

## Precision Pressure Transducer-Ruggedized PPTR

Honeywell's PPTR offers a rugged, smart pressure transducer for use in harsh environments. 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 PPTR operates in severe vibration, thermal and mechanical shock environments. The PPTR has many software features that support a wide range of applications.

### APPLICATIONS:

- Engine Test Stands
- Flight Testing
- Water Depth
- Unmanned Underwater Vehicles
- Instrumentation and Analytical Equipment
- Process Control
- Research and Development

±0.10%  
Accuracy from  
-40 to 85°C



Hermetically  
Sealed

Digital and  
Analog

CE Qualified  
ISO-9001  
ISO-14001

### 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 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 PPTR 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.
- 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.

#### 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>

**Accuracy:** (from -40 to 85°C)

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

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

Temperature: ±1°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>(3)</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:** 14 oz. (397 gm) 6-pin connector

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

### Electrical Specifications

**Output:**

RS-232 Digital w/0-5V Analog<sup>(5)</sup>

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

**Power Requirements:**

Supply Voltage: 6 to 30 VