

805 Pressure Switch-Transmitter

The 805 pressure switch-transmitter is a compact loop-powered pressure switch-transmitter. A supplemental continuous output is also available (either 4-20mA or 1-5VDC). Its rugged construction makes cost of ownership low and it carries a three-year warranty. The SOR® 805 pressure switch-transmitter is suitable for hazardous locations and hostile environments where space is limited. It meets applications where low-cost, discrete and continuous monitoring is preferred. Switch set points and supplemental continuous output zero and span points are field adjusted via SOR Calibration Kit with USB communication cable.

Features

- Compact, 316 Stainless Steel, explosion proof housing
- Stainless Steel sensor, no o-ring
- Solid state switch output (805QS only)
- 0.25% continuous output accuracy
- Hermetically sealed leads
- LCD Display option available
- EMI/RFI protection
- NEMA 4X, IP 66 housing
- Dual Seal approval
- INMETRO approval
- FM and ATEX certified for hazardous locations in U.S., Canada and Europe



Product Specifications

Primary Switch Output (805QS only)		Construction	316SS housing (CF8M)
Accuracy	±2% URL	Process Connection	1/2" NPT(M) with 1/4" NPT(F) and Autoclave F250C(F) for 1/4" OD tubing
Type	Normally Open Solid State Relay	Electrical Connection	
Electrical Rating	30V, 120mA	Size	1/2" NPT(M)
Temperature Effect	±2% URL/100°F @ -40 to 176°F	Termination	18 AWG shielded cable, 72-inch length
Continuous Output		<i>(Consult factory for alternate electrical connections)</i>	
Accuracy	±0.25% URL (BFSL) (Linearity, Hysteresis, and Repeatability)	Wetted Materials	316-SST (for pressure ranges 0-5 psi thru 0-100 psi)
Turndown	5:1		17-4SST (for pressure ranges above 0-100 psi)
Output	4-20 mA	Over Pressure	
1-5 VDC option (27mW ± 5mW @ 9 VDC)		0-5 thru 0-100 psi	3 times FSPR
Zero Offset	+10% URL	0-250 thru 0-10,000 psi	2 times FSPR
Temperature	±1% URL/100°F @ -40 to -176°F	Up to 30,000 psi	1.4 times FSPR
Temperature Range		Burst Pressure	
Compensated	-40 to 176°F (-40 to 80°C)	0-5 thru 0-100 psi	4 times FSPR
Ambient	-40 to 176°F (-40 to 80°C)	0-250 psi	40 times FSPR
Process	-40 to 194°F (-40 to 90°C)	0-500 thru 0-1000 psi	20 times FSPR
Storage	-40 to 194°F (-40 to 90°C)	0-2500 psi	10 times FSPR
Long Term Stability	≤ ±0.5% URL per year	0-5000 psi	8 times FSPR
Response Time	≤ 5 ms	0-10,000 thru 0-15,000 psi	4 times FSPR
Supply Voltage	8-30VDC	0-30,000 psi	1.8 times FSPR
Loop Resistance	800 ohms @ 24VDC	Weight	1.8 lb (0.8 kg)
Circuit Protection	Reverse polarity and EMI/RFI protected	Warranty	3 years

Design and specifications are subject to change without notice. For latest revision, see sorinc.com.

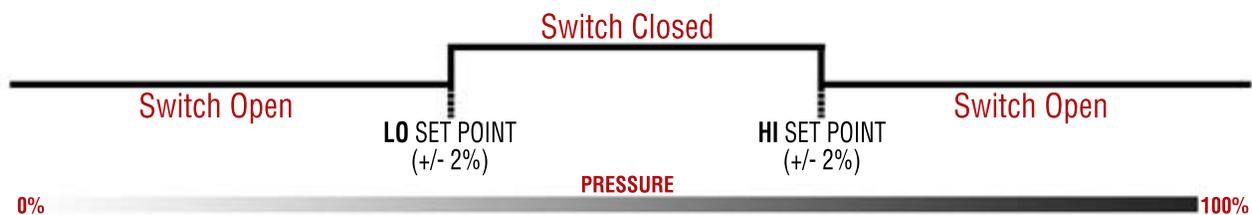
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Switch Operation

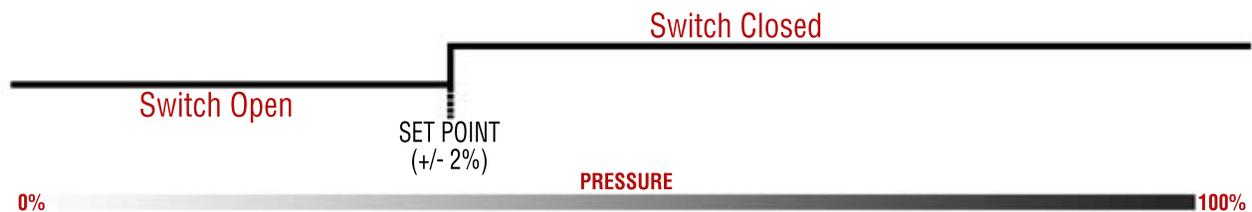
The primary switch output of the 805QS is a “Normally Open Solid State Relay” rated 30V, 120mA. It can be configured 3 ways; as shown below. Switch set point(s) and supplemental continuous output zero and span points are set at the factory as specified by the customer.

In all three configurations, the fail-safe state for the 805QS switch output will be open (i.e., if power is removed from the 805QS, the switch contacts will open automatically).

Window Mode Switch is closed when the process pressure is within the user selected range (LO and HI set points), and open when the pressure is above or below that range.



Close on Rise/Open on Fall Switch is open when the process pressure is below the user selected set point and closed when the pressure is above that set point.



Open on Rise/Close on Fall Switch is closed when the process pressure is below the user selected set point and open when the pressure is above that set point.



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Specifications

Agency Approvals

Approved*	Safety Method	Approval
FM (U.S. and Canada)	Explosion Proof Hazardous Locations	Class I, II, III; Division 1 Groups A-G; T5; Type 4X
	Non-incendive	Class I, II, III; Division 2 Groups A-G; T5; Type 4X
ATEX or INMETRO	Flameproof	II 2 G Ex d IIC T5 IP 66

* Product holds a Canadian Registration Number (CRN) in all provinces, only available for range options 04 thru 09.

Process Connection Size

Designator	A	S	H	Alternate
Description	Stainless Steel, 1/2"NPT(M) with 1/4"NPT(F), Process Connection (316SS for ranges 0-100 psi and below) (17-4SS for ranges above 0-100 psi)	316SS, 1/2" NPT(M) flush-mount, liquid filled, diaphragm seal, Process Connection	17-4SS, Autoclave F250C Female (For 1/4" OD Tubing), Process Connection	If alternate process connection is required, please consult the factory.
Application	General applications with process materials not containing heavy particulates that could induce clogging of pressure port.	Use when applications contain dirty, sticky or high particulate process material such as paraffin.	Use for applications where pressures are greater than 10,000 psi, Standard NPT threads are not suitable at these high pressures.	SOR can provide many other process connections including: <ul style="list-style-type: none"> • Thread & port size adapters • Direct & remote mount diaphragm seals • Tri-clamp/sanitary fittings • Flanged • Other
Photo				



LCD Display “IN” Option

The “IN” LCD display is a low cost option for when a simple local indication is needed. The “IN” option is provided with a 5-digit backlit loop powered LCD display enclosed in an explosion proof housing with terminal block connections inside. For configuring the display, push buttons are provided on the front of the housing. Configuration of the display and transmitter are done separately.

Display Specifications

Analog Signal	2 wire: 4-20mA	Instrument Connection	1/2" NPTF
Power Supply		Electrical Conduit Connection	3/4" NPTF
(with 805 series transmitter)	16-30 VDC	Housing Material	Die-casting Aluminum with chromating and chemically resistant paint
Permissible Temperature	-20 to +70°C	Window Material	Glass
Accuracy	≤0.1% F.S.	Housing Agency Approvals	FM (US and Canada) CSA
Digits	4 1/2 neg; 5 pos		ATEX IEC Ex d IP68
Units	Blank, kPa, MPa, Pa, bar, mbar, psi, mH2O, mmH2O, cmH2O, mmHg, Torr, atm, kg, g, mg, N, kN, °C, °F, K, %RH, %VOL, PPM, %LEL, pH, m, cm, mm, inch, m/s, Ω (ohm), k Ω (kohm), mV, V, L/min, M3/hr	Weight (Display only)	≈2.0 lbs

Display option can be sold separately without transmitter installed and will work with any 4-20mA two-wire device. Part number 9231526.

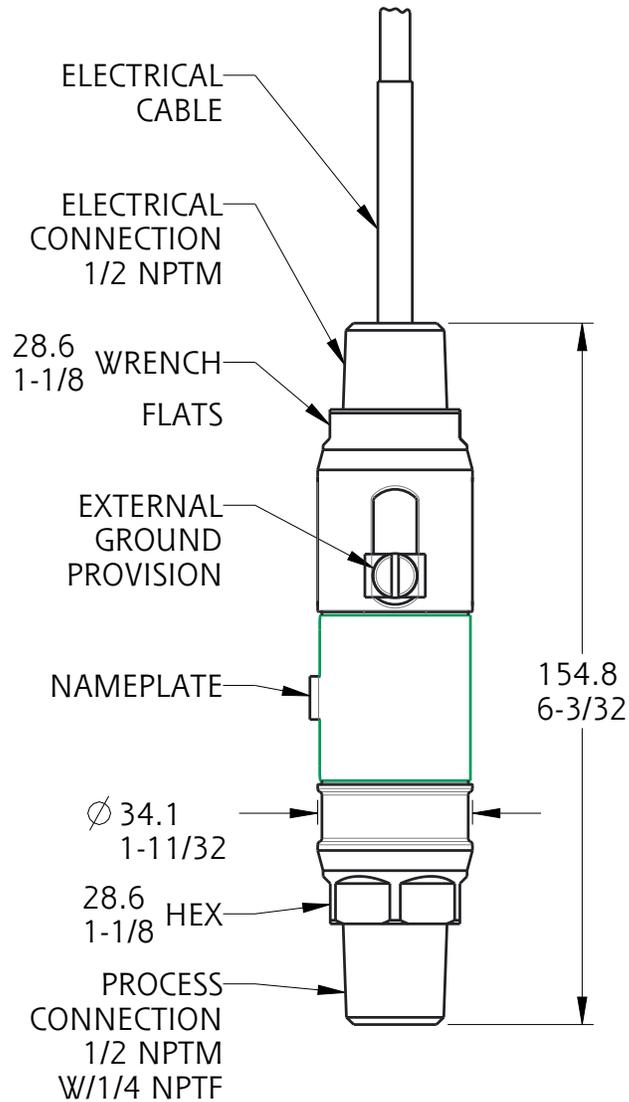
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Dimensions

