

## 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.

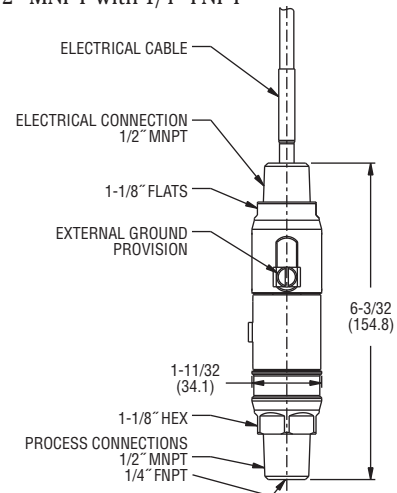
### Specifications

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

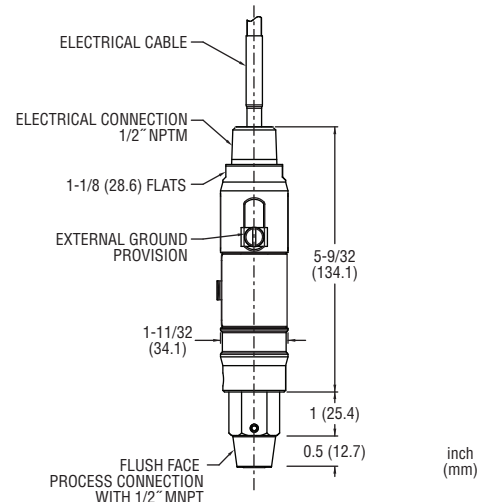


### Dimensions

1/2" MNPT with 1/4" FNPT



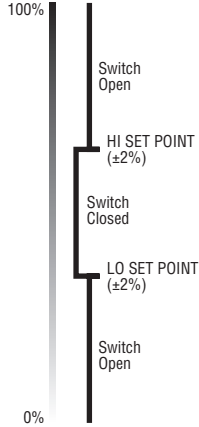
Flush Mount – 1/2" MNPT



## Switch Operation

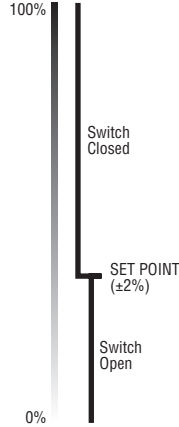
### Window Mode (WM)

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.



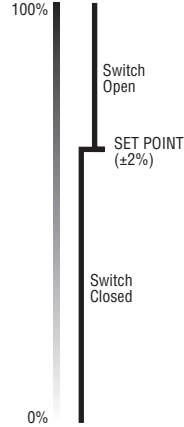
### Close on Rise/Open on Fall (CR)

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.

**SELECT 3820 - C 07 - A - UC - RR - FS - WM**

**Series** 3820 - 3820 Series

**Output**  
C - 4-20 mA  
V - 1-5 VDC

**Range**  
03 - 0-100 psi (0-6.9 bar)  
04 - 0-250 psi (0-17.2 bar)  
05 - 0-500 psi (0-34.5 bar)  
06 - 0-1,000 psi (0-68.9 bar)  
07 - 0-2,500 psi (0-172.4 bar)  
08 - 0-5,000 psi (0-344.7 bar)  
09 - 0-10,000 psi (0-689.5 bar)

**Process Connection Size**  
A - 1/2" MNPT with 1/4" FNPT  
S - 1/2" MNPT Flush Mount, only for range 250-5,000 psi

**Switch Operation**  
WM - Window Mode  
CR - Close on Rise/Open on Fall  
OR - Open on Rise/Close on Fall

**Fixed Set Point**  
FS - Specify set point (in PSI or BAR, see example)<sup>1</sup>  
Example: **FS60PSI** for 60 PSI or **FS3BAR** for 3 BAR

**Accessories**  
BB - Cleaned for industrial oxygen service  
C1 - Calibration Certificate  
DS - Dual Seal approval (FM)<sup>2</sup>  
PK - Pipe mounting kit  
RR - SS tag wired to housing with customer specified information

**Approvals**  
UC - FM Approval (North, Central, and South America)  
(blank) - 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