

# Pt-100 RTD 2-Wire Temperature Transmitters

## Field mounted, Precision, Universal

### Model UTI/1, UTN/1

The UTI/1 is a precision Field Mounted loop-powered 2-wire transmitter with galvanic isolation between its input and the current loop output signal. It provides the circuitry for the excitation, amplification and linearization of signals from RTD sensors. The input circuit can accept 2 or 3-wire RTDs for either a direct or a differential temperature measurement. Specially designed circuitry provides excellent protection from external EMI/RFI sources.



The UTN/1 is a non-isolated lower cost version of the UTI/1 for those applications which requires its precision and RFI immunity but do not require Input/Output isolation.

Both model UTI/1 and UTN/1 can be easily ranged without requiring special tools or board modifications. The transmitters are members of Mescon's family of advanced Universal Input Transmitters which may be readily re-configured to accept other popular inputs such as Thermocouples, mV/mAVolt and Potentiometers.

## FEATURES:

- **2-Wire transmitter system**
- **Eliminates ground loop errors**
- **Excellent EMI/RFI protection**
- **User selectable input types, 2 or 3 wire RTDs**
- **1000 Volts isolation (UTI)**
- **Differential measurement mode**
- **Wide ranging ZERO and SPAN**

## OPTIONS:

- **4-wire Pt-100 sensors**
- **Other Pt, Ni, NiFe, Cu RTD sensors**
- **NEMA 4X or NEMA 7 enclosure**
- **DIN rail mounting**



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### Model UTI/1, UTN/1

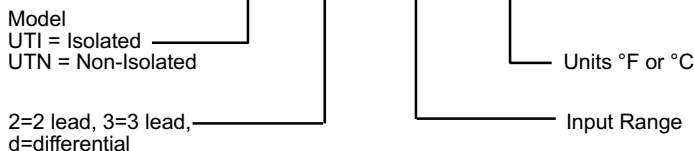
#### SPECIFICATIONS:

Input .....	Pt-100, 2-wire, 3-wire, differential
Output .....	4-20mA, 2-wire, limiting @ < 28mA
Input Span .....	10°C (18°F) min 800°C (1440°F) max
Calibration Accuracy .....	± 0.1% of span, BSLF, referred to the sensors (incl. linearity) the sensor actual temperature
Lead Wire .....	Automatic, for 3-wire sensors Compensation
Burnout Detection .....	Upscale, Standard
Temperature Stability .....	better than ± 0.02% of span/°F
I/O Isolation (UTI) .....	> 1000 VDC or peak AC
C.M.R.R. (UTI) .....	> 120 db, DC to 60 Hz
EMI/RFI Protection .....	Tested per SAMA PMC 33.1 from 20 to 1000 MHz and field strength to 30 V/m, meets $\text{CE}$ specifications
Output Ripple .....	< 0.01% of span (to 5KHz)
Adjustments .....	± 25% for both ZERO and SPAN
Power Supply Range .....	10-50 VDC, polarity protected
Operating Temperature .....	- 20°C to 70°C, (0°F to 160°F)
Humidity .....	0 to 95% RH, non-condensing
Maximum Load .....	$R_{max} = (V_{supply} - 10V)/20mA$

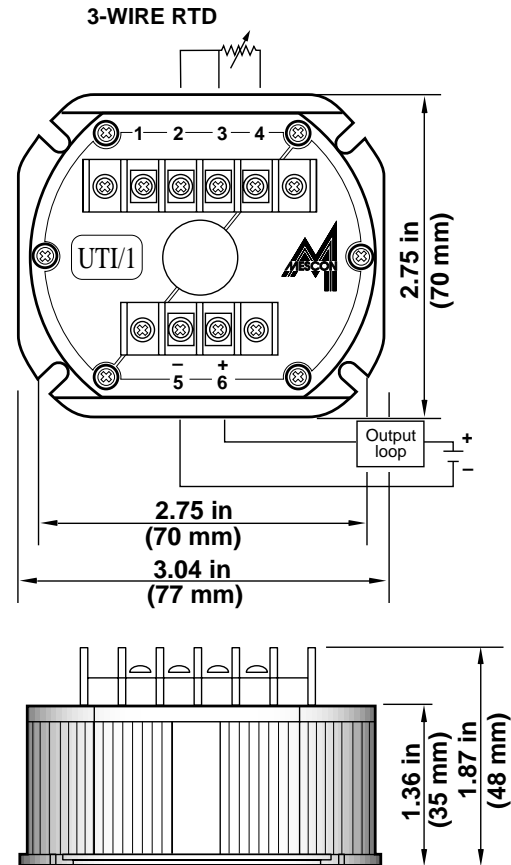
*All specifications are subject to change without notice.*

#### ORDERING INFORMATION

UTI/1 - 3 - (XX-XXX) F



**Please request our ordering and calibration diskette describing the rest of Mescon's products.**



#### Wiring Instructions:

1. Connect the input signal according to the interconnection diagram.
2. Connect the output signal to a digital indicator.
3. Connect the power supply according to the drawing, observe for proper polarity.

#### Calibration and Adjustments:

It is assumed that the unit undergoing calibration has been properly ranged at the factory or workplace.

1. Connect an RTD simulator to the UTI/1 input terminals according to the wiring diagram.
2. Complete the output loop using a power supply and a precision digital current indicator. Turn the power on.
3. Set the input to the desired minimum signal and adjust the ZERO pot until the current indicator reads 4.00mA.
4. Set the input to the desired maximum signal and adjust the SPAN pot until the current indicator reads 20.00mA.
5. Repeat steps 3 & 4 until no further adjustment is needed.

Note: If the unit can not be calibrated to the desired range, it should be returned to the workshop for proper ranging.

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