

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

Thermowells are recommended for pressure, corrosive fluids and high velocity applications, see pages 48-50.

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 Ω 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, Ω
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. ± 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 Lead 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

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

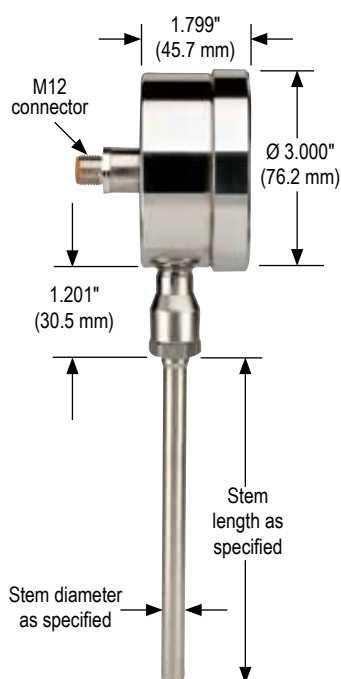
Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

* Add 2" to stem length for this option.

EXAMPLE

	820	-	1	-	1	-	D	-	8	-	32/200	-	48	-	090	-	6
Series	820	Bottom connection															
Accuracy	1	≤0.22% full scale															
Output	1	4 mA to 20 mA															
Burnout	D	Downscale															
Process connection	8	1/2" NPT Male															
Temperature range	32/200	32 °F to 200 °F															
Electrical connection	48	M12 x 1 (5-pin)															
Stem length	090	9"															
Stem diameter	6	6 mm															

820 Series



821 Series

