



RTD 2 Wire Isolating Transmitter RTI-2

Function: Isolating multi-range 2 wire temperature transmitter which will convert any 2 or 3 wire RTD input into a 4 to 20mA current. The RTI-2 is housed in a polycarbonate plastic enclosure suitable for mounting on DIN rail. The RTI-2 has exceptional input to output high common mode rejection ratio and a high degree of filtering to eliminate false output signals, providing a low ripple output current. PT100 linearisation conforms to BS1904 characteristics. Calibration is performed by means of an internal DIP switch array for coarse settings and two potentiometers brought out to the front panel for fine tuning. The RTI-2 is equipped with "test" terminals which enable monitoring of the output current by measuring the voltage across an internal 10 ohm resistor without breaking the current loop. Options on the RTI-2 include: 2 x RTD inputs to give an output proportional to the temperature differential.

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

Options

PT50, PT500, CU10, NI120

Span Temperature

Minimum span temperature 26°C
Maximum span temperature 810°C

Zero Temperature

Minimum zero temperature -62°C
Maximum zero temperature 232°C

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 25mA 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

Test Terminals

40 to 200mV representing
4 to 20mA

Isolation

1500 Volts DC or peak AC

SUPPLY:

Power Supply Voltage

10 to 40 Volt DC
Reverse polarity protected

Supply and Load 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 $\pm 0.1\%$ of span/ $\triangle 10^\circ\text{C}$

Common Mode Rejection

127dB typical dc to 60Hz

Response Time

160mS (0 to 98%)

Operating Temperature Range

-20 to $+70^\circ\text{C}$

Options

-30 to $+85^\circ\text{C}$

Storage Temperature Range

-30 to $+85^\circ\text{C}$

Operating/Storage Humidity Range

5 to 95% RH non-condensing

Mounting

Standard 35mm DIN rail

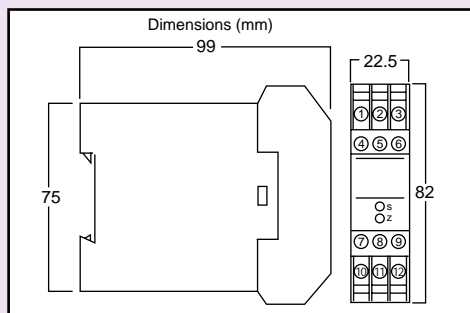
Protection Level

Box to IP40 Terminals to IP20

Weight

130 gms

MECHANICAL DETAILS



TERMINATION DETAILS

Terminal		Terminal	
1	R_{Load} to Power Supply -ve	7	Unused
2	Power Supply Screen	8	Unused
3	Power Supply +ve	9	Unused
4	Test +ve	10	
5	Unused	11	
6	Test -ve	12	

ORDERING DETAILS

- Give identification code, i.e. RTI-2
- Give details of sensor type, i.e. PT100
- Give details of temperature range, i.e. 0 to 600°C
- Please specify if optional Operating Temperature Range required