

# Thermostat for monitoring temperature of motor winding TER-7

1M

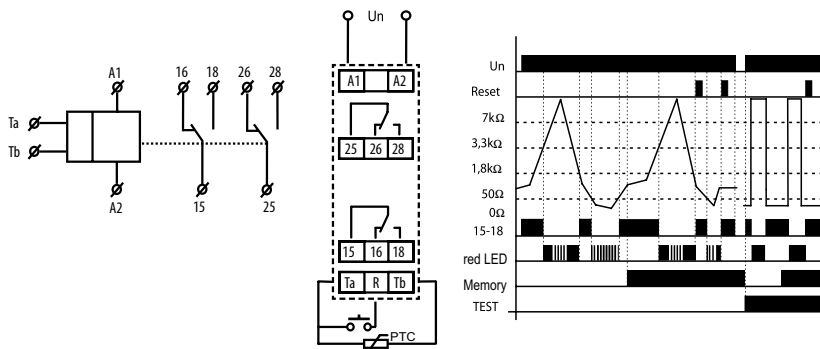


- monitors temperature in range of PTC thermistor
- fixed levels of switching
- PTC sensor is used for sensing, It is in-built in motor winding by its manufacturer
- MEMORY function - active by DIP switch
- RESET of faulty state:
  - a) button on the front panel
  - b) by external contact ( remote by 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

## Technical parameters: TER-7

Function:	monitoring temperature of motor winding
Supply terminals:	A1-A2
Supply voltage:	AC/DC 24-240 V
Consumption:	max. 2 VA
Supply voltage tolerance:	-15%; +10 %
<b>Measuring circuit</b>	
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
<b>Accuracy</b>	
Accuracy in repetition:	< 5%
Switching difference:	± 5 %
Temperature dependance:	< 0.1 % / °C
<b>Output</b>	
Number of contacts:	2x changeover (AgNi)
Rated current:	8 A / AC1
Breaking capacity:	2000 VA / AC1, 192 W / DC
Inrush current:	10 A / < 3 s
Switching voltage:	250 V AC1 / 24 V DC
Min. breaking capacity DC:	500mW
Mechanical life:	3x10 <sup>7</sup>
Electrical life (AC1):	0.7x10 <sup>5</sup>
<b>Other information</b>	
Operating temperature:	-20 .. +55 °C
Storage temperature:	-30 .. +70 °C
Electrical strength:	4 kV (supply - output)
Operating position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP 40 from front panel
Overvoltage category:	III.
Pollution degree:	2
Max. cable size (mm <sup>2</sup> ):	solid wire max. 1x 2.5 or 2x1.5 with sleeve max. 1x2.5
Dimensions:	90 x17.6 x 64 mm, see page 90-92
Weight:	83 g
Standards:	EN 60730-2-9, EN 61010-1

## Symbol Connection Function



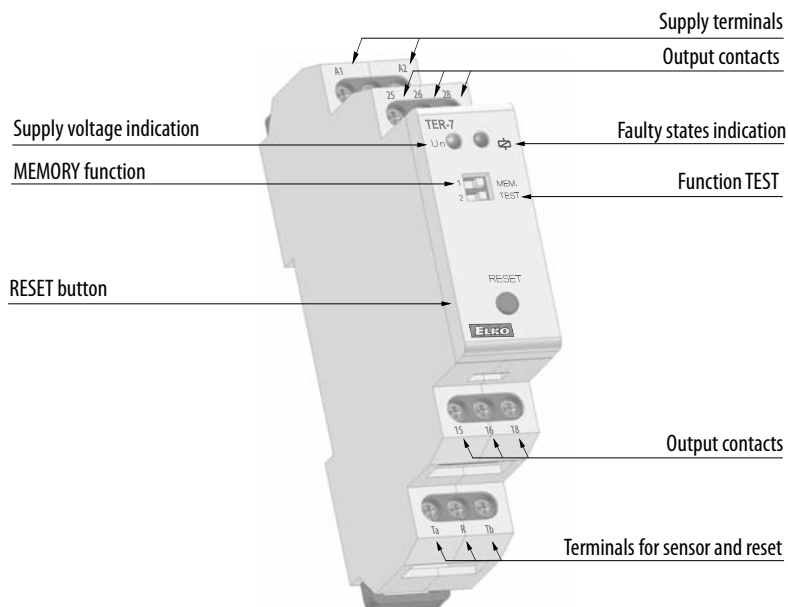
## Function description

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 "TEST" 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". By temperature overrun (and output switches off) the output is hold in faulty stage until service hit. This bring the relay to normal stage (with RESET button) on front panel or by external contact ( remote).

## Description



## Note

Sensor could be in series in abide with conditions in technical specification - switching limit.  
Warning!: In case of supply from the main, neutral wire must be connected to terminal A2