

- Industrial design
- Width 22.5mm
- Temperature monitoring of the motor winding (max. 6 PTC)
- 2 change over contacts



► Technical data

► 1. Functions

Temperature monitoring of the motor winding (max. 6 PTC) with fault latch, for temperature probes in accordance with DIN 44081
 Test function with integrated reset key (connection of an external reset key possible)
 Short circuit monitoring of PTC - circuit

► 2. Time ranges

	Adjustment range
Start-up suppression time:	-
Tripping delay:	fixed, approx. 200ms

► 3. Indicators

Green LED ON:	indication of supply voltage
Red LED ON/OFF:	indication of fault

► 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40
 Mounted on DIN-Rail TS 35 according to EN 50022
 Mounting position: any
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20
 Initial torque: max. 1Nm
 Terminal capacity:
 1 x 0.5 to 2.5mm² with/without multicore cable end
 1 x 4mm² without multicore cable end
 2 x 0.5 to 1.5mm² with/without multicore cable end
 2 x 2.5mm² flexible without multicore cable end

► 5. Input circuit

Supply voltage:		
24V AC	terminals A1-A2	(D12ST20 24VAC)
110V AC	terminals A1-A2	(D12ST20 110VAC)
230V AC	terminals A1-A2	(D12ST20 230VAC)
Tolerance:		
24V AC	-15% to +10%	(D12ST20 24VAC)
110V AC	-15% to +10%	(D12ST20 110VAC)
230V AC	±15%	(D12ST20 230VAC)
Frequency range:	48 to 63Hz	
Power consumption:		
24V AC	2VA (1.4W)	(D12ST20 24VAC)
110V AC	2VA (1.4W)	(D12ST20 110VAC)
230V AC	2VA (1.4W)	(D12ST20 230VAC)
Duration of operation:	100%	
Reset time:	500ms	
Residual ripple for DC:	-	
Drop-out voltage:	>30% of the supply voltage	

► 6. Output circuit

2 potential free change over contacts
 Switching capacity (distance < 5mm): 1250VA (5A / 250V AC)
 Switching capacity (distance > 5mm): 1250VA (5A / 250V AC)
 Fusing: 6A fast acting
 Mechanical life: 15 x 10⁶ operations
 Electrical life: 2 x 10⁵ operations at 1000VA resistive load

Switching frequency: max. 60/min at 100VA resistive load
 max. 6/min at 1000VA resistive load (according to IEC 947-5-1)
 Insulation voltage: 250V AC (according to IEC 664-1)
 Surge voltage: 4kV, overvoltage category III (according to IEC 664-1)

► 7. Measuring circuit

Input:	thermistor	terminals T1-T2
Initial resistance:		<1.5kΩ
Response value (relay in off-position):		≥3.6kΩ
Release value (relay in on-position):		≤1.8kΩ
Disconnection (short circuit thermistor):		<15Ω
Terminal voltage T1-T2:		max. 7V DC

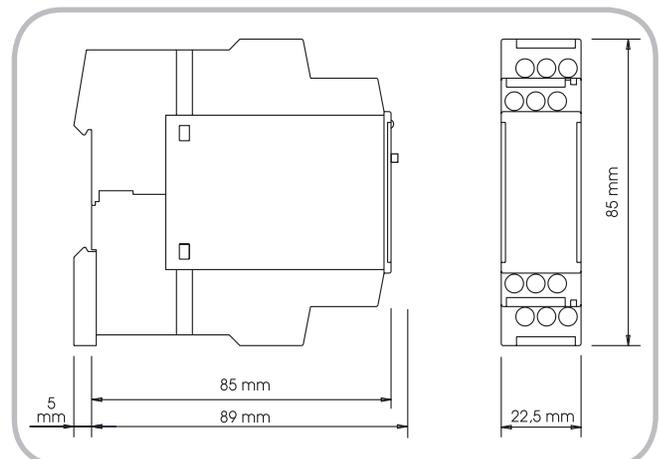
► 8. Accuracy

Base accuracy:	±10%
Adjustment accuracy:	-
Repetition accuracy:	<1%
Voltage influence:	≤1% / V
Temperature influence:	≤1% / °C

► 9. Ambient conditions

Ambient temperature:	-25 to +55°C (according to IEC 68-1)
	-25 to +40°C (according to UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (according to IEC 721-3-3 class 3K3)
Pollution degree:	3 (according to IEC 664-1)

► 10. Dimensions



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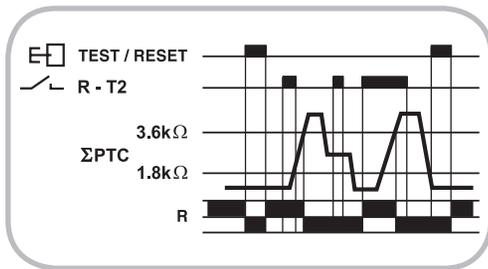
Temperature monitoring of motor winding with fault latch

If the supply voltage is applied (green LED illuminated) and the cumulative resistance of the PTC-circuit is less than $1.8k\Omega$ (standard temperature of the motor), the output relay R switches into on-position.

Pressing the reset key under this conditions forces the output relay to switch into off-position. It remains in this state as long as the reset key is pressed and thus the switching function can be checked in case of fault. The test function is not effective using

an external reset key.

When the cumulative resistance of the PTC-circuit exceeds $3.6k\Omega$ (at least one of the PTCs has reached the cut-off temperature), the output relay switches into off-position (red LED illuminated). The output relay again switches into on-position (red LED not illuminated), if the cumulative resistance falls below $1.8k\Omega$ by cooling down of the PTC and either a reset key (internal or external) was pressed or the supply voltage was disconnected. The output relay switches into off-position (red LED illuminated) in case of a line break or a short circuit of the probe line (cumulative resistance less than 15Ω). Under these conditions however the output relay does not change its state, neither by pressing a reset key nor by disconnecting the supply voltage.



Connections

