

# REMOTE DIGITAL THERMOMETER/TRANSMITTER

The Reotemp Remote Digital Thermometer/Transmitter is a durable high accuracy thermometer with digital display. It features an IP67/NEMA 4X enclosure, 5 year battery life and optional transmitter output (Note: 4-20mA models are loop powered 9-36VDC). The remote model is well suited for mounting the display away from a high temperature or hard to reach process. The remote digital is an excellent alternative to gas/vapor thermometer offering greater accuracy and lengths.



Accuracy



Custom Logo



Made in USA

## FEATURES / BENEFITS

- High Accuracy 1,000Ω RTD (Class A)
- Water Resistant IP67/NEMA 4X
- 5 Year Battery Life (4-20mA Models are Loop Powered)
- 4-20 mA Output Available (Loop Powered 9-36VDC)
- Low or High Temperature Range Models

## SPECIFICATIONS

**Accuracy**  $\pm (0.72 + 0.002 \times |t - 32|)$  °F,  
 $\pm (0.40 + 0.002 \times |t|)$  °C, where  
 t = temperature. Example: At 32°F  
 accuracy is  $\pm 0.72$  °F.

**Sensing Element** RTD, Type Pt1000Ω, Class A

**RTD Temperature Ranges** -58°F to 392°F (-50°C to 200°C) or  
 -328°F to 1112°F (-200°C to 600°C)

**Output (Optional)** 4-20 mA, M12 Connector, Loop  
 Powered 9-35 VDC

**Refresh Rate** 3 Seconds

**Display** 4-digit LCD, 1/2" Height

**Display Resolution** See Table 1

**RFI Effect** 1% or Less Typical

**Temperature Effect** <0.01% FS/°C

**Ambient Temp. Range** 32°F to 122°F (0°C to 50°C)

**Storage Temp. Range** -4°F to 158°F (-20°C to 70°C)

**Housing Material** Stainless Steel 316

**Lens** Plastic Polycarbonate (Standard) or  
 Glass

**Probe Material** 304 Stainless Steel

**Weight** 12 oz., Varies by Configuration

**Environmental Protection** NEMA 4X/IP67

**Power** 1 x 3.6V AA Battery (M12 is loop  
 powered 9-36 VDC.)

**Battery Life** 5 Years Minimum in Continuous  
 Mode, (Note: 4-20mA Models are  
 Loop Powered 9-36 VDC, No Battery  
 Option)

**Electronic Display Temperature Limit** If the temperature of the electronics  
 in the display housing exceeds 122°F  
 (50°C), permanent damage to the  
 display will occur. A remote mount  
 is recommended for high or low  
 temperature applications.

RTD

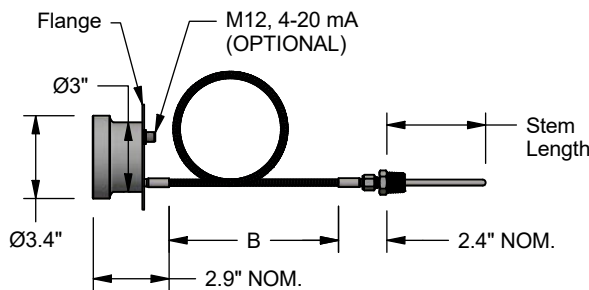
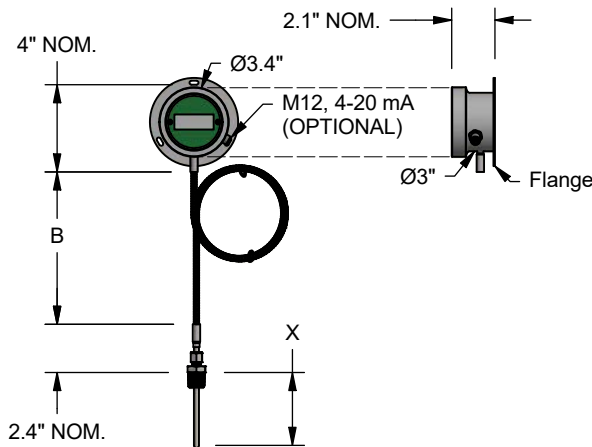


