

## 800 Series Pressure Transmitters

**SOR® Pressure Transmitters** are versatile, rugged products designed for industrial process monitoring and control. This catalog contains application and ordering data for compact styles of pressure transmitter. Pressure ranges for applications requiring measurement of gauge, or differential pressure are all available.

SOR pressure transmitters can be ordered with a multitude of options and accessories offering the best solution for your unique application.



**805PT/805QS**



**815PT**  
with "IN" LCD Display



**815DT**

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# Pressure Transmitters

## Compact Model Overview

Model	 <b>805PT</b> Compact Pressure Transmitter	 <b>805QS</b> Compact Pressure Switch-Transmitter	 <b>815PT</b> Compact Smart Pressure Switch-Transmitter						
Pressure Ranges	Gauge (psi)	Over Pressure (psi)	Absolute (psia)	Gauge (psi)	Over Pressure (psi)	Absolute (psia)	Gauge (psi)	Over Pressure (psi)	Absolute (psia)
	0 to 5	15		0 to 5	15		0 to 5	15	
	0 to 15	45	0 to 15	0 to 15	45	0 to 15	0 to 15	45	0 to 15
	0 to 50	150	0 to 50	0 to 50	150	0 to 50	0 to 50	150	0 to 50
	0 to 100	300	0 to 100	0 to 100	300	0 to 100	0 to 100	300	0 to 100
	0 to 250	500		0 to 250	500		0 to 250	500	
	0 to 500	1,000		0 to 500	1,000		0 to 500	1,000	
	0 to 1,000	2,000		0 to 1,000	2,000		0 to 1,000	2,000	
	0 to 2,500	5,000		0 to 2,500	5,000		0 to 2,500	5,000	
	0 to 5,000	10,000		0 to 5,000	10,000		0 to 5,000	10,000	
	0 to 10,000	20,000		0 to 10,000	20,000		0 to 10,000	20,000	
	0 to 15,000	21,000		0 to 15,000	21,000		0 to 15,000	21,000	
	0 to 30,000	42,000		0 to 30,000	42,000		0 to 30,000	42,000	
Analog Output	4-20mA or 1-5VDC (Low Power) Output must be specified at time of order.						4-20mA / 1-5VDC (Low Power) Output is field configurable.		
Communication Protocol	-						HART® 7 / Modbus RTU Output is field configurable.		
Accuracy	± 0.25% URL						± 0.10% URL		
Built in Switch	-		Yes 3 Switch Output Modes			Yes 9 Switch Output Modes			
Switch Accuracy	-		± 2% URL			± 0.25% URL			
Response Time	< 5ms						< 70ms		
Supply Voltage	8-30VDC						10-36VDC		
Field Calibration	SOR Calibration Kit and PC required						External Magnetic Targets HART 7 / Modbus RTU		
Agency Approvals	FM (U.S. and Canada)		Explosion Proof		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/IECEX or INMETRO		Flameproof		Ex db IIC T5 Gb; IP66				
Warranty	3 years								
Catalog	See page 4						See page 8		

Please consult Product Specifications Table and Model Tree for the complete details of each model.



<b>Model</b>	<b>815DT</b> Compact Smart Differential Pressure Switch-Transmitter		
<b>Pressure Ranges</b>	<b>Range</b>	<b>Max Static Pressure</b>	
	0 to 5 psid	1,000 psi	
	0 to 15 psid	1,000 psi	
	0 to 50 psid	1,000 psi	
	0 to 100 psid	1,000 psi	
	0 to 300 psid	1,000 psi	
	0 to 500 psid	1,000 psi	
<b>HI &amp; LO Side Over Pressure Ratings</b>	<b>Range</b>	<b>HI Side</b>	<b>LO Side</b>
	0 to 5 psid	15 psid	15 psid
	0 to 15 psid	45 psid	45 psid
	0 to 50 psid	150 psid	150 psid
	0 to 100 psid	300 psid	300 psid
	0 to 300 psid	900 psid	900 psid
	0 to 500 psid	1,500 psid	1,500 psid
<b>Analog Output</b>	4-20mA / 1-5VDC (Low Power) Output is field configurable.		
<b>Communication Protocol</b>	HART® 7 / Modbus RTU Output is field configurable.		
<b>Output Signal Characteristic</b>	Linear (Default) Square Root Strapping Table		
<b>Accuracy</b>	± 0.10% URL		
<b>Built in Switch</b>	Yes		
<b>Switch Accuracy</b>	± 0.25% URL		
<b>Response Time</b>	< 70ms		
<b>Supply Voltage</b>	10-36VDC		
<b>Field Calibration</b>	External Magnetic Targets HART® 7 / Modbus RTU		
<b>Agency Approvals</b>	FM (U.S. and Canada)	Explosion Proof	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/IECEX or INMETRO	Flameproof	Ex db IIC T5 Gb; IP66
<b>Warranty</b>	3 years		
<b>Catalog</b>	See page 8		

# 805 Pressure Switch-Transmitters

**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/IECEX certified for hazardous locations in U.S., Canada and Europe



## Product Specifications

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

Design and specifications are subject to change without notice. For latest revision, see [sorinc.com](http://sorinc.com).

