



## 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

### APPLICATIONS

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

### 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

Thermowells are recommended for pressure, corrosive fluids and high velocity applications.

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		
	3 1 N.O. or 1 N.C. switch (PNP*) with 0 Vdc to 10 Vdc 3-wire output	5 2 N.O. or 2 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) †	
<b>ELECTRICAL CONNECTION</b>	2 M12 x 1 (4-pin)	3 M12 x 1 (5-pin, 2 switch and output)	
<b>STEM LENGTHS</b>	25mm 25 millimeters***	100mm 100 millimeters	250mm 250 millimeters
	50mm 50 millimeters***	150mm 150 millimeters	350mm 350 millimeters
<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 ≥ 100 mm

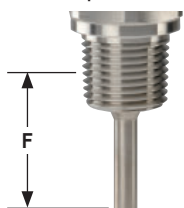
### EXAMPLE

Series ..... 850  
 Switch function ..... 2 N.O. or 2 N.C. (PNP)  
 Process connection ..... 1/4" NPT Male  
 Temperature range ..... -4 °F to 176 °F  
 Electrical connection ..... M12 x 1 (4-pin)  
 Stem length ..... 100 millimeters  
 Stem diameter ..... 6 mm

850 - 1 - 2 - -4/176 - 2 - 100mm - 6

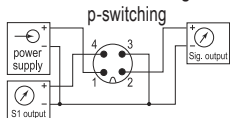
## 850 Series

### Tapered Thread

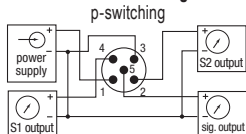


		F					
in	.98	1.97	3.94	5.91	9.84	13.8	
m	25	50	100	150	250	350	

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

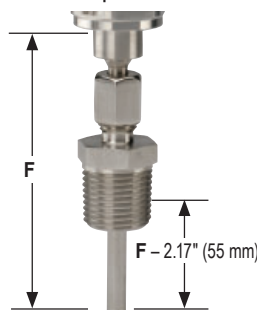


### 2 switching output (M12x1) with 4 mA to 20 mA signal ††



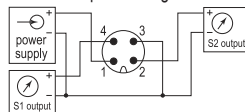
†† Also applies to 0 Vdc to 10 Vdc output

### Sliding Compression Fitting with Tapered Thread



		F			
in	3.94	5.91	9.84	13.8	
mm	100	150	250	350	

### 2 switching output (M12 x 1) p-switching



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

