

# Type: LTMR

## PTC Thermistor Monitoring Relay

Terminal Protection to IP20

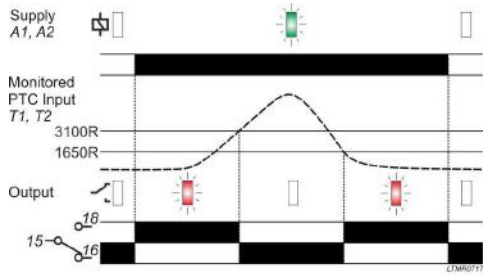


Dims: to DIN 43880  
W. 17.5mm

- 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



### FUNCTION DIAGRAM



### INSTALLATION AND SETTING

Installation work must be carried out by qualified personnel.

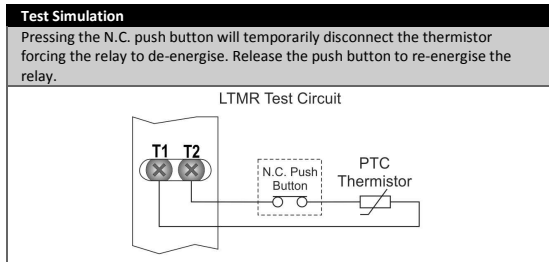
- BEFORE INSTALLATION, ISOLATE THE SUPPLY.
- Connect the unit as shown in the diagram below.
- The connection to the thermistor is not polarity sensitive and can therefore be connected either way around.

#### Applying power.

- Apply power and the green "Power supply" LED will illuminate. The red LED will illuminate and relay engage 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 can 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.

#### Troubleshooting.

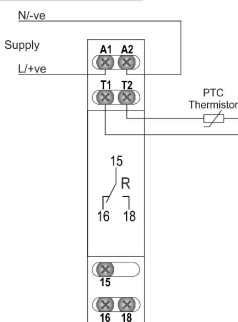
The table below shows the status of the unit during a particular condition.

Status	Green LED	Red LED	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

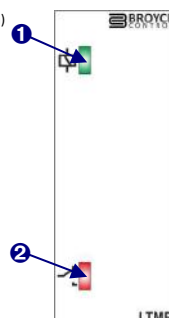
Aux. Supply voltage Us (A1, A2):	100 – 230V AC/DC
Frequency range:	48 – 63Hz
Supply variation:	+/-15%
Overvoltage category:	III (IEC 60664)
Rated impulse withstand voltage:	4kV (1.2/50µs) IEC 60664
Power consumption (max.):	1VA
Monitoring mode:	Over temperature
Operate resistance/threshold:	3100Ω ±10% (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 2.5mm <sup>2</sup> 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

