M12 Temperature Transmitter with 100Ω RTD

NEW

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M12TX Series

CE

- ✔ **Programmable Transmitter**
- ✔ **Molded Connector (IP67)**
- ✔ **M12 Connection**
- ✔ **4 to 20 mA Output**
- ✔ **-50 to 500°C (-58 to 932°F)**

The M12TX 100Ω RTD sensor with built-in transmitter can be programmable by a computer. The configuration kit required for programming is M12TX-CONFIG. This unique probe is ideal for areas with space limitations where traditional head connections are too large to fit. The M12 thread design offers a secure industrial connection. The temperature Transmitter is designed with mineral insulated cable probe (MgO) which allows the probe to have a minimum bend radius of three times the diameter.

Example of bent probe.

M12TX-PT100-1/8-6 shown smaller than actual size.

Specifications

Body: Thermoplastic material

Probe Type: Compact mineral insulated cable AISI 316L SS

Probe Minimum Bending Radius: Three-times the outer diameter [except the sensing tip which length is 30 mm (1.2")]

Connection: M12x1 male in accordance to VDE0627 (output connection)

Sensor: RTD Pt100 class A up to 300°C in accordance to IEC751

Range: -50 to 500°C (-58 to 932°F)

Tmax. Electronic: 80°C (176°F)

Sensor Break Monitoring:
  Selectable: Upscale (>21.0 mA) or downscale (<3.6 mA) action
  Sensor Short-Circuit: Fixed to downscale (<3.6 mA) action

Output

Signal: 4 to 20 mA

Factory Default: 4 to 20 mA = 0 to 150°C (32 to 302°F)

Permissible load: 700 @ 24 Vdc [RLo= (Vsupply-8.5)/0.020]

Response Time (90%): <50 ms

Isolation In-Out: Non-isolated

Power Supply: 8.5 to 32 Vdc (polarity protected)

Environment Conditions

Temperature: -40 to 80°C (-40 to 176°F) for plastic body

Relative Humidity: 0 to 100%

EMC: In accordance to EN 61326

Degree of Protection: IP65 and IP67 in accordance to IEC60529

Accuracy

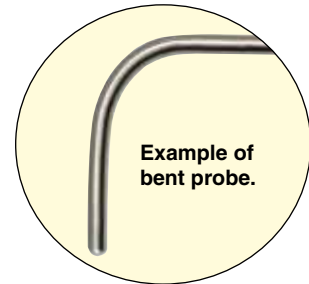**Transmitter:** Maximum of ±0.2°C or ±0.2% of span

Sensor: Class A in accordance to IEC751

Temperature Influence [Deviation from 20°C (68°F)]: Maximum of ±0.3°C/25°C (77°F) or ±0.3% of span/25°C (77°F)

Supply Voltage Influence: Negligible

Range Configurations: It is possible set the input temperature range (span) by the M12TX-CONFIG configuration kit (PC with OS Windows® required)

Zero Adjustments: Any value between -50 to 50°C

Minimum Span: 50°C (122°F) [if the zero value is set between one of these values: -40°C (-40°F), -20°C (-4°F), 0°C (32°F), 20°C (68°F), 40°C (104°F), the minimum span is 20°C (68°F) rather than 50°C (122°F)]

Sensor Error Compensation: Over 2 points (maximum 1% of span)

Factory Setting: 0 to 150°C/sensor break >21 mA (upscale)

Response Time: Diameter 3 mm <3.5 second, diameter 6 mm <13 second (test in water to IEC751- time for reaching 63.2% of instantaneous temperature change)

Programming Software:
M12TX+Configurator for Windows® 2000 (SP3), XP (SP2), VISTA (32 and 64 bit), 7 (32 and 64 bit)

Configurable Parameters:
Temperature range (-50 to 800°C), measurement unit (°C/°F/°K), sensor break monitoring (up scale/down scale), identifying name of the transmitter (16 alphanumeric characters), input sensor error compensation over one or two points

