



## 850 SERIES

- Utilizes PT100 technology to provide continuous temperature monitoring, electronic temperature switching, and transmission of analog output of 4 mA to 20 mA while providing local digital indication
- Allows for one or two switching outputs as well as an optional analog output
- Two buttons on top allow simple adjustment of the temperature set points, reset points, switching functions and the measuring range of the optional analog output
- Wide measuring range (between -300 °F and 1,100 °F / -200 °C and 600 °C) covers the majority of temperature measuring and switching applications
- 1/2" NPT Male standard connection, 1/4" NPT optional
- A variety of stem lengths are available for maximum versatility (also available with adjustable insertion lengths)
- A version with tapered stem is also available for rapid response times
- Durable Stainless Steel housing and wetted parts
- The housing and replaceable measuring insert are screwed together to allow the exchange of the measuring insert without opening the connection to the process

### SPECIFICATIONS

<b>Temperature ranges</b>	Standard ranges from -300 °F to 1,100 °F (-200 °C to 600 °C) Selectable display for °F or °C
<b>Temperature sensor</b>	Platinum resistor (PT100 2-wire, Class B)
<b>Wetted materials</b>	316Ti Stainless Steel
<b>Housing material</b>	Stainless Steel
<b>Working pressure</b>	6 mm stem diameter; 600 psi 8 mm stem diameter; 1,500 psi
<b>Power requirement*</b>	12 Vdc to 30 Vdc
<b>Power consumption</b>	≤ 50 mA, without load
<b>Signal output</b>	4 mA to 20 mA scalable from 20-100% of range
<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</b>	Set point: 0.1° steps within temperature range Reset point: 0.1° steps from beginning temperature range until (set point -0.1°)
<b>Switch rating</b>	100 mA per switch
<b>Electrical connection</b>	M12 x 1 (4-pin)
<b>Accuracy</b>	Class B +0.25% of the temperature range
<b>Display</b>	7 segment-LED, red 4-digit, height 0.3"
<b>Temperature ranges</b>	
<b>Storage</b>	-22 °F to 176 °F (-30 °C to 80 °C)
<b>Ambient</b>	-13 °F to 158 °F (-25 °C to 70 °C)
<b>Influence</b>	±0.006% of measuring range per °F
<b>Environmental protection</b>	NEMA 4; IP65 (IEC 529)
<b>Weight</b>	Approximately 0.66 lb.

\* Unregulated

### APPLICATIONS

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

#### Protective Cover Option

- Made of a thermoplastic polyurethane (TPU) material which is resistant to oil, grease and abrasion
- Protects the sensor while maintaining clear viewing and rotation of the display
- The elastic properties of the material allows set point programming without having to remove the cover
- Increases environmental protection to IP67 for indoor and outdoor use



**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)

Thermowells are recommended for pressure, corrosive fluids and high velocity applications, see pages 46-48.

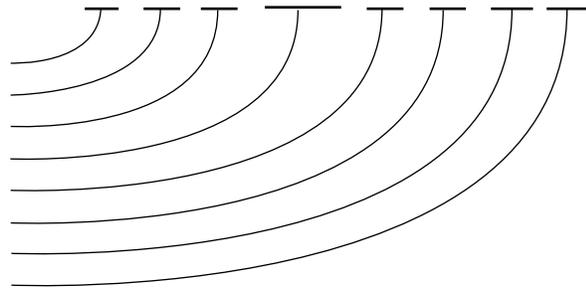
ORDERING INFORMATION			
<b>SERIES</b>	850		
<b>SWITCH FUNCTIONS</b>	1 2 N.O. or N.C. switch-PNP 2 1 N.O. or N.C. switch-PNP (with 4 mA to 20 mA analog output)		
<b>PROCESS CONNECTIONS</b>	2 1/4" NPT Male	8	1/2" NPT Male
<b>TEMPERATURE RANGES</b>	-50/400 -50° F to 400 °F 32/750 32 °F to 750 °F	32/1100 32 °F to 1,100 °F -300/1100 -300°F to 1,100 °F	
<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 50mm 50 millimeters	100mm 100 millimeters 150mm 150 millimeters	250mm 250 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.

**EXAMPLE**

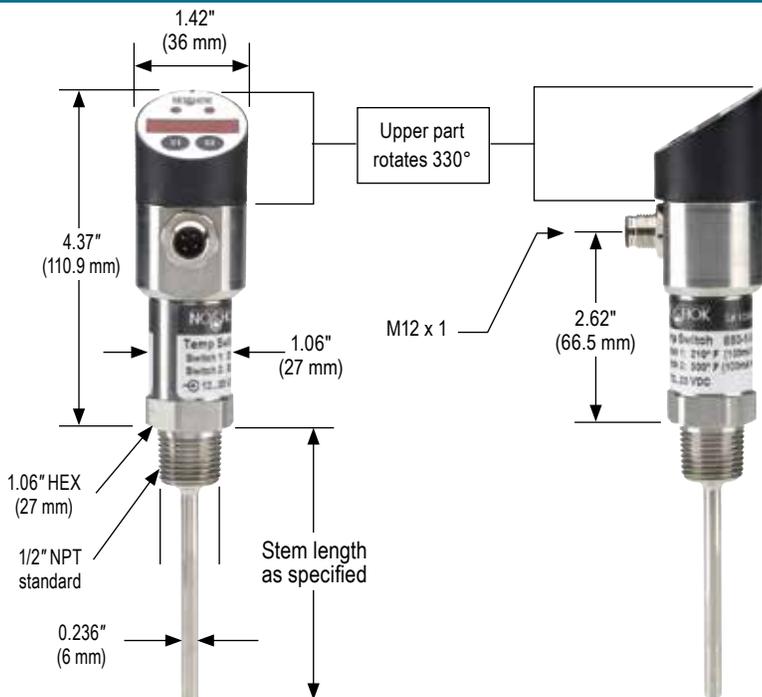
Series ..... 850  
 Switch function ..... 2 N.O. or N.C. (PNP)  
 Process connection ..... 1/4" NPT Male  
 Temperature range ..... -50 °F to 400 °F  
 Electrical connection ..... M12 x 1 (4-pin)  
 Stem length ..... 2.5"  
 Stem diameter ..... 6 mm  
 Option ..... Protective Cover

850 - 1 - 2 - -50/400 - 2 - 025 - 6 - PC

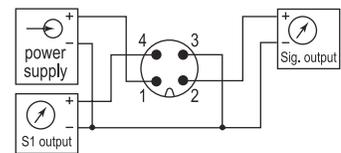


Additional Ordering Information Switch Set Point(s) (please specify)

## 850 Series



**1 switching output (M12 x 1)**  
with 4 mA to 20 mA signal  
p-switching



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