Dimensions shown are for reference only. Contact the factory for certified dimension drawings.
Linear = mm/in.

Drawing 0091438

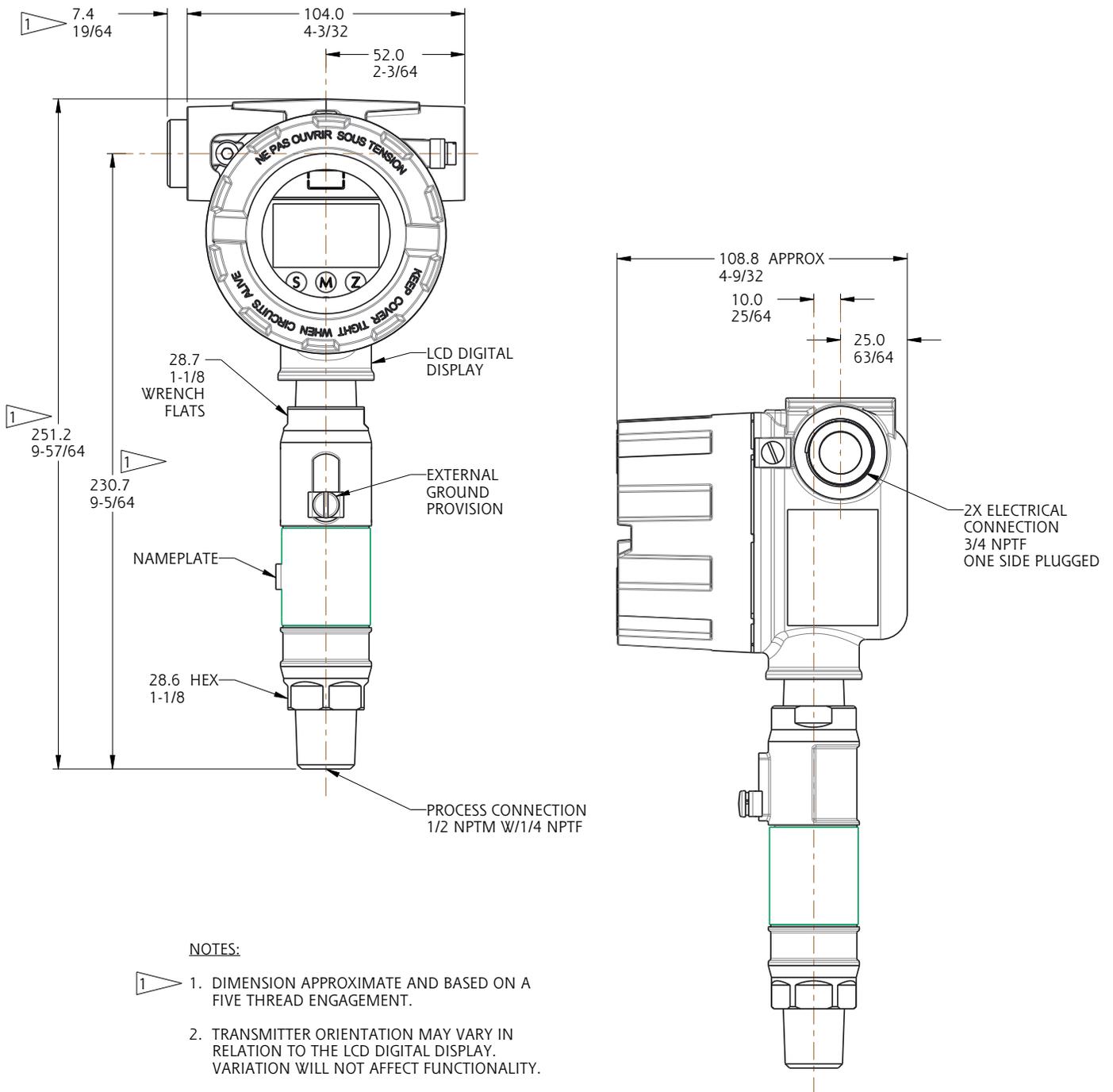


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Drawing 0098738





MEASUREMENT AND CONTROL

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