



## 850 SERIES

- Utilizes PT1000 technology for continuous temperature monitoring, electronic temperature switching, and transmission of analog output while providing local digital indication
- Allows for one or two switching outputs as well as optional current and voltage outputs
- Three buttons on top allow simple adjustment of the temperature set points, reset points, switching functions and the measuring range of the optional analog output
- 1/2" NPT Male standard connection
- A variety of stem lengths are available for maximum versatility; also available with adjustable insertion lengths via the sliding compression fitting
- Durable stainless steel housing and wetted parts
- Display and electrical connection can be rotated independently
- RoHS compliant

### SPECIFICATIONS


<b>Temperature ranges</b>	Standard -4 °F to 176 °F (-20 °C to 80 °C) Optional -4 °F to 248 °F (-20 °C to 120 °C) Selectable display for °F or °C
<b>Temperature sensor</b>	Platinum resistor (PT1000 2-wire, DIN EN 60751 Class A)
<b>Wetted materials</b>	316Ti stainless steel
<b>Housing material</b>	304 Stainless steel
<b>Max. operating pressure</b>	2,000 psi (1/2" NPT Male fixed process connection); 725 psi (1/2" NPT Male sliding compression fitting process connection)
<b>Power requirement*</b>	15 Vdc to 35 Vdc
<b>Signal output adjustment</b>	Zero point: 0-25% of span Full scale: 75-100% of span
<b>Switch points</b>	Individually adjustable via external control keys
<b>Number</b>	1 or 2 (PNP)
<b>Function</b>	N.O. / N.C.; windows-and hysteresis function freely adjustable
<b>Adjustment accuracy</b>	≤ 0.5% of span
<b>Switch rating</b>	Max. 250 mA
<b>Electrical connection</b>	M12 x 1 (4-pin), M12 x 1 (5-pin)
<b>Accuracy</b>	
<b>Analog signal</b>	≤ ±0.5% of span + temperature sensor error
<b>Switching output</b>	≤ ±0.8% of span + temperature sensor error
<b>Display</b>	≤ ±(0.8% of span + temperature sensor error) ±1 digit
<b>Temperature sensor</b>	For °F: ±[1.8*(0.15 + 0.002 (t - 32) / 1.8)] For °C: ±(0.15 K + 0.002  t ) per EN 60751
<b>Display</b>	14 segment-LED, red 4-digit, height 0.35"
<b>Environmental protection</b>	IP65 and IP67 (IEC 60529)

\* Unregulated

### APPLICATIONS

- Mechanical engineering
- Heating and cooling circuits
- Air conditioning technology
- Plant construction
- Environmental technology

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

 **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](http://www.P65Warnings.ca.gov)

ORDERING INFORMATION			
<b>SERIES</b>	850		
<b>SWITCH FUNCTIONS</b>	1 2 N.O. or 2 N.C. switch (PNP *)	4 2 N.O. or 2 N.C. switch (PNP*) with 4 mA to 20 mA 3-wire analog output **	
	2 1 N.O. or 1 N.C. switch (PNP *) with 4 mA to 20 mA 3-wire analog output	5 2 N.O. or 2 N.C. switch (PNP*) with 0 Vdc to 10 Vdc 3-wire output) **	
	3 1 N.O. or 1 N.C. switch (PNP *) with 0 Vdc to 10 Vdc 3-wire output		
<b>PROCESS CONNECTIONS</b>	2 1/4" NPT Male	47 1/4" NPT Male sliding compression fitting	
	8 1/2" NPT Male	48 1/2" NPT Male sliding compression fitting	
<b>TEMPERATURE RANGES</b>	-4/176 -4 °F to 176 °F (-20 °C to 80 °C)	-4/248 -4 °F to 248 °F (-20 °C to 120 °C) †	This range is available with sliding compression fitting ONLY
<b>ELECTRICAL CONNECTION</b>	2 M12 x 1 (4-pin)	3 M12 x 1 (5-pin) ††	
<b>STEM LENGTHS</b>	010 1" ***	040 4"	120 12"
	020 2" ***	060 6"	140 14"
	025 2.5" ***	090 9"	
<b>STEM DIAMETERS</b>	6 6 mm		

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

\* NPN available, consult factory

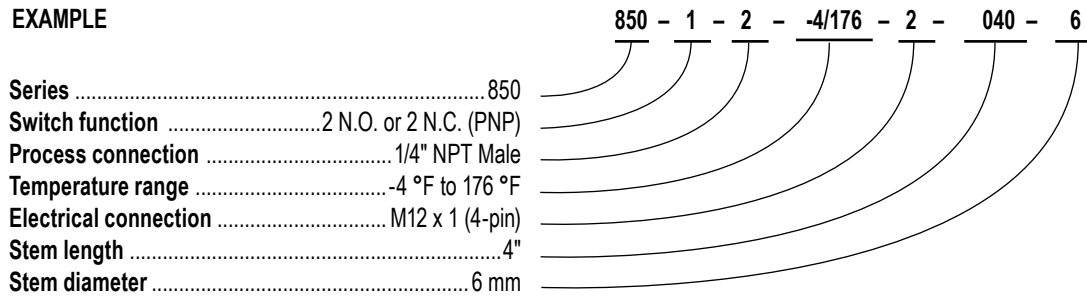
\*\* Available only with M12 x 1 (5-pin) connector

\*\*\* Not available with sliding compression fitting

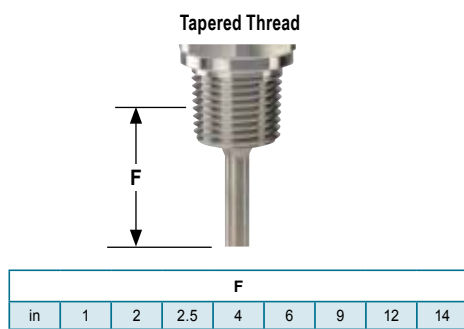
† Available only with sliding compression fitting process connection and stem lengths ≥4"

†† Switch function 4 and 5 only

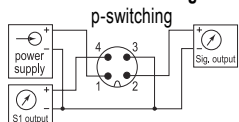
### EXAMPLE



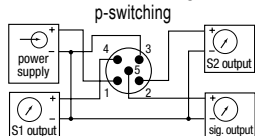
## 850 Series



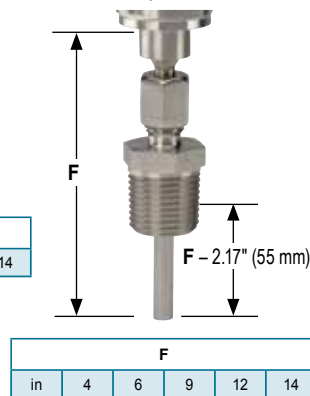
1 switching output (M12 x 1) with 4 mA to 20 mA signal ††



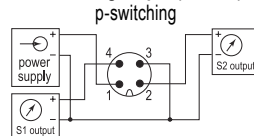
2 switching output (M12x1) with 4 mA to 20 mA signal ††



**Sliding Compression Fitting with Tapered Thread**



2 switching output (M12 x 1) p-switching



†† Also applies to 0 Vdc to 10 Vdc output

**Dimensions inches (mm) with circular connector M12 x 1 (4-pin and 5-pin)**

