

Product Features

- Hermetically sealed transmitter within the sensor
- Field re-programmable with interface module and software
- RTD sensor input
- 4-20mA linearized signal output
- Low cost and easy installation
- Connection head not required
- Compact size

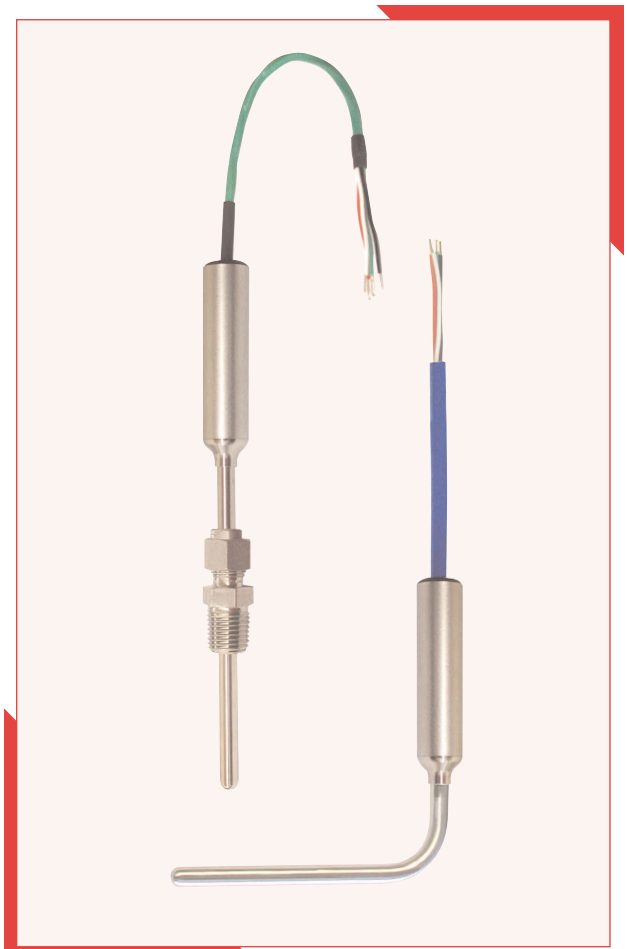
Description

The MIST03 Temperature Sensor is an RTD with a built-in, programmable transmitter. Simply constructed, the MIST03 can replace most commonly used temperature sensors in a variety of applications. Based on Intempco's patented MIST technology, the MIST03 is designed for optimum accuracy and performance. And as with any other MIST series sensor, the MIST03's built-in programmable transmitter can be re-scaled and re-calibrated using the optional interface module and software.

The MIST03's programmable transmitter with 4-20mA output is hermetically sealed in a stainless steel housing only 2" long. It is then assembled using a thin film Pt100 RTD element. Standard wire leads available are PVC, Teflon, Teflon with armor and Teflon with a Stainless Steel overbraid. An optional stainless steel compression fitting is available in a variety of sizes. Compression fittings are one-time adjustable.

The sensor does not require a separate transmitter housing, therefore, the MIST03 can be easily installed by connecting the two lead wires to the user's control or monitoring system. This feature greatly reduces installation costs. The MIST03 is also more compact than conventional RTD units, this allows for easy usage in environments where space is limited or access is difficult.

The MIST03 arrives factory scaled and calibrated to the customer's specified temperature range. No costly field calibration is required. If the application changes, the MIST03 can be re-scaled at any range within the sensor limits while maintaining its accuracy. No re-calibration requiring costly temperature baths is necessary. Reprogramming is done with the optional interface module and software.



Application / Process Notes

- General purpose and industrial applications
- OEM applications
- Limited space applications
- Resistant to moisture and vibration

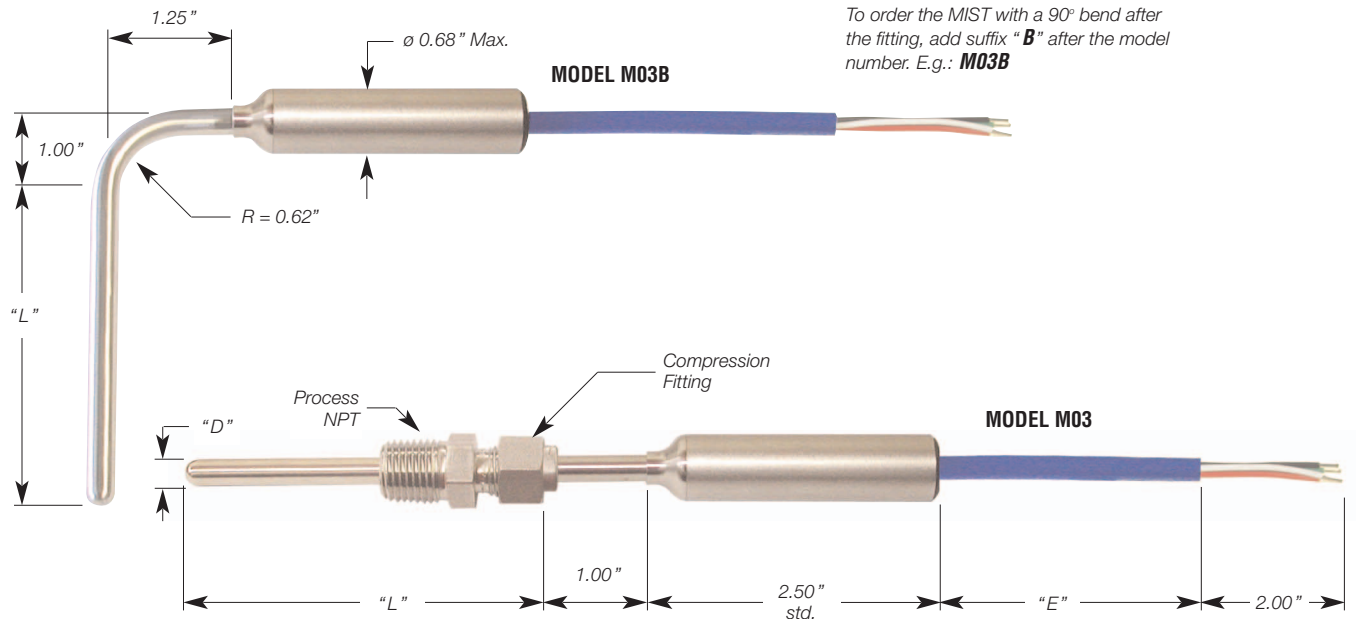
Stock Items :

