

Monitoring thermistor relay

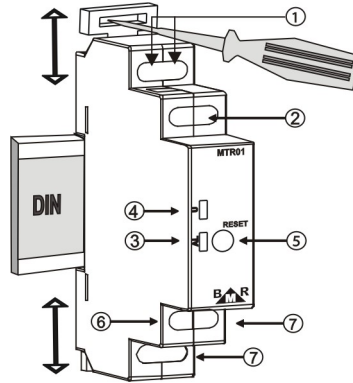
1. Device description

Relay controls motor winding temperature. It is based on the measurement of PTC thermistor which is built-in electrical motor. Device also controls short circuit or probe disconnection. Relay has one output double-throw contact 8 A.

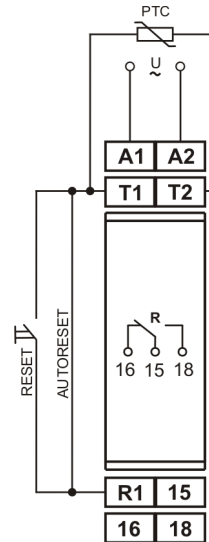
Terminal description:

- 1 Supply / controlled voltage
- 2 Terminals for probe connection
- 3 Fault indication
- 4 Supply voltage indication
- 5 Button RESET
- 6 External RESET input
- 7 Outputs

Terminal placement:

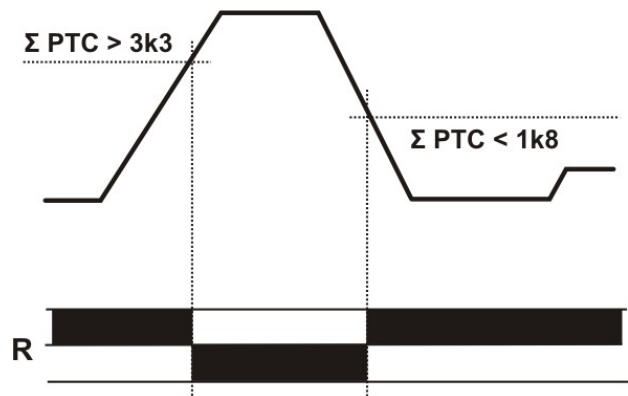


Connection diagram:



2. Function

If the motor temperature is under maximum limit (this temperature equals to thermistor resistance of 3,3 k Ω), green LED is ON and contact 15 - 18 is closed. As soon as the motor winding is overheated (thermistor resistance is higher than 3,3 k Ω), red LED turns ON and contact 15 - 16 switches ON. Switch OFF operation will occur after the motor winding temperature drops down (thermistor resistance is lower than 1,8 k Ω) and button RESET has been pressed. This feature protects motor against spontaneous start and it is possible to be disabled by cross connection of terminals T1, R1 (AUTORESET). There is also possibility to use terminals T1, R1 for external reset button connection, which will have the same function as the RESET button on the device. If the PTC input is short-circuited, ALARM appears and terminals 15 - 16 will switch ON.



3. LED diagnostic

Green LED on	Presence of supply voltage.
Green LED off	Supply voltage is not present.
Red LED on	ALARM. Maximum motor winding temperature is over the limit or temperature probe is disconnected (interrupted).
Red LED off	Winding temperature is under the limit.
Red LED blinking	ALARM. Input for the PTC sensor is short-circuited (resistance at the output of PTC < 200 Ω).

4. Technical features

Parameter	Value
Supply voltage	230 VAC
Supply terminals	A1, A2
Power consumption	max. 1,5 VA
Measuring terminals	T1, T2, thermistor PTC is not a part of device
Supply voltage indication	green LED
ALARM status indication	red LED
Thermistor resistance range for operating status	200 Ω to 3,3 kΩ
Thermistor resistance range for ALARM status	more than 3,3 kΩ
Condition of ALARM status canceling	PTC resistor lower than 1,8 kΩ, together with pressing of button RESET (or enabled AUTORESET)
Output parameters	
Number and type of contacts	1x changeover
Nominal current	8 A
Switching power	max. AC 2000 VA
Trigger current	30 A
Nominal voltage / max. switching voltage	250 VAC / 440 VAC
Mechanical lifetime	3 x 10 ⁷
Electrical lifetime	1 x 10 ⁵ 250 VAC, 8 A
Others	
Working temperature	-20 ... +55 °C
Storage temperature	-40 ... +70 °C
Working position	any
Mounting	IEC 60715 (DIN 35)
Protection degree	IP 40 on panel / IP 20 terminals
Electrical strength	4 kV
Input wire diameter with / without cavern	max. 2x1,5mm ² ; 1x2,5mm ² / max. 2x1,5mm ² ; 1x2,5mm ²
Weight	75 g
Dimensions	90 x 18 x 65 mm
Standards	IEC 60255-6, IEC 61010