

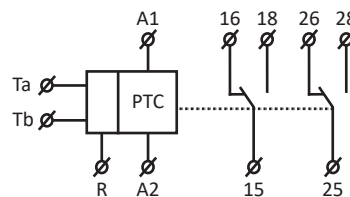
Thermtec-MWM

Thermostat for Monitoring Temperature



The Thermtec-MWM monitors the temperature of a motor winding. The relay will operate with the PTC sensor already built-in to the motor winding or with an external sensor which may be a PTC sensor or mechanical switch (e.g. a bi-metal contact).

- The PTC sensor is built-in within the motor winding by the motor manufacturer
- MEMORY function - activated by DIP switch
- RESET of faulty state:
 - a) via button on the front panel, or
 - b) by external signal (remote switch with two wires)
- Sensor short-circuit or disconnection is identified by flashing red LED
- Output contact 2 x changeover 8A / 250V AC1
- Red LED illuminates to indicate set temperature has been exceeded
- The sensor terminals are galvanically separated from the power supply and will not damage the device if shorted to earth
- Supply 24Vac/dc - 240Vac/dc
- 1-module, DIN-Rail mounting



Order Code

Thermtec-MWM

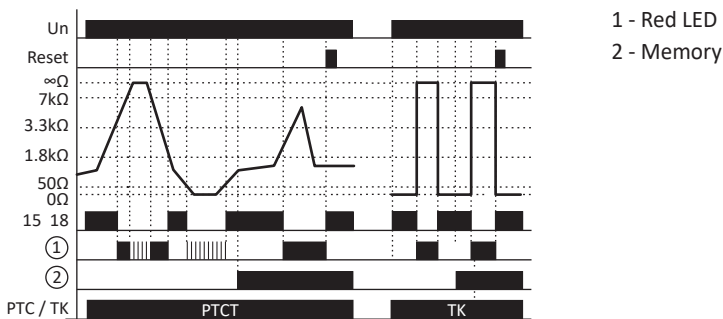
Thermtec-MWM Technical Specification

Function	Monitoring Temperature of a Motor Winding
Supply Terminals	A1 - A2
Supply Voltage	24Vac/dc - 240Vac/dc (AC 50 - 60Hz)
Consumption	2VA / 1W max.
Max. Dissipated Power (Un + Terminals)	2.5W
Supply Voltage Tolerance	-15%, +10%
Measuring Terminals	Ta - Tb
Cold Sensor Resistance	50Ω - 1.5kΩ
Upper Level	3.3kΩ
Bottom Level	1.8kΩ
Sensor	PTC Temperature of Motor Winding
Sensor Failure Indication	Flashing Red LED
Accuracy in Repetition (Mechanical)	< 5%
Switching Difference	± 5%
Temperature Dependence	< 0.1% / °C
Changeover Contacts	2 x Changeover / DPDT (AgNi / Silver Alloy)
Rated Current	8A / AC1
Switching Capacity	2000VA / AC1, 192W / DC
Inrush Current	10A / < 3s

Thermtec-MWM Technical Specification

Switching Voltage	250Vac / 24Vdc
Mechanical Life	15,000,000 Cycles
Electrical Life (AC1)	35,000 Cycles
Operating Temperature	-20°C to 55°C
Storage Temperature	-30°C to 70°C
Electrical Strength	4kV (Supply Output)
Operating Position	Any
Mounting	DIN-Rail EN 60715
Protection Degree	IP40 from Front Panel / IP20 Terminals
Overvoltage Category	III
Pollution Degree	2
Max. Cable Size (mm ²)	Solid Wire max. 1x 2.5 or 2x 1.5 / Stranded Wire with Ferrule max. 1x 2.5 (AWG 12)
Dimensions	90 x 17.6 x 64mm
Weight	71g
Standards	EN 60255-1, EN 60255-26, EN 60255-27, IEC 60730-2-9

Thermtec-MWM Function



The relay can control the temperature of a motor winding via a PTC thermistor contained within the motor winding. The resistance of the PTC thermistor should reach a maximum $1.5k\Omega$ in the cold stage. As the temperature rises the resistance increases. When the resistance exceeds $3.3k\Omega$ the output relay contact will switch off. Commonly the output relay is connected to the coil of a contactor controlling a motor. When the temperature drops the thermistor resistance will decrease. When the resistance drops below $1.8k\Omega$ the output contact of the relay switches on (closes).

The relay includes the function “Control of sensor fault”. This controls interruption or disconnection of the sensor. When the switch is in position “TK” monitoring of a faulty sensor is disabled, this is necessary in order to use a bi-metal sensor (mechanical switch) with only 2 states: ON or OFF.

An additional safety feature of the unit is the “Memory” function. This will work with both PTC and bi-metal sensors. When the temperature is exceeded and the output turns OFF, the output will remain OFF until the relay is manually reset (via the reset button on the front panel or via the external remote reset contact). The manual reset can only be performed if the sensor temperature has returned to normal.