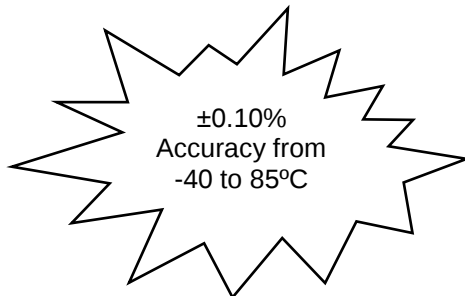


# Precision Pressure Transducer – Explosion Proof PPTE

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



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

- |                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>▶ <b>High Accuracy</b><br/>±0.10% FS typical accuracy from -40 to 85°C</li> </ul> | <ul style="list-style-type: none"> <li>▶ <b>Simplifies System Design</b> - No additional signal compensation needed to gain the benefits of a very accurate sensor.</li> </ul>                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>▶ <b>Smart, Digital Sensing and Control</b></li> </ul>                            | <ul style="list-style-type: none"> <li>▶ <b>Efficient Data Acquisition</b> - Connect up to 89 units on a multidrop bus using built-in RS-485 capability.<br/><b>Easy Interface</b> - Directly connects to PC via communication ports.<br/><b>Closes the Loop</b> - Smart PPTE makes control decisions.</li> </ul>                                                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>▶ <b>Versatile and Configurable</b></li> </ul>                                    | <ul style="list-style-type: none"> <li>▶ <b>Works with existing and new systems.</b> - All units have 0-5V analog and either RS-232 or RS-485 digital outputs.<br/><b>Isolation diaphragms handle most media</b> - harsh gases or liquids.<br/><b>Rugged Design</b> - Operates in severe vibration, thermal, and mechanical shock environments.<br/><b>Optimizes Output</b> - User-configurable pressure units, sampling, update rate.<br/><b>Flags Problems</b> - Internal diagnostics set flags, provide alarms.</li> </ul> |
| <ul style="list-style-type: none"> <li>▶ <b>User Selectable Software Features</b></li> </ul>                             | <ul style="list-style-type: none"> <li>▶ Baud Rate, Parity Setting, Continuous Broadcast, ASCII or Binary Output, Sensor Temperature Output (°C or °F), Deadband, Sensitivity, Tare Value, Configurable Analog Output</li> </ul>                                                                                                                                                                                                                                                                                              |

# PPTE

## SPECIFICATIONS

### Performance Specifications<sup>(1)</sup>

**Accuracy:** (from -40 to 85°C)

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

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

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<sup>(4)</sup>:** 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<sup>(4)</sup>:** atm, bar, cmwc, ftwc, hPa, inHg,

inwc, kg/cm<sup>2</sup>, 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<sup>(4)</sup>

RS-485 Digital w/0-5V Analog<sup>(4)</sup>

**Power Requirements:**

Supply Voltage: 6 to 30 VDC

Operating Current: Standard: 19-27mA

**Baud Rate<sup>(4)</sup>:** 1200, 2400, 4800, 9600,

14400, 19200, 28800

**Bus Addressing<sup>(4)</sup>:** Address up to 89 units.

**Industrial Emissions and Immunity:**

Meets IEC 61326

### Environmental Features<sup>(3)</sup>

**Overpressure:** 3x FS, maximum 6000psi

**Burst Pressure:** 3x FS, maximum 8500psi

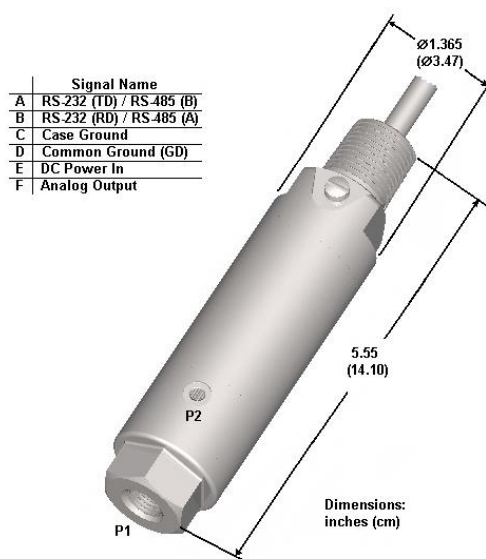
**Mechanical Shock:** 1500g, 0.5ms half sine

**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](http://www.honeywell.com/pressuresensing) or contact us at 800-323-8295 or 763-954-2474. Customer Service Email: [ps.customer.support@honeywell.com](mailto:ps.customer.support@honeywell.com).

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