



pressure products



Intrinsically-safe configuration;
Also available for the general-purpose configuration

Explosion-proof configuration;
Also available for the general-purpose configuration



■ Operational Description

STI piezoresistive pressure transmitters are precision engineered to fit the majority of industrial pressure measurement applications. Each unit undergoes quality control testing and calibration to achieve an accuracy of 0.25% full scale Best Fit Straight Line (B.F.S.L.). The printed circuit board uses state-of-the-art surface mount technology and is potted with a hard setting compound for protection against vibration, shock and humidity. Each unit is digitally temperature compensated to assure superior accuracy and long term stability when subjected to severe ambient temperature variations.

■ Applications

The rugged and compact design of the PT-L1-EXP/IS/GP series provides an excellent solution for pressure measurement in numerous applications such as oil and gas, hydraulics, pneumatics, vacuum, test equipment, liquid level measurement, press or compressor control and pump protection.

PT-L1 Dynamically Compensated*

Pressure Transmitters

- Solid state transducer element
- Available standard ranges from vacuum up to 100 psi and 0 up to 5000 psi
- 4-20 mA output standard
- 1/2-14 NPTM process connection
- DIN 43650 electrical connection
- ±0.25% accuracy of full scale
- cCSAus hazardous location approved
- General Purpose (GP) model also available
- EXP version is NEMA 4X rated

Options

- Process fittings
- Electrical process connectors
- Cleaned for oxygen service
- 0.25% accuracy of full scale with NIST certification

- PT-L1-IS:

Class I, Div. I,
Groups A, B, C and D

- PT-L1-EXP:

Class I, Div. I,
Groups C and D;
Class II, Groups E, F, G;
Class III

* The PT-L1 Hazardous Location was formerly called the PT-4/20.

PT-L1 Dynamically Compensated

■ Specifications

Accuracy

- Linearity (B.F.S.L.):** 0.25% of span
- Hysteresis:** 0.1% of span
- Repeatability:** 0.05% of span
- 6 Month Stability:** 0.2% of span
- Response Time (10-90% full scale):** 1 ms
- Zero & Span Adjustment:** Approximately ±5.0% full scale

Temperature

Operating

- General Purpose:** Ambient @ 175°F (85°C)
- Intrinsically Safe (Class I, Div. 1):** Ambient @ 175°F (85°C)
- Explosion Proof (Class I, Div. 1):** Ambient @ 104°F (40°C)
- Explosion Proof (Class I, Div. 2):** Ambient @ 175°F (85°C)
- Storage:** -40 to 212°F (-40 to 100°C)

Temperature Error

- (Reference temperature 70°F (21°C))
- On Zero (% span per 18°F (10°C)):** 0.2
- On Span (% span per 18°F (10°C)):** 0.2

Weight

- GP/IS:** 0.52 lb.
- EX:** 2.0 lb.

Material

- Wetted Parts:** 316L SS
- Body Material:** 304 SS

Transmitting Liquid: Silicone oil

Vibration Protection: Internal electronics 100% potted with a hard setting compound

Approvals: cCSAus

Ratings: NEMA 4X (EXP models only)

Specifications are subject to change without notice.

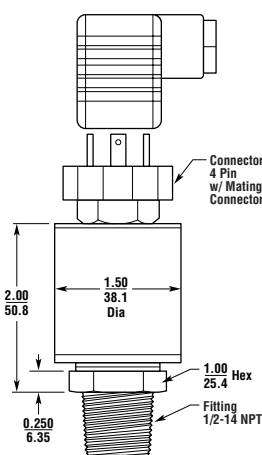
■ Electrical Specifications

4/20 mA Output

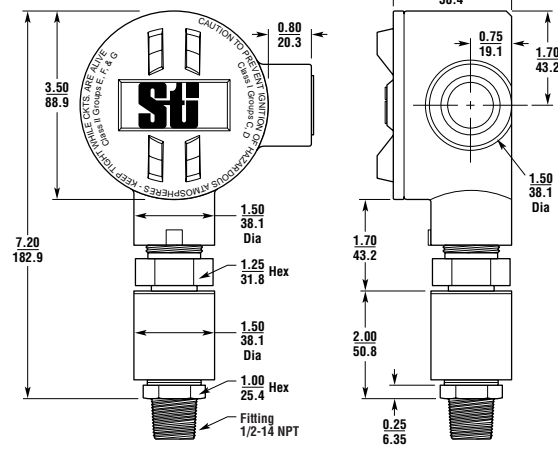
- Excitation:** 9-28 VDC max
- Input Current:** 3-30 mA max
- Output:** 4-20 mA ±0.16 mA at set points
- Output/Input:** 2 wire loop powered
- Resolution:** Infinite
- Protection:** Reversed polarity

■ Dimensions — in./mm

PT-L1-IS or PT-L1-GP



PT-L1-EXP




■ Wiring

PT-L1-IS or PT-L1-GP

2-Wire Current Loop


| Signal | DIN Plug | Wire Color |
|--------|----------|------------|
| Sig + | Pin 1 | Red |
| Sig - | Pin 2 | Black |

Note: Use pin 4 or  for shield.

