

# COMPACT INDUSTRIAL WET/WET DIFFERENTIAL PRESSURE TRANSDUCER

## STANDARD AND METRIC MODELS

**0-2 to 0-500 psid-  
Standard Models**  
**0-140 mbar to 0-35 bar-  
Metric Models**

**Differential Pressure**  
**mV/V Output**  
**0 to 5 Vdc Output**  
**4 to 20 mA Output**

1 bar = 14.5 psi  
1 kg/cm<sup>2</sup> = 14.22 psi  
1 atmosphere = 14.7 psi = 29.93 inHg = 760.2 mmHg = 1.014 bar

### PX81/PXM81 Series



- ✓ High-Accuracy Wet/Wet Differential Pressure
- ✓ All Stainless Steel Construction for Harsh Industrial Environments
- ✓ High Operating Temperature
- ✓ 5-Point Calibration Provided: 0%, 50%, 100%, 50%, 0%

OMEGA's PX81/PXM81 Series wet/wet, differential pressure transducers are compact and highly accurate, designed for industrial applications in which low drift and long-term reliability are important. Their small temperature-compensation error minimizes errors due to changing process temperatures, and the rugged all stainless steel construction allows the PX81/PXM81 to withstand typical harsh environments found in chemical and industrial plants. Available with either mV/V, 0 to 5 Vdc, or 4 to 20 mA outputs, PX81/PXM81 Series transducers will interface with most control systems.



# WET/WET DIFFERENTIAL PRESSURE TRANSDUCERS

## SPECIFICATIONS

### mV/V Output

**Excitation:** 10 Vdc  
(15 V max)

**Output:** 3 mV/V nominal

**Bridge Resistance:**  
350 Ω minimum

**Zero Balance:** ±1% FSO

**Shunt:** 80% FSO

### 5 Vdc Output

**Excitation:** 24 to 32 Vdc

**Output:** 0 to 5 Vdc ±10% adj

**Zero Balance:** 0 V ±10% adj

### 4 to 20mA Output

**Excitation:** 10 to 40 Vdc

**Output:** 4 to 20 mA ±10%

**Zero Balance:**

4 mA +10% -2% adj

**Shunt:** 80% FSO

## COMMON SPECIFICATIONS

**Accuracy:** ±0.25% linearity, hysteresis and repeatability combined

**Environmental:**

**Operating Temp Range:**

mV/V: -73 to 163°C (-100 to 325°F)

5T and I: -46 to 121°C (-50 to 250°C)

**Compensated Temp Range:**

17 to 71°C (60 to 160°F)

### Thermal Effects:

**mV/V and 5 V:**

**Zero:** ±0.0054% FSO/°C

**Span:** ±0.0054% rdg/°C

**4 to 20 mA:**

**Zero:** ±0.009% FSO/°C

**Span:** ±0.009% rdg/°C

### Pressure:

**Safe Overpressure:**

150% rated pressure

**Line Pressure:** 150% rated pressure  
(applied simultaneously to both sides)

**Burst Pressure:** 300%  
rated pressure

### Mechanical:

**Wetted Parts:** 17-4 PH  
stainless steel

**Pressure Port:** See dimensional  
drawings on following pages

### Electrical Connection:

**Style 0:** 3 m (10') cable

**Style 1:** PTIH-10-6P (or equal)

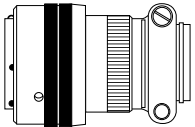
**Style 6:** mini DIN

### Mating Connector:

**Style 1:** PT06F10-6S

(sold separately)

