Product Features

- *High accuracy*
- *Micro-Processor based design*
- *Fully field re-programmable with module & PC based software*
- *2-wire loop powered 4-20mA output*
- *Factory calibrated or customer calibrated*
- *Stainless steel body, rugged and compact*

Description

INTEMPCO TMR25 temperature sensor employs a Pt100 Class A resistance temperature detector (RTD) combined with an integrated loop powered 4-20mA output transmitter. Electrical connection to the TMR is Hirschmann (DIN 43650) plug. This sensor is rugged and all SS316 construction. Fittings, 1/4" thru 1" NPT welded to tube, are available for mounting purposes. An adjustable bore-through compression fitting option is also available. This allows for easy adjustment of desired immersion depth. The unit is factory calibrated to customer temperature requirements.

Specifications

USA Patent No.: 7,223,014
CDN Patent No.: 2,561,570

@Vnom = 24 VDC, **T.ambient** = 25°C, **Span nom.** = 100 °C

Input :	Pt100, 3-wire, $\alpha = 0.00385$, DIN EN 60751
Output :	4-20 mA 2-wire, 0-5Vdc, 1-5Vdc & 0-10Vdc 3-wire, all linear to temperature
Ranges :	Software re-scalable between -200 °C to 600 °C. (min. span of 50 °C)
Output Resolution :	0.0005 mA (15 bits)
Power Supply :	12-32 Vdc, polarity protected
Supply Effect :	Less than 0.001 %/V
Long Term Drift :	≤ 0.1 % FS/Year
Excitation Current RTD :	0.2 mA
Sensor Lead Res. RTD :	RTD resistance +2 times lead wire resistance must be less than 6000 ohms
Accuracy :	• ±(0.10 °C + 0.10 % of span) with one-point calibration[1]. • ±(0.05 °C + 0.05 % of calibrated span) with two-point calibration[2].
Span/Zero Adjustment :	By software
Maximum Loop Res. :	Rmax. = [Vsupply − 7.5 Vdc] * 40 ohms

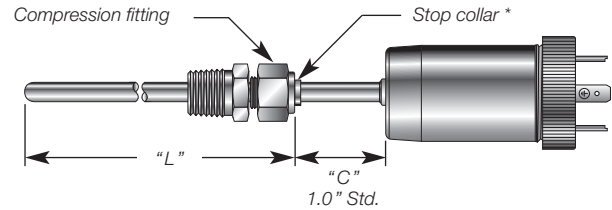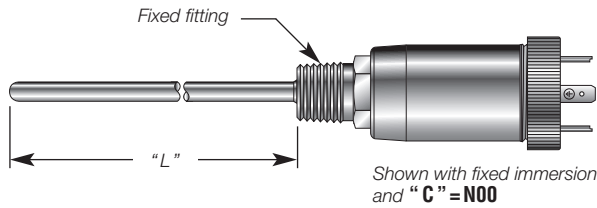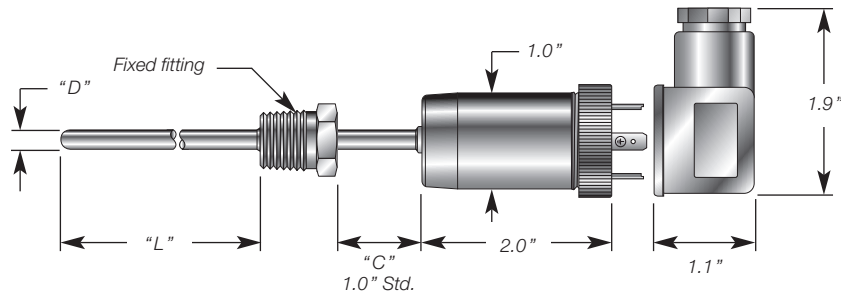|	
Warmup :	30 seconds
Sensor Open Circuit :	Upscale 24 mA or Downscale 2.5 mA (for 4-20 mA output only)
RFI Effect :	1 % of span or less
Temperature Effect :	± 0.002 °C/°C
Amb. Operating Temp. :	-40°C.....80°C (-40 °F....176°F)
Storage Temperature :	-40°C.....80°C (-40 °F....176°F)
Housing Materials :	316SS
Wetted Materials :	316SS
Process Connection :	1/8" thru 1" NPT welded to probe and adjustable. Others available.
Environmental Protection :	Body IP65, NEMA 4X (IEC529)

[1] *Max. error on complete span. Error at calibration point ≤0.1°C*
[2] *Max. error on complete calibrated span. Error at calibration points ≤0.1°C*

