



TEL-TRU[®] MANUFACTURING CO.

P161 Ultra-High Pressure Transmitter

*Precision Grade
Up to 100,000 psi High Pressure Measurement*

Designed for measurement of high pressure

Tel-Tru's P161 is designed for the OEM or end user where ruggedness, high performance, and reliability are required at a competitive price. Key feature of the all welded sensing element design is its small size, which greatly reduces the amount of force exerted by high pressure. The P161 is a one piece precision machined sensing element. This feature makes the P161 ideal for high-cyclical / high pressure applications.

Manufactured for extended life cycle

The P161 is built using advanced manufacturing techniques, with automated weld procedures, extreme environmental burn-in and thorough residual stress relieving techniques. The P161 is modular and configurable to meet customers' exact requirements.

Ruggedized NEMA 4X packaging

Every P161 is rated to NEMA 4X standards regardless of pressure range or format. Pressure ranges are available from 0-15,000 psi through 0-100,000 psi.

Certification

Every P161 is shipped with a NIST traceable calibration certificate.

CE

Conforms to EN50081-2 and EN50082-2

Designed for High Cycles



Standard Features

- $\pm 0.25\%$ FSO Static Accuracy
- NEMA 4X Packaging
- $\pm 0.25\%$ FSO/YR Stability

Available Options

- $\pm 0.25\%$ or
- 0.1% FSO Static Accuracy (N/A above 15,000 psi)
- Zero/Span Controls with Cal

Note: specifications are subject to change.



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P161 Pressure Transmitter

0-15,000 psi through 0-100,000 psi
Precision Grade Ultra-High Pressure Transmitter

Product Specifications

Electrical

Excitation	
P161A, P161B	8-38 Vdc*
P161C	2-15 Vdc
Output	
P161A	4-20 mA
P161B	0-5 Vdc*
P161C	1-2 mV/V*
Zero Balance	=±1% FSO
FSO Setting	=±1% FSO
Resolution Infinite	(±.001% FSO usable)
Response Time	
P161A, P161B	< 5 mS
P161C	< 1mS
Insulation Resistance	1000 MΩ @ 50 Vdc
Reverse Polarity	Protected
Warm-up	< 10 mS
Power Supply Effect	=±.002% FSO per V input (P161A, P161B)
EMI/RFI	Internal Filtering (P161A, P161B)
Short Circuit Protected	Up to 40 Vdc (P161A, P161B)

*Options Available

Mechanical

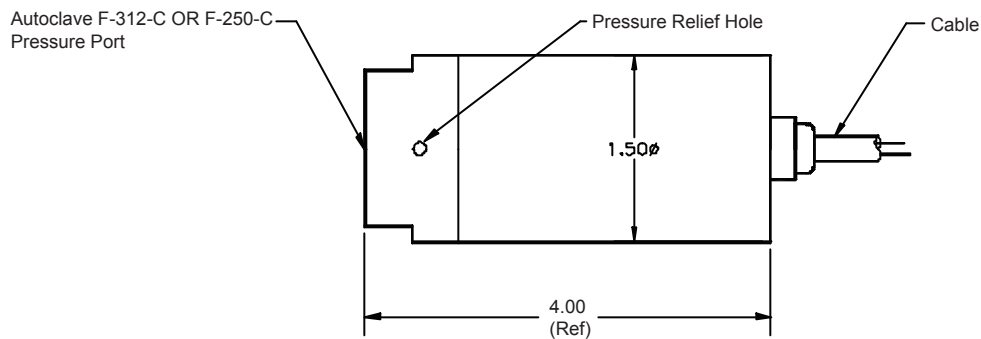
Pressure Ranges	0-20,000 through 0-100,000 psi (Customer may specify any range/eng. unit FOC)
Proof Pressure	2X Full Scale* (160k psi max)
Burst Pressure	5X Full Scale* (180k psi max)
Materials	
Wetted Parts*	15-5 SST
Non-wetted Parts	316 SST plus electrical connector*
Pressure Port	Autoclave F-312C*
Electrical Connector	NEMA 4X cable exit (24" cable)*
Dimensions	per outline below
Weight	nominal 12 oz