**Style 6:** Mating connector included



**Style 1 Mating  
Connector  
PT06F10-6S  
sold separately.**

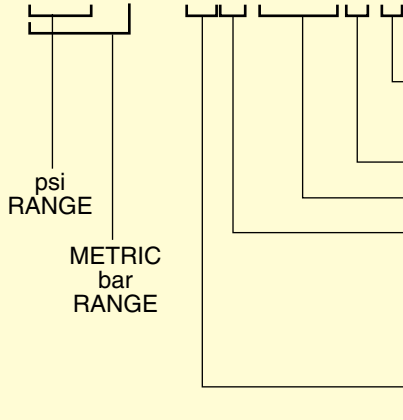


**STANDARD  
PX81D0-020DV,  
shown actual size.**

## STANDARD AND METRIC CUSTOM CONFIGURATIONS

MODEL NUMBER SPECIFICATION:

**PXM81D0-020DV**



**OUTPUT:** V = 3 mV/V nominal  
5T = 0 to 5 Vdc  
I = 4 to 20 mA

**DIFFERENTIAL PRESSURE**

**RANGE IN psi FOR PX81; mbar FOR PXM81**

**ELECTRICAL CONNECTION:**

0 = 3 m (10') cable  
1 = PTIH-10-6P connector or equiv.  
6 = mini DIN connector  
(no shunt)

**PRESSURE PORT:** D = 1/4-18 FNPT  
MD = G1/4

**Ordering Examples:** *PX81D0-500DI*, 500 psid range model with 4 to 20 mA output and 3 m (10') PVC cable.

*PX81D0-005DV*, 5 psid range model with mV/V output and 3 m (10') PVC cable.

*PX81D1-200D5T*, 200 psid range model with 0 to 5 Vdc output and integral connector. *PT06F10-6S*, mating connector.

*PX81D0-020DI*, 20 psid range model with 4 to 20 mA output and 3 m (10') cable.

# 4 to 20 mA OUTPUT STANDARD RANGES

**4 to 20 mA Output**  
**0-2 to 0-500 psid**  
**0-140 mbar to 0-35 bar**  
**Differential Pressure**

## PX81 Series

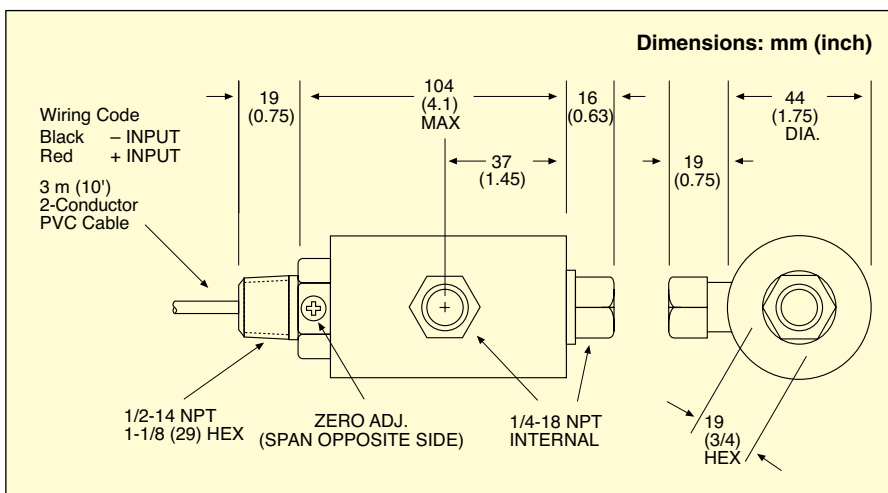
4 to 20 mA Models



**STANDARD**  
 PX81D0-005DI, shown smaller than actual size.

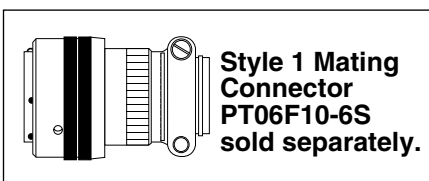
DIFFERENTIAL PRESSURE TRANSDUCERS **B**

- ✓ High-Accuracy Wet/Wet Differential Pressure
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### CONNECTIONS 4 to 20 mA

