

Precision Pressure Transducer - Explosion-Proof

PSTE

APPLICATIONS

- Process Control
- Chemical Refineries
- Oil and Gas
- Paper and Pulp



Class I, Groups B,C,D
Class II, Groups E,F,G
Class III
Temp. T6
Max Ambient = 70°C
Type 4X

± 0.10%
Accuracy
from
-40 to 85°C

Hermetically
Sealed

Digital
and
Analog

Honeywell's PSTE offers an explosion-proof pressure transducer where protection in hazardous locations is critical. It combines proven silicon sensor technology with microprocessor-based signal conditioning to provide an extremely smart pressure transducer. Designed with a hermetically sealed, stainless steel construction, the PSTE operates in severe vibration, thermal and mechanical shock environments. The PSTE has many software features that support a wide range of applications.



CE Qualified
ISO 9001

FEATURES AND BENEFITS

High Accuracy: ± 0.10% FS typical accuracy from -40 to 85°C

Simplifies system design—no additional signal compensation needed to gain the benefits of a very accurate sensor.

Smart, Digital Sensing & Control

Efficient data acquisition—connect up to 89 units on a multidrop bus using built-in RS485 capability.

Easily interfaces directly to a PC via communication ports.

Closes the loop—smart PPT makes control decisions.

Versatile and Configurable

Works with existing and new systems—all units have 0-5V analog and either RS232 or RS485 digital outputs.

Isolation diaphragms handle most media—harsh gases or liquids.

Operates in severe vibration, thermal and mechanical shock environments.

Optimizes output—user-configurable pressure units, sampling, update rate.

Flags problems—internal diagnostics set flags, provide alarms.

User-Selectable Software Features

Baud Rate, Parity Setting
Continuous Broadcast
ASCII or Binary Output
Temperature Output (°C or °F)

Deadband, Sensitivity
Tare Value
Configurable Analog Output
And more...

SPECIFICATIONS

Performance Specifications⁽¹⁾

Accuracy: (from -40 to 85°C)

Digital: $\pm 0.10\%$ FS Typ., $\pm 0.20\%$ FS Max.

Analog: $\pm 0.12\%$ FS Typ., $\pm 0.24\%$ FS Max.

Temperature: $\pm 1^\circ\text{C}$ (at sensing element)

Temperature Range:

Operating: -40 to 85°C (-40 to 185°F)

Storage: -55 to 90°C (-67 to 194°F)

Sample Rate: 8.33ms to 51.2ms

Update Rate: 8.33ms to 12s

Resolution:

Digital: Up to 10 PPM

Analog: 1.22mV steps (12 bits)

Response Delay:

(1000/update rate) + 1ms, maximum 17ms

Mechanical Specifications

Pressure Ranges and Type:

See ordering information.

Media Compatibility:

Suitable for media compatible with 316 stainless steel. (Hastelloy diaphragm option)

Weight: 22 oz. (624 gm) NPT w/pigtail style

Electrical Specifications

Power Requirements:

Supply Voltage: 6.0 to 30 VDC

Operating Current: 19-27mA

Standby Current: 11mA

Analog Output: 0-5 V (User adjustable)

Environmental Features⁽²⁾⁽³⁾

Overpressure: 3x FS, maximum 6000 psi

Burst Pressure: 3x FS, maximum 8500psi

Mechanical Shock: 1500g, 0.5ms half sine

Temp Shock: 24 1-hr cycles, -40 to 85°C

Vibration: 0.5in or 20G's, 20 Hz - 2K Hz

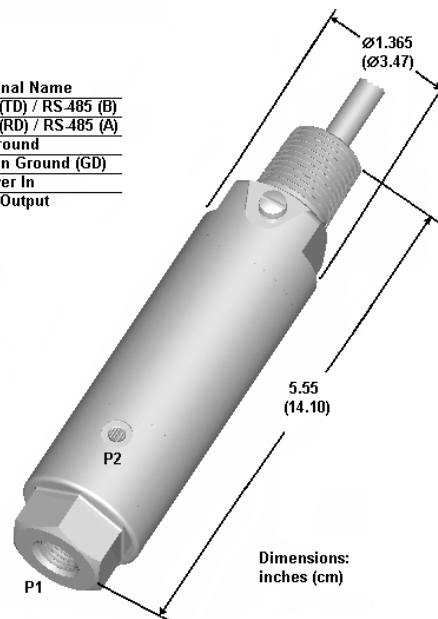
(1) Accuracy is the sum of worst case linearity, repeatability, hysteresis, thermal effects and calibration errors from -40 to 85°C. Typical is the average of absolute value of errors at all pressures and temperatures.

(2) Exposure to overpressure will not permanently affect calibration or accuracy of unit. Burst pressure is the sum of the measured pressure plus the static pressure and exceeding it may result in media escape. Mechanical Shock tested per MIL-STD-883D, M2002.3, Cond B. Vibration tested per MIL-STD-883D, M2007.2, Cond A.

(3) CE Mark tested per EN50081-2, EN50082-2.

CASE OUTLINE

Signal Name	
A	RS-232 (TD) / RS-485 (B)
B	RS-232 (RD) / RS-485 (A)
C	Case Ground
D	Common Ground (GD)
E	DC Power In
F	Analog Output



ORDERING INFORMATION

Example: PPTE1000AP2VDC

PPTE Precision Pressure Transducer - Explosion-Proof

FULL SCALE PRESSURE RANGE

	Absolute	Gauge
0010	n/a	10 PSI
0015	15 PSI	n/a
0020	20 PSI	20 PSI
0040	40 PSI	40 PSI
0100	100 PSI	100 PSI
0300	300 PSI	300 PSI
0500	500 PSI	500 PSI
1000	1000 PSI	1000 PSI
1500	1500 PSI	1500 PSI
3000	3000 PSI	3000 PSI

Type	P1 Pressure	P2 Pressure
A Absolute	0 (vacuum) to FS	N/A
G Gauge	Reference to FS	Reference

P1 PRESSURE CONNECTION

P 1/4 - 18 NPT (internal)

OUTPUTS

2V RS-232 digital, 0-5V analog

5V RS-485 digital, 0-5V analog

ELECTRICAL CONFIGURATION AND CONNECTION

D 1/2 - 14 NPT external w/ 4ft pigtail cable

EXPLOSION-PROOF CERTIFICATION

C CSA, Canadian Standards Association

Class I, Groups B,C,D; Class II, Groups E,F,G; Class III

F FM, Factory Mutual

Class I, Groups B,C,D; Class II, Groups E,F,G; Class III

OPTIONS

D Hastelloy Diaphragm

PPTE 1000 A P 2V D C - D

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