- Factory calibrated 4-20 mA output to a customer specified temperature range
- Operating temperature range of -50 to 200°C (-58 to 392 °F)
- Order MIST PKIT-1 programming kit to re-program and re-calibrate in-house.
- Probe 1/4" diameter Stainless Steel 316
- Adjustable compression fitting not included, order separately
- Cable supplied is a PVC jacketed 22AWG stranded 4-conductor, copper tin plated, 10ft (3m) long
- Probe lengths available are 6", 9" and 12"

To order a M03 with 9" probe and 4-20mA output calibrated to -25°C to 125°C, specify the inventory number and temperature range, ex.: M03A-L-090(-25/125°C) on your order. Can also be ordered in °F within the operating range of -58 to 392°F.

Ordering Information

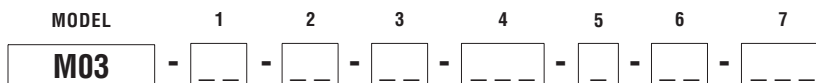
Catalog Number	Inventory Number	Probe Length "L"
M03-L-LP-4S-060-N-PV-120	M03A-L-060	6.0"
M03-L-LP-4S-090-N-PV-120	M03A-L-090	9.0"
M03-L-LP-4S-120-N-PV-120	M03A-L-120	12.0"



To order the MIST with a 90° bend after the fitting, add suffix "B" after the model number. E.g.: **M03B**

Patent No.: US 7,223,014 B2
Canadian Patent Pending

Ordering Information :



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

* Code **L** is not factory calibrated. Requires customer calibration using the **MIST PKIT-1**.

Notes:

- MIST sensors are factory calibrated to accuracy of ±0.25% of span or better.
- For non-standard temperature ranges indicate desired value in °C or °F in Box1 or see website www.intempco.com.
E.g.: M03-(40/120C)-LP..
- Order **MIST PKIT-1** for sensor customization.

BOX2 CODE	Output
LP	4-20mA Loop (upscale burnout, std.)
LD	4-20mA Loop (downscale burnout)

BOX3 CODE	Probe Dia. "D" & Mat'l
2S	1/8", 316 Stainless Steel
3S	3/16", 316 Stainless Steel
4S	1/4", 316 Stainless Steel
6S	3/8", 316 Stainless Steel
8S	1/2", 316 Stainless Steel

BOX4 CODE	Probe Length "L"
---	In 0.1 inch increments Ex.: 065 = 6.5" long Ex.: 120 = 12.0" long

BOX5 CODE	Fitting Type
N	None
D	1/4" NPT (max. probe .312" dia.)
F	3/8" NPT (max. probe .375" dia.)
H	1/2" NPT
L	3/4" NPT

Note: Fitting material is Stainless Steel SS316

BOX6 CODE	Extension Wire Type
PV	PVC Insulation, 90 °C, (195 °F) max.
TF	Teflon Insulation, 200 °C (392 °F) max.
TA	Teflon with SS Armor, 200 °C (392 °F) max.
TB	Teflon with SS Overbraid, 200 °C (392 °F) max.

BOX7 CODE	Lead Wire Length "E"
---	In Inches Ex.: 060 = 60" long

TECHNICAL SPECIFICATIONS

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

Electrical Properties

Input :	RTD, type Pt100
Sensor Temperature Ranges :	See MIST table for standard ranges. Field re-scalable between -200°C to 600°C or -50°C to 200°C, depending on model.
Output :	4-20 mA loop powered, linear to temperature
Power Supply :	9-36 VDC, polarity protected
Supply Effect :	0.001%/V
Accuracy :	± (.25 °C + 0.40% of span) with one-point calibration ¹ . ± (.10 °C + 0.10% of calibrated span) with two-point calibration ² .
Maximum Loop Resistance :	[(Vsupply – 7) * 40] ohms
Sensor Open Circuit :	Upscale 24 mA or Downscale 2.5 mA
Warmup :	30 seconds
RFI Effect :	1% or less typical
Isolation :	500 VDC Input/Output
Temp. Effects :	± 0.001% of Span / °C
Long Term Drift :	≤ 0.1% FS/Year

Mechanical Properties

Probe and Housing Material :	316 Stainless Steel, welded to probe
Cable Material :	PVC, Teflon or Stainless Steel armored over Teflon
Protection:	NEMA 6P (IP67), hermetically sealed
Storage Temp. Range:	-40°C to 80°C
Operating Temp. Range:	-40°C to 80°C (housing only)
Maximum Operating Pressure:	1500 PSIG Max (probe only)

¹. Max. error on complete span. Error at calibration point ≤ 0.1% of Span.

². Max. error on complete calibrated span. Error at calibration points ≤ 0.1% of Span.