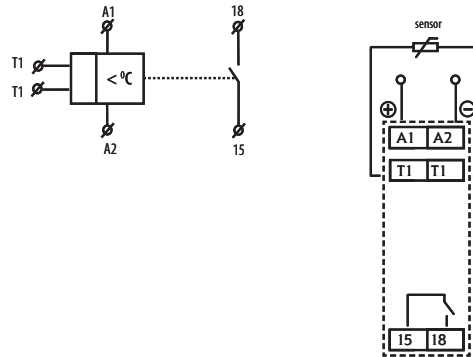


Thermostat relay TER-3 (A, B, C)

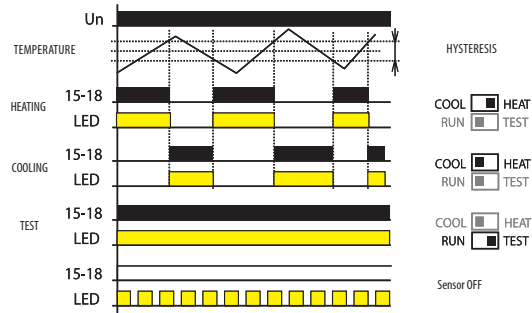
Advantages

- 1-module, DIN rail mounting
- Red LED indicates status of output, green LED indicates energization of the device
- Single thermostat for temperature monitoring and regulation in range of -30.. +70 °C in six ranges
- Can be used for monitoring temperature e.g. in switchboards, heating systems, cooling systems, liquids, radiators, motors, devices, open spaces etc.
- Function of short-circuit or sensor disconnection monitoring
- Possibility to set function "heating"/"cooling" (setting is done by DIP switch)
- Adjustable hysteresis (sensitivity) , switching by potentiometer in range 0.5 -5 K
- Universal supply AC/DC 24V -240 V, not galvanically separated
- Output contact: 1x NO 16 A /250 V AC1
- It is possible to place the sensor directly on terminal block – for temperature monitoring in a switchboard or in its surroundings
- Choice of external thermo sensors with double insulation in standard lengths 3, 6 and 12 m

Connection



Functions



TER-3 It is a single but practical thermostat with a separated sensor for monitoring temperature. The device is placed in a switchboard and an external sensor senses temperature of required space, object or liquid. Supply is not galvanically separated from the sensor. The sensor is double insulated. Maximal length of a delivered sensor is 12m. device has in-built

indication of sensor damage, which means that in case of short-circuit or disconnection red LED flashes. Thanks to adjustable hysteresis , it is advantageous to regulate width of the range and thus define sensitivity of load switching. Sensed temperature is decreased by set hysteresis. When installing it is necessary to keep in mind that hysteresis is increased by temperature gradient between sensor's jacket and thermistor.

Technical data

	TER-3 (A, B, C)
Function	single level
Supply	A1-A2
Universal supply	AC/DC 24-240 galvanically unseparated
Consumption	2 VA
Supply voltage tolerance	-15% - +10%

Measuring circuit

Measuring terminals	T1 - T1		
Temperature range	TER-3A	TER-3B	TER-3C
	-30..+10 °C	0..+40 °C	-30..+70 °C
Hysteresis	adjustable in range 0.5...5K		
Sensor	external, thermistor NTC		
Sensor fault indication	flashing red LED		
Setting accuracy - mechanical	5%		
Switching difference	0,5°C		
Temperature coefficient	< 0.1 % / °C		

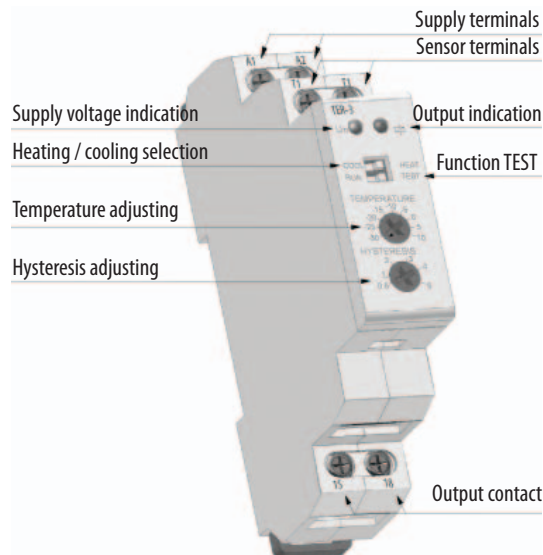
Output

Number of contacts	1 x changeover (AgNi)
Rated current	16 A / AC1, 10A/24 V DC
Breaking capacity	4000 VA / AC1, 300W / DC
Switching voltage	250V AC1/ 24V DC
Min. breaking capacity DC	500 mW
Output indication	red LED
Mechanical life	3x10 ⁷
Electrical life	0,7x10 ⁵