	PIN	Cable	DIN
+Input	A	Red	1
-Input	B	Black	2



### STANDARD MODELS

To Order			
MODELS WITH 4 to 20 mA OUTPUT WITH 1/4 NPT FITTING			
RANGE		MODEL NO.	COMPATIBLE METERS*
0 to 2 psid	0 to 0.14 bar	PX81D[*]-002DI	DP41-E, DP25B-E, DP24-E
0 to 5 psid	0 to 0.34 bar	PX81D[*]-005DI	DP41-E, DP25B-E, DP24-E
0 to 20 psid	0 to 1.4 bar	PX81D[*]-020DI	DP41-E, DP25B-E, DP24-E
0 to 50 psid	0 to 3.4 bar	PX81D[*]-050DI	DP41-E, DP25B-E, DP24-E
0 to 100 psid	0 to 6.9 bar	PX81D[*]-100DI	DP41-E, DP25B-E, DP24-E
0 to 200 psid	0 to 13.8 bar	PX81D[*]-200DI	DP41-E, DP25B-E, DP24-E
0 to 300 psid	0 to 20.7 bar	PX81D[*]-300DI	DP41-E, DP25B-E, DP24-E
0 to 500 psid	0 to 34.5 bar	PX81D[*]-500DI	DP41-E, DP25B-E, DP24-E

Comes complete with 5-point NIST traceable calibration.

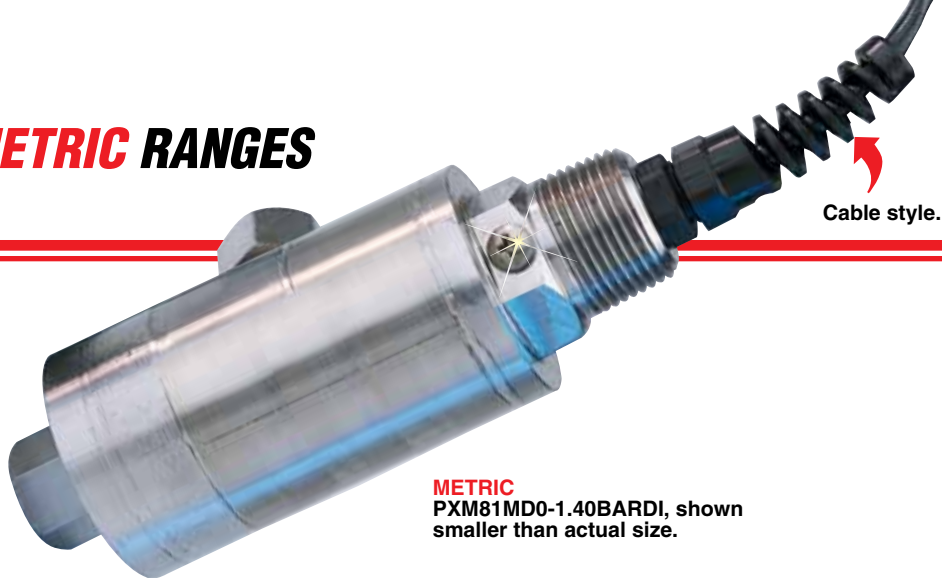
\* Visit us online for compatible meters.

[\*] To specify electrical termination, insert "0" for 3 m (10') cable, "1" for twist-lock 6 pin connector, or "6" for mini DIN connector.

Ordering Examples: PX81D1-005DI, 5 psi differential pressure transmitters with 4 to 20 mA output and twist-lock 6 pin connector.

PT06F10-6S, mating connector (sold separately).

