

TCM

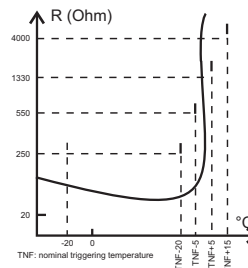
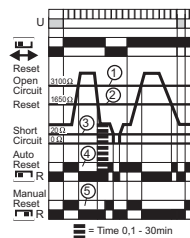
overview

- ◆ thermistor motor protection using DIN 44081 PTC-sensors
- ◆ up to 6 PTC sensors in series
- ◆ DPCO output max. 6A
- ◆ fault latching function
- ◆ switchable test function (TCM)
- ◆ probe short and/or open circuit detection
- ◆ LED indicators for power supply and output relay
- ◆ 22.5 or 45mm DIN rail mount housing



Function

- Control relay ac
- Control relay passive
- Contact closed
- Contact open
- ① Triggering threshold
- ② Reset threshold
- ③ Short circuit detection threshold
- ④ Output relay, function Auto reset mode
- ⑤ Output relay, function Manual reset mode



The TCM is used with PTC sensors (DIN 44081) to provide permanent over temperature protection for motors and other equipment

Up to 6 PTC's connected in series can be used with one TCM relay. On the application of the supply voltage the output relay pulls in. When the PTC sensors reach their nominal temperature the TCM converts the sudden increase of resistance into a signal which causes the output relay R to change over. The red LED F starts blinking.

Care must be taken to ensure that long cables connecting PTC's to T1 and T2 are shielded otherwise external electro-magnetic influences can interfere with the correct function of the sensor.

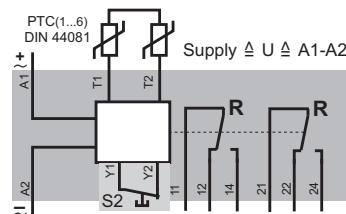
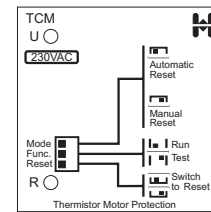
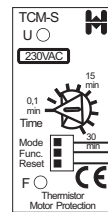
Front plate located DIP-Switches are used to select either.

Auto reset mode

When the resistance returns under the reset threshold, time t starts (TCM-S). At the end of time t, the output relay resets and the red LED F goes out.

Manual reset mode

Either an external reset (S1) must be operated to reset the relay, or the third dip switch can be used to perform a manual reset. With the external switch S2 (only TCM-SR) galvanically disconnected, the reset can also be performed. This function is available if the Reset DIP-Switch is switched to the left.



To perform a manual reset of TCM-SR a momentary break contact is connected to terminals Y1 and Y2.

specification

supply voltage variation	nominal voltage +10% / -15%
frequency range	48 - 63 Hz
duty cycle	100%
response/delay time	< 300ms
reset time	< 500ms
max. measuring voltage	< 2,5V
max. resistance	1500 Ohm (6 sensors)
triggering threshold	3100 Ohm
reset threshold	1650 Ohm
short circuit detection	0 - 20 Ohm
output relay specification	max. 6A 230V~
Ue/Ie AC-15	120V/4A 240V/3A
Ue/Ie DC-13	24V/2A
expected life time	DPCO SPCO
mechanical	2 x 10 ⁶ resp. 1 x 10 ⁷ operations
electrical	1 x 10 ⁵ resp. 1 x 10 ⁵ operations
operating conditions	-20 to +60 °C non condensing
	* EN 60947-5-1 VDE 0435

ordering information

part no	supply	output	sup. galv. iso*	housing types
TCM 230Vac	230V~ 2,5VA	DPCO	yes	C
TCM 115Vac	115V~ 2,5VA	DPCO	yes	C
TCM 24Vac/dc	24V~= 2W	DPCO	no	C
TCM-S 230Vac	230V~ 2,5VA	DPCO	yes	B
TCM-S 115Vac	115V~ 2,5VA	DPCO	yes	B
TCM-S 24Vac	24V~ 2,5VA	DPCO	yes	B
TCM-S 24Vdc	24V= 2W	DPCO	no	B
TCM-SR 230Vac	230V~ 2,5VA	DPCO	yes	B
TCM-SR 24Vac	24V~ 2,5VA	DPCO	yes	B
TCM-SR 24Vdc	24V= 2W	DPCO	no	B

* The measurement input is galvanically isolated from the power supply