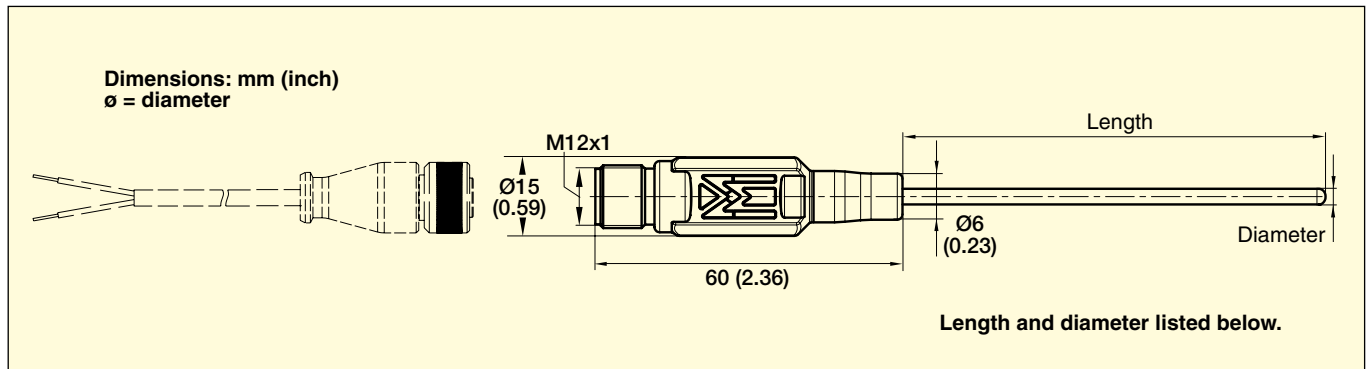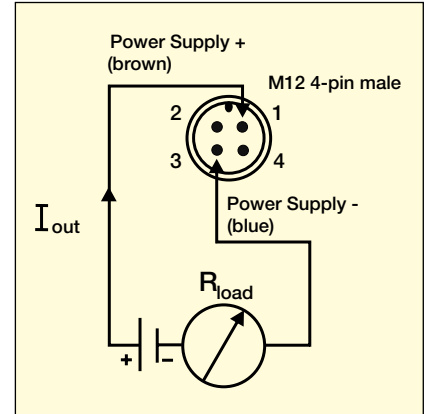**Supported Languages:** Italian, English, French, German, Swedish

Packaging: Included in the kit—1x interface USB, 1x connection cable between USB port and interface, 1x connection cable between interface- and M12TX + transmitter, 1x memory-stick USB with installation software, 1x introductive manual for software installation and USB

M12TX-CONFIG Specifications
Interface

PC Connection: Through the USB port with connection cable included in the kit

M12TX + Connection: Through extension cable with M12 female connector included in the kit

Note: The transmitter is powered from the USB interface.

Power Supply + (brown)

M12 4-pin male

Power Supply - (blue)

I_{out}

R_{load}

Dimensions: mm (inch)
ø = diameter

M12x1

Ø15 (0.59)

Length

Ø6 (0.23)

Diameter

60 (2.36)

Length and diameter listed below.

