

## Digital Temperature Indicators



## APPLICATIONS

- Replacement for bimetal, liquid bulb and glass thermometers
- Pharmaceutical
- Food preparation
- Utilities and municipal refineries
- Chemical and petrochemical plants
- Paper mills
- Hydraulics

## 820/821 SERIES

- Large 4-digit LED display
- Field re-programmable with optional PC interface module and software
- Software includes a security feature to prevent accidental re-programming
- 4 mA to 20 mA programmable linearized output signal
- Utilizes a self-calibration feature for accurate and stable performance
- Optional fully programmable switch output; relay or transistor
- Utilizes a PT100  $\Omega$  RTD Class A element for temperature sensing
- M12 x 1 (5-pin) plug or 36" integral cable electrical connection
- IP 65 / NEMA 4 rated environmental protection
- All 316 Stainless Steel construction
- Easy installation with various mounting configurations

## SPECIFICATIONS

Temperature ranges	Standard ranges from -325 °F to 1,100 °F (-200 °C to 600 °C) Customer rescalable with optional PC interface and software
Temperature sensor	RTD (PT100 DIN EN 60751, Class A)
Housing material	316 Stainless Steel
Probe material	316 Stainless Steel standard
Maximum pressure	500 psig (on probe)
Power requirement	9-36 Vdc, polarity protected
Supply effect	0.005%/V
Power consumption	15 mA @ 24 Vdc + output current – 950 mW max. 20 mA @ 24 Vdc for PNP output – 500 mW max. 20 mA @ 24 Vdc + sourcing current for NPN output 50 mA @ 24 Vdc for relay output – 1200 mW max.
Current output	4 mA to 20 mA (3-wire configuration) linear to temperature
Max load on current output	(Vsupply-9V) / 20 mA, $\Omega$
Optional switching output	Relay SPDT 0.5A @ 240 Vac or Transistor NPN (max 100 mA source) or Transistor PNP (max 100 mA sink)
Optional switching logic	N.C. or N.O. software selectable
Optional switching ranges	Customer programmable between -325 °F to 1,100 °F (-200 °C to 600 °C)
Isolation	500 Vdc input/output (between probe and output signal)
Electrical connection	M12 x 1 (5-pin) or integral cable
Hysteresis	1% of range standard; customer programmable optional
Accuracy	$\leq 0.22\%$ full scale; $\leq 0.1\%$ full scale optional
Open circuit detection	Upscale (22 mA) or downscale (2.5 mA) current output. Error message on LED display
Warm-up	30 seconds
Response time	0.5 sec to 30 sec (software selectable)
Display	4-digit LED, decimal point selectable by software
Display resolution	$\pm 0.02\%$ F.S. $\pm 1$ digit
RFI effect	1% or less typical
Temperature ranges	Ambient -40 °F to 176 °F (-40 °C to 80 °C) Effect <0.01% FS/°C Storage -58 °F to 185 °F (-50 °C to 85 °C)
Environmental protection	NEMA 4/ IP 65



WARNING: This product can expose you to chemicals including Chromium (VI) and Nickel, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

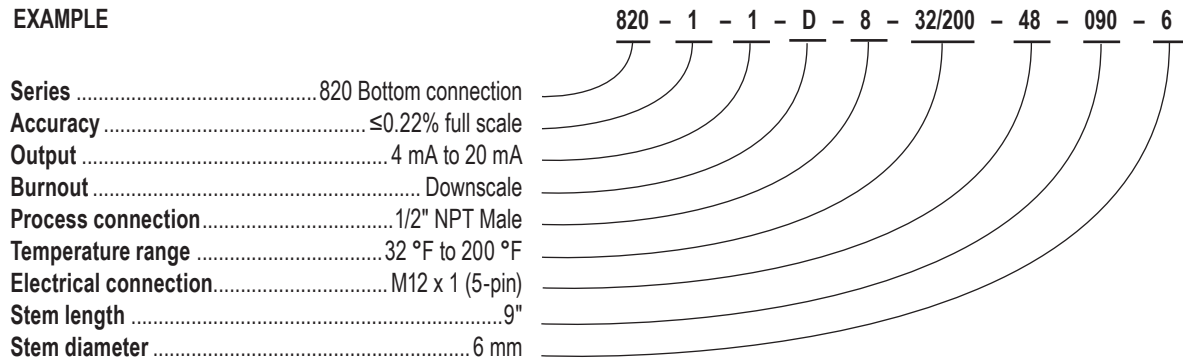
# 820/821 SERIES

ORDERING  
INFORMATION  
DIMENSIONS

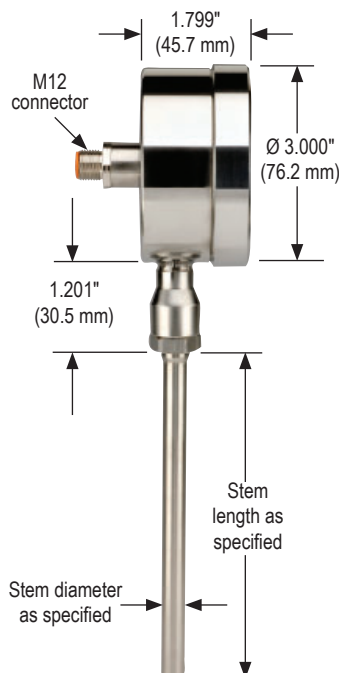
ORDERING INFORMATION					
<b>SERIES</b>	<b>820</b> Bottom connection	<b>821</b> Back connection			
<b>ACCURACY</b>	<b>1</b> ≤0.22% full scale	<b>2</b> ≤0.1% full scale			
<b>OUTPUT</b>	<b>1</b> 4 mA to 20 mA				
<b>BURNOUT</b>	<b>U</b> Upscale	<b>D</b> Downscale			
<b>PROCESS CONNECTIONS</b>	<b>0</b> None	<b>8</b> 1/2" NPT Male			
	<b>2</b> 1/4" NPT Male	<b>48</b> 1/2" NPT Male w/sliding compression fitting*			
<b>TEMPERATURE RANGES</b>	<b>-50/120</b> -50 °F to 120 °F	<b>-50/400</b> -50 °F to 400 °F	<b>32/200</b> 32 °F to 200 °F	<b>32/400</b> 32 °F to 400 °F	
	<b>-50/300</b> -50 °F to 300 °F	<b>32/120</b> 32 °F to 120 °F	<b>32/300</b> 32 °F to 300 °F		
<b>ELECTRICAL CONNECTIONS</b>	<b>36</b> Integral cable 36"	<b>48</b> M12 x 1 (5-pin)			
<b>STEM LENGTHS</b>	<b>025</b> 2.5"	<b>060</b> 6"	<b>120</b> 12"	<b>180</b> 18"	
	<b>040</b> 4"	<b>090</b> 9"	<b>150</b> 15"	<b>240</b> 24"	
<b>STEM DIAMETERS</b>	<b>2</b> 1/4"	<b>3</b> 3/8"	<b>4</b> 1/2"	<b>6</b> 6 mm	

\* Add 2" to stem length for this option.

## EXAMPLE



## 820 Series



## 821 Series

