

## Precision Pressure Transducer PPT

Honeywell's precision pressure transducer (PPT) offers extraordinary value with high accuracy over a wide temperature range. The PPT combines proven silicon sensor technology with microprocessor-based signal conditioning to provide an extremely smart pressure transducer. Available in a compact, rugged design, the PPT has many software features that support a wide range of applications.

### APPLICATIONS:

- Secondary Air Data
- Altimeters
- Engine Testing
- Flight Testing
- Meteorology
- Flow and Pressure Calibrators
- Instrumentation and Analytical Equipment
- Process Control
- Research and Development

±0.10%  
Accuracy from  
-40 to 85°C

Many  
Software  
Features

Digital and  
Analog



ISO-9001  
ISO-14001

- ▶ **High Accuracy**  
±0.10% FS 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 and Control**
- ▶ **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 PPT makes control decisions.
- ▶ **Versatile and Configurable**
- ▶ **Works with existing and new systems.** - All units have 0-5V analog and either RS-232 or RS-485 digital outputs.  
**Handles most dry gas media.**  
**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, Sensor Temperature Output (°C or °F), Deadband, Sensitivity, Tare Value, Configurable Analog Output

# SPECIFICATIONS

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

**Total Error:** (from -40 to 85°C)

Digital: ±0.10% FS Max. <sup>(2)</sup>

Analog: ±0.12% FS Max. <sup>(2)</sup>

**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 0.001% FS

Analog: 1.22mV steps (12 bits)

**Response Delay:**

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

**Long Term Stability:**

0.025% FS max per year typical

## 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:** Non-condensing, non-corrosive, and non-combustible gases.

**Weight:** Approx. 5 oz. (142 gm) without fittings

## 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: 5.5 to 30 VDC

Operating Current: 35 mA max.

**Baud Rate**<sup>(4)</sup>: 1200, 2400, 4800, 9600, 14400, 19200, 28800

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

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

**Overpressure:** 3x FS, maximum 600psi

**Burst Pressure:** 3x FS, maximum 700psi

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

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

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

<sup>(1)</sup> Total Error is the sum of worst case linearity, repeatability, hysteresis, thermal effects and calibration errors from -40 to 85°C. Full scale for differential ranges is the sum of + and - ranges. Pressure range 1psi gauge has digital accuracy of ±0.20% FS max; analog accuracy of ±0.24% FS max. Calibration is traceable to NIST. <sup>(2)</sup> Tighter accuracy available on some models. Consult factory. <sup>(3)</sup> 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. <sup>(4)</sup> User configurable. <sup>(5)</sup> Demonstration kit includes unit, power supply/data cable (120V), demonstration software, and user manual. <sup>(6)</sup> Connector: Mil-C-26482 type, Shell Size #10, 6-pin #20 size.

**ESD (electrostatic discharge) sensitive device.**

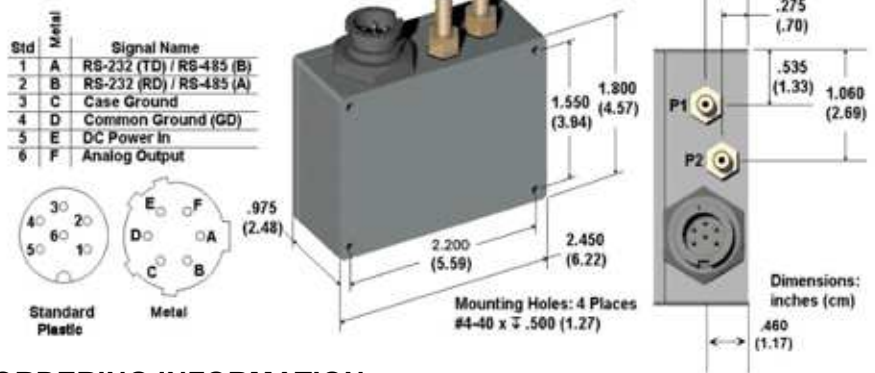
Damage may occur when subjected to high energy ESD. Proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

**EOS (electrical overstress) sensitive device.**

Damage may occur when subjected to EOS. Do not exceed specified ratings to avoid performance degradation or loss of functionality.

European EMC Directive:	Compliant - Metal Connector Model Only
RoHS Directive:	Non-Compliant

## CASE OUTLINE



## ORDERING INFORMATION

### PPT Precision Pressure Transducer

#### FULL SCALE PRESSURE RANGE

	Absolute	Gauge	Differential
0001	N/A	1 PSI <sup>(1)</sup>	±1 PSI
0002	N/A	2 PSI	±2 PSI
0005	N/A	5 PSI	±5 PSI
0010	N/A	10 PSI	±10 PSI
0020	20 PSI	20 PSI	±20 PSI
0050	50 PSI	50 PSI	±50 PSI
0100	100 PSI	100 PSI	±100 PSI
0300	300 PSI	300 PSI	±300 PSI
0500	500 PSI	500 PSI	±500 PSI

TYPE	P1 Pressure	P2 Pressure
A	0 (vacuum) to FS	N/A
G	Reference to FS	Reference
D	+FS to -FS rel. to P2	+FS to -FS rel. to P1

#### P1 PRESSURE CONNECTION

Absolute, Gauge, Differential

F	Filter (blocks debris)
G	Stainless Swagelok ® (1/8 inch female)
K	Stainless Swagelok-compatible (1/8 inch male)
R	Brass barbed, right angle (1/8 inch ID tubing)
W	Brass barbed (1/8 inch ID tubing)
X	Brass Swagelok ® (1/8 inch female)

#### P2 PRESSURE CONNECTION

Gauge, Differential

F	Filter (blocks debris)
G	Stainless Swagelok ® (1/8 inch female)
K	Stainless Swagelok-compatible (1/8 inch male)
R	Brass barbed, right angle (1/8 inch ID tubing)
W	Brass barbed (1/8 inch ID tubing)
X	Brass Swagelok ® (1/8 inch female)

#### OUTPUTS

2V	RS-232 digital, 0-5V analog
5V	RS-485 digital, 0-5V analog

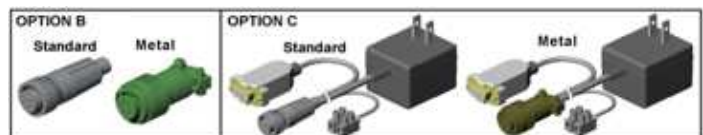
#### ELECTRICAL CONNECTION

A	Plastic 6-pin connector
B	Metal 6-pin connector <sup>(6)</sup>

#### - OPTIONS

A	Demonstration Kit <sup>(5)</sup> (RS-232 Only)
B	Mating Connector
C	Power Supply/Data Cable (RS-232 Only)
E	Certificate of Conformance
F	Calibration Certificate

PPT 0100 A W N 2V A -AEF



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