



TPR-404

Thermister Relay

Temperature Protection Relay for Transformers & Motors

Standard Features:

- Provision to connect upto 3 PTC thermistor sensors in series for Alarm, Trip and Fan On & Fan Off.
- 4 relay outputs (1 C/O contact for TD on, Fan, Alarm & Trip)
- Facility for Remote & Local Manual Trip reset (Auto reset can be done by shorting remote reset pushbutton terminals)
- Facility to Test LEDs and Relays.
- Capable to detect sensor fault (Open or short circuited).

TPR-404 is specifically designed for safe operation of transformers & motors. It is suitable for marshaling box installation and is built for long and trouble-free operation under extreme conditions of service associated with transformers & motors.

TPR-404 accepts upto 3 sensors in series for giving alarm, trip and to operate fan (Fan on and fan off). These sensors (separate for alarm, trip, fan on and fan off) are to be installed in the windings. These sensors are sensitive devices and respond to specific temperature only.

Operation with Default settings:

On power on, Alarm, Trip & Fan relays will energise. Approx after 5 secs of power on, TD on relay will energise.

Alarm relay will de-energise when temperature around any one or more thermisters in alarm chain crosses the threshold/trigger temperature. Alarm relay is auto reset type and will energise again after temperature falls below the threshold/trigger temperature value.

Trip relay will de-energise when temperature around any one or more thermisters in trip chain crosses the threshold/trigger temperature. Trip relay is manual reset type and will energise again when Trip reset pushbutton is pressed after temperature falls below the trigger value. This can be made to reset automatically if terminals 19 & 20 are shorted.

Fan relay will de-energise when Fan On thermistor threshold/trigger temperature is crossed. Fan relay will de-energise when temperature falls below Fan Off thermistor threshold / trigger value.

Technical Specifications

TPR 404

General Specifications

Inputs : Upto 3 nos. thermistors in series for Alarm, Trip, Fan on & Fan off.

LED Indications

- Power On
- Sensor faults for Alarm, Trip, Fan On & Fan Off
- Relay status for TD on, Alarm, Trip & Fan

DIP Switch Settings

- Ignore Fan Sensors (yes/no)
- Ignore Fan off Sensors (yes / no)
- Fan off delay (0 / 10 mins)
- Alarm & Fan relay ON in case of sensor fault conditions (On/Off)
- Fan, Alarm & Trip Relays normally energised or de-energised
- Relay operations in Test mode (Yes / No)..

Mechanical Specifications

Standard : DIN 43880
 Overall Dim : 105(W) x 110(H) x 75(D) mm.
 Material : Cover - Polycarbonate (FR-UL94V-0) & Base - Noryl (FR-UL94V-0)
 Mounting : DIN RAIL TS35 / TS 35D as per DIN46277-3
 Protection : IP-20
 Weight : 300 gms approx. (unpacked)

Electrical Specifications

Supply Voltage: 20 - 270 VAC/DC (40-400 Hz)
 Outputs : 4 Relay contacts (1 C/O contact for TD on, Fan, Alarm & Trip)
 Contacts : 5A @ 230VAC & 300 ma @ 220VDC for resistive load
 Power consumption: Max. 7 VA
 Insulation: Will withstand for 1 min, 2.5 KVAC applied between
 - shorted relay contacts & all other terminals shorted together,
 - shorted sensor terminals & all other terminals shorted together,
 - shorted Power & all other terminals shorted together.

Environment

Operating conditions: Amb. Temp : -20 °C to 70 °C, R.H : 95% Max non-condensing.
 Storage Temp.: -20 °C to 85 °C.
 Test conditions: Amb. Temp : 27 °C ± 70 °C, R.H : 20 - 80% Max non-condensing.
 Vibration: 10-150Hz, 0.004" displacement
 Shock: 15g, Half sine, in 3 orthogonal planes
 Ingress Protection: IP-20
Electromagnetic compatibility
 Interference immunity to IEC 61000-6-2
 Electrostatic discharge IEC 61000-4-2, level 3 (8KV with Contact & 815KV in Air)
 Electrical fast transient/burst IEC 61000-4-4, level 4 (4KV / 5KHz)
 Surge IEC 61000-4-5, level 4 (4KV 1.2/50 uS)

Terminal Diagrams

