

PT100 2 Wire Head Mounting Transmitter RTR-2

Function: Non-isolating multi-range 2 wire temperature transmitter which will convert a PT100 input into a standardised load-independent 4 to 20mA current output, linearly proportional to the measured temperature. The RTR-2 instrument is housed in a metal enclosure suitable for mounting in DIN B connection heads and which gives excellent RFI immunity. The RTR-2 has excellent lead resistance compensation and PT100 linearisation conforming to BS1904 characteristics. Calibration is performed by means of a DIP switch array for coarse settings and two potentiometers for fine tuning. The calibration devices are located behind the metal top cover.

TempTrans CONVERTERS



SPECIFICATIONS

Please note that the following are typical standard ranges. We will manufacture instruments to cater for other ranges too, within certain limitations. Please contact our internal sales department for further clarification.

INPUTS:

Resistance Thermometer

3 wire PT100 to BS1904 and DIN43760 characteristics
100 ohms at 0°C

Span Temperature

Minimum span temperature 30°C
Maximum span temperature 810°C

Zero Temperature

Minimum zero temperature -55°C
Maximum zero temperature 202°C

Sensor Lead Resistance

Less than 50 ohms (two ways)

Lead Compensation Error

Less than $\pm 0.05^\circ\text{C} / 10$ ohms lead resistance

OUTPUTS:

DC Current

4 to 20mA

Overload

Current limited to 28mA max

Loading

$$R_L \text{ maximum} = (V_{\text{Supply}} - 10) / 0.02$$

i.e.	V_{Supply}	$R_L \text{ max}$
	10 Volt	0 ohms
	12 Volts	100 ohms
	15 Volts	250 ohms
	24 Volts	700 ohms
	30 volts	1000 ohms
	36 Volts	1300 ohms

Input/Output Calibration

Three "Zero" DIP switches
Three "Span" DIP switches
and two fine-tuning potentiometers

SUPPLY:

Power Supply Voltage

10 to 36 Volt DC
Reverse polarity protected

Supply Variation Effect

Less than $\pm 0.03\%$ of span for full change

Sensor Excitation

Less than 1mA

GENERAL:

Accuracy (including linearity hysteresis and repeatability)

Better than $\pm 0.1\%$ of span

Temperature Coefficient

Better than $\pm 0.15\%$ of span / $\Delta 10^\circ\text{C}$

Operating Temperature Range

-20 to +70°C

Option:

Operating Temperature Range

-40 to +85°C

Storage Temperature Range

-40 to +90°C

Operating/Storage Humidity Range

5 to 95% RH non-condensing

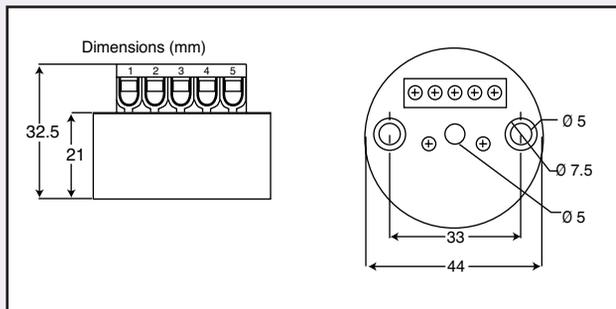
Case

Die-cast zinc alloy. Internal circuitry encapsulated in epoxy resin

Weight

110 gms

MECHANICAL DETAILS



TERMINATION DETAILS

Terminal

- 1 R_{Load} to Power Supply -ve
- 2
- 3
- 4
- 5 Power Supply +ve

ORDERING DETAILS

- (a) Give identification code, i.e. RTR-2
- (b) Give details of temperature range, i.e. 0 to 600°C
- (c) Please specify if optional Operating Temperature Range required

