

# COMPACT INDUSTRIAL WET/WET DIFFERENTIAL PRESSURE TRANSDUCER

## PX81 Series

0-2 to 0-500 psid  
(0-140 mbar to 0-35 bar)  
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

Starts at  
**\$550**



- ✓ 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 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 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 Series transducers will interface with most control systems.



PX81DI-010D5T, \$685, shown smaller than actual size.

PX81D0-002DI, \$685, shown smaller than actual size.

PX81DI-050DV, \$550, shown smaller than actual size.

# WET/WET DIFFERENTIAL PRESSURE TRANSDUCERS

## SPECIFICATIONS

### mV/V Output

Excitation: 10 Vdc  
(15 V max)

Output: 3 mV/V nominal

Bridge Resistance:  
350  $\Omega$  minimum

Zero Balance:  $\pm 1\%$  FSO

Shunt: 80% FSO

### 5 Vdc Output

Excitation: 24 to 32 Vdc

Output: 0 to 5 Vdc  $\pm 10\%$  adj

Zero Balance: 0 V  $\pm 10\%$  adj

### 4 to 20mA Output

Excitation: 10 to 40 Vdc

Output: 4 to 20 mA  $\pm 10\%$

Zero Balance:

4 mA  $+10\%$   $-2\%$  adj

Shunt: 80% FSO

## COMMON SPECIFICATIONS

Accuracy:  $\pm 0.25\%$  linearity,  
hysteresis and repeatability combined

Environmental:

Operating Temp Range:

mV/V:  $-73$  to  $163^\circ\text{C}$  ( $-100$  to  $325^\circ\text{F}$ )

5T and I:  $-46$  to  $121^\circ\text{C}$  ( $-50$  to  $250^\circ\text{C}$ )

Compensated Temp Range:

$17$  to  $71^\circ\text{C}$  ( $60$  to  $160^\circ\text{F}$ )

### Thermal Effects:

mV/V and 5 V:

Zero:  $\pm 0.0054\%$  FSO/ $^\circ\text{C}$

Span:  $\pm 0.0054\%$  rdg/ $^\circ\text{C}$

4 to 20 mA:

Zero:  $\pm 0.009\%$  FSO/ $^\circ\text{C}$

Span:  $\pm 0.009\%$  rdg/ $^\circ\text{C}$

### 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:

$\frac{1}{4}$ -18 NPFT

### Electrical Connection:

Style 0: 3 m (10') cable

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

Style 6: Micro DIN

### Mating Connector:

Style 1: PT06F-10-6S (not included)

Style 6: Mating connector included

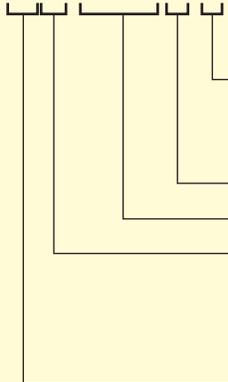


**B**

## Custom Configurations

MODEL NUMBER SPECIFICATION:

**PX81D0-020DV**



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

DIFFERENTIAL PRESSURE

RANGE IN psi

ELECTRICAL CONNECTION:

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

PRESSURE PORT: D =  $\frac{1}{4}$ -18 NPTF

**PX81D0-002DI,  
\$685, shown  
smaller than  
actual size.**

**Ordering Examples:** PX81D0-500DI, 500 psid range model with 4 to 20 mA output and 3 m (10') PVC cable, \$685.

PX81D0-005DV, 5 psid range model with mV/V output and 3 m (10') PVC cable, \$550. PX81D1-200D5T, 200 psid range model with 0 to 5 Vdc output and integral connector, \$685. PT06F-10-6S, mating connector, \$26.50. PX81D0-020DI, 20 psid range model with 4 to 20 mA output and 3 m (10') cable, \$685.