Environmental

Compensated Temp Range	0 to 170 °F
Operating Temp Range	-40 to 200 °F
Storage Temp Range	-40 to 250 °F

Performance

Static Accuracy	=±0.25% FSO* (BFSL, RSS)* (combined effects of non-linearity, hysteresis & repeatability)
Repeatability	=±0.15% FSO
Temperature Effects	=±1.5% FSO over comp range* (combined effects of Zero & FSO with reference at 70 oF)
Long Term Stability	=±0.25% FSO per year



Standard Wiring:

Model	Output	+ Power	- Power	+ Signal	- Signal
P161C	mV/V dc 4 wire	Red	Black	Green	White
P161B	0-5 (10) Vdc 3 wire	Red	Black	Green	+Sig ref to - Power
P161A	4-20 mA dc 2 wire	Red		Black	

Tel-Tru® Manufacturing Co. reserves the right to change specifications without prior notification. Please contact the factory for the latest revision.
P161213

TEL-TRU PRESSURE TRANSMITTERS

Threaded Series Model P161

HOW TO ORDER EXAMPLE:

Precision Grade Ultra High Pressure, 4-20 mA, 0.25% Accuracy, 0 to 15,000 psi, Gauge Pressure, Autoclave F-250-C, 2 ft. Wire Pigtail (NEMA 4X)

Example: P161 A 3 K7A G - 11 A402 -



MODEL

P161

OUTPUT

- A** 4-20 mA (2-wire)
- B** 0-5 Vdc (3-wire)
- C** 1-2 mV/V (4-wire)
- K** 0-10 Vdc output
(req. 16-38 Vdc excitation)
- N** Hart Protocol
(Model P161 only)

ACCURACY

- 3** 0.25%
- 6** 0.10%, avail. ≤15k PSI

PRESSURE RANGE

- K7A** 0 to 15,000 psi
- K8A** 0 to 20,000 psi
- L1A** 0 to 25,000 psi
- L2A** 0 to 30,000 psi
- L4A** 0 to 40,000 psi
- L7A** 0 to 50,000 psi
- L9A** 0 to 60,000 psi
- Q1A** 0 to 75,000 psi
- Q2A** 0 to 100,000 psi

OPTIONS

- G2** Mate Bendix 4 pin
- B1** Mate Bendix 6 pin
- B110** Mate Bendix 6 pin w/ 10' wire
- E4** Zero and span controls
- M2** *Local LED Display (PTD-2)
* Requires electrical connector DIN 43650 & 4-20mA electronics

ELECTRICAL CONNECTION

- A402** 2' wire pigtail (NEMA 4X)
- A405** 5' wire pigtail (NEMA 4X)
- A410** 10' wire pigtail (NEMA 4X)
- A420** 20' wire pigtail (NEMA 4X)
- A430** 30' wire pigtail (NEMA 4X)
- A450** **50' wire pigtail (NEMA 4X)

A602 1/2" NPT (M) conduit w/2' wire pigtail

A605 1/2" NPT (M) conduit w/5' wire pigtail

A610 1/2" NPT (M) conduit w/10' wire pigtail

A620 1/2" NPT (M) conduit w/20' wire pigtail

A630 1/2" NPT (M) conduit w/30' wire pigtail

A650 **1/2" NPT (M) conduit w/50' wire pigtail

B100 Bendix 4-pin connector

B200 Bendix 6-pin connector

D100 Mini DIN 43650C connector w/mate

D200 DIN 43650 connector w/mate

** Request quote for more than 50' wire

PROCESS CONNECTION

11 F-250-C (use ≤ 60,000 psi)

13 F-312-C (use > 60,000 psi)

MODE

G Gauge Pressure Ref.

PRICES INCLUDE:

- Certificate of Calibration (directly traceable to NIST)

IMPORTANT NOTE:

Available Upon Request--Additional Options (consult factory):

- Process Connections
- Electrical Connections and more than 50' wire
- Pressure Ranges/Unit of Measure

