



DT-241 / DT-242

DT-243 / DT-244

*Digital Transmitters
SCADA communicator
For Oil Cooled transformers*

Description

These Digital Transmitters are specifically designed for providing SCADA connectivity to existing setups with space restrictions. It is suitable for marshaling box installation and is built for long and trouble-free operation under extreme conditions of service associated with transformers.

These transmitters would

- Accept
 - Inputs from upto 2 RTDs
 - Signal from upto 4 CTs
 - Digital inputs from upto 4 potential-free contacts
- Convert
 - RTD signals to top oil temperature
 - Estimate winding temperatures based on RTD signal, CT inputs & Settings
- Transmit on RS-485 port using modbus slave RTU protocol
 - Oil temperature values
 - Winding temperature values
 - RTD tracking fault status
 - Digital input status

Parameters for these Transmitters have to be set using any modbus master simulator softwares.

RTD signal

The unit would have provision to accept input from two RTDs. The unit can be programmed to use the two RTDs as separate identities or in duplex tracking mode.

When programmed as duplex tracking mode, first RTD would work as Primary sensor and would be used for winding temperature estimation. The second sensor would work as "Assistant / Tracking" sensor. It means, in case, unit finds that the temperature difference measured by the two sensors is more than 5-10 deg C (settable), it would give a alarm flag to gain attention of the user to take necessary precautionary step.

CT signals

DT-241 will have provision to accept 1 CT input. Similarly DT-242 can accept 2, DT-243 can accept 3 & DT-244 can accept 4 Cts. The full load CT current can be anywhere between 1 A to 5 A.

Digital inputs

DT-244 would have a provision to accept digital inputs from upto 4 potential free contacts. Unit would have a fix response time setting of 30 msecs. And would pass on the status on to SCADA.

Technical Specifications

General Specifications

Inputs : Upto 2 RTDs (Pt-100, IEC 60751)
Upto 4 Cts (full load secondary current can be 1 A to 5 A, settable)
4 potential free contacts

LED Indications

- Power On
- Sensor faults for RTD1 & RTD 2
- RS-485 status
- Digital inputs status

Mechanical Specifications

Standard : DIN 43880
Overall Dim : 70(W) x 110(H) x 75(D) mm.
Material : Cover - Polycarbonate
& Base - Noryl
Mounting : DIN RAIL TS35 / TS 35D as per DIN46277-3
Protection : IP-20
Weight : 300 gms approx. (unpacked)

Electrical Specifications

Supply Voltage: 85 - 270 VAC/DC (40-400 Hz)
Comm. Port : RS-485 with Modbus slave RTU protocol
Power consumption: Max. 7 VA

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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