- *Information furnished by Intempco is believed to be accurate and reliable. However, no responsability is assumed by Intempco for its use.*
- *Specifications subject to change without notice.*

Stock Items

Probe Length "L"	1/4 " Fixed Immersion	1/2 " Fixed Immersion	1/4 " Adjustable	1/2 " Adjustable
2.5"	TMR25-XX-LP-D-S-025-N10-F14S	TMR25-XX-LP-D-S-025-N10-F12S	TMR25-XX-LP-D-S-025-N10-A14S	TMR25-XX-LP-D-S-025-N10-A12S
4.5"	TMR25-XX-LP-D-S-045-N10-F14S	TMR25-XX-LP-D-S-045-N10-F12S	TMR25-XX-LP-D-S-045-N10-A14S	TMR25-XX-LP-D-S-045-N10-A12S
6.0"	TMR25-XX-LP-D-S-060-N10-F14S	TMR25-XX-LP-D-S-060-N10-F12S	TMR25-XX-LP-D-S-060-N10-A14S	TMR25-XX-LP-D-S-060-N10-A12S
10.0"	TMR25-XX-LP-D-S-100-N10-F14S	TMR25-XX-LP-D-S-100-N10-F12S	TMR25-XX-LP-D-S-100-N10-A14S	TMR25-XX-LP-D-S-100-N10-A12S
12.0"	TMR25-XX-LP-D-S-120-N10-F14S	TMR25-XX-LP-D-S-120-N10-F12S	TMR25-XX-LP-D-S-120-N10-A14S	TMR25-XX-LP-D-S-120-N10-A12S

XX = Temperature range, see BOX1

Fixed fitting
"D"
"L"
"C"
1.0" Std.
1.0"
2.0"
1.1"
1.9"

Fixed fitting
"L"
Shown with fixed immersion and **"C" = N00**

Compression fitting
Stop collar *
"L"
"C"
1.0" Std.

* No stop collar option , **"C" = N00**
Stop collar recommended for temperature above 100°C

USA Patent No.: 7,223,014
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Custom Builder

MODEL	1	2	3	4	5	6	7
TMR25 -	_ _	_ _	_	_	_ _ _	_ _ _	_ _ _ _

BOX1 CODE	Calibrated Temperature Range
05	0°C to 50°C (32 / 122°F)
10	0°C to 100°C (32 / 212°F)
15	0°C to 150°C (32 / 302°F)
20	0°C to 200°C (32 / 392°F)
55	-50°C to 50°C (-58 / 122°F)
51	-50°C to 150°C (-58 / 302°F)
52	-50°C to 200°C (-58 / 392°F)
L*	-50°C to 200°C (-58 / 392°F)
H*	-200°C to 600°C (-328 / 1112°F)

* Code **L** & **H** are not factory calibrated. Requires customer calibration using the **MIST PKIT**.

Notes:
1. MIST Temperature Sensors™ are factory calibrated at one point to an accuracy of ±0.12°@0°C or better. See MIST specs.
2. For non-standard temperature ranges, indicate desired value in °C or °F in Box1 or see web site www.intempco.com.
3. Order **MIST PKIT** for sensor customization.

BOX2 CODE	Output
LP	4-20 mA loop, upscale burnout (std.)
LD	4-20 mA loop, downscale burnout
VA	0-5 Vdc, 3-wire
VB	1-5 Vdc, 3-wire
VD	0-10 Vdc, 3-wire

Other outputs available. Consult factory.

BOX3 CODE	Probe Diameter "D"
B	1/8"
C	3/16"
D	1/4"
F	3/8"
H	1/2"

Other diameters available. Consult factory.

BOX4 CODE	Probe Material
S	Stainless steel 316 / 316L

Other materials available. Consult factory.

BOX5 CODE	Probe Length "L"
_ _ _	In 0.1" increments Ex.: **065** = 6.5" long

BOX6 CODE	Extension Cold Leg Length "C"
N _ _	In 0.1" increments (1.0" Std.) Ex.: **N10** = 1.0" long

BOX7 CODE	Fitting Type
0	None
A**S	Adjustable fitting *

Ferrule material :
A = Stainless steel* **B** = Brass* **T** = Teflon®
* Not readjustable with metal ferrule

Fitting material :
S = Stainless steel (SS316) **B** = Brass
Ex.: **T14B** = Teflon® ferrule, 1/4" NPT Brass fitting
A12S = Stainless ferrule, 1/2" NPT Stainless fitting

F**S	Fixed fitting (SS316)

Process NPT size :
** **18** = 1/8" NPT **14** = 1/4" NPT
38 = 3/8" NPT **12** = 1/2" NPT
34 = 3/4" NPT