

MIST M19

RTD Programmable Temperature Transmitter
w/Standard 3-pole RTD Connector



Product Features

- Programmable 2-wire 4-20 mA or voltage output
- Standard 3-pole jack or plug RTD connector
- For 100Ω 3-wire RTDs
- High accuracy, repeatability and stability
- Factory calibrated or customer calibrated
- Fully field re-programmable with module & PC based software
- Various probe and fitting types available

Description

The INTEMPCO MIST M19 consists of a PRC™ Series high performance RTD Programmable Temperature Connector/Transmitter and a Pt100Ω style probe. Based on Intempco's patented MIST™ technology, the analog output can be re-scaled, recalibrated and reprogrammed to customer needs via a MIST-Pkit (PC interface module and software).

The M19 features an encapsulated miniature signal conditioner built into an RTD standard 3-pole connector. This integral design converts resistive change of an RTD sensor or probe across a programmable temperature range to an industry standard analog output. Your M19 Connector/Transmitter can be factory pre-calibrated to your specifications, which is the preferred method of most users. Optionally, by use of PRC-MIST Pkit, you can field reprogram the M19 yourself. 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.



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

Specifications

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

Input :	Pt100Ω, 3-wire, $\alpha=0.00385$, DIN EN 60751
Output :	4-20 mA 2-wire, 0-5 VDC, 1-5 VDC & 010 VDC 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 4000 ohms
Accuracy :	<ul style="list-style-type: none">• $\pm(0.10\text{ }^{\circ}\text{C} + 0.10\text{ \% of span})$ with one-point calibration¹.• $\pm(0.05\text{ }^{\circ}\text{C} + 0.05\text{ \% of calibrated span})$ with two-point calibration².
Span/Zero Adjustment :	By software
Maximum Loop Res. :	$R_{max} = [(V_{supply} - 7.5) * 40]$ 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 :	$\pm 0.002\text{ }^{\circ}\text{C}/^{\circ}\text{C}$
Amb. Operating Temp. :	-40 °C.....85 °C (-40 °F....185 °F)
Storage Temperature :	-40 °C.....85 °C (-40 °F....185 °F)
Housing Materials :	ABS plastic, copper contacts, brass inserts, steel screws
Wetted Materials :	316SS
Process Connection :	1/8" thru 1" NPT welded to probe and adjustable. Others available.
Environmental Protection :	Body IP65, NEMA 4X (IEC529)

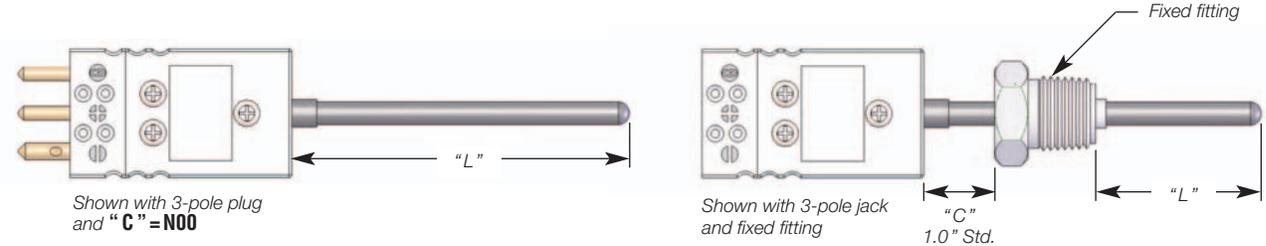
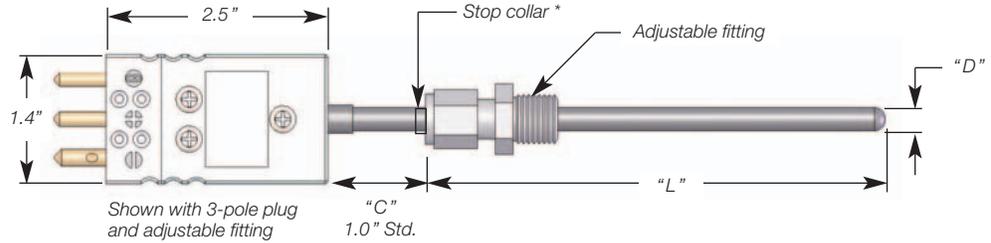
¹ Max. error on complete span. Error at calibration point $\leq 0.1\text{ }^{\circ}\text{C}$

² Max. error on complete calibrated span. Error at calibration
points $\leq 0.1\text{ }^{\circ}\text{C}$

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

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

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Custom Builder

MODEL 1 2 3 4 5 6 7 8

M19 - - - - - - - - -

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 **PRC MIST Pkit**

Notes:

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

BOX2 CODE	Output
LP	4-20mA loop, upscale burnout (std.)
LD	4-20mA 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" (fixed fitting only)
C	3/16" (fixed fitting only)
D	1/4" (std.)
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)
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Process NPT size :

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

BOX8 CODE	Terminal Type
3P	Standard 3-pole plug
3J	Standard 3-pole jack
3PJ	Standard 3-pole plug w/mating jack
3JP	Standard 3-pole jack w/mating plug