Controlling

Operating temperature	-20...+55 °C
Storage temperature	-30...+70 °C
Electrical strength	4 kV
Operating position	any
Mounting	DIN rail EN 60715
Protection degree	IP 40 from front panel
Overvoltage category	III.
Pollution degree	2
Max. cable size	2.5 mm ²
Dimensions	90 x 17,6 x 64 mm
Standards	EN 60730-2-9, EN 61010-1

Description

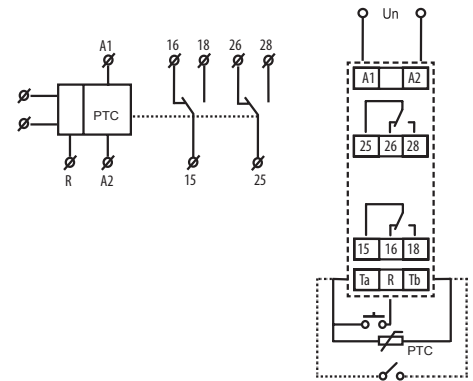


Thermostat for monitoring temperature of motor winding TER-7

Advantage:

- Monitors temperature of motor winding of motors with built in PTC sensor
- Fixed levels of switching
- MEMORY function - active by DIP switch
- RESET of faulty state:
 - button on the front panel
 - 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
- Multivoltage supply AC/DC 24-240 V (UNI)
- 1-module, DIN rail assembly possible

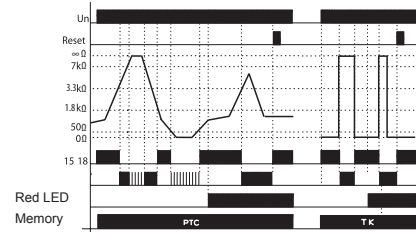
Symbol and connection



Technical data

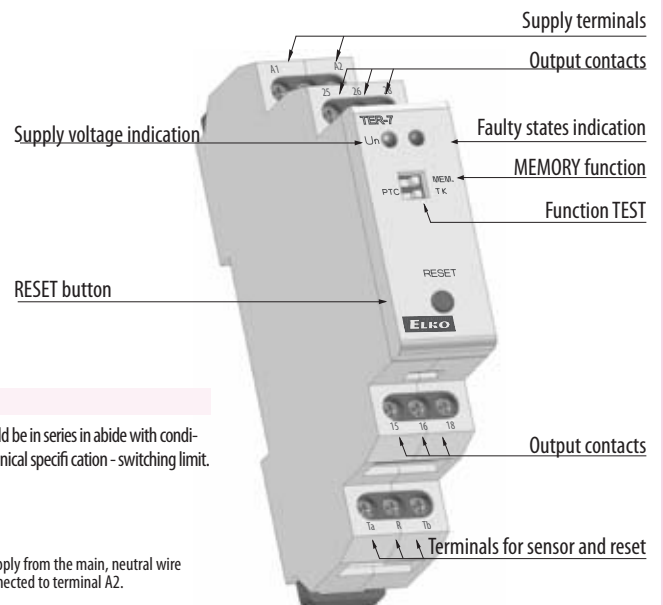
	TER-7
Function	monitoring temperature of motor winding
Supply terminals	A1-A2
Supply voltage	24 - 240 V AC/DC
Consumption	max. 2 VA
Supply voltage tolerance	-15%; +10%
Measuring circuit	
Measuring terminals	Ta-Tb
Cold sensor resistance	50 Ω - 1.5 kΩ
Upper level	3.3 kΩ
Bottom level:	1.8 kΩ
Sensor:	PTC temperature of motor winding
Sensor failure indication	blinking red LED
Accuracy	< 5%
Accuracy in repetition	± 5%
Temperature dependence	< 0.1 % / °C
Output	
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 ⁷
Electrical life	0.7x10 ⁶
Other information	
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
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
Dimensions	90 x17.6 x 64 mm,
Weight	83 g
Standard	EN 60730-2-9, EN 61010-1

Function



The device 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. The device can work with bi-metal sensor in this position. 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:
Sensors 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.