In-Head Transmitter TC/RTD

The In-Head transmitters are low cost, high accuracy 4-20mA temperature transmitters mounted in a head mounting housing.

- Field configurable for sensor type and range
- Loop monitoring pins
- Isolated version available
- High noise immunity
- High accuracy
- Low cost

Options and ordering codes

TC **HEAD** - **JAXX** - **9**

Model

Thermocouple	**TC**
RTD-PT100	**RTD**

Output types

Both the TC HEAD and RTD HEAD provide 4-20mA outputs. The TC HEAD output being non-linearised.

For isolated versions please contact our sales dept

Description

The TC HEAD and RTD HEAD units can accept a wide range of thermocouple or PT100 RTD input types and these types and the corresponding ranges are switch selectable using rotary switches mounted on the unit. No PC software is required.

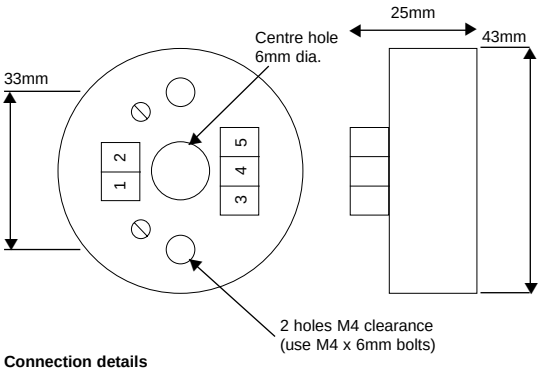
The unit features zero and span potentiometers for fine adjustment of the 4-20mA signal, this adjustment is made easier by the provision of loop monitoring pins which enable the loop output to be checked without disconnecting the 4-20mA loop.

A large 6mm diameter centre hole sensor shaft allows sensor to be replaced without removing the transmitter or field wiring.

Input types

The TC HEAD device can accept J, K, T, R, S, E and N type thermocouples. The RTD HEAD device accepts a PT100 resistance thermometer.

Dimensions and connections



Connection details

TC HEAD	RTD HEAD
1. Output Channel +ve	1. Output Channel +ve
2. Output Channel -ve	2. Output Channel -ve
3. Input Channel -ve	5. Input Channel +ve
5. Input Channel +ve	4. Input Channel -ve
	3. RTD 3rd Wire

Specification

Parameter	Min	Typ	Max	Comments
Supply voltage	8V/12V	24V	32V	Standard/isolated minimum voltage
Output current	0mA	4-20mA	29mA	Current limited
Cold junction accuracy (TC HEAD)		±2˚C		Over full operating temp. range
Calibration accuracy (RTD HEAD)			±0.3˚C	±0.05% full scale
Output linearity error			±0.1%	
Temp coefficient			±100ppm/˚C	0<Ta<40˚C
Load resistance error			±5ppm/Ω	0<R_L <600Ω
Time constant (10-90%) (TC HEAD)		300ms		
Time constant (10-90%) (RTD HEAD)		40ms		
Operating ambient	-15˚C		70˚C	
Relative humidity	0%		90%	
Isolation voltage (ISO version)	1kV			
Surge voltage	2.5kV for 50μS	Trans. of 10kV/μS		
Notes	Absolute maximum ratings indicate sustained limits beyond which damage to the device may occur Device is protected against reverse polarity connection Accuracy figures based on 24V loop supply, 10Ω loop resistance, and an ambient temperature of 20˚C			