7. Specifications

Temperature Sensor

Operating Temperature

Range :	-200°C / +600°C (-328°F / +1112°F)

Ambient Operating

Temperature Range :	-40°C / +70°C (-40°F / +158°F)
Sensing element :	Pt100 Class B per DIN 43670
Pmax :	100bar (1500 PSIG)
Wetted Parts :	316 SS
Fittings :	1/4", 1/2" NPT Welded or Adjustable compression fitting
Connector :	Hirschmann plug per (DIN 43650)

Electrical Data

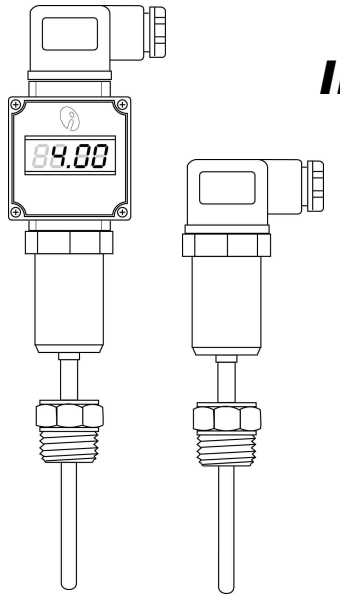
Output :	4–20mA 2-wire
Supply Voltage :	TMR 9-36 VDC
	TMR & PIR 12-36 VDC
Load Capability :	TMR Rmax.= (Vsupply - 9V) / 20mA
	TMR & PIR Rmax.= (Vsupply - 12V) / 20mA
Accuracy :	±0.1% of Span
Zero / Span Drift :	±0.025% /°F

Environmental

Protection :	NEMA 4X / IP65
Fault :	Reverse polarity protected
Digital Display :	See PIR series

8. Notes

intempco
2511, Guenette Montreal (Quebec) Canada H4R 2E9
Tel.: [514] 337-7471 **Fax : [514] 337-7475**
www.intempco.com



INTEMPCO's TMR
Temperature Transmitter

INSTRUCTION MANUAL

1. Description

Intempco TMR temperature sensor employs a Pt100 Class A resistance temperature detector (RTD) combined with an integrated loop powered 4-20mA output transmitter. Optional digital indicator, model PIR, plugs directly to the TMR Hirschmann (DIN 43650) plug. This sensor is rugged and all SS316 construction. Fittings, 1/4" and 1/2" NPT welded to tube, are available for mounting purposes.