Table 1: Display Resolution

Model	Range	Decimal Point
Standard Temp, Displays Decimal	-58°F to 392°F (-50°C to 200°C)	Yes
Extended Temp, No Decimal	-328°F to 1112°F (-200°C to 600°C)	No

## REMOTE DIGITAL THERMOMETER/TRANSMITTER

**BUILD YOUR DIGITAL THERMOMETER:** Choose options to build a part number. For example: **DTRBXNA01013A240A-R3**

DTR	B	X	N	A	010	1
MODEL	MOUNTING	STYLE	4-20 mA OUTPUT LOCATION	CAPILLARY TYPE	CAPILLARY LENGTH "B"	PROCESS CONNECTION
DTR = Digital Remote Reading Thermometer	<p><b>B</b> = Back Flange</p> <p><b>F</b> = Front Flange*</p> <p><b>M</b> = Rear Mounting Bracket</p> <p>*Front flange requires "A" style (back connect). If 4-20 mA is chosen, only S is available with front flange.</p>	<p><b>A</b> = Back Connect</p> <p><b>X</b> = Bottom Connect</p> <p><b>E</b> = Explosion Proof Enclosure (Bottom Connect Only, Battery Powered Only, B Mounting Required)</p>	<p><b>N</b> = None (Battery Operated)</p> <p><b>S</b> = M12 Upper Back (A &amp; X Style Only, Loop Powered 9-36VDC)</p> <p><b>T</b> = M12 Right Side (A &amp; X Style Only, Loop Powered 9-36VDC)</p> <p><b>U</b> = M12 Left Side (A &amp; X Style Only, Loop Powered 9-36VDC)</p> <p><b>V</b> = M12 Top Side (A &amp; X Style Only, Loop Powered 9-36VDC)</p> <p><b>W</b> = M12 Bottom Side (A Style Only, Loop Powered 9-36VDC)</p>	<p><b>A</b> = Stainless Steel Armor</p> <p><b>V</b> = Stainless Steel Overbraided</p> <p><b>P</b> = Stainless Steel Armor with PVC Coating</p> <p><b>T</b> = Stainless Steel Armor With Teflon Coating</p>	<p>??? = Enter Length in Feet. Example: 010 = 10 feet of Capillary.</p>	<p><b>1</b> = 1/2" NPT Sliding Compression Fitting (Fits Standard Thermowell)</p> <p><b>4</b> = 1/4" NPT Sliding Compression Fitting (1/4" or 1/8" Diameter Stem)</p> <p><b>8</b> = 1/8" NPT Sliding Compression Fitting (1/8" Diameter Stem Only)</p> <p><b>5</b> = 3/4" NPT Adaptor</p> <p><b>U</b> = 1/2" NPT Union (Fits Std. Thermowell)</p> <p><b>X</b> = Plain Unthreaded Bushing</p>
<p><b>M12 Wiring Diagram for 4-20 mA Output Option</b></p>						
<b>3</b>	<b>A</b>	<b>240</b>	<b>A</b>	<b>-R3</b>		
TEMPERATURE RANGE	STEM DIAMETER	STEM LENGTH "X"	RTD	OPTIONS		

Code	Temp. Range	Resolution
1	-58°F to 392°F	0.1°
2	-50°C to 200°C	0.1°
3	-328°F to 1112°F	1°
4	-200°C to 600°C	1°

**Straight Stems**  
**A** = 1/4" Diameter (Standard)  
**F** = 3/8" Diameter  
**C** = 1/8" Diameter

**Fast Response Stem (Not Intended for Use with a Thermowell)**  
**B** = 3/8" Diameter Reduced to 3/16" Diameter Tip

**025** = 2.5"  
**040** = 4"  
**060** = 6"  
**090** = 9"  
**120** = 12"  
**150** = 15"  
**180** = 18"  
**240** = 24"  
**300** = 30"  
**360** = 36"  
**???** = Custom stem length in inches.

