V, AC 400 V), 1.4 W / 2 VA (AC/DC 24 V)		
Supply voltage tolerance:	-15 %; +10 %		
Measuring circuit			
Ranges: *	AC/DC 3.2 - 16 A (AC 50 - 60 Hz)	AC/DC 1 - 5 A (AC 50 - 60 Hz)	AC/DC 0.32-1.6 A (AC 50 - 60 Hz)
Terminals:	C - B1	C - B2	C - B3
Input resistance:	2.3 mΩ	11 mΩ	23 mΩ
Max. permanent current:	16 A	8 A	3 A
Inrush overload < 1ms:	20 A	16 A	6 A
Time delay for I _{max} :	adjustable 0.1 - 10 s		
Time delay for I _{min} :	adjustable 0.1 - 10 s		
Accuracy			
Measuring accuracy:	5 %		
Repeat accuracy:	< 1 %		
Temperature dependency:	< 0.1 % / °C (°F)		
Limit values tolerance:	5 %		
Hysteresis (fault to OK):	selectable 5 % / 10 % from range		
Output			
Number of contacts:	2x changeover / SPDT (AgNi / Silver Alloy)		
Current rating:	16 A / AC1		
Breaking capacity:	4000 VA / AC1, 384 W / DC		
Inrush current:	30 A / < 3 s		
Switching voltage:	250 V AC1 / 24 V DC		
Output indication:	yellow LED		
Mechanical life:	3x10 ⁷		
Electrical life (AC1):	0.7x10 ⁵		
Other information			
Operating temperature:	-20 °C to 55 °C (-4 °F to 131 °F)		
Storage temperature:	-30 °C to 70 °C (-22 °F to 158 °F)		
Electrical strength:	4 kV (supply - output)		
Operating position:	any		
Mounting:	DIN rail EN 60715		
Protection degree:	IP40 from front panel / IP20 terminals		
Overvoltage category:	III.		
Pollution degree:	2		
Max. cable size (mm ²):	solid wire max. 1x 2.5 or 2x 1.5 / with sleeve max. 1x 1.5 (AWG 12)		
Dimensions:	90 x 52 x 65 mm (3.5" x 2" x 2.6")		
Weight:	250 g (8.8 oz.) (110V, 230 V, 400 V); 153 g (5.4 oz.) (24 V)		
Standards:	EN 60255-6, EN 61010-1		

* Only one of the inputs can be connected.

Warning

Devices line PRI-4x are constructed to be connected into 1-phase main or DC circuits (according to types, it is necessary to observe voltage ranges) and must be installed in accordance with regulations and standards applicable in a country of use. Installation, connection and setting can be done only by a person with an adequate electro-technical qualification which has read and understood this instruction manual and product functions. The device contains protections against over-voltage peaks and disturbing elements in the supply main. To ensure correct function of these protection elements it is necessary to front-end other protective elements of higher degree (A, B, C) and screening of disturbances of switched devices (contactors, motors, inductive load etc.) as it is stated in a standard. Before you start with installation, make sure that the device is not energized and that the main switch is OFF. Do not install the device to the sources of excessive electromagnetic disturbances. By correct installation, ensure good air circulation so the maximal allowed operational temperature is not exceeded in case of permanent operation and higher ambient temperature. While installing the device use screwdriver with approx. 2 mm. Keep in mind that this device is fully electronic while installing. Correct function of the device is also depended on transportation, storing and handling. In case you notice any signs of damage, deformation, malfunction or missing piece, do not install this device and claim it at the seller. After operational life treat the product as electronic waste.

Function



H - Hysteresis
M - Memory ON (DIP2)

- if the value of the monitored current is in the zone between the set upper and lower levels, the status OK occurs - both relays are closed and the yellow LED illuminates. If the value of the monitored current is outside the set limits ($> I_{max}$ or $< I_{min}$), an error state occurs.
- when moving to an error state $I > I_{max}$, it times the delay t_1 and a red LED $> I$ simultaneously flashes. After the t_1 time elapses, the red LED $> I$ illuminates and the relevant relay opens.
- when moving to an error state $I < I_{min}$, it times the delay t_2 and a red LED $< I$ simultaneously flashes. After the time t_2 elapses, the red LED $< I$ illuminates and the relevant relay opens.
- when moving from the error status to the OK status, the relevant red LED immediately goes out, and the corresponding relay closes.