# HOW TO ORDER PX81 SERIES WET/WET DIFFERENTIAL PRESSURE TRANSDUCERS WITH mV/V OUTPUT

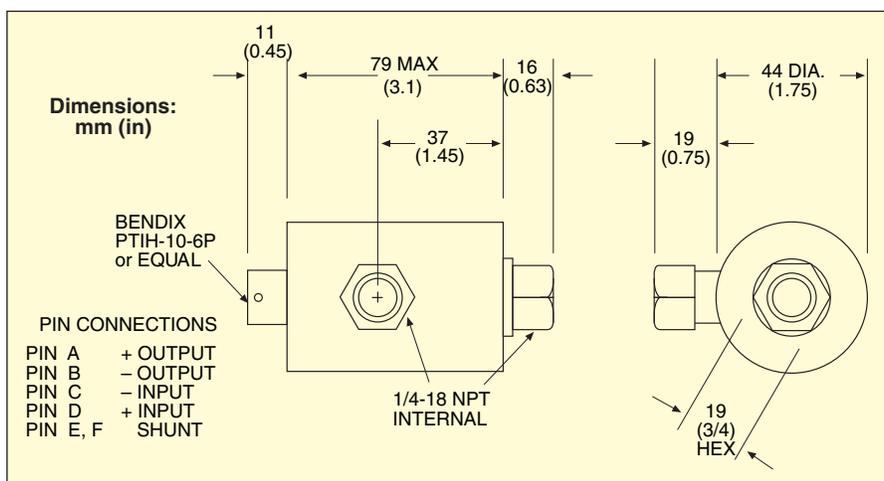
**PX81 Series**  
mV/V Output  
0-5 to 0-500 psid  
(0-0.34 to 34.5 bar)  
Differential Pressure



PX81D1-100D5T, \$685, shown smaller than actual size.

Starts at  
**\$550**

- ✓ 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%



**MOST POPULAR MODELS HIGHLIGHTED!**

## mV/V Output

Excitation: 10 Vdc (15 V max)

Output: 3 mV/V nominal

Bridge Resistance: 350  $\Omega$  nominal

Zero Balance:  $\pm 1\%$  FSO

CONNECTIONS mV/V			
	PIN	Cable	DIN
+Output	A	Green	2
-Output	B	White	3
-Input	C	Black	GRND
+Input	D	Red	1
Shunt	E	Blue	
Shunt	F	Orange	



## To Order (Specify Model Number)

### Models with mV Output

RANGE	MODEL NO.	PRICE	COMPATIBLE METERS*
0 to 5 psid    0 to 0.34 bar	PX81D[*]-005DV	\$550	DP41-S, DP25B-S
0 to 10 psid    0 to 0.69 bar	PX81D[*]-010DV	550	DP41-S, DP25B-S
0 to 20 psid    0 to 1.4 bar	PX81D[*]-020DV	550	DP41-S, DP25B-S
0 to 50 psid    0 to 3.4 bar	PX81D[*]-050DV	550	DP41-S, DP25B-S
0 to 100 psid    0 to 6.9 bar	PX81D[*]-100DV	550	DP41-S, DP25B-S
0 to 200 psid    0 to 13.8 bar	PX81D[*]-200DV	550	DP41-S, DP25B-S
0 to 300 psid    0 to 20.7 bar	PX81D[*]-300DV	550	DP41-S, DP25B-S
0 to 500 psid    0 to 34.5 bar	PX81D[*]-500DV	550	DP41-S, DP25B-S

Comes with 5-point calibration.

Metric ranges available – consult Engineering.

[\*] Insert "0" for 3 m (10') cable, "1" for Bendix connector, or "6" for DIN connector.

\* See section D for compatible meters.

**Ordering Examples:** PX81D1-300DV, 300 psid differential pressure transducer with 3 mV/V output and integral connector, \$550. PT06A-10-6S, mating connector (not included), \$26.50. PX81D1-010DV, 10 psid differential pressure transducer with 3 mV/V output and integral connector, \$550. PT06A-10-6S, mating connector (not included), \$26.50.