PT-L1-EXP

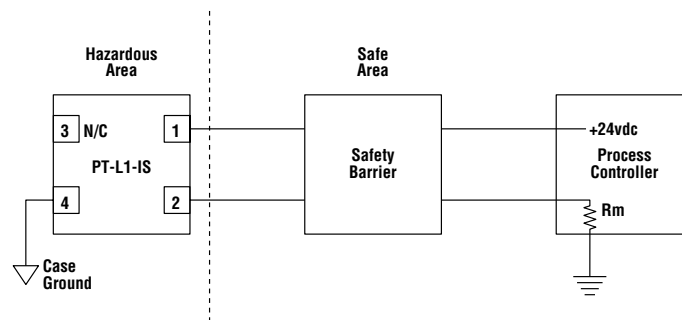
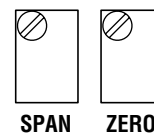
2-Wire Current Loop

| Signal | Wire Color |
|--------|------------|
| Sig + | Red |
| Sig - | Black |

Note: Use green lug or  for shield.

Calibration

All STI transmitters are calibrated at the factory. In the event calibration is required as a maintenance procedure, please refer to the installation and operating instructions.



For the Latest Information
On the Internet: www.stiapg.com
E-mail: sales@stiapg.com



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Option Tables

Configuration Table

| | |
|------------|---|
| GP | General purpose version |
| IS | Intrinsically safe entity approved certification (available on IS model only) |
| EXP | Hazardous location approval certification (available on EXP model only) |

Pressure Ranges Table

| Range Option | Range (psig) | Proof* (psi) | Burst** (psi) |
|-----------------|--------------|--------------|---------------|
| Gage | | | |
| 3 | 0 to 3 | 9 | 15 |
| 5 | 0 to 5 | 15 | 25 |
| 10 | 0 to 10 | 30 | 30 |
| 15 | 0 to 15 | 45 | 75 |
| 30 | 0 to 30 | 90 | 150 |
| 50 | 0 to 50 | 150 | 250 |
| 100 | 0 to 100 | 300 | 500 |
| 200 | 0 to 200 | 600 | 1,000 |
| 300 | 0 to 300 | 900 | 1,500 |
| 500 | 0 to 500 | 1,200 | 2,400 |
| Absolute | | | |
| 1K | 0 to 1,000 | 3,000 | 5,000 |
| 3K | 0 to 3,000 | 9,000 | 10,000 |
| 5K | 0 to 5,000 | 10,000 | 13,000 |

* Maximum pressure, causing no permanent changes in specifications but may lead to adjustable zero and span shifts.

** Burst pressure, leading to permanent nonadjustable changes in specifications (i.e. zero offsets) or destruction of the transmitter.

Ordering Information

| Configuration | GP-EXP | Standard Ranges | Unit of Measure | Electrical Connection | Electrical Cable Length | Process Connection | Accuracy |
|---|-------------------------|---------------------------|-----------------------|---------------------------------------|---|-------------------------------------|--|
| PT-L1 - [] - Range - PSI - [] - [] - [] - [] | See Configuration Table | See Pressure Ranges Table | G Gauge A Absolute | E1-E9 See Electrical Connection Table | W0-W5 See Electrical Cable Length Table | P0-P18 See Process Connection Table | N0 ±0.25% N1 ±0.25% with NIST certification |

Output & Load Limitations Table

L1* 4-20 mA, 2-wire, $R_{(max)} = (V_s - 9 V) / 0.02 A$

* Standard and in stock

Electrical Connection Table

| | |
|------------|--|
| E1 | 4 pin bayonet (PTIH-8-4P) connector (available on GP and IS models) |
| E6* | DIN 43650 w/ solderless screw terminals (IP65/NEMA 5) (available on GP and IS models) |
| E7 | DIN 43650 w/ 1/2 NPTF conduit connection (IP65/NEMA 5) (available on GP and IS models) |
| E8 | 1.5 m cable (available on GP and IS models) |
| E9 | CS -AD -XJAL36S hazardous location box, 3/4 NPT (available on GP and EXP models) |

Note: E1, E6 and E7 include the mating connector.

Electrical Cable Length Table

| Cable Length | W0 | W1 | W2 | W3 | W4 | W5 | |
|--------------|----------------|----|-----------------|----|---------------|----|--------------|
| W0 | 0 ft. | W1 | 2 ft. (0.6 m) | W2 | 5 ft. (1.5 m) | W3 | 10 ft. (3 m) |
| W4 | 25 ft. (7.6 m) | W5 | 50 ft. (15.2 m) | | | | |

Process Connection Table

| | |
|------------|-------------|
| P0 | 1/4-18 NPTM |
| P1* | 1/2-14 NPTM |
| P16 | 1/4 BSPM |
| P18 | 1/2 BSPM |



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