# 4 to 20 mA OUTPUT **METRIC** RANGES



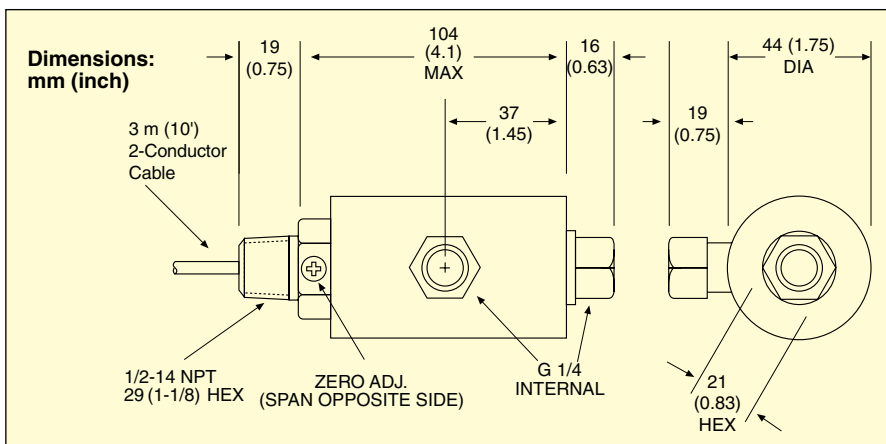
**4 to 20 mA Output**  
**0-160 mbar to 0-35 bar**  
**0-2 to 0-500 psi**  
**Differential Pressure**

## PXM81 Series 4 TO 20 mA Models



- ✓ High-Accuracy Wet/Wet Differential Pressure
- ✓ All Stainless Steel Construction for Harsh Industrial Environments
- ✓ High Operating Temperature
- ✓ 5-Point Calibration Provided: 0%, 50%, 100%, 50%, 0%

**METRIC**  
**PXM81MD0-1.40BARDI**, shown smaller than actual size.



CONNECTIONS 4 to 20 mA			
	PIN	Cable	DIN
+Input	A	Red	1
-Input	B	Black	2

### METRIC MODELS

To Order			
4 to 20 mA OUTPUT WITH G 1/4 PRESSURE CONNECTION, SPECIFY ELECTRICAL TERMINATION			
RANGE		MODEL NO.	COMPATIBLE METERS*
<b>DIFFERENTIAL PRESSURE</b>			
0 to 160 mbar	0 to 2.3 psi	<b>PXM81MD[*]-160mBARDI</b>	DP41-E, DP25B-E, DP24-E
0 to 350 mbar	0 to 5 psi	<b>PXM81MD[*]-350mBARDI</b>	DP41-E, DP25B-E, DP24-E
0 to 700 mbar	0 to 10 psi	<b>PXM81MD[*]-700mBARDI</b>	DP41-E, DP25B-E, DP24-E
0 to 1.4 bar	0 to 20 psi	<b>PXM81MD[*]-1.40BARDI</b>	DP41-E, DP25B-E, DP24-E
0 to 3.5 bar	0 to 51 psi	<b>PXM81MD[*]-3.50BARDI</b>	DP41-E, DP25B-E, DP24-E
0 to 7 bar	0 to 102 psi	<b>PXM81MD[*]-007BARDI</b>	DP41-E, DP25B-E, DP24-E
0 to 14 bar	0 to 203 psi	<b>PXM81MD[*]-014BARDI</b>	DP41-E, DP25B-E, DP24-E
0 to 20 bar	0 to 290 psi	<b>PXM81MD[*]-020BARDI</b>	DP41-E, DP25B-E, DP24-E
0 to 35 bar	0 to 508 psi	<b>PXM81MD[*]-035BARDI</b>	DP41-E, DP25B-E, DP24-E

Comes complete with 5-point NIST traceable calibration.

[\*] Insert "0" for 3 m (10') cable, "1" for twist-lock 6 pin connector or "6" for mini DIN connector.

\* Visit us online for compatible meters.

To order extra cable on cable-style models, add suffix "-(Total length in meters)M" and additional cost/m beyond the standard 3 m (10') length.

Ordering Examples: **PXM81MD0-014BARDI-10M**, 14 bar differential pressure transmitter with 4 to 20 mA output and 10 m (32') cable.

**PXM81MD1-350mBARDI**, 350 mbar differential pressure transmitter with 4 to 20 mA output and a twist-lock 6 pin connector. **PT06F10-6S**, mating connector (sold separately).