

Features

- It monitors motor coil temperature.
- Fixed levels of switching.
- PTC sensor is used for sensing, it is in-built in motor winding by its manufacturer or there is used an external PTC sensor.
- MEMORY function - relay is blocked in an error state until until operator intervention (press RESET button).
- RESET of faulty state:
 - a) button on the front panel
 - b) by external contact (remote by two wires).
- Terminals of sensor are galvanically separated, they can be shorted out by terminal PE without damaging the device.

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Product Description

- monitors temperature of motor winding
- sensor PTC which is in-built in motor winding (or external sensor or bi-metal contact) is used as monitoring element
- PTC sensor is used for sensing, It is in-built in motor winding by its manufacturer.
- MEMORY function - active by DIP switch
- RESET of faulty state:
 - a) button on the front panel
 - b) by external contact (remote by two wires)
- function of short-circuit or sensor disconnection monitoring, red LED flashing indicates faulty sensor
- output contact: 2x changeover 8 A / 250 V AC1
- red LED shines and indicates exceeded temperature
- terminals of sensor are galvanically separated, they can be shorted out by terminal
- PE without damaging the device
- multivoltage supply AC/DC 24-240 V, not galvanically separated
- 1-MODULE, DIN rail mounting

General Specifications

Function:	monitoring temperature of motor winding
Supply terminals:	A1-A2
Voltage range:	AC/DC 24 - 240 V (AC 50-60 Hz)
Burden:	max. 2 VA/1 W
Max. dissipated power (Un + terminals):	2.5 W
Supply voltage tolerance:	-15 %; + 10 %

Output

Number of contacts:	2x changeover / DPDT (AgNi / Silver Alloy)
Rated current:	8 A / AC1
Switching capacity:	2000 VA / AC1, 192 W / DC
Inrush current:	10 A / < 3 s
Switching voltage:	250 V AC / 24 V DC
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:	IP 40 from front panel / IP 20 terminals
Overvoltage category:	III.
Pollution degree:	2
Max. cable size (mm ²):	solid wire max.1x 2.5 or 2x1.5 with sleeve max. 1x2.5 (AWG 12)
Dimensions:	90 x 17.6 x 64 mm (3.5" x 0.7" x 2.5")
Weight:	71 g (2.5 oz.)
Standards:	EN 60255-1, EN 60255-26, EN 60255-27, IEC 60730-2-9

Operation Environment Specifications

Operating Temperature Range	-20°C to 55°C
Storage Temperature	-30°C to 70°C

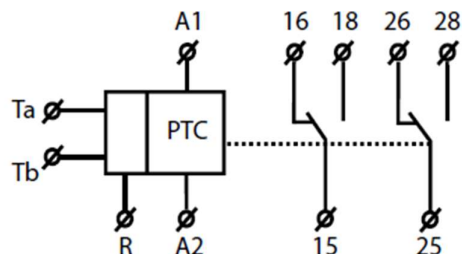
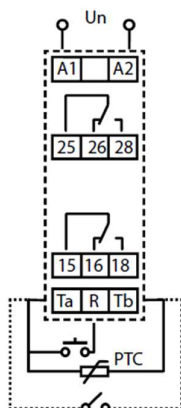
Measuring circuit

Measuring terminals:	Ta-Tb
Cold sensor resistance:	50 Ω - 1.5 kΩ
Upper level:	3.3 kΩ
Bottom level:	1.8 kΩ
Sensor:	PTC temperature of motor winding
Sensor failure indication:	blinking red LED

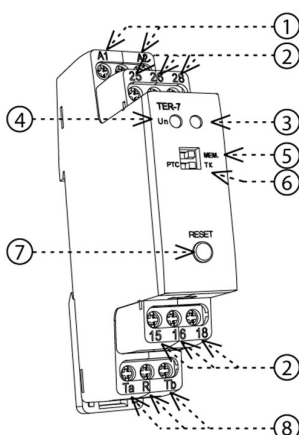
Accuracy

Setting accuracy (mech.):	< 5 %
Switching difference:	±5 %
Temperature dependance:	< 0.1 %/°C (< 0.1 %/°F)

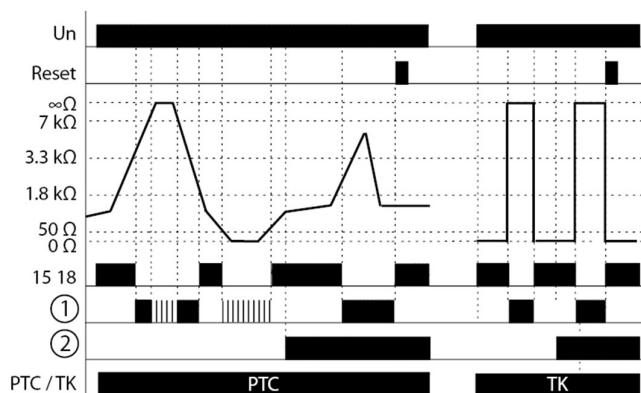
Connection and symbol



Description and function



1. Supply voltage terminals
2. Output contact
3. Faulty states indication
4. Supply indication
5. MEMORY function
6. TEST function
7. RESET button
8. Terminals for sensor and reset



Relay controls temperature of motor winding with PTC thermistor which is mostly placed in motor winding or very close to it. Resistance of PTC thermistor run to max 1.5 kΩ in cold stage. By temperature increase the resistance goes strongly up and by overrun the limit of 3.3 kΩ the contact of output relay switch off - mostly contactor controlling a motor. By temperature decrease and thereby decrease of thermistor resistance under 1.8 kΩ the output contact of relay again switches on.

The relay has function "Control of sensor fault". This controls interruption or disconnection of sensor. When switch is in position "TK" monitoring of faulty sensor is not functional - it is possible to connect bimetal sensor with only 2 states: ON or OFF.

Other safety unit is function "Memory". The device can work with bi-metal sensor in this position. In case temperature is exceeded (and output OFF) it leaves the output in faulty state until servicing when a relay is switched into a normal state (by reset button on front panel or by external contact (remote reset) in case resistance of sensor is lower than 1.8 kΩ (temperature of motor is normal).