

# LIGHTWEIGHT INDUSTRIAL PRESSURE TRANSMITTER



- ✓ Miniature Size
- ✓  $\pm 0.25\%$  Accuracy
- ✓ All Welded 316 Stainless Steel Construction
- ✓ Zero & Span Adjustability
- ✓ Full 5:1 Range Turndown
- ✓ 4-20 mA Output
- ✓ FM & CSA Ratings

PX880  
From  
**\$695**

The PX880 Series are the most compact, durable, accurate cost effective full featured pressure transmitters available. The 4-20 mA output is standard, with a 12-48 Vdc power supply.

Designed for stable performance in the toughest environments, with 316 stainless steel welded construction, the PX880 Series are ideal for use with corrosive media and in hazardous environments.

Both models have FM and CSA approvals for intrinsic safety and meet NACE standards for offshore applications. With the cover retained by a stainless steel chain and no internal jumpers for span turndown, losses due to misplaced or dropped parts are eliminated.

The small size and light weight of both models eliminate any complicated mounting hardware or mechanical supports, which reduces installation time substantially. The integral junction box permits simple field wiring without the need for additional hardware, and adds to the speed and ease of installation.

## OPERATION

The heart of the PX880 pressure transmitter is a silicon piezoresistive sensing chip. This miniature microetched semiconductor gives a

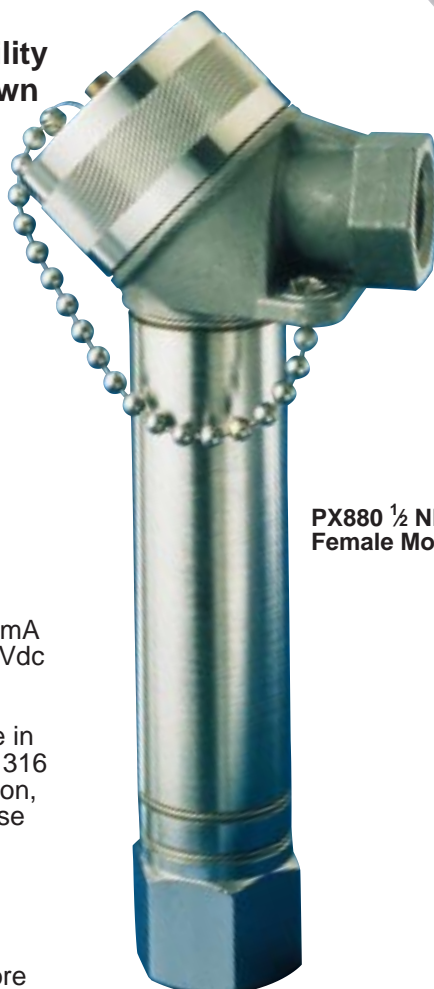
voltage output proportional to the applied pressure. The chip is isolated from the process media by a stainless steel diaphragm. Silicone oil is used to transmit the process pressure to the sensor.

An amplifier PCB enclosed in a sealed chamber is used to convert the millivolt signal from the sensor to a calibrated 4-20 mA transmitter output. Feed-throughs for EMI and RF protection are used between the amplifier board and the terminal housing.

Each transmitter is tested over both pressure and temperature ranges. A compensator circuit is used to bring the output of the sensor into specification. After compensation,

every transmitter is tested a second time for pressure and temperature effects to ensure that it meets performance specifications. The transmitters are calibrated to the upper ranges listed in the order box, but end users can recalibrate them to different ranges. Recalibration is done via 3 screw potentiometers located inside the transmitter's head. Recalibrating to any range between the two listed for a particular sensor can be accomplished with a known pressure source.

The PX881 is flush diaphragm pressure transmitter, designed to mount flush against process media and to prevent any media particles from collecting at the diaphragm.