# 805 Pressure Switch-Transmitters

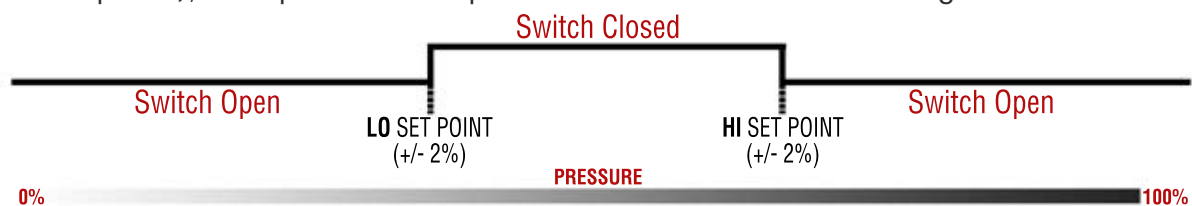
## Switch Operation

The primary switch output of the 805QS is a “Normally Open Solid State Relay” rated 30V, 120mA. It can be configured three 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).

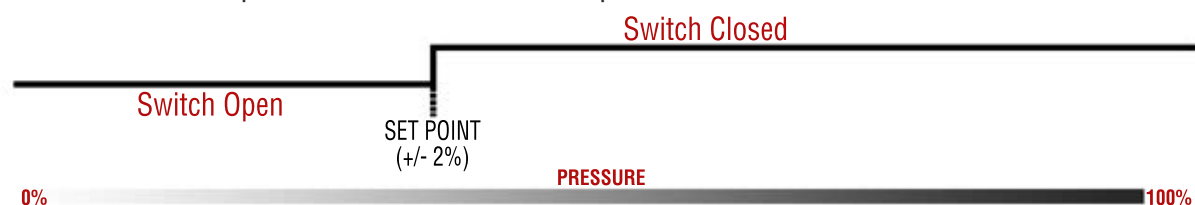
### ① Window Mode

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.



### ② 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.



### ③ 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.



# 805 Pressure Switch-Transmitters

## How to Order

### How to Order

Below is the SOR quick select model number tree that provides you with all the options to configure and order a product for your application.

- You must select a designator for each component
- Reference tables, charts and additional information are provided throughout the catalog to help you make your selections, see pages noted in the tree.

Range		3	4 Process Connection Size	
0-5 psi	00	316/316L SS, 1/2"NPT(M) with 1/4"NPT(F), Process Connection (316SS for ranges 0-15 psi and below) (17-4SS for ranges above 0-15 psi)	A	
0-15 psi	01		S	316L SS, 1/2" NPT(M) flush-mount, liquid filled, diaphragm seal, Process Connection*
0-50 psi	02		H	17-4SS, Autoclave F250C Female (For 1/4" OD Tubing), Process Connection**
0-100 psi	03		See page 17 for more information. If alternate process connection is required, consult factory.	
0-250 psi	04			
0-500 psi	05			
0-1000 psi	06			
0-2500 psi	07			
0-5000 psi	08			
0-10000 psi	09			
0-15000 psi	10			
0-30000 psi	11			
0-15 psia	13			
0-50 psia	14			
0-100 psia	15			

Supplemental Output		2	5 Accessories	
4-20 mA	C	<b>Certificates</b> C1 Calibration C2 Hydrostatic Pressure Test (not available with range option 11) C3 Inspection Report C4 Compliance/Conformance C8 Typical Material of Wetted Parts D1 Certificate of Origin D2 Manufacturer's Certification	IN	LCD Display for local indication (see page 5 for more information)
1-5 VDC	V		BB	Cleaned for industrial oxygen service
			DS	Dual Seal approval (FM)***
			HB	SS universal terminal box, 1/2" NPT(F), ATEX/IECEX approved
			HBME	SS universal terminal box, M20 x 1.5(F), ATEX/IECEX approved
			HT	SS universal terminal box, 1/2" NPT(F), FM and CSA certified
			NM	INMETRO approved (not available for ranges 13-15)
			NC	Compliance to NACE Certification MR0 175/ISO 15156 (Only available with S process connection. Consult factory for other ranges.)
			PK	Pipe mounting kit
			RR	SS tag wired to housing with customer specified information

Model		1
Pressure Transmitter	PT	805 <b>QS</b> - <b>C</b> 07 - <b>A</b> - <b>RR</b>
Pressure Switch-Transmitter	QS	

Example Model No.

