

## 830 Series – Wet/Wet Differential Pressure Transducer

- ▶ Liquid Media on Both Ports
- ▶ Bleed Screws for Accurate Results
- ▶ Optional Manifold for Easy Installation

The 830 Series is designed for wet-to-wet differential pressure measurements of liquids or gases. They feature fast-response capacitance sensors that respond approximately 20x faster than conventional fluid-filled transducers! Sensors are coupled to signal conditioned electronic circuitry for highly accurate, linear analog output proportional to pressure. Both unidirectional and bidirectional models are available for line pressures up to 350 psi (24 bar). These units feature bleed ports that allow for total elimination of air in the line and pressure cavities.

### Common Specifications

<b>Input</b>	
<b>Pressure Range</b>	0 to 100 psid (0 to 6.9 bar)
<b>Proof Pressure</b>	see ordering chart
<b>Burst Pressure</b>	see ordering chart
<b>Common Line Pressure</b>	350 psi (24 bar)
<b>Fatigue Life</b>	>1 Million Cycles
<b>Performance</b>	
<b>Supply Voltage (Vs)</b>	9-30 VDC (13-30 VDC for 10 VDC output)
<b>Long Term Drift</b>	0.5% FS/year
<b>Accuracy</b>	0.25% FS
<b>Thermal Error Zero</b>	0.02% FS/°F (0.036% FS/°C)
<b>Thermal Error Span</b>	0.02% FS/°F (0.036% FS/°C)
<b>Compensated Temperatures</b>	30°F to 150°F (-1°C to +65°C)
<b>Operating Temperatures</b>	0°F to 175°F (-18°C to +80°C)
<b>Storage Temperatures</b>	-65°F to +250°F (-54°C to +121°C)
<b>Zero Tolerance</b>	0.5% FS
<b>Span Tolerance</b>	0.5% FS
<b>Mechanical Configuration</b>	
<b>Pressure Port</b>	see ordering chart
<b>Wetted Parts</b>	17-4 PH Stainless Steel, 300 Series SS, Viton and Silicone
<b>Electrical Connection</b>	7/8" Knock Out for 1/2" Conduit, Screw Terminal Strip
<b>Enclosure</b>	Stainless Steel, Aluminum
<b>Vibration</b>	5g Peak Sinusoidal, 5 to 500 Hz
<b>Acceleration</b>	10g
<b>Shock</b>	50g
<b>Approvals</b>	CE
<b>Weight</b>	15 oz

### Individual Specifications

<b>Voltage Output Units</b>	
<b>Output</b>	0-5 VDC or 0-10 VDC (3 wire)
<b>Min. Load Resistance</b>	5000K ohms
<b>Current Output Units</b>	
<b>Output</b>	4-20 mA (2 wire)
<b>Max. Loop Resistance</b>	(Vs-9) x 50 ohms



CE

3-Valve Manifold Assembly



Gems optional 3-valve manifold assembly eases installation and maintenance.

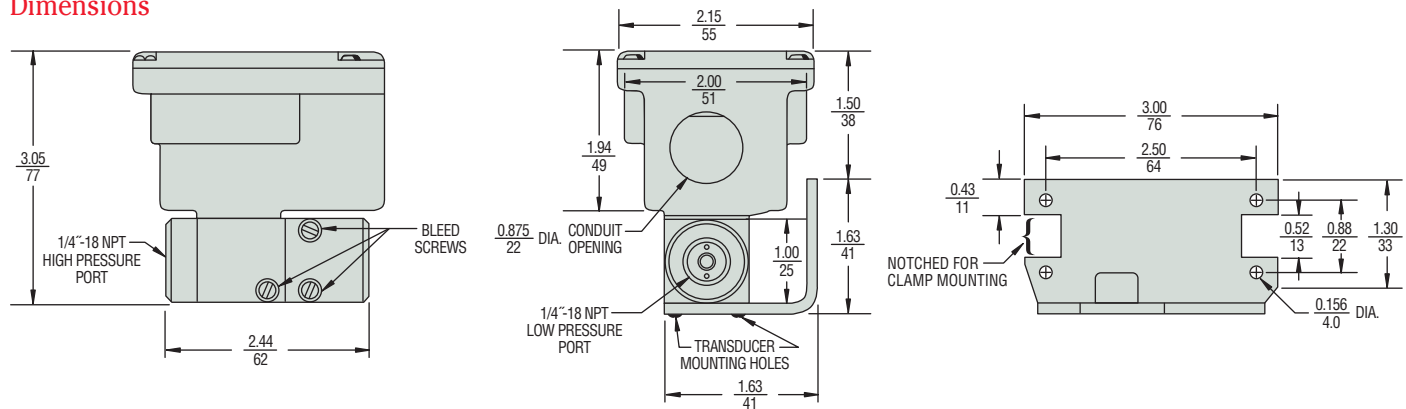
### Applications

- Energy Management Systems
- Process Control Systems
- Liquid & Gas Flow Measurement
- Filter Monitoring
- Liquid Level Measurement

### How They Operate

A unique isolation system transmits the motion of the differential pressure sensing diaphragm from the high line pressure environment to the dry enclosure where it moves one of a pair of capacitance plates proportionally to the diaphragm movement. Electronic circuitry linearizes output vs. pressure and compensates for thermal effects of the sensor.

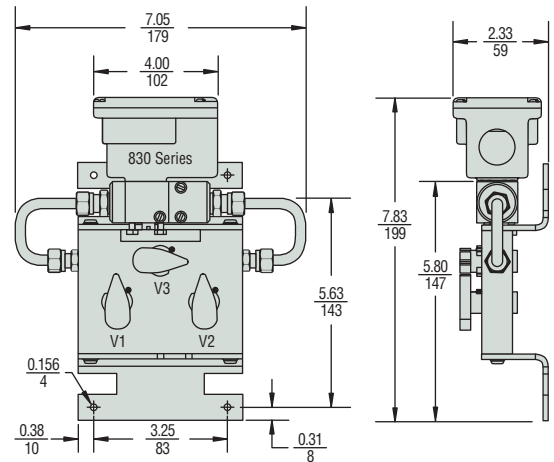
## Dimensions



## 3-Valve Manifold

Gems optional 3-valve manifold assembly eases installation and maintenance. Machined of brass, it eliminates internal pipe connections and the associated chance of internal leaks. When manifold and 830 Series transducer are ordered together, they are assembled at the factory and shipped ready for mounting. Specify the **3V** Pressure Port code when ordering.

<b>Wetted Parts</b>	360 Brass, Copper 122, Acetal plug valves, and Nitrile O-rings
<b>Valve Type</b>	90-degree on/off
<b>Process Connections</b>	1/4" NPTF
<b>Dimensions</b>	7.05" x 6.25" x 2.16" D (179 mm x 159 mm x 55mm)
<b>Weight</b>	2.5 lbs



## How to Order

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

### SELECT

1. Series **8301** - 830 Series

2. Pressure Range Code **025PD**

3. Pressure Port **2F** - 1/4" NPTF  
**3V** - 3-Valve Manifold Assembly Installed

4. Output **11** - 4-20 mA  
**2D** - 0-5 Vdc  
**2E** - 0-10 Vdc

5. Bleed Screw Seals **B** - Viton/Silicon Standard  
**A** - Buna-N Optional

6. Optional **C** - Calibration Certificate

**8301 025PD 2F 11 B X**

### Valve Schematic