### ACCESSORY

MODEL NO.	PRICE	DESCRIPTION
AV-1017	\$99	Reference Book: Mechanics of Aircraft Structures



# HOW TO ORDER PX81 SERIES WET/WET DIFFERENTIAL PRESSURE TRANSDUCERS WITH 0 TO 5 Vdc OUTPUT

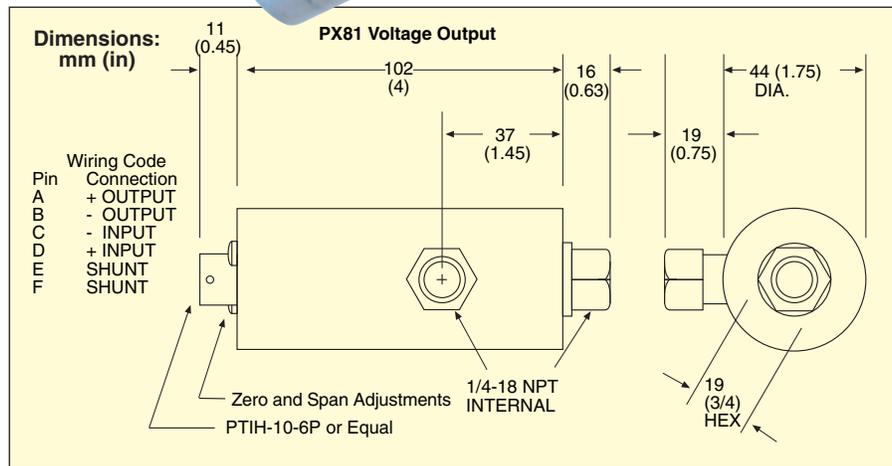
**PX81 Series**  
0 to 5 Vdc Output  
0-2 to 0-500 psi  
(0-140 mbar to 0-35 bar)  
Differential Pressure



PX81D0-100D5T, \$685, shown smaller than actual size.

Starts at  
**\$685**

- ✓ 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%



**MOST POPULAR MODELS HIGHLIGHTED!**

## To Order (Specify Model Number)

Models with 0 to 5 Vdc Output

RANGE	MODEL NO.	PRICE	COMPATIBLE METERS*
0 to 2 psid	0 to 0.14 bar	<b>PX81D[*]-002D5T</b>	<b>685</b> DP41-E, DP25B-E, DP24-E
0 to 5 psid	0 to 0.34 bar	<b>PX81D[*]-005D5T</b>	<b>685</b> DP41-E, DP25B-E, DP24-E
0 to 10 psid	0 to 0.69 bar	<b>PX81D[*]-010D5T</b>	<b>685</b> DP41-E, DP25B-E, DP24-E
0 to 20 psid	0 to 1.4 bar	<b>PX81D[*]-020D5T</b>	<b>685</b> DP41-E, DP25B-E, DP24-E
0 to 50 psid	0 to 3.4 bar	<b>PX81D[*]-050D5T</b>	<b>685</b> DP41-E, DP25B-E, DP24-E
0 to 100 psid	0 to 6.9 bar	<b>PX81D[*]-100D5T</b>	<b>685</b> DP41-E, DP25B-E, DP24-E
0 to 200 psid	0 to 13.8 bar	<b>PX81D[*]-200D5T</b>	<b>685</b> DP41-E, DP25B-E, DP24-E
0 to 300 psid	0 to 20.7 bar	<b>PX81D[*]-300D5T</b>	<b>685</b> DP41-E, DP25B-E, DP24-E
0 to 500 psid	0 to 34.5 bar	<b>PX81D[*]-500D5T</b>	<b>685</b> DP41-E, DP25B-E, DP24-E

Comes with 5-point calibration.

Metric ranges available – consult Engineering.

[\*] Insert "0" for 3 m (10') cable, "1" for Bendix connector, or "6" for DIN connector.

\* See section D for compatible meters.

**Ordering Examples:** PX81D1-300D5T, 300 psi differential pressure transducer with 0 to 5 Vdc output and integral connector, \$685. PT06F-10-6S, mating connector (not included), \$26.50.

