

Precision Pressure Transducer – Explosion Proof PPTE

Honeywell's PPTE 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 PPTE operates in severe vibration, thermal and mechanical shock environments. The PPTE has many software features that support a wide range of applications.

APPLICATIONS:

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

Digital
and
Analog



±0.10%
Accuracy from
-40 to 85°C

Hermetically
Sealed



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

FEATURES AND BENEFITS

ISO-9001
ISO-14001

- ▶ **High Accuracy**
±0.10% FS typical accuracy
from -40 to 85°C
- ▶ **Smart, Digital Sensing and Control**
- ▶ **Versatile and Configurable**
- ▶ **User Selectable Software Features**
- ▶ **Simplifies System Design** - No additional signal compensation needed to gain the benefits of a very accurate sensor.
- ▶ **Efficient Data Acquisition** - Connect up to 89 units on a multidrop bus using built-in RS-485 capability.
Easy Interface - Directly connects to PC via communication ports.
Closes the Loop - Smart PPTE makes control decisions.
- ▶ **Works with existing and new systems.** - All units have 0-5V analog and either RS-232 or RS-485 digital outputs.
Isolation diaphragms handle most media - harsh gases or liquids.
Rugged Design - 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.
- ▶ Baud Rate, Parity Setting, Continuous Broadcast, ASCII or Binary Output, Sensor Temperature Output (°C or °F), Deadband, Sensitivity, Tare Value, Configurable Analog Output

PPTE

SPECIFICATIONS

Performance Specifications⁽¹⁾

Accuracy: (from -40 to 85°C)

Digital: $\pm 0.10\%$ FS Typ., $\pm 0.20\%$ FS Max.⁽²⁾

Analog: $\pm 0.12\%$ FS Typ., $\pm 0.24\%$ FS Max.⁽²⁾

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⁽⁴⁾: 8.33ms to 51.2 min

Resolution:

Digital: Up to 0.0011% FS

Analog: 1.22mV steps (12 bits)

Response Delay:

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

Mechanical Specifications

Pressure Ranges and Type:

See Ordering Information

Pressure Units⁽⁴⁾: atm, bar, cmwc, ftwc, hPa, inHg,

inwc, kg/cm², KPa, mBar, mmHg, MPa, mwc, psi,

user, lcom, pfs

Media Compatibility: Suitable for media compatible with 316 stainless steel (Consult factory for Hastelloy diaphragm.)

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

Electrical Specifications

Output:

RS-232 Digital w/0-5V Analog⁽⁴⁾

RS-485 Digital w/0-5V Analog⁽⁴⁾

Power Requirements:

Supply Voltage: 6 to 30 VDC

Operating Current: Standard: 19-27mA

Baud Rate⁽⁴⁾: 1200, 2400, 4800, 9600,

14400, 19200, 28800

Bus Addressing⁽⁴⁾: Address up to 89 units.

Industrial Emissions and Immunity:

Meets IEC 61326

Environmental Features⁽³⁾

Overpressure: 3x FS, maximum 6000psi

Burst Pressure: 3x FS, maximum 8500psi

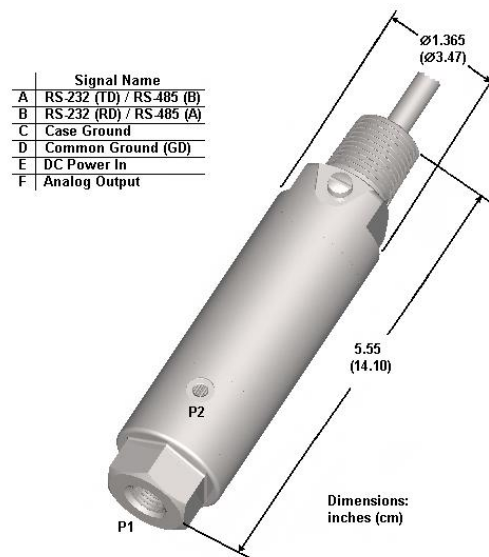
Mechanical Shock: 1500g, 0.5ms half sine

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

Vibration: 0.5in or 20G's, 20Hz – 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. Calibration is traceable to NIST. (2) Tighter accuracy available on some models. Consult factory. (3) Exposure to overpressure will not permanently affect calibration or accuracy of unit. Exceeding burst pressure 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. (4) User configurable.

CASE OUTLINE



ORDERING INFORMATION

PPTE Precision Pressure Transducer – Explosion Proof

FULL SCALE PRESSURE RANGE

	Absolute	Gauge
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 ¼ - 18 NPT (internal)

OUTPUTS

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

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

ELECTRICAL CONFIGURATION AND CONNECTION

D ½ - 14 NPT external w/4ft pigtail cable

EXPLOSION PROOF CERTIFICATION

C CSA, Canadian Standards Association

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

F Factory Mutual

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

PPTE 0500 A P 2V D C

Find out more

For more information on Honeywell's Precision Pressure Transducers visit us online at www.honeywell.com/pressuresensing or contact us at 800-323-8295 or 763-954-2474. Customer Service Email: ps.customer.support@honeywell.com.

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