

# Pressure Transmitters and Pressure Transducers



## PXMS and PXDGS Series

- 0.25% Accuracy
- 4-20 mA or 1-5 VDC Output Signal
- Precision Etched Silicon Sensor
- Field Adjustable
- Corrosion Resistant Construction
- High Stability

### Description

The PXMS Series pressure transmitter and the PXDGS Series pressure transducer are state-of-the-art instruments providing 4 to 20 mA (PXMS) or 1-5 VDC (PXDGS) outputs. They feature a precision micro-machined silicon diaphragm with fully welded stainless steel pressure port for greater accuracy, stability and a wide range of compatibility.

Silicon technology is used to provide a miniature micro-machined diaphragm which is electrostatically bonded to a glass substrate and is then stitch-bonded within a glass to metal seal assembly to provide exceptional thermal and stress isolation. This technology assures you of high accuracy and stability over a wide range of operating conditions.

The enclosure is made of 316 stainless steel and all wetted parts are 316L stainless steel.

### Applications

The PXMS and PXDGS models can be used in applications such as Compressors, Engines, Process Control, Liquid Level and Pumps.

### Specifications

#### Accuracy (Full Scale, Best Straight Line):

±0.25% including non-linearity, hysteresis and repeatability. Long term stability better than 0.25% FS over twelve (12) months.

#### Overpressure/Proof Pressure:

400% for up to 500 psi (3.45 MPa) [34 Bar]. 200% for higher ranges.

#### Burst Pressure:

Lower of 4000 psi (27.58 MPa) [275 Bar] or 600% for ranges ≤ 2,000 psi (13.79 MPa) [137 Bar]; 20,000 psi (137.90 MPa) [1379 Bar] for ranges > 2,000 psi (13.79 MPa) [137 Bar].

#### Response Time:

Frequency response better than 2 kHz.

#### Temperature:

Storage: -65 to 200°F (-54 to 93°C).  
Operating: -40 to 180°F (-40 to 82°C).  
Compensated: -20 to 160°F (-29 to 71°C).

#### Total Thermal Effects Over Compensated Range:

±2% FS TEB except ±4% FS TEB for ±30 in. H<sub>2</sub>O range.

#### Environmental Effect:

Humidity: *No effect.*  
Mounting: *Position/orientation has negligible effect.*  
Shock/Vibration: *Negligible effect unless severe.*

#### Physical:

Enclosure: *Weather Resistant (IP65).*  
Body: *316 stainless steel.*  
*Meets NACE MR01-75.*  
Wetted Parts: *316L stainless steel.*  
Process Connection: *1/4 NPT female.*  
Electrical Cable: *Integral; 36 in. (914 mm); vented.*

#### PXMS Power Requirements:

Typically 24 VDC is required. Using the Loop Resistance Graph, 9-30 VDC.

#### PXDGS Power Requirements:

6-30 VDC, 2 mA typical.

#### PXMS Series Transmitter Output:

4-20 mA, 2-wire.

#### PXDGS Series Transducer Output:

1-5 VDC, 3-wire.

**Insulation:** Greater than 10 Mohms @ 500 VDC.

**RFI Protection:** Included.

**Voltage Surge/Spike:** Protected against a 600 V spike to IEC 60-2. Reverse polarity protected.

**Zero Offset and Span Setting:** ±0.5% FS. Field adjustable ±5.0% FS via potentiometer.

#### Sealed or Vented:

Vented for ranges ≤ 1000 psi (6.89 MPa) [68 Bar].

Sealed at one atmosphere at sea level for ranges > 1000 psi (6.89 MPa) [68 Bar].

#### \*Laboratory Approvals:

UL/cUL Class I, Div. 1, Groups A, B, C, D, Class II, Division 1, Groups E, F, G; when installed with approved barrier per drawings 05-08-0006 for PXMS models or 05-08-0747 PXDGS models (units through 6000 psi [34.48 MPa] [344 bar] only).

**Shipping Weight:** 0.90 lb. (408 g).

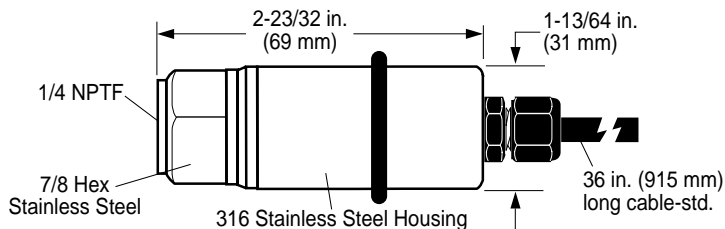
**Shipping Dimensions:** 5 x 5 x 5 inches (127 x 127 x 127 mm).