CONNECTIONS 5 V			
	PIN	Cable	DIN
+Output	A	Green	2
-Output	B	White	3
-Input	C	Black	GRND
+Input	D	Red	4
Shunt	E	Orange	
Shunt	F	Blue	



## ACCESSORY

MODEL NO.	PRICE	DESCRIPTION
CH-5656	\$80	Reference Book: Observers in Control Systems



# HOW TO ORDER PX81 SERIES WET/WET DIFFERENTIAL PRESSURE TRANSMITTERS WITH 4 TO 20 mA OUTPUT

**PX81 Series**  
4 to 20 mA Output  
0-2 to 0-500 psid  
(0-140 mbar to 0-35 bar)  
Differential Pressure

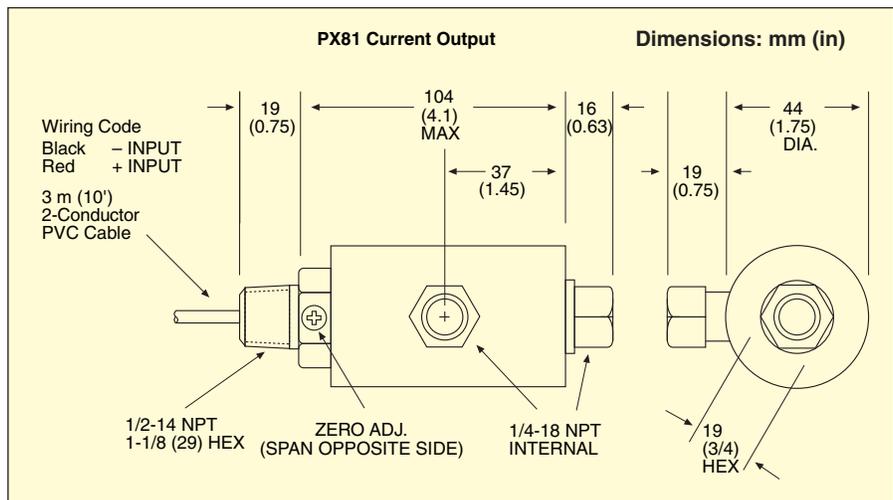


Starts at  
**\$685**



PX81D1-005DI, \$685, shown smaller than actual size.

- ✓ 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%



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



**MOST POPULAR MODELS HIGHLIGHTED!**

To Order (Specify Model Number)				
Models with 4 to 20 mA Output				
RANGE		MODEL NO.	PRICE	COMPATIBLE METERS*
0 to 2 psid	0 to 0.14 bar	PX81D[*]-002DI	685	DP41-E, DP25B-E, DP24-E
0 to 5 psid	0 to 0.34 bar	PX81D[*]-005DI	685	DP41-E, DP25B-E, DP24-E
0 to 20 psid	0 to 1.4 bar	PX81D[*]-020DI	685	DP41-E, DP25B-E, DP24-E
0 to 50 psid	0 to 3.4 bar	PX81D[*]-050DI	685	DP41-E, DP25B-E, DP24-E
0 to 100 psid	0 to 6.9 bar	PX81D[*]-100DI	685	DP41-E, DP25B-E, DP24-E
0 to 200 psid	0 to 13.8 bar	PX81D[*]-200DI	685	DP41-E, DP25B-E, DP24-E
0 to 300 psid	0 to 20.7 bar	PX81D[*]-300DI	685	DP41-E, DP25B-E, DP24-E
0 to 500 psid	0 to 34.5 bar	PX81D[*]-500DI	685	DP41-E, DP25B-E, DP24-E

ACCESSORY		
MODEL NO.	PRICE	DESCRIPTION
PE-1357	\$95	Reference Book: Pipeline Rules of Thumb Handbook

Comes with 5-point calibration.  
Metric ranges available – consult Engineering.  
[\*] Insert “0” for 3 m (10') cable, “1” for Bendix connector, or “6” for DIN connector.  
\* See section D for compatible meters.  
**Ordering Examples:** PX81D1-300DI, 300 psi differential pressure transmitters with 4 to 20 mA output and Bendix connector, \$685. PT06F-10-6S, mating connector (not included), \$26.50.

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