Standard

To Order	
Model No.	**Description**
M12TX-PT100-1/8-4	Temperature transmitter, output 4 to 20 mA, ⅛" diameter, 4" length
M12TX-PT100-1/8-6	Temperature transmitter, output 4 to 20 mA, ⅛" diameter, 6" length
M12TX-PT100-1/8-9	Temperature transmitter, output 4 to 20 mA, ⅛" diameter, 9" length
M12TX-PT100-1/8-10	Temperature transmitter, output 4 to 20 mA, ⅛" diameter, 10" length
M12TX-PT100-1/8-12	Temperature transmitter, output 4 to 20 mA, ⅛" diameter, 12" length
M12TX-PT100-1/8-18	Temperature transmitter, output 4 to 20 mA, ⅛" diameter, 18" length
M12TX-PT100-1/8-24	Temperature transmitter, output 4 to 20 mA, ⅛" diameter, 24" length
M12TX-PT100-1/4-4	Temperature transmitter, output 4 to 20 mA, ¼" diameter, 4" length
M12TX-PT100-1/4-6	Temperature transmitter, output 4 to 20 mA, ¼" diameter, 6" length
M12TX-PT100-1/4-9	Temperature transmitter, output 4 to 20 mA, ¼" diameter, 9" length
M12TX-PT100-1/4-10	Temperature transmitter, output 4 to 20 mA, ¼" diameter, 10" length
M12TX-PT100-1/4-12	Temperature transmitter, output 4 to 20 mA, ¼" diameter, 12" length
M12TX-PT100-1/4-18	Temperature transmitter, output 4 to 20 mA, ¼" diameter, 18" length
M12TX-PT100-1/4-24	Temperature transmitter, output 4 to 20 mA, ¼" diameter, 24" length

Comes complete with operator's manual.
For custom lengths consult Sales.
Ordering Examples: M12TX-PT100-1/8-4, *temperature transmitter, output 4 to 20 mA, ⅛" diameter, 4" length.*
M12TX-PT100-1/4-6, *temperature transmitter, output 4 to 20 mA, ¼" diameter, 6" length.*

Metric

To Order	
Model No.	**Description**
M12TX-PT100-3MM-100MM	Temperature transmitter, output 4 to 20 mA, 3 mm diameter, 100 mm length
M12TX-PT100-3MM-150MM	Temperature transmitter, output 4 to 20 mA, 3 mm diameter, 150 mm length
M12TX-PT100-3MM-250MM	Temperature transmitter, output 4 to 20 mA, 3 mm diameter, 250 mm length
M12TX-PT100-3MM-350MM	Temperature transmitter, output 4 to 20 mA, 3 mm diameter, 350 mm length
M12TX-PT100-3MM-500MM	Temperature transmitter, output 4 to 20 mA, 3 mm diameter, 500 mm length
M12TX-PT100-3MM-750MM	Temperature transmitter, output 4 to 20 mA, 3 mm diameter, 750 mm length
M12TX-PT100-3MM-1000MM	Temperature transmitter, output 4 to 20 mA, 3 mm diameter, 1000 mm length
M12TX-PT100-6MM-100MM	Temperature transmitter, output 4 to 20 mA, 6 mm diameter, 100 mm length
M12TX-PT100-6MM-150MM	Temperature transmitter, output 4 to 20 mA, 6 mm diameter, 150 mm length
M12TX-PT100-6MM-250MM	Temperature transmitter, output 4 to 20 mA, 6 mm diameter, 250 mm length
M12TX-PT100-6MM-350MM	Temperature transmitter, output 4 to 20 mA, 6 mm diameter, 350 mm length
M12TX-PT100-6MM-500MM	Temperature transmitter, output 4 to 20 mA, 6 mm diameter, 500 mm length
M12TX-PT100-6MM-750MM	Temperature transmitter, output 4 to 20 mA, 6 mm diameter, 750 mm length
M12TX-PT100-6MM-1000MM	Temperature transmitter, output 4 to 20 mA, 6 mm diameter, 1000 mm length

Comes complete with operator's manual.
Ordering Examples: M12TX-PT100-3MM-100MM, *temperature transmitter, output 4 to 20 mA, 3 mm diameter, 100 mm length.*
M12TX-PT100-6MM-1000MM, *temperature transmitter, output 4 to 20 mA, 6 mm diameter, 1000 mm length.*

M12TX-CONFIG shown smaller than actual size.

Accessory

Model No.	Description - Metric Dimensions
M12TX-CONFIG	Configuration kit for M12TX, USB serial interface, connection cables, programming software for Windows®