



## TEL-TRU MANUFACTURING COMPANY

# MODEL P611 PRESSURE TRANSMITTER

Industrial *Silicon Glass Fused* Sensor Series



### KEY BENEFITS

- Unique *glass fused* strain gauge sensor provides exceptional calibration stability
- Calibration certificate (NIST traceable) with each transmitter
- Re-rangeable in the field - minimizes customer stocking
- Accuracy +/-0.50%, +/-0.25%, or +/-0.15% of calibrated span
- All 316L stainless steel welded construction for long service life in demanding applications
- CE and NACE compliant

### APPLICATIONS:

- Hydraulic and pneumatic controls
- Hydrogen fuel cells
- HVAC compressor systems
- Pump monitoring
- Die cast machines
- Plastic injection moulding
- Test stands
- Presses
- Oil and gas monitoring
- Laboratory testing

### RANGES:

Many ranges from Vacuum to 0-10,000psi; also metric standard Bar and Kg/cm<sup>2</sup> ranges. Custom ranges readily accommodated.

### CONNECTIONS:

Many pressure and electrical connections available. Custom connections can be accommodated.

### OPTIONS:

- Certificate of Conformance
- Certificate of Calibration traceable to NIST, with five check points
- Restrictor orifice within the pressure connection for hydraulic spike suppression
- Silicone gel potting of electronics housing for added shock and vibration protection
- Sealed unit without customer accessible zero and span adjustment
- PTD-1 local plug-in loop powered indicator for use with the DIN 43650 A electrical connection and 4-20mA output electronics
- Tri-Clamp® and Cherry-Burrell® sanitary seals available, see Model P621

### WARRANTY:

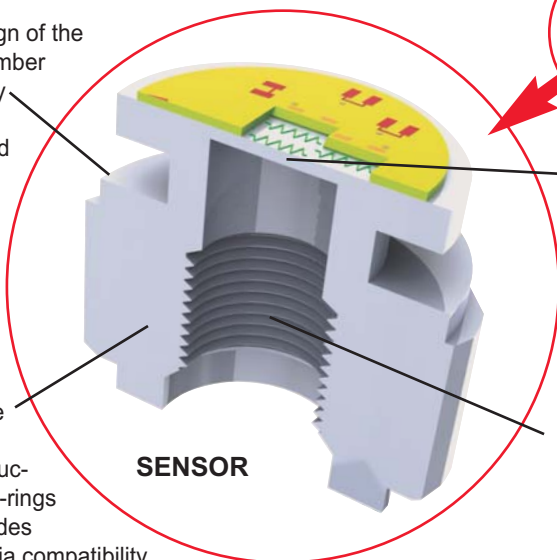
Three-year warranty, see website for details: [www.teltru.com/t-P600.aspx](http://www.teltru.com/t-P600.aspx)

*Tri-Clamp® is a registered trademark of Ladish Company*  
*Cherry-Burrell® is a registered trademark of United Dominion Industries, Inc.*



Stepped design of the pressure chamber minimizes any effect on the sensor caused by overtightening during installation

Robust, single piece, 316L sensor construction without O-rings or seals provides optimum media compatibility



Thicker diaphragm and high output silicon glass fused strain gauge maximize cycle life and protection from pressure spikes

Dry sensor construction prevents contamination of customer media



# MODEL P611 PRESSURE TRANSMITTER - Additional specifications at [www.teltru.com/t-P600.aspx](http://www.teltru.com/t-P600.aspx)

## FUNCTIONAL SPECIFICATIONS

**Proof Pressure:**  
Up to 2 times URL \*

**Burst Pressure:**  
Up to 5 times URL or 20,000psi, whichever is less

**Strength and Safety:**  
Pressure chamber structure tested to 40,000psi

**Zero Adjustability:**  
Up to +/- 30% of calibrated span (output dependent), externally accessible

**Span Adjustability:**  
Up to 2.5 to 1 turndown of URL, externally accessible

**Outputs:**  
4-20mA, 2-wire      1-5V, 3-wire \*\*  
0-5V, 3-wire \*\*      1-6V, 3-wire \*\*  
0-10V, 3-wire \*\*      1-11V, 3-wire \*\*

**Output Impedance:**  
4-20mA: >10K Ohms  
0-5V, 0-10V, 1-5V, 1-6V, 1-11V: <100 Ohms

**Current Consumption:**  
4-20mA: 20mA  
0-5V, 0-10V, 1-5V, 1-6V, 1-11V: <10mA @ 12V

**Output Load:**  
4-20mA: 0-1000 Ohms @10-30Vdc  
1-5V, 0-10V, 1-5V, 1-6V, 1-11V: >10K Ohms

**Output Noise:**  
4-20mA: Negligible  
0-5V, 0-10V, 1-5V, 1-6V, 1-11V: <2mV RMS

**Power Supply Requirements:**  
10-30Vdc for 4-20mA  
10-30Vdc for 0-5V, 1-5V, and 1-6V  
14-30Vdc for 0-10V and 1-11V

**Temperature Limits:**  
Compensated range: 30 to 130°F (0 to 55°C)  
Operating range: -40 to 185°F (-40 to 85°C)  
Storage range: -40 to 221°F (-40 to 105°C)

