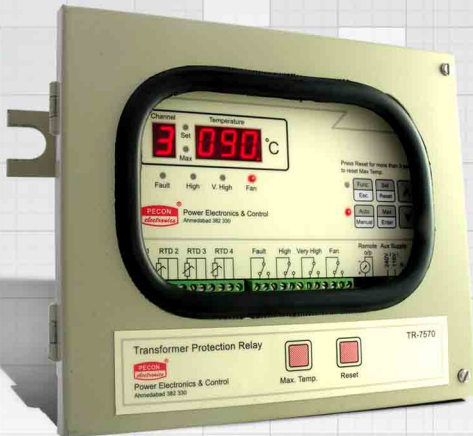


# Power Electronics & Control

Since 1973

An ISO 9001 Company



## TR-7570 / TR-7570-C Transformer Protection Relay

Temperature Scanner for Resin Cast / Dry Type Transformers

### Standard Features:

- ❖ Single scanner unit for three windings and fan Control.
- ❖ Four output relays for Alarm (High), Trip (V.High), Fan on/off (Fan) & to warn against sensor open or wrong sensor connection (Fault).
- ❖ Memorizes max. temperature even after power fail conditions.
- ❖ TR-7570, comes with Analog output (4-20mA) for remote indication, while TR-7570-C comes with Isolated RS-485 communication with MODBUS RTU slave protocol.

The model **TR-7570** is designed for safe operation of medium voltage cast resin/dry type transformer. It is suitable for control room as well as marshalling box installation and is built for long and trouble-free operation under extreme conditions of services associated with transformer.

Three numbers of user settable set-points can be used to control the cooling fan, to warn the user of high winding temperature and to shut down the transformer in case of excessive heating. Four numbers of Pt-100 RTD sensors allow the user to monitor the temperature of all the three phase windings plus one other critical point on the transformer like core. Alternatively, it can be used to check the ambient temperature or can be left as spare.

TR-7570 is programmed to note and store maximum temperature of the winding. Facility extends to recall this information and to clear it for fresh recording.

TR-7570 has one analog output signal (4-20mA). This can be configured to represent the temperature of any of the four channels or the temperature of the hottest channel.

TR-7570-C is provided with facility for computer communication using RS-485 with MODBUS RTU slave protocol, in lieu of 4-20mA signal.

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# Technical Specifications

Inputs	: 4 nos. of RTD sensors (Pt-100, IEC-60751)
No. of Set-points	: Three (High, V.High & Cooling Fan On)
Temperature indication range:	-50 to 300 °C
Set point range	: 1 to 300 °C
Accuracy	: ± 1 °C
Dead Band (relay differential)	: User settable ( Range : 1 - 25 °C)
Display Speed	: User settable ( Range : 1 - 60 secs)
Display	: 3 Seven Segment 1/2" displays for displaying Temperature 1 Seven Segment 1/2" displays for displaying channel number

## Mechanical

Overall Dimensions	: 215 (H) x 265 (W) x 130 (D) mm
Mounting	: Wall mounting by 3 nos. M6 Screws
Weight	: 3.5 kg approx. ( <i>unpacked</i> )
Enclosure	: M.S. Sheet Box, powder coated, with acrylic viewing window (IP-52)

## Electrical

Supply Voltage	: 90 - 270 VAC/DC (Optionally 20 - 50 VAC/DC)
Outputs	: Four relay contacts (one C/O contact for – Fault, Fan, High & V.High) One analog 4-20mA output in TR-7570 (corresponding to 0 to 200 °C max. load 300 ohms, linearity 0.5% w.r.t. local indication) RS-485 communication (1KVDC isoated) with MODBUS RTU slave protocol in model TR-7570-C (in lieu of 4-20mA output signal).
Contact Rating	: For resistive load, 5A @ 230VAC & 0.5A @ 125VDC For inductive load, 5A @ 230VAC (cosφ = 0.4) & 0.3A @ 125VDC (L/R=7msec).
Relay operations	: Fault : Will energize after few seconds of power-on and de-energize on detecting fault condition. Fault relay will remain on in normal conditions. Fan : Will energize if any channel's tmeperature exceeds fan set point . High : Will energize if any channel's temperaturure exceeds High set point. V.High : Will energize if any channel's temperature exceeds V.High set point.
Terminals	: Combicon screwed caged, suitable for 2.5 mm <sup>2</sup> solid conductors.
Insulation	: Insulation resistance shall be 100 Mohm or more when 500 VDC is applied between each terminal shorted together and earth. Controller will withstand 2 KV rms at 50/60 Hz. for 1 min., applied between all relays & supply terminals shorted together & earth.
Power consumption	: Max. 15VA

## Environmental

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 ± 5 °C,	R.H. : 20 - 80% non-condensing.
Vibration	: 10-150 Hz, 0.004" displacement	

## Terminal Details

