



TR-7546-ETH

Transformer Protection Relays

Temperature Scanner for Resin Cast / Dry Type Transformers

Standard Features:

- Single scanner unit for six windings.
- Four output relays (1 C/O contacts) for Fan Control, Alarm, Trip, & Fault (to warn against open or short circuit condition of sensor connections).
- Auto Fan Exerciser.
- Operation Test facility.
- Memorizes Max. temperature for all channels.
- Combicon terminations for ease of connections.
- Ethernet port provided with Modbus TCP protocol.

TR-7546-ETH is designed for safe operation of medium voltage cast resin / dry type transformer. It is suitable for control room as well as marshaling box installation and is built for long and trouble-free operation under extreme conditions of service associated with transformer.

Three numbers of user programmable set-points can be used to control the cooling fan, to warn the user of high temperature and to shut down the transformer in case of excessive heating. Six nos. of Pt-100 RTD sensors allows the user to monitor the temperatures of windings. Channel 6 can be set as Active, Passive or Core type. If set as active, it's considered to be a winding channel. If selected as Core, separate set points are made available for alarm, trip and fan. If set as passive, it's considered to be only a indicating type of channel & no relays or 4-20 ma signal will be affected by this channel.

TR-7546-ETH is programmed to note and store maximum temperature of the winding. Facility extends to recall this information and to clear it for fresh recording. The maximum Temperature is saved such that it can be recalled even after the power for the controller fails.

TR-7546-ETH is provided with Ethernet port for Modbus TCP protocol for SCADA communication.

Technical Specifications

General Specifications

Inputs : 6 RTDs (Pt-100, IEC 60751)
 No. of Set-points : Three (Fan, Alarm & Trip)
 Indication range : - 20 to 250 °C
 Set point range : 20 to 220 °C
 Accuracy : ± 1 °C
 Dead Band : Fan & Trip : 8 °C, Alarm: 5 °C
 Time delay in relay operation : Fan & Alarm: 5 secs, Trip: 7 secs
 Display Speed : 4 secs
 Displays : One 0.3" for channel no, Three 1/2" for temperature.

LED Indications

- Sensor FAULT
- FAN Status
- ALARM Status
- TRIP status
- MAX. temps are being displayed
- SETtings mode on
- TEST Function On
- Display HOLD to single channel

Relay Operation

Fault : Will energize on detecting sensor fault or when in programming mode.

Note: If specifically asked, we can provide units with "Electric fail fault" provision, wherein this relay turns on after few seconds of power-on and de-energizes on detecting sensor fault. This helps user to get an indication even in case of electric fail.

Fan : Will energize if any channel's temperature reaches fan set point. This relay will also turn on as per fan exercise set timings, if this Auto Fan Exerciser is enabled.

Alarm : Will energize if any channel's temperature reaches alarm set point.

Trip : Will energize if any channel's temperature reaches trip set point.

Mechanical Specifications

Dimensions : 96 (H) x 96 (W) x 150 (D) mm
 Cut-out : 92 X 92 mm (+ 1 mm).
 Mounting : Flush Panel mounting.
 Weight : 550 gms approx. (unpacked)
 Enclosure : Noryl.

Electrical Specifications

Supply Voltage: 85-270 VAC/DC , 40-400 Hz
 (Optionally 20-50 VAC/DC)
 Outputs : - 4 relay contacts (1 C/O for Fault, Fan, Alarm & Trip)
 Terminals: Screw-cage Combicon,
 - RTDs suitable for one 1mm² wire.
 - others suitable for one 2mm² wire
 One RJ-45 Ethernet port with MODBUS TCP protocol.
 Contact ratings: For Resistive load 5A @ 240VAC, 0.2A @ 220VDC
 Power consumption: Max. 20VA
 Insulation: 100 Mohm or more at 500 VDC between Earth and terminals.
 2KV rms at 50 / 60 Hz for 1 minute (port to port).

Environment

Ambient: -20 to 70 °C. R.H.: 95% max non -condensing.
 Storage Temp.: -20 to 85 °C.
 Test Conditions: Amb. Temp. 27 \pm 5 °C.
 Shock: 15g, Half sine, in 3 orthogonal planes

Configurations for Channel 6

	Active	Passive	Core
Display	✓	✓	✓
Set Points	Same for all Channels.	✗	Separate Set points for Ch-6

Terminal Diagrams

