

## 3820 Series – Pressure Transmitter with 30V Switching

- ▶ Combines Continuous Output with Adjustable Set Point Switch
- ▶ FM and ATEX Approvals for Hazardous Locations
- ▶ Field Adjustable – 5:1 Turndown
- ▶ Compact, 316 Stainless Steel, Hermetically Sealed Enclosure
- ▶ Stainless Steel Sensor, No O-Ring
- ▶ Dual Seal Approval
- ▶ Flush Mount Option Available

The 3820 Pressure Transmitter is a compact loop-powered (4-20 mA) transmitter, with a low power 1-5 VDC option also available. These are the same as our 3800 Series with the addition of an integrated 30V/120mA switch. The switch setpoint is specified at time of order for factory setting, yet may be also field adjusted using the Gems Calibration Kit (that will also adjust the zero and span points of the transmitter). 3820 Series Pressure Transmitters are suitable for hazardous locations and hostile environments, and are ideal for applications where dependable, continuous monitoring is required. A rugged construction makes cost of ownership low and they carry a three-year warranty.

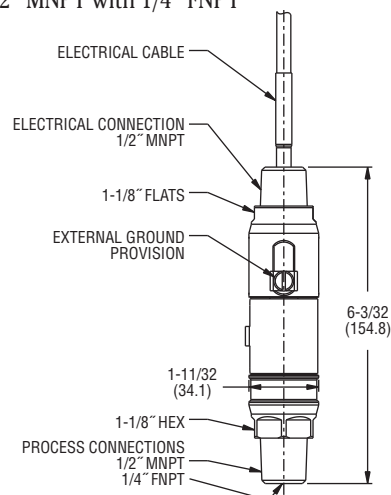
### Specifications

<b>Pressure Range</b>	0 to 10,000 psi
<b>Over Pressure</b>	
0-100 psi	3x FSPR
Up to 10,000 psi	2x FSPR
<b>Primary Switch Output</b>	
Accuracy	±2% URL
Type	Normally Open Solid-State Relay
Electrical Rating	30V, 120 mA
Temperature Effect	±2% URL/100°F (38°C) @ -40°F to +176°F (-40°C to +80°C)
<b>Burst Pressure</b>	
0-100 thru 0-250 psi	40x FSPR
0-500 thru 0-1,000 psi	20x FSPR
0-2,500 psi	10x FSPR
0-5,000 psi	8x FSPR
0-10,000 psi	4x FSPR
<b>Continuous Output</b>	
Long Term Stability	≤±0.5% URL/year
Accuracy	±0.25% URL (BFSL) Linearity, Hysteresis and Repeatability
Response Time	≤5 ms
Turndown	5:1 (2:1 for 100 psi range)
<b>Temperature Ranges</b>	
Compensated	-40°F to +176°F (-40°C to +80°C)
Ambient	-40°F to +176°F (-40°C to +80°C)
Process	-40°F to +194°F (-40°C to +90°C)
Storage	-40°F to +194°F (-40°C to +90°C)
<b>Electrical</b>	
Supply Voltage	8-30 VDC
Output	4-20 mA or 1-5 VDC (27 mW ± 5 mW @ 9 VDC)
Loop Resistance	800 Ohms @ 24 VDC
Circuit Protection	Reverse polarity and EMI/RFI protected
<b>Connection</b>	
Conduit Size	1/2" MNPT
Termination	18 AWG shielded cable, 6-feet (1.8 m)
<b>Mechanical Configuration</b>	
Wetted Parts	17-4 PH Stainless Steel
Enclosure	316 Stainless Steel (CF8M)
Approvals	FM, ATEX, CE
Weight	1.8 lbs. (0.8 kg)