### Warranty

A one-year limited warranty on materials and workmanship is given with this Murphy product. Details are available on request and are packed with each unit.

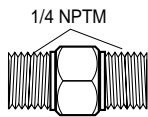
## Dimensions

### PXMS and PXDGS Dimensions



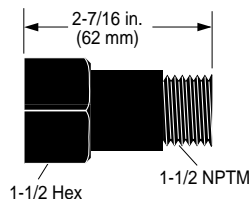
## Order These Options Separately

### SSA-XM Stainless Steel Pressure Adapter (86031205)



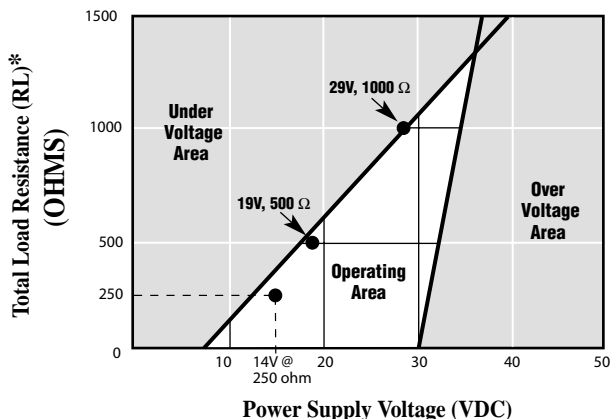
**NOTE:** Maximum working pressure: 5,000 psi (34.48 MPa) [344 Bar].

### 1/2 NPT Conduit Connector (05004538)



## Loop Resistance Graph

Supply voltage for the PXMS must be within range of 9-30 VDC. The Graph below shows the minimum supply voltage (VDC) required for a given load resistance (RL).



\*NOTE: Cable resistance effect included in RL.

## How to Order

To order, please use the part number designation below.

Part number example: **PXMS-5000**

### Model

**PXMS** = Pressure transmitter (4-20 mA output).

**PXDGS** = Pressure transducer (1-5 VDC output).

### Pressure Range†:

Specify For this range

<b>30V30WC</b>	-30 to +30" H <sub>2</sub> O (-76 to +76 cm H <sub>2</sub> O)
<b>30V30</b>	-30" Hg to +30 psig (-76 cm Hg to 207 kPa) [2.07 Bar]
<b>30V100</b>	-30" Hg to +100 psig (-76 cm Hg to 689 kPa) [6.89 Bar]
<b>5</b>	0-5 psi (34 kPa) [0.34 Bar]
<b>15</b>	0-15 psi (103 kPa) [1.03 Bar]
<b>30</b>	0-30 psi (207 kPa) [2.07 Bar]
<b>60</b>	0-60 psi (414 kPa) [4.14 Bar]
<b>100</b>	0-100 psi (689 kPa) [6.89 Bar]
<b>200</b>	0-200 psi (1.38 MPa) [13.80 Bar]
<b>300</b>	0-300 psi (2.07 MPa) [20.70 Bar]
<b>400</b>	0-400 psi (2.75 MPa) [27.50 Bar]
<b>600</b>	0-600 psi (4.14 MPa) [41 Bar]
<b>1000</b>	0-1,000 psi (6.89 MPa) [68 Bar]
<b>2000</b>	0-2,000 psi (13.79 MPa) [137 Bar]
<b>3000</b>	0-3,000 psi (20.69 MPa) [206 Bar]
<b>5000</b>	0-5,000 psi (34.48 MPa) [344 Bar]
<b>6000</b>	0-6,000 psi (41.37 MPa) [413 Bar]
<b>7500</b>	0-7,500 psi (51.71 MPa) [517 Bar]
<b>10000</b>	0-10,000 psi (68.95 MPa) [689 Bar]

†NOTE: Conversions are approximate.

### Replacement Parts—Order Separately

**05052626** = stainless steel adapter bushing 1 NPSM x (2) 1/4 NPTF

**05050459** = carbon steel adapter bushing 1 NPSM x (2) 1/4 NPTF



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