\* URL = Upper Range Limit (see range code list on website, [www.teltru.com/t-P600.aspx](http://www.teltru.com/t-P600.aspx))  
\*\* All voltage outputs are customer configurable with external zero and span adjustments

## PERFORMANCE SPECIFICATIONS

**Accuracy:**  
+/-0.50% or +/-0.25% of calibrated span  
+/-0.15% of calibrated span (4-20mA only)

**Linearity:**  
+/-0.15% of calibrated span, BFSL \*\*\*  
+/-0.05% of calibrated span, BFSL (4-20mA only)

**Hysteresis:**  
Better than 0.05% of calibrated span

**Repeatability:**  
Better than 0.02% of calibrated span

**Response Time:**  
Less than 1ms

**Zero Offset:**  
Within calibrated accuracy (+/-1% of URL for sealed housing option)

**Span Tolerance:**  
Within calibrated accuracy (+/-1% of URL for sealed housing option)

**Stability:**  
Better than +/-0.25% of URL for 1 year, non-accumulating

**Durability:**  
Greater than 100,000,000 full scale cycles

**Thermal Effect on Zero:**  
Less than +/-0.02% URL/°F (+/-0.036% URL/°C)

**Thermal Effect on Span:**  
Less than +/-0.018% of calibrated span/°F (+/-0.032% of calibrated span/°C)

**Shock:**  
Designed to withstand 10Gs, 11ms, 1/2 sine (50Gs with optional silicone gel potting)

**Vibration:**  
Designed to withstand 10Gs peak, 20-2400Hz (50Gs with optional silicone gel potting)

**CE Compliant:**  
Interference emission per EN 50 081-1 and EN 50 081-2 by design; Interference immunity per EN 50 082-2 by design; RFI, EMI, and ESD protected

\*\*\* Best-Fit-Straight-Line

## PHYSICAL SPECIFICATIONS

**Wetted Materials:**  
Single piece 316L Stainless Steel diaphragm structure, with welded on pressure connections

**Environmental Rating:**  
Integral Cable and 1/2" NPT Conduit connections are IP65/IP67

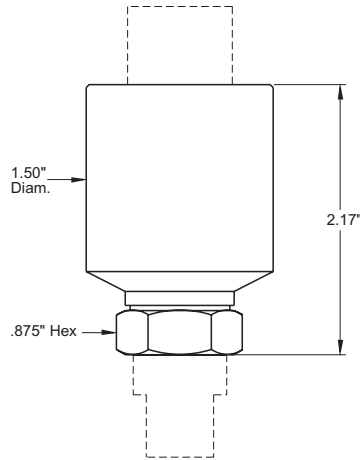
DIN 43650 A and C connections are IP65

M12 connection is IP65/IP67

Bendix Style connections are IP65

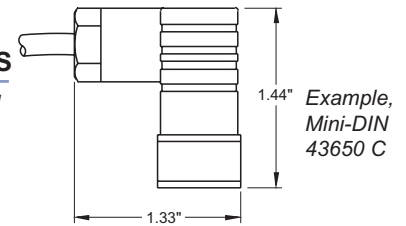
**Hazardous Environment Rating:**  
Complies with Class 1, Div. 1, Groups A, B, C, D for intrinsically safe apparatus - Approval pending

**NACE Compliant:**  
Materials fulfill requirements for H<sub>2</sub>S Sour Gas service



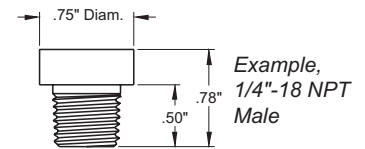
### ELECTRICAL CONNECTIONS

Numerous standard connections readily available



### PROCESS CONNECTIONS

Numerous standard connections readily available



## WIRING COLORS AND PINOUTS

Output	Function	Integral Cable or 1/2"NPT w/Cable	DIN 43650 A	DIN 43650 C	M12	Bendix 4-pin	Bendix 6-pin
4-20mA 2-wire	+ Supply	Red	1	1	1	A	A
	+ Output	Black	2	2	3	B	B
0-5V, 0-10V, 1-5V, 1-6V, 1-11V 3-wire	+ Supply	Red	1	1	1	A	A
	Common	Black	2	2	3	B	B
	+ Output	White	3	3	4	C	C



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35 Vantage Point Drive // Rochester, NY 14624 // Call 1.800.800.5001

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