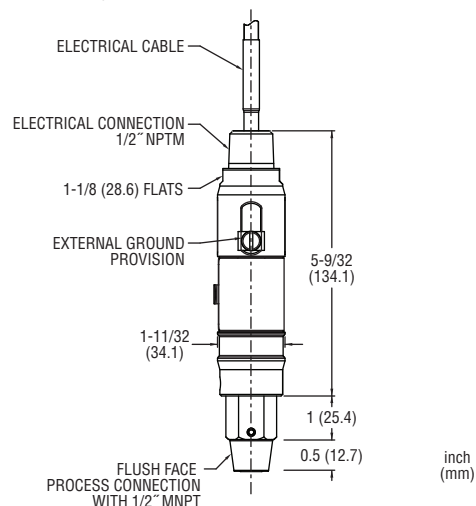


### Dimensions

1/2" MNPT with 1/4" FNPT



Flush Mount – 1/2" MNPT

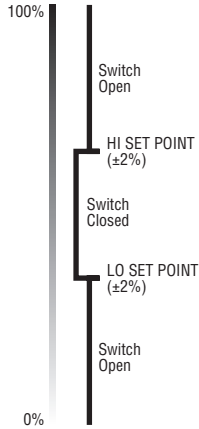




## Switch Operation

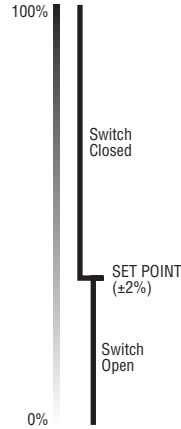
### Window Mode (WM)

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 the range.



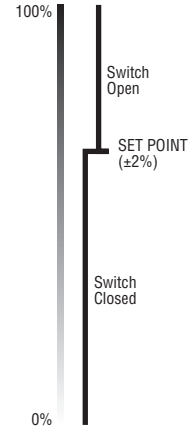
### Close on Rise/Open on Fall (CR)

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 (OR)

Switch is closed when the process pressure is below the user selected set point and open when the pressure is above that set point.



## 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	Flameproof	II 2 G Ex d IIC T5 IP 66

\* Product holds a Canadian Registration Number (CRN) in all provinces.

## How to Order

Use the **bold** characters from the chart below to construct a product code.

<b>SELECT</b>	<b>3820 - C 07 - A - UC - RR - FS - WM</b>	
Series	<b>3820</b> - 3820 Series	Switch Operation
Output	<b>C</b> - 4-20 mA <b>V</b> - 1-5 VDC	<b>WM</b> - Window Mode <b>CR</b> - Close on Rise/Open on Fall <b>OR</b> - Open on Rise/Close on Fall
Range	<b>03</b> - 0-100 psi (0-6.9 bar) <b>04</b> - 0-250 psi (0-17.2 bar) <b>05</b> - 0-500 psi (0-34.5 bar) <b>06</b> - 0-1,000 psi (0-68.9 bar) <b>07</b> - 0-2,500 psi (0-172.4 bar) <b>08</b> - 0-5,000 psi (0-344.7 bar) <b>09</b> - 0-10,000 psi (0-689.5 bar)	Fixed Set Point <b>FS</b> - Specify set point (in PSI or BAR, see example) <sup>1</sup> Example: <b>FS60PSI</b> for 60 PSI or <b>FS3BAR</b> for 3 BAR
Process Connection Size	<b>A</b> - 1/2" MNPT with 1/4" FNPT <b>S</b> - 1/2" MNPT Flush Mount, only for range 250-5,000 psi	Accessories <b>BB</b> - Cleaned for industrial oxygen service <b>C1</b> - Calibration Certificate <b>DS</b> - Dual Seal approval (FM) <sup>2</sup> <b>PK</b> - Pipe mounting kit <b>RR</b> - SS tag wired to housing with customer specified information
		Approvals <b>UC</b> - FM Approval (North, Central, and South America) <b>(blank)</b> - FM and ATEX Approval (Europe and U.K.)

Note:

- Set Point must be within your Pressure Range.
- Dual Seal version is not hermetically sealed.

For field adjustability, a Calibration Kit is required. Calibration Kit includes hardware and software. Contact Gems for additional information. P/N 9231503