

# RTD 2 Wire DIN Rail Mounting Transmitter RTT-2

Function: Non-isolating multi-range 2 wire temperature transmitter which will convert an RTD input into a standardised load-independent 4 to 20mA current output, linearly proportional to the measured temperature. The RTT-2 instrument is housed in a low profile polycarbonate plastic enclosure suitable for mounting on TS35 DIN rail. The RTT-2 has excellent lead resistance compensation and PT100 linearisation conforming 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 RTT-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 RTT-2 include: PT50, PT500, CU10 and NI120 RTD inputs.



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

Options  
PT50, PT500, CU10, NI120

**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.	$V_{\text{Supply}}$	$R_L \text{ max}$
	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

### 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/ $\square$  10°C

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

Option  
**Operating Temperature Range**  
-30 to +85°C

**Storage Temperature Range**  
-40 to +90°C

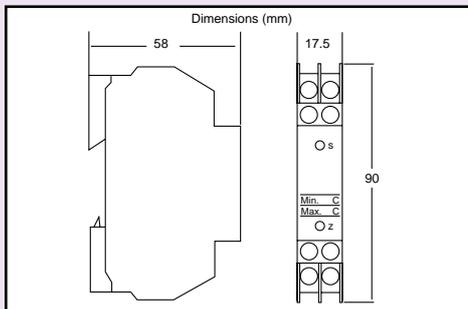
**Operating/Storage Humidity Range**  
5 to 95% RH non-condensing

**Mounting**  
Standard 35mm DIN rail

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

**Weight**  
70 gms

## MECHANICAL DETAILS



## TERMINATION DETAILS

### Terminal

- 1  $R_{\text{Load}}$  to Power Supply -ve
- 2 Power Supply +ve
- 3 Test +ve
- 4 Test -ve



## ORDERING DETAILS

- (a) Give identification code, i.e. RTT-2
- (b) Give details of sensor type, i.e. PT100
- (c) Give details of temperature range, i.e. 0 to 600°C
- (d) Please specify if optional Operating Temperature Range required



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