



## 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 ±0.05°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.	$V_{\text{Supply}}$	$R_L \text{ max}$
	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 ±0.03% of span for full change

**Sensor Excitation**  
Less than 1mA

#### GENERAL:

**Accuracy (including linearity hysteresis and repeatability)**  
Better than ±0.1% of span

**Temperature Coefficient**  
Better than ±0.1% of span/°C 10°C

**Common Mode Rejection**  
127dB typical dc to 60Hz

**Response Time**  
160mS (0 to 98%)

**Operating Temperature Range**  
-20 to +70°C

Options  
-30 to +85°C

**Storage Temperature Range**  
-30 to +85°C

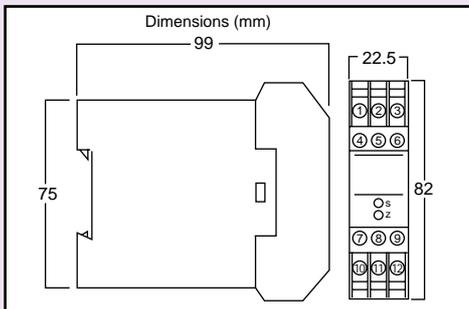
**Operating/Storage Humidity Range**  
5 to 95% RH non-condensing

**Mounting**  
Standard 35mm DIN rail

**Protection Level**  
Box to IP40 Terminals to IP20

**Weight**  
130 gms

### MECHANICAL DETAILS



### TERMINATION DETAILS

Terminal	Terminal
1 $R_{\text{Load}}$ 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