\* Only available for range option 04 thru 08

\*\* For pressure ranges above 0-10000psi (range options 10 and 11)

\*\*\* Dual Seal version is not hermetically sealed, only available for range options 00 thru 09.

See page 15 for agency and options.

## Dimensions

**ELECTRICAL CABLE**

**ELECTRICAL CONNECTION  
1/2 NPTM**

**28.6  
1-1/8 WRENCH FLATS**

**EXTERNAL GROUND PROVISION**

**NAMEPLATE**

**Ø 34.1  
1-11/32**

**28.6  
1-1/8 HEX**

**PROCESS CONNECTION  
1/2 NPTM  
W/1/4 NPTF**

**Drawing 0091438**

**154.8  
6-3/32**

Technical drawing of the 1000 Series Pressure Transmitter, showing front and side views with dimensions and labels.

**Dimensions:**

- Top width: 7.4 (19/64)
- Top width: 104.0 (4-3/32)
- Top width: 52.0 (2-3/64)
- Left height: 251.2 (9-57/64)
- Left height: 230.7 (9-5/64)
- Bottom height: 28.6 (1-1/8)

**Labels:**

- NE PAS OUVRIR SOUS TENSION
- RESEAL COVER TIGHT WHEN CIRCUITRY WARM
- LCD DIGITAL DISPLAY
- EXTERNAL GROUND PROVISION
- NAMEPLATE
- 28.7 (1-1/8) WRENCH FLATS
- 28.6 HEX (1-1/8)
- PROCESS CONNECTION 1/2 NPTM W/1/4 NPT

- Drawing 0098738**

7/16



# 815 Smart Pressure Switch-Transmitters

**The 815 Smart Pressure Switch-Transmitters** are rugged, compact, loop-powered instruments that are ideally suited for hazardous locations and hostile environments where space is limited. The 815 offers many industry standard outputs to meet applications where low-cost, discrete and continuous monitoring is required or preferred. This versatile instrument may be used to safely monitor and control many process applications, but is specifically designed for upstream, midstream, and downstream oil & gas applications. Its stainless-steel construction and three-year warranty dramatically reduces the total cost of ownership.

The 815 is easily configured using HART®7 Communication Protocol and Modbus RTU Serial Communications; it is also very easy to set the zero and span set points with a magnet, as the zero and span magnetic targets are clearly identified on the casting. The SOR 815 is a feature rich, low cost, compact transmitter that sits at the top of its class.

## Features

- HART®7 communication protocol with 4-20 mA output
- 1-5 VDC (low-power) mode of operation
- Modbus RTU (RS-485) serial communications
- Configurable normally-open solid-state switch output (SPST)
- $\pm 0.10\%$  (URL) continuous output accuracy
- Zero balance & URL:  $\pm 0.25\%$  URL (each)
- Compact, 316 stainless steel, explosion proof housing
- NACE MRO 175/ISO 15156 certification option available
- Hermetically sealed leads
- Pressure ranges: 0-5 psi to 0-30,000 psi for 815PT, 0-5 psid to 0-500 psid for 815DT
- Zero and span magnetic targets located on casting
- LCD display option available
- EMC (EMI/RFI) protection
- NEMA 4X, IP66 housing
- FM and ATEX/IECEX certified for hazardous locations in U.S., Canada and Europe
- Dual Seal approval
- 3 year warranty



