Smart Loop-Powered RTD In-Head Temperature Transmitter

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TX12

5 YEAR WARRANTY

- User Trim—Null Out Sensor Error
- Unique Pushbutton Configuration Without PC
- High Stability
- Programmable Burnout
- LED Sensor Fail Indicator
- Reconfigure in Seconds

The TX12 head mounted temperature transmitter connects to any standard Pt100 resistance sensor and converts the linearized temperature to a 4 to 20 mA signal. The transmitter is a two wire device, and is fully configurable by the user, over a wide temperature range, with the aid of a simple pushbutton. This new TX12 design incorporates additional configuration menus, allowing the user to push button trim the transmitter output at both zero and span, ideal for trimming out sensor errors. The transmitters advanced circuitry guaranties high stability over the wide operating ambient temperature ranges experienced by head mounted devices.

One of the transmitters features is the program LED, which provides visual indication of sensor fault when in normal operation and is also used to guide the operator through the simple menus during configuration.

Specifications

Input

Sensor Type: Pt100, 100 Ω @ 0°C 2- or 3-wire
Sensor Range: -200 to 850°C (-328 to 1562°F)
Sensor Connection: Screw terminal
Minimum Span: 25°C (77°F)
Linearization: BS EN 60751(IEC 751) standard/JISC 1604
Measurement Accuracy: 0.1°C ±0.05% of reading
Thermal Drift: 25 ppm/°C
Excitation Current: <200 uA
Lead Resistance Effect: 0.002°C/Ω
Maximum Lead Resistance: 20 Ω per leg

Output

Output Type: 2-wire, 4 to 20 mA current loop
Output Range: 4 to 20 mA
Output Connection: Screw terminal
Maximum Output: 21.5 mA (in high burnout condition)
Minimum Output: 3.8 mA (in low burnout condition)
Accuracy: mA output/2000 or 5 uA (whichever is the greater)
Loop Voltage Effect: 0.2 uA/V
Thermal Drift: 1 uA/°C
Maximum Output Load: [(Vsupply-10)/20] kΩ (Example: 700 Ω @ 24V)

General Specifications

Update Time: 500 mS
Response Time: 1 second
Start Up Time: 4 seconds (1 out < 4 mA during start up)
Warm-Up Time: 1 minute to full accuracy
Power Supply: 10 to 30 Vdc

Environmental

Ambient Operating Range: -40 to 85°C (-40 to 185°F)
Ambient Storage Temperature: -50 to 90°C (-58 to 194°F)
Ambient Humidity Range: 10 to 90% RH non-condensing

TX12 shown actual size.

Physical

Dimensions: 43 Dia. x 21 mm H (1.7 x 0.8")
Weight: 31 g (0.068 lb) (encapsulated)

Approvals

EMC - BS EN 61326:1998: Electrical equipment for measurement control and laboratory use
ANNEX A: Immunity test requirements for equipment intended for use in industrial locations
ANNEX F: Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
IEC 61000-4-2: Electrostatic discharge
IEC 61000-4-3: EM field
IEC 61000-4-4: Transient burst (output)
IEC 61000-4-5: Surge (output)
Note: *Sensor input wires to be less than 3 m (10') to comply.*

To Order *(Visit omega.com/tx12 for Pricing and Details)*

Model No.	Description
TX12	RTD transmitter (100 Ω, Pt 0.00385)
TX2-100	2-conductor shielded cables, 30 m (100')
PSR-24S	Regulated power supply, 24 Vdc, 400 mA, screw terminal
PSR-24L	Regulated power supply, 24 Vdc, 400 mA, UL, stripped leads
PSR-24L-230	Regulated power supply, 24 Vdc, 400 mA, stripped leads, 230 Vac input, CE
TX-SCALED	Scaling charge for factory set up of range (specify temperature range)

Comes complete with operator's manual.
Ordering Example: TX12*, RTD transmitter and* ***PSR-24L****, regulated power supply with stripped leads.*