**Millimeter Stem Lengths**  
**M????** = Use a code beginning in M to specify a mm stem length ex: 100mm = M0100

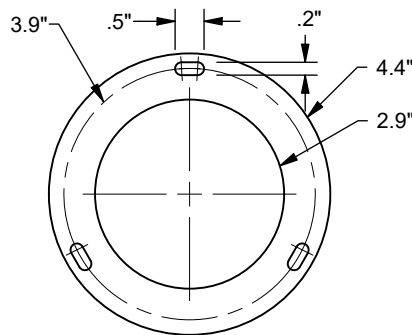
**A** = Class A RTD, 1,000Ω

**-TS** = Stainless Tag  
**-R1** = One Point Calibration Certification (Reotemp Chooses Points)  
**-R3** = Three Point Calibration Certification (Reotemp Chooses Points)  
**-CL** = Custom Logo Dial

For additional options see page 147.

For thermowells see pages 140-146.

**Note:** Thermowells should be used whenever the stem or bulb would be exposed to pressure, corrosion, velocity, abrasion or shear forces. Thermowells also make it possible to remove the thermometer without losing pressure or the contents of the process.



Flange Drawing



Explosion Proof Head

**Explosion Proof Head Approvals (Explosion Proof Option Only)**

FM Approved Enclosure Only: CL. I. GR. A,B,C,D; CL. II. GR. E,F,G; CL. III.; Type 4X. For CSA Class I, Group A, conduit seal is required within 18 inches. CL. I, ZONE 1, ATEX: d IIC, IP66. ATEX: II 2GD Ex d tD A21 IIC, FTZU 04 ATEX 0265U. IECEx FMG 06.0003U, Ex d II C, IP68.

## THERMOCOUPLE & RTD OPTIONS

		Thermocouple	RTD	Digital Thermometers	Handheld Digital
<b>CERTIFICATION OPTIONS</b>					
<b>-R1</b>	1 Point Calibration Certification, Reotemp Chooses	✓	✓	✓	✓
<b>-R3</b>	3 Point Calibration Certification, Reotemp Chooses	✓	✓	✓	✓
<b>-C1</b>	1 Point Calibration Certification, Customer Chooses	✓	✓	✓	✓
<b>-C3</b>	3 Point Calibration Certification, Customer Chooses	✓	✓	✓	✓
<b>-CC</b>	Certificate of Conformance	✓	✓	✓	✓
<b>-CS</b>	NIST Calibration Sticker (No Logged Points)	✓	✓	✓	✓
<b>OTHER OPTIONS</b>					
<b>-VB</b>	Hi-Vibration	N/A	✓	✓	✓
<b>-AC</b>	Hi-Accuracy	N/A	✓	N/A	N/A
<b>-PS</b>	Pointed Stem	✓	✓	✓	✓
<b>-TF</b>	Teflon Coating	✓	✓	✓	✓
<b>-SS</b>	316 SS stem	N/A	STD	✓	✓
<b>-NL</b>	No Logo	✓	✓	✓	✓
<b>-HT</b>	Heat Transfer Compound (2 oz)	✓	✓	✓	N/A
<b>-GL</b>	Plain Glass Lens	N/A	N/A	✓	✓
<b>-CL</b>	Custom Logo Dial	N/A	N/A	✓	✓
<b>-BP</b>	Replacement Battery Pack	N/A	N/A	✓	✓
<b>-WD</b>	White Dial	N/A	N/A	✓	✓
<b>-AS</b>	Allows to Fit 1-1/4-18 Industrial Thermowell	✓	✓	✓	N/A
<b>TAG OPTION</b>					
<b>-TS</b>	Stainless Steel Tag (1-10 Characters)			✓	
<b>-TM</b>	Stainless Steel Tag (11-80 Characters)			✓	
<b>-TP</b>	Paper Tag			✓	

✓	Indicates that the option is available with this model.
N/A	Indicates the option is not available with this model.
STD	Indicates standard options with no additional cost.