Type: LTMR

PTC Thermistor Monitoring Relay

Terminal Protection to IP20

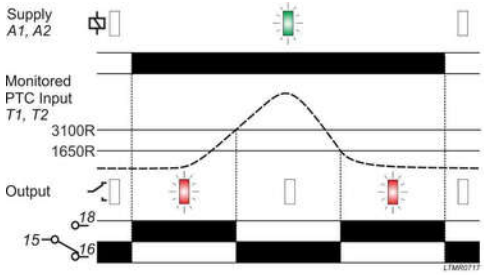


Dims: to DIN 43880
W. 17.5mm

- **Compact 17.5mm DIN rail housing**
- **Used in conjunction with PTC (Positive Temperature Coefficient) thermistor typically embedded in motor windings**
- **Detects when the resistance of thermistor exceeds the fixed Operate threshold and de-energises internal relay**
- **Auto-resets (relay re-energises) when resistance returns below the Release threshold**
- **Isolated Auxiliary Supply (100 – 230V AC/DC)**
- **1 x SPDT relay output 5A**
- **Green LED indication for supply status**
- **Red LED indication for relay status**

ISO 9001:2015
Cert. No. 14125771

FUNCTION DIAGRAM



INSTALLATION AND SETTING

Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE THE SUPPLY.
- Connect the unit as shown in the diagram below.
- The connection to the thermistor is not polarity sensitive and can therefore be connected either way around.

Applying power.

- Apply power and the green "Power supply" ❶ LED will illuminate. The red LED ❷ will illuminate and relay energise provided the measured temperature is below the "Operate" trip threshold.
- Refer to the Troubleshooting table if the unit fails to operate correctly.

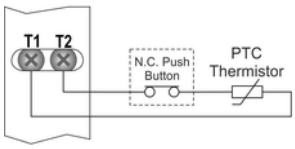
Testing.

- If it is necessary to provide a means of testing the unit (i.e. simulating an over temperature condition), and external push button may be connected as shown below.
  N.B. It is recommended that a push button be used rather than a switch as to eliminate the risk of the switch being left in the open position.

Test Simulation

Pressing the N.C. push button will temporarily disconnect the thermistor forcing the relay to de-energise. Release the push button to re-energise the relay.

LTMR Test Circuit



Troubleshooting.

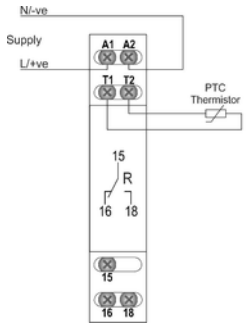
The table below shows the status of the unit during a particular condition.

Status	Green LED ❶	Red LED ❷	Relay
No supply	Off	Off	De-energised
Measured temperature above trip threshold	On	Off	De-energised
Thermistor disconnected/open circuit	On	Off	De-energised
Thermistor short circuit	On	On	Energised

TECHNICAL SPECIFICATION

Aux. Supply voltage Us **(A1, A2):**	100 – 230V AC/DC	
Frequency range:	48 – 63Hz	
Supply variation:	+/-15%	
Overvoltage category:	III (IEC 60664)	
Rated impulse withstand voltage:	4kV (1.2/50µS) IEC 60664	
Power consumption (max.):	1VA	
Monitoring mode:	Over temperature	
Operate resistance/threshold:	3100Ω ±10% (in accordance with DIN 44081)	
Release resistance/threshold:	1650Ω ±10%	
Repeat accuracy:	± 0.5% at constant conditions	
Response time:	< 0.5s (to relay de-energising) < 50ms (to relay re-energising)	
Monitored Input **(T1, T2):**	PTC Thermistor	
Max. cable length:	50m	
Power on indication:	Green LED	
Relay status indication:	Red LED	
Ambient temperature:	-20 to +60°C	
Relative humidity:	+95% max.	
Output **(15, 16, 18)**:	SPDT relay	
Output rating:	AC1	250V 5A (1250VA)
	AC15	250V 2A
	DC1	25V 5A (125W)
Electrical life:	≥ 150,000 ops at rated load	
Dielectric voltage:	2kV AC (rms) IEC 60947-1	
Rated impulse withstand voltage:	4kV (1.2/50µS) IEC 60664	
Housing:	Orange flame retardant UL94	
Weight:	67g	
Mounting option:	On to 35mm symmetric DIN rail to BS EN 60715 or direct surface mounting via 2 x M3.5 or 4BA screws using the black clips provided on the rear of the unit.	
Terminal conductor size:	≤ 2 x 2.5mm² solid or stranded	
Terminal screw:	M3 (Designed for use with **PZ1** "pozi-driver")	
Tightening torque:	0.6Nm Max.	
Approvals:	Conforms to IEC. CE, and RoHS Compliant. EMC: Immunity: EN 61000-6-2 Emissions: EN 61000-6-4	

CONNECTION DIAGRAM

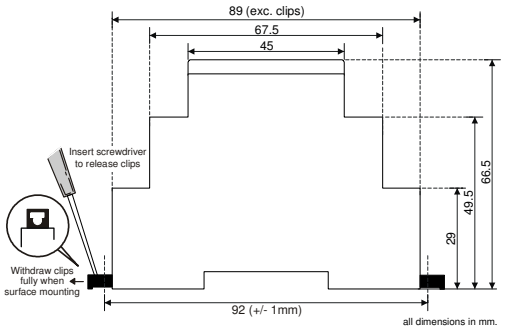


FRONT LED INDICATION

1. Power supply status (Green) LED
2. Relay output status (Red) LED



DIMENSIONS



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