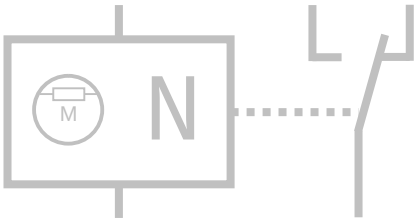
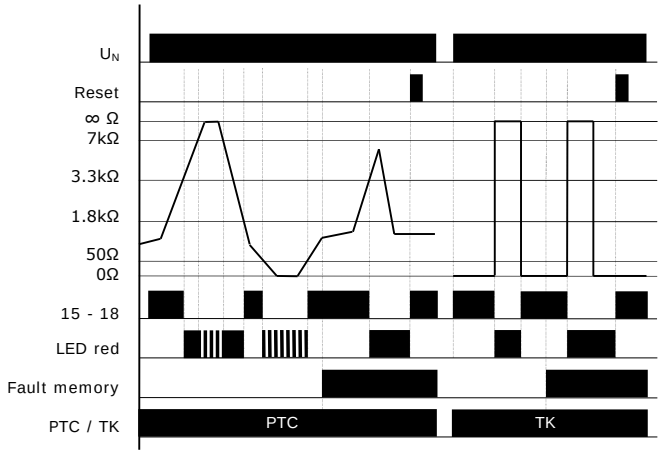


Thermistor-/PTC resistor relay TKR-2

The TKR-2 thermistor/PTC resistor relay serves to monitor the winding temperature of motors. Thermal overload may occur owing to mechanical overloading on the shaft, or when operating with undervoltage. The coil temperature is recorded via the change in resistance of the PTC sensors installed in the coils (PTC resistors) or the position of thermal contacts relays. The PTC sensor circuit is monitored for wire breakage and short circuit.

Functional diagram



Function display

Normal state

Green LED shining: Un is in contact.
Red LED not shining, output relay are energised

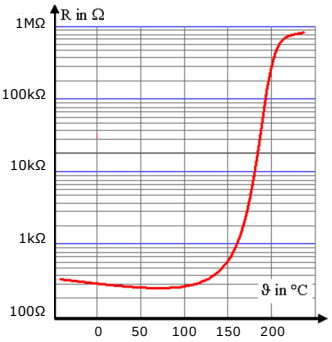
Fault display

Red LED shining: Coil temperature raised,
PTC - resistor raised 3.3kΩ,
Output relay switched off.

Red LED flashing: Wire breakage or short circuit,
Output relay switched off

Characteristic curve

Typical characteristic curve of a PTC resistor. It is not linear

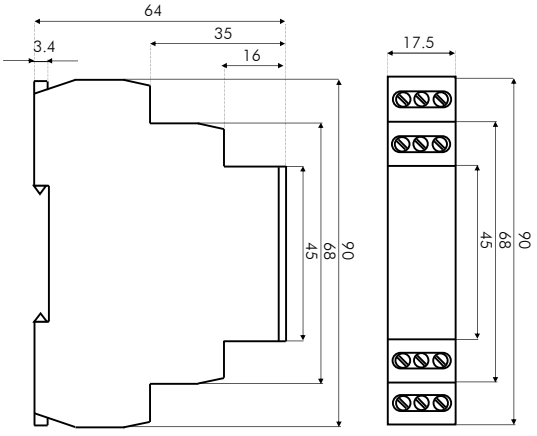


- Thermal motor winding monitoring (PTC resistors or thermal contact switchable)
  - Thermal monitoring by means of PTC resistors >3.3kΩ, <1.8kΩ, or thermal contact
  - Monitoring of wire breakage and short circuit
- Fault memory (Memory)
  The fault memory can be switched on or off, as required. With alarm memory which can be deleted via the Reset button or remote acknowledgement.
- DIN 45 mm housing
  The Thermistor/PTC-resistor relay can be installed with its standardised housing behind the cover panel through a 45-mm cutout. The function and switching status indicators (LED) are clearly visible, with the connections located in a protected position behind the cover panel.
- Extremely compact size
  it only requires a width of 17.5 mm in the switching cabinet.
- 2 Changeover contacts 8 A
  The output contacts are capable of switching an output of 2000 VA (8 A / 250 V AC1).

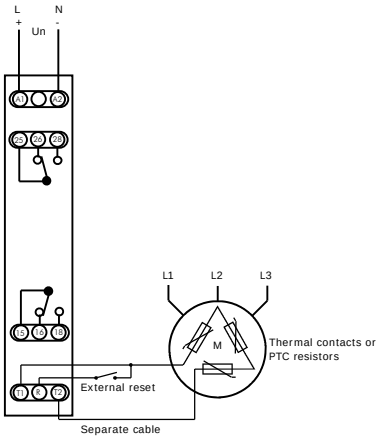
Technical data

Input side	
Supply terminals	A1 - A2 (L/+) - (N/-)
Supply voltage	24 - 240 V AC/DC
Tolerance	-15 %; +10 %
Power consumption	2 VA
Measure circuit	
Measuring terminals	T1 - T2 (the connection for the measuring range must be effected via a separate cable)
Measuring voltage	ca. 2.5 V DC
Upper resistance value	3.3 kΩ
Lower resistance value	1.8 kΩ
Sensor	PTC resistor / thermal contact (can be switched to switch at the front)
Sensor malfunction signal	LED red
Accuracy	
Repeatability	< 0.5 %
Switching difference	+/- 5 %
Temperature dependency	< 0.1 % / °C
Output side	
Number of contacts	2 changeover contacts
Switching voltage	250 V AC / 24 V DC
Switching current / contact material	8 A / AC1 / AgNi
Maximum peak current	10A / < 3s
Switching capacity	2000 VA / AC1 / 192 W / DC
min. DC switching capacity	500 mW
Output display	LED red
General data	
Mechanical life	3 x 10^7
Electric life	0.7 x 10^5
Dielectric strength between coil and contacts	2.5 kV
Ambient temperature	-20°C ... +55°C
Storage temperature	-30°C ... +70°C
Mounting position	any
Fixing DIN rail	EN 50022-35
Protection class of Front	IP 40
Voltage limitation class	III
Degree of contamination	2
Connection cross-section	2.5 mm^2
Weight	77 g
Standards	EN 60730-2-9, EN 61010-1

Dimensional drawing



Connection diagram



Device		Order no.
Thermistor relay	Winding protection, 2 changeover contact 8 A / 250 V AC	TKR-2