PX880 1/2 NPT Female Model



PX881 Flush Mount Model

1 1/2 in Pipe Coupling Sold Separately

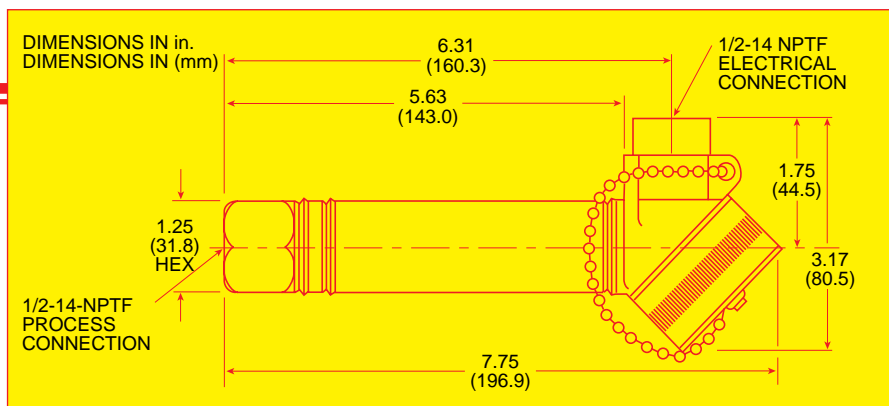


Plug



CURRENT OUTPUT  
PRESSURE TRANSDUCERS  
**B**

## PX880 1/2 NPT SERIES



### PX880 Series 1/2" NPT Female Connection Transmitter

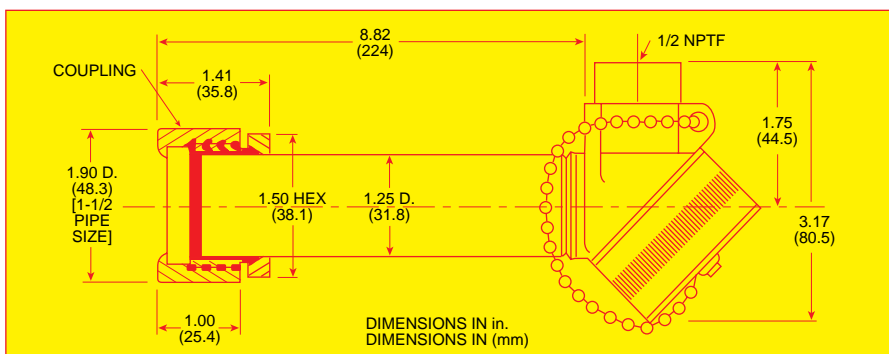
#### MOST POPULAR MODELS HIGHLIGHTED

To Order (Specify Model Number)			
RANGE (psig)	PX880 1/2 NPT Female Connection		
5:1 Turndown	MODEL NO.	PRICE	COMPATIBLE METER
0-3 to 0-15	PX880-015GI	\$695	DP41-E, DP25-E, DP24-E
0-6 to 0-30	PX880-030GI	695	DP41-E, DP25-E, DP24-E
0-20 to 0-100	PX880-100GI	695	DP41-E, DP25-E, DP24-E
0-60 to 0-300	PX880-300GI	695	DP41-E, DP25-E, DP24-E
0-200 to 0-1000	PX880-1KGI	695	DP41-E, DP25-E, DP24-E
0-600 to 0-3000	PX880-3KGI	695	DP41-E, DP25-E, DP24-E
0-1000 to 0-5000	PX880-5KGI	695	DP41-E, DP25-E, DP24-E
3 to 15 psig	PX880-X15GI	695	DP41-E, DP25-E, DP24-E

(Note: Units are shipped calibrated to highest range)

\*Require transmitter power supply U24Y101 \$128. A pressure snubber should be used with all PX880 series transmitters to suppress destructive water hammer shock waves. Snubbers are chosen by the pressure media. PS-2G for gaseous media, air, steam, etc., \$24. PS-2E for water and light oils, \$24. PS-2D for dense liquid, motor oil, \$24.

## PX881 FLUSH MOUNT SERIES



### PX881 Series Flush Mount Transmitter

To Order (Specify Model Number)			
RANGE (psig)	PX881 FLUSH MOUNT*		
5:1 Turndown	MODEL NO.	PRICE	COMPATIBLE METER
0-3 to 0-15	PX881-015GI	\$845	DP41-E, DP25-E, DP24-E
0-6 to 0-30	PX881-030GI	845	DP41-E, DP25-E, DP24-E
0-20 to 0-100	PX881-100GI	845	DP41-E, DP25-E, DP24-E
0-60 to 0-300	PX881-300GI	845	DP41-E, DP25-E, DP24-E

\*Requires PX881-CPL 1/2" Coupling, \$20 ea.

Ordering Example: PX881-030GI is a flush mount Transmitter with a 0-6 to 0-30 psig range \$845 and PX881-CPL coupling, \$20.



### SPECIFICATIONS

**Excitation:** 12 to 40 Vdc with reverse polarity protection

**Output:** 4 to 20 mA (2-wire)

**Accuracy:**  $\pm 0.2\%$  of calibrated span including linearity, hysteresis, and repeatability

**Max. Loop Resistance:** 600  $\Omega$  @ 24 Vdc max  $\Omega$  = (supply voltage-12) x 50

**Storage Temperature:** -40 to 212°F (-40 to 100°C)

**Operating Temperature:** -40 to 212°F (-40 to 100°C)

**Compensated Temperature:** -20 to 180°F (-29 to 82°C)

**Thermal Effects:** Zero and span combined  $\pm 0.02\%$  upper range/°F (30 to 130°F)

$\pm 0.032\%$  (upper range/°F (-20 to 180°F))

**Proof Pressure:** 200% upper range

**Stability:**  $\pm 0.5\%$  of upper range for 6 months

**Vibration:** 0.1% upper limit for 3 g's @ 200 Hz

**Approvals:** FM (Intrinsic safety for Class 1, 2, 3 Div 1 Groups A, B, C, D, E, G Explosion resistant for Class 1, 2, 3 Div 1, Groups B, C, D, E, G NEMA 4 enclosure)

CSA (Intrinsic safety for Class 1, 2, 3, Div 1 Groups A, B, C, D, E, F, G Explosion resistant for Class 1, 2, 3 Div 1, Groups B, C, D, E, F, G Enclosure 4)

**Wetted Parts:** PX880: 316 SS ; PX881: 316 SS, Teflon Gasket and Hastelloy diaphragm

**Pressure Port:** PX880: 1/2 NPTF PX881: Weldolet pipe coupling

**Electrical Conn:** 1/2 NPTF

**Body Material:** 316 SS

**Cast Head:** CF-8M (316 Cast SS) with Buna N O-ring

**Fluid Fill:** DC 200 silicone oil

**Response Time:** 20 ms

**Weight:** 1.6 lb (725 g)