

# 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

**H**oneywell'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<sup>(1)</sup>

**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 51.2min

**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<sup>(2)(3)</sup>

**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

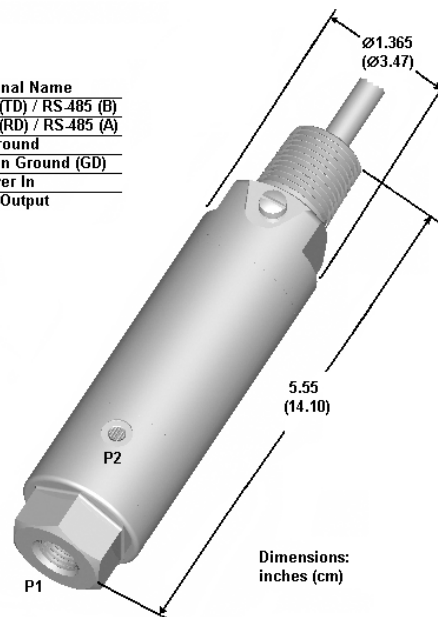
(1) Accuracy is the sum of worst case linearity, repeatability, hysteresis, thermal effects and calibration errors from -40 to 85°C. Typical is the average of absolute value of errors at all pressures and temperatures.

(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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