

Product Features

- Designed for RTDs with M12 receptacle
- Micro-Processor based design
- Fully field re-programmable with module & PC based software
- Input RTD Pt100 with 2 or 3-wire element
- 2-wire loop powered 4-20mA output
- Factory calibrated or customer calibrated
- Stainless steel body, rugged and compact

Description

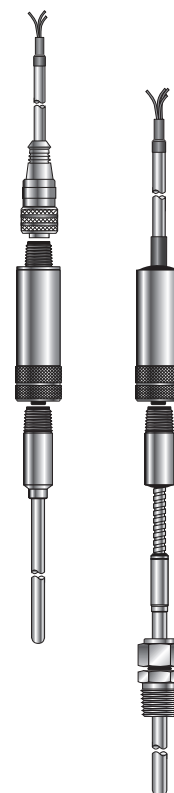
The M110 Series loop powered RTD temperature transmitters are of very new and unique design. Micro-processor based and housed in a compact stainless steel body, they offer M12 electrical connections. As such they are designed to connect to RTDs with M12 male receptacles. This eliminates the need for remote connections to DIN-rail transmitters mounted in panels, thus reducing wiring errors and cost.

The advanced programming, via the MIST-Pkit communication module, allows for one or two point calibration, re-scaling, filtering, and tagging. M110 transmitters are completely linearized to temperature, very accurate and a new concept to temperature measurement.

Specifications

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

Input :	Pt100, 2, 3 or 4-wire, $\alpha=0.00385$, DIN EN 60751
Output :	4-20mA loop powered, linear to temperature
Range :	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 Resistance RTD :	RTD resistance +2 times lead wire resistance must be less than 6000 ohms
Accuracy :	<ul style="list-style-type: none"> • $\pm(0.10^\circ\text{C} + 0.10\% \text{ of span})$ with one-point calibration¹. • $\pm(0.05^\circ\text{C} + 0.05\% \text{ of calibrated span})$ with two-point calibration².
Span/Zero Adjustment :	By software
Maximum Loop Resistance :	$R_{\text{max.}} = [V_{\text{supply}} - 7.5 \text{ Vdc}] * 40 \text{ ohms}$
Open Circuit Detection :	Upscale 24 mA or Downscale 2.5 mA
Warmup :	30 seconds
RFI Effect :	1 % of span or less
Temperature Effect :	$\pm 0.002^\circ\text{C}/^\circ\text{C}$
Amb. Operating Temperature :	-40°C.....80°C (-40°F...176°F)
Storage Temperature :	-40°C.....80°C (-40°F...176°F)
Housing Materials :	Body stainless 316L, inserts Nylon black, contacts Brass Tin plated, nut Brass Nickel plated
Housing Dimensions :	.79" dia. x 2.40" L
Environmental Protection :	Meets NEMA 6P, IP67 (IEC 529) when connected to sensor w/M12 receptacle

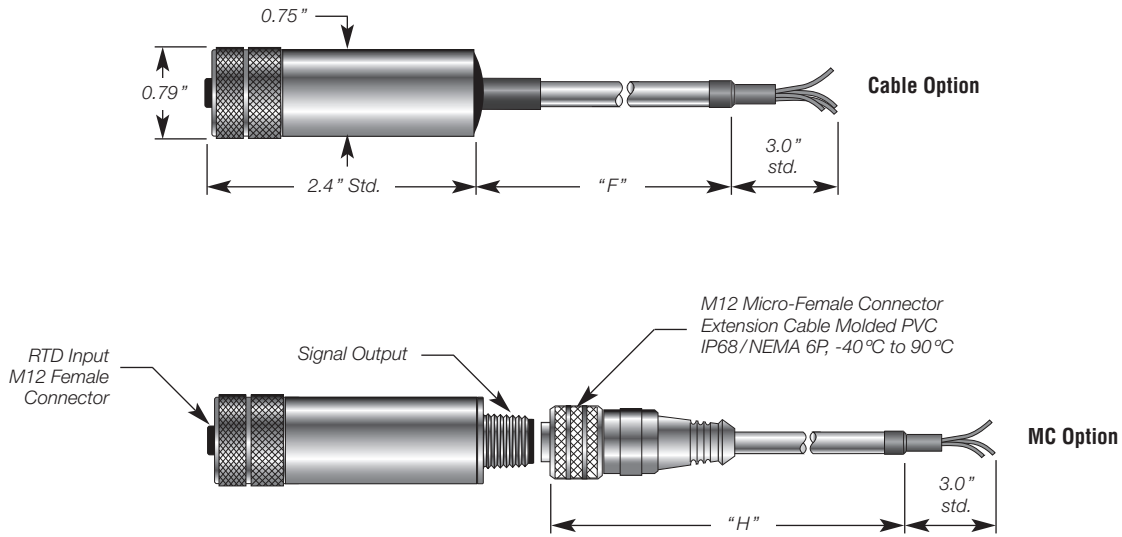


¹ Max. error on complete span. Error at calibration point $\leq 0.1^\circ\text{C}$

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

• 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.



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

Custom Builder

MODEL 1 2 3 4 5

M110 - - - - -

BOX1 CODE	Element Type
PS3	Pt100Ω @ 0°C, 3-wire α = 0.00385, DIN EN 60751
PS2	Pt100Ω @ 0°C, 2-wire α = 0.00385, DIN EN 60751

BOX2 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)

Notes:

- For non-standard temperature ranges, indicate desired value in °C or °F in Box1 or see web site www.intempco.com.
- Order **MIST-PKIT** for sensor customization.

BOX3 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.

BOX4 CODE	Extension Cable/Connector Type
MC	M12 Micro-Male Connector
PV	PVC insulation, stranded cond. 90°C (195°F) max.
TF	Teflon® insulation, stranded cond. 200°C (392°F) max.
TA*	Teflon® with SS armor, 200°C (392°F) max.
TP	Teflon® with SS armor and polyolefin shrink, 90°C (195°F) max.
TT	Teflon® with SS armor and Teflon® shrink, 200°C (392°F) max.
TS*	Teflon® with SS overbraided, 200°C (392°F) max.

* Code "TA" & "TS" are preferred methods of construction due to strength factors.

BOX5 CODE	Extension Cable Length "H" (MC option)
N	None
A2	Straight, 2 meters
A5	Straight, 5 meters
B2	Right angle, 2 meters
B5	Right angle, 5 meters

BOX5 CODE	Extension Cable Length "F" (Cable option)
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