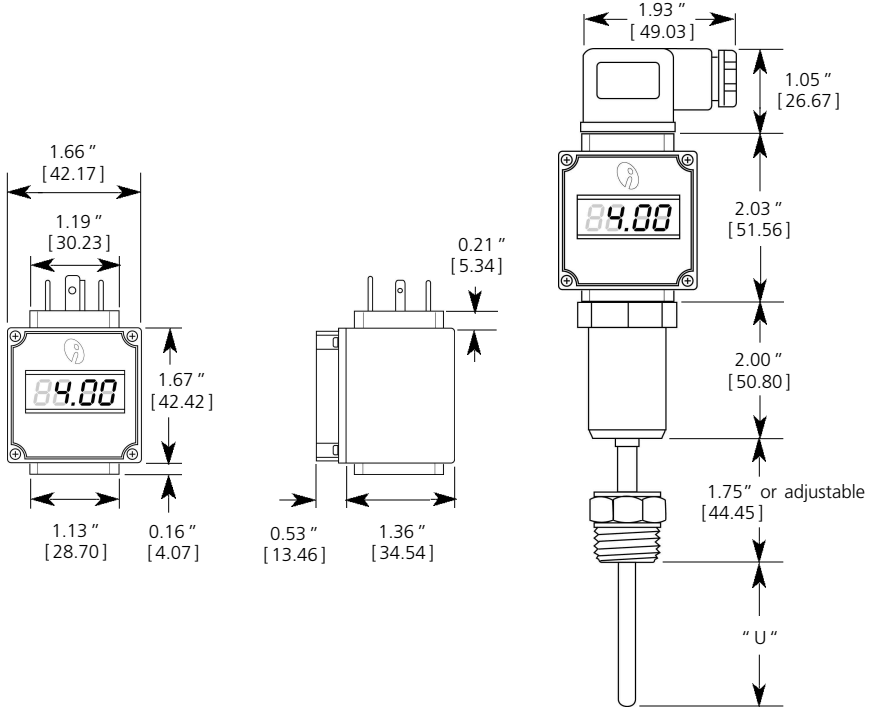
2. Note

Prior to unpacking and installation, please read the operating instructions and follow them carefully. These units are to be used, serviced, and repaired only by individuals who are familiar with the operating instructions and the applicable regulations for operational safety and accident prevention.

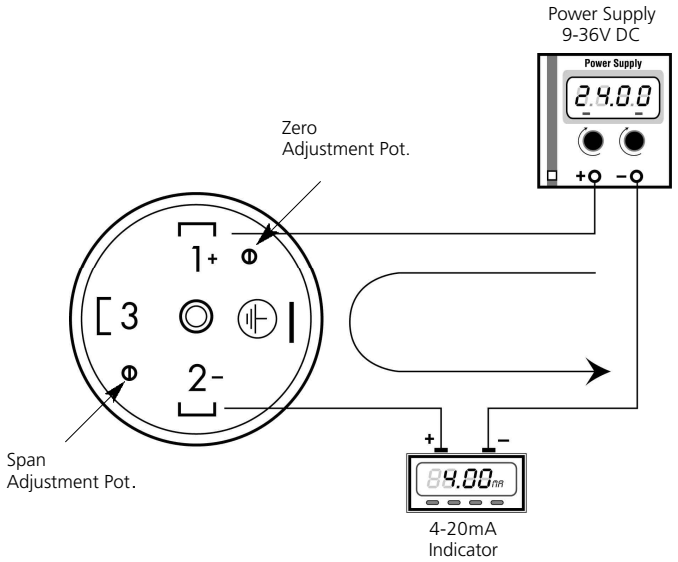
3. Control of Units

The units are calibrated and checked before shipment and shipped in good conditions. If you detect a visible defect on the unit, we recommend that you carefully check the packing material. In the event of a defect, please immediately notify the mail service / freight forwarder, as the shipper is responsible for shipping damage.

4. Dimensions



5. Electrical Connections



6. Calibration Instructions

The TMR comes factory calibrated. If you need to re-calibrate the unit, you will require the following equipment :

- 9-36 VDC Power Supply with a milliamp indicator or a loop-powered calibrator.
- A temperature bath.
- A standard reference temperature sensor.
- Test leads

2 Point Calibration, Min. & Max. (Example : 0-100°C range)

1. Connect the TMR as per the wiring diagram. (5)
2. Set the temperature bath to the minimum range of the TMR transmitter, Ex.: 0°C = 4.00mA
3. With the temperature standard, verify the bath temperature and if required calculate the corresponding current output for the TMR.
4. Immerse the TMR probe in the temperature bath. Make sure the output stabilizes. With ZERO pot. adjust current output to 4.00mA or the corresponding current output.
5. Set the temperature bath to maximum range of the TMR transmitter, Ex.: 100°C = 20.00mA
6. With the temperature standard, verify the bath temperature and if required calculate the corresponding current output for the TMR.
7. Immerse the TMR probe in the temperature bath. Make sure the output stabilizes. With the SPAN pot. adjust current output to 20.00mA or the corresponding current output.
8. Repeat steps 2 to 7 until required accuracy is reached. This step is necessary because of the small interaction between Zero and Span.

Single Point Calibration (Example : 0-100°C range)

In some cases, a single point calibration is sufficient especially when a process is at a fixed set point.

1. With a temperature standard, verify the correct process temperature and compare it to the TMR reading.
2. If the temperature reading is below the mid-point of the TMR range, use the ZERO pot. to obtain the correct reading.
3. If the temperature reading is above the mid-point of the TMR range, use the SPAN pot. to obtain the correct reading.