**815PT  
Smart Pressure  
Switch-Transmitter**



**815DT Smart  
Differential Pressure  
Switch-Transmitter**





### Product Specifications

<b>Continuous Output</b>		<b>Construction</b>	316SS housing (CF8M)
Accuracy	±0.10% URL (BFSL) (Linearity, Hysteresis and Repeatability)	<b>Process Connection</b>	
Zero Balance & URL	±0.25% URL (Each)	815PT	1/2" NPT(M) with 1/4" NPT(F) or Autoclave F250C (F) for 1/4" OD Tubing
Output	4-20mA	815DT	(H & L side) 1/4" NPT(F)
HART® 7 Communications Protocol		<b>Electrical Connection</b>	
Modbus RTU (RS-485) Serial Communications		Size	1/2" NPT(M)
1-5VDC (Low Power) Mode of Operation (36mW ± 5mW @ 10VDC)		Termination	18 AWG shielded cable, 72-inch length
Temperature Effect	±1% URL/100°F @ -40 to 176°F	<b>Wetted Materials</b>	
<b>Switch Output</b>		815PT	316/316L-SST (for 0-5 psi thru 0-15 psi & psia pressure ranges) 17-4SST (for pressure ranges above 0-15 psi)
1: Off		815DT	316/316L-SST
2: Windowed, Normally-Open		<b>Max Static Line Pressure</b>	
3: Windowed, Normally-Closed		815DT	1,000 psi
4: Single Point, Normally-Open		<b>Over Pressure</b>	
5: Single Point, Normally-Closed		815PT	
6: PWM (Pulse Width Modulation), Pulsed Low		0-5 thru 0-100 psi	3 times FSPR
7: PWM (Pulse Width Modulation), Pulsed High		0-250 thru 0-10,000 psi	2 times FSPR
8: Dead Band, Normally-Open		Up to 30,000 psi	1.4 times FSPR
9: Dead Band, Normally-Closed		815DT	3 times FSPR
Accuracy	±0.25% URL	<b>Burst Pressure</b>	
Type	Normally Open	815PT	
	Solid State Relay (SPST)	0-5 thru 0-100 psi	4 times FSPR
Electrical Rating	30V, 120mA	0-250 psi	40 times FSPR
Temperature Effect	±1% URL/100°F @ -40 to 130°F	0-500 thru 0-1000 psi	20 times FSPR
<b>Temperature Range</b>		0-2500 psi	10 times FSPR
Compensated	-40 to 176°F (-40 to 80°C)	0-5000 psi	8 times FSPR
Ambient	-40 to 176°F (-40 to 80°C)	0-10,000 thru 0-15,000 psi	4 times FSPR
Process	-40 to 194°F (-40 to 90°C)	0-30,000 psi	1.8 times FSPR
Storage	-40 to 194°F (-40 to 90°C)	815DT	4 times FSPR
Long Term Stability	≤ ±0.5% URL per year	<b>Weight</b>	1.8 lb (0.8 kg)
Response Time	≤ 70 ms	<b>Warranty</b>	3 years
Supply Voltage	10-36VDC		
Loop Resistance	667 ohms @ 24VDC		
Circuit Protection	Reverse polarity and EMC (EMI/RFI) protected		

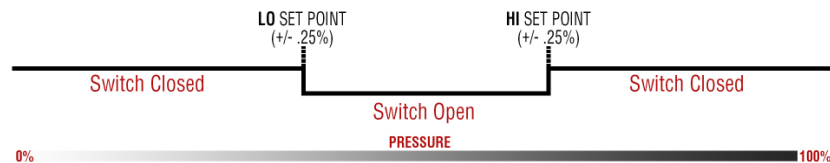
Design and specifications are subject to change without notice. For latest revision, see SORInc.com.

The switch output of the 815 is a Normally Open Solid State Relay rated for 30V, 120mA. It can be configured 9 ways; as shown in the following diagrams. Switch set point(s) and continuous output zero and span points are set at the factory as specified by the customer.

In all nine configurations, the fail-safe state for the 815 switch output will be open (i.e., if power is removed from the 815, the switch contacts will open automatically).

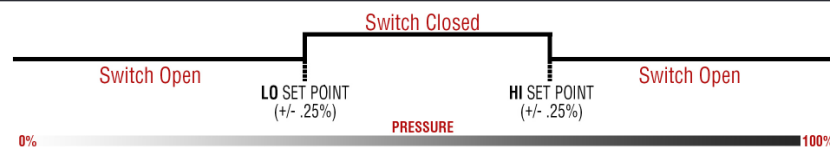
- ❶ Off
- ❷ Windowed, Normally-Open
- ❸ Windowed, Normally-Closed
- ❹ Single Point, Normally-Open
- ❺ Single Point, Normally-Closed
- ❻ PWM (Pulse Width Modulation), Pulsed Low
- ❼ PWM (Pulse Width Modulation), Pulsed High
- ❽ Dead Band, Normally-Open
- ❾ Dead Band, Normally-Closed

### ❷ Windowed, Normally-Open



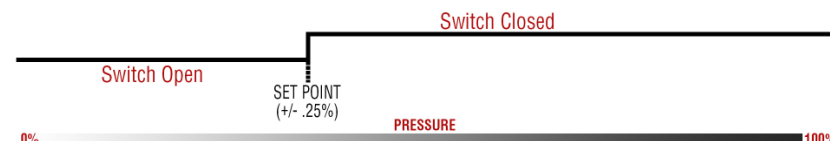
In this configuration, the switch output will be open when the process pressure is within a user selectable range and closed when the pressure is outside of these boundaries. This is designed for applications where there is a known acceptable operating pressure range.

### ❸ Windowed, Normally-Closed



In this configuration, the switch output will be closed when the process pressure is within a user selectable range and open when the pressure is outside of these boundaries. This is designed for applications where there is a known acceptable operating pressure range.

### ❹ Single Point, Normally-Open (Close on Rise/ Open on Fall)



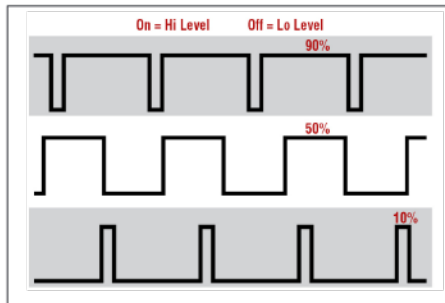
In this configuration, the switch output will be open for pressures less than the selected setpoint. The switch output would then be closed for pressures greater than the setpoint.

### ❺ Single Point, Normally-Closed (Open on Rise/ Close on Fall)

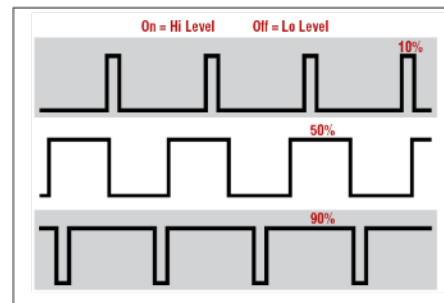


In this configuration, the switch output will be closed for pressures less than the selected setpoint. The switch output would then be open for pressures greater than the setpoint.

### ⑥ Pulse Width Modulation - Pulsed Lo



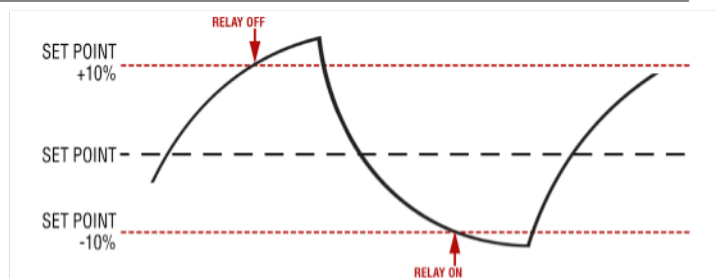
### ⑦ Pulse Width Modulation - Pulsed Hi



### ⑧ & ⑨ Dead Band

This diagram depicts an adjustable dead band. Dead band is the range through which an input can be varied without initiating an observable response. Dead band is usually expressed in percent of span.

**EXAMPLE:** A 20% total dead band is applied to the setpoint of a monitored parameter. The relay will turn on and off as indicated in the graph above.



**Note:** The continuous zero and span points and the Switch Configuration Mode and set point(s) must be specified. Refer to switch configuration diagrams on page 10.

**Example:** **815PT-Z07-A-RR**, which has a range of **0-2500 psi** could be ordered with zero and span of 200 psi and 2300 psi. The window mode switch configuration could have a LO set point of 210 psi and a HI set point of 2290 psi.

## External Magnetic Zero & Span



The 815PT and 815DT can be easily configured externally with a magnet. Simply place a magnet to the targets located on the housing for 3 seconds and set the zero and span.

To set the Zero, simply follow the steps below:

- Step 1: Bring the pressure to the desired Zero value.
- Step 2: Place the magnet on the circle target located on the housing and hold for 3 seconds.
- Step 3: After zero value is set, remove the magnet.



To set the Span, follow the same steps except place the magnet on the triangle on the housing for 3 seconds. Using this method requires a power and a pressure source. Almost any magnet can be used, and SOR can provide the magnetic tool if needed.

# 815 Smart Pressure Switch-Transmitters

## How to Order

### How to Order

Below is the SOR quick select model number tree that provides you with all the options to configure and order a product for your application.

- You must select a designator for each component
- Reference tables, charts and additional information are provided throughout the catalog to help you make your selections, see pages noted in the tree.

Range		3	4	Process Connection Size
<b>815PT</b>				<b>815PT</b>
0-5 psi	00		A	316/316L SS, 1/2"NPT(M) with 1/4"NPT(F) Process Connection (316SS for ranges 0-15 psi and below, 17-4SS for ranges above 0-15 psi)
0-15 psi	01			
0-50 psi	02		S	316L SS 1/2"NPT(M) Flush-Mount, Liquid-Filled, Diaphragm Seal, Process Connection <sup>2</sup>
0-100 psi	03		H	17-4SS, Autoclave F250C Female (For 1/4" OD Tubing), Process Connection <sup>3</sup>
0-250 psi	04			
0-500 psi	05			
0-1000 psi	06			
0-2500 psi	07			
0-5000 psi	08		D	<b>815DT</b> 316/316L SS, 1/4"NPT(F) Differential Process Connection (HI & LO side)
0-10000 psi	09			See page 17 for more information.
0-15000 psi	10			
0-30000 psi	11			
0-15 psia	13			
0-50 psia	14			
0-100 psia	15			
<b>815DT</b>				
0-138 in H <sub>2</sub> O (0-5 psid)	21			
0-415 in H <sub>2</sub> O (0-15 psid)	22			
0-50 psid	23			
0-100 psid	24			
0-300 psid	25			
0-500 psid	26			
Protocol/Output		2	5 Accessories	
HART® 7 and ModBus RTU 4-20 mA and 1-5 VDC <sup>1</sup>		Z	IN	LCD Display for local indication (see page 6 for more information)
			BB	Cleaned for industrial oxygen service
			DS	Dual Seal approval (FM) <sup>4</sup>
			NC	Compliance to NACE Certification MR0 175/ISO 15156 (Only available with S process connection. Consult factory for other ranges.)
			NM	INMETRO approved (not available for ranges 13-15)
			PK	Pipe mounting kit
			RR	SS tag wired to housing with customer specified information
			<b>Certificates</b>	
			C1	Calibration
			C2	Hydrostatic Pressure Test (not available with range option 11)
			C3	Inspection Report
			C4	Compliance/Conformance
			C8	Typical Material of Wetted Parts
			D1	Certificate of Origin
			D2	Manufacturer's Certification
<b>Model</b>		<b>1</b>		
Smart Gauge Pressure Transmitter	815PT			
Smart Differential Pressure Transmitter	815DT			

**815PT- Z 07 - A - RRINC1** Example Model No.

<sup>1</sup>4-20mA and 1-5V output are software selectable using Modbus or HART as detailed in the general instructions. Units ship with 4-20mA output active unless otherwise requested. Both outputs are not active at the same time.

<sup>2</sup>Only available for Range options 04 thru 08

<sup>3</sup>For pressure Ranges above 0-10,000 psi (Range options 10 and 11)

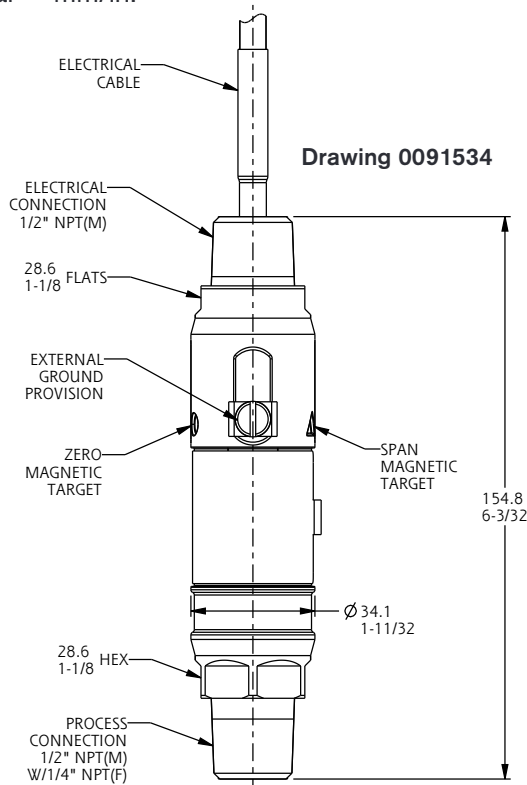
<sup>4</sup>Dual Seal version is not hermetically sealed. Only available for Range options 00 thru 09 and 21 thru 26.

See page 15 for agency and options.

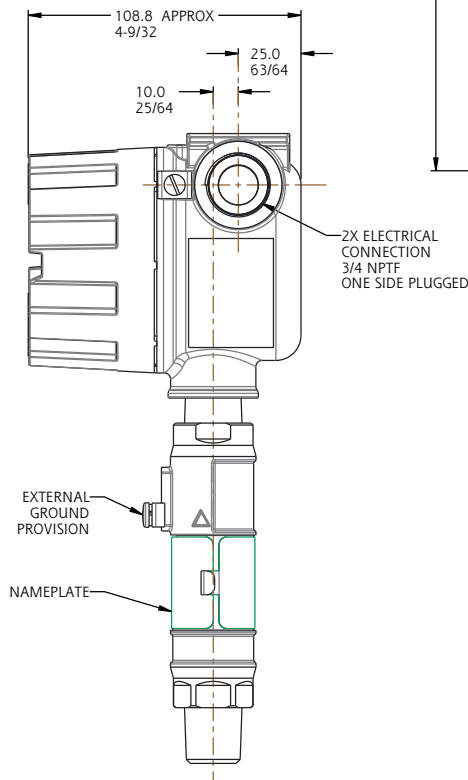
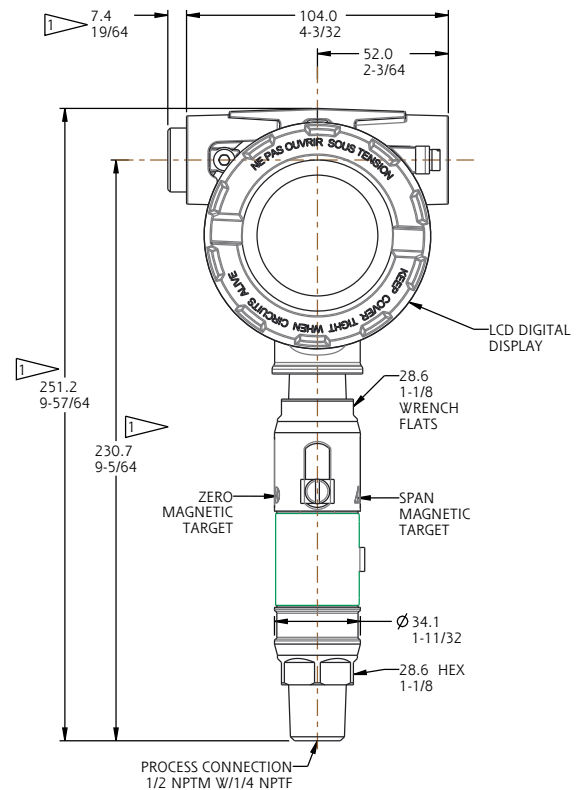
# 815 Smart Pressure Switch-Transmitters

## Dimensions

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



### 815PT Smart Pressure Switch-Transmitter



**Drawing 0098750**

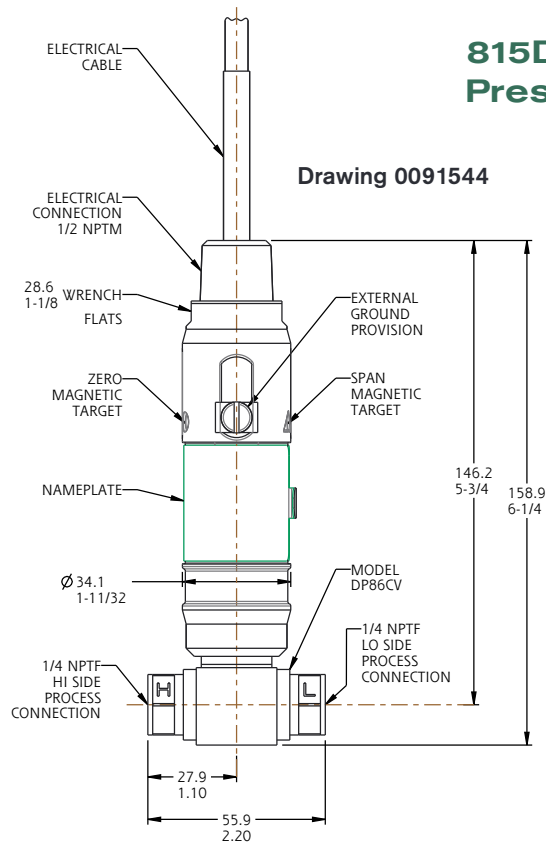
1. DIMENSION APPROXIMATE AND BASED ON A FIVE THREAD ENGAGEMENT.
2. TRANSMITTER ORIENTATION MAY VARY IN RELATION TO THE LCD DIGITAL DISPLAY. VARIATION WILL NOT AFFECT FUNCTIONALITY.

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

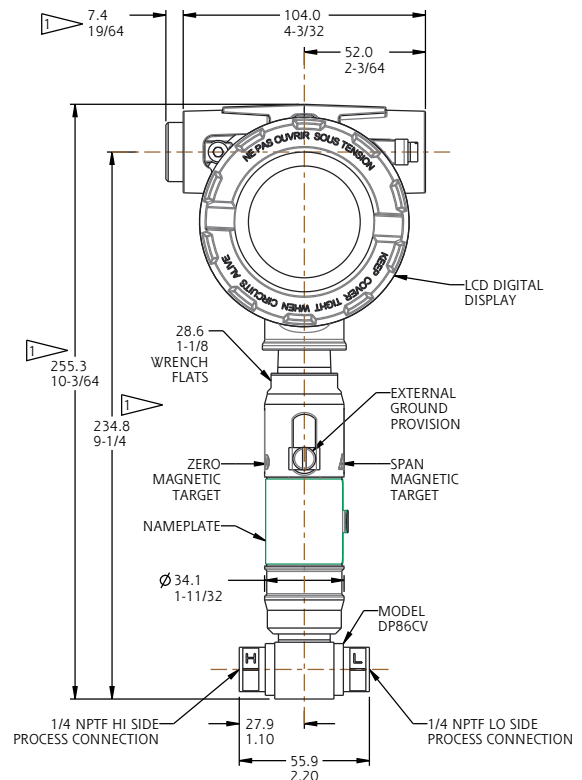
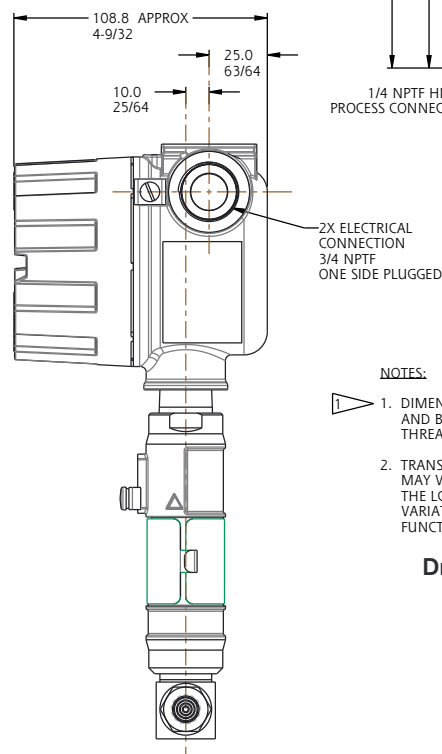
# 815 Smart Pressure Switch-Transmitters

## Dimensions

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



Drawing 0091544



### NOTES:

1. DIMENSION APPROXIMATE AND BASED ON A FIVE THREAD ENGAGEMENT.
2. TRANSMITTER ORIENTATION MAY VARY IN RELATION TO THE LCD DIGITAL DISPLAY. VARIATION WILL NOT AFFECT FUNCTIONALITY.

Drawing 0098752




Design and specifications are subject to change without notice. For latest revision, see [SORInc.com](http://SORInc.com).



# 800 Series Pressure Transmitters

## Process Connections & Agency

### 805/815 Process Connections

Designator	A	S	H	Alternate
Description	Stainless Steel, 1/2"NPT(M) with 1/4"NPT(F), (316/316L SS for ranges 0-15 psi and below) (17-4SS for ranges above 0-15 psi)	316L SS, 1/2" NPT(M) flush-mount, liquid filled, diaphragm seal.	17-4SS, Autoclave F250C Female (For 1/4" OD Tubing)	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"> <li>▪ Thread &amp; port size adapters</li> <li>▪ Direct &amp; remote mount diaphragm seals</li> <li>▪ Tri-clamp/sanitary fittings</li> <li>▪ Flanged</li> <li>▪ Other</li> </ul>
Photo				

### 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/IECEX or INMETRO	Flameproof	Ex db IIC T5 Gb; IP66

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



# 800 Series Pressure Transmitters

## Options

### LCD Display “IN” Option

The “IN” LCD display is a low cost option for when simple local indication is needed. The “IN” option provides 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
Permissible Temperature	-20 to +70°C	with chromating and chemically resistant paint	
Accuracy	≤0.1% F.S.	Window Material	Glass
Digits	4 1/2 neg; 5 pos	Housing Agency Approvals	FM (US and Canada)
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		CSA
		Weight (Display only)	ATEX IEC Ex d IP68 ≈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.

### 805PT/805QS Calibration Kit

This kit includes an SOR Calibration Interface and SOR Calibration Manager software that allows the user to verify, adjust and re-calibrate a device from scratch to implement turndown and zero offset, or adjust the zero output of a device to account for environmental effects. For the 805QS, the software also allows the user to verify, adjust, and re-calibrate the switch output settings.



The SOR Calibration Manager is economical, proprietary software which is compatible with all Windows XP SP3 or newer operating systems including Windows Vista® and Windows 7, and Windows 8 operating systems.

To order 805PT/805QS Calibration Kit use part number 9231026.



MEASUREMENT AND CONTROL

Lenexa, KS USA | 913-888-2630 | Fax 913-888-0767 | [SORInc.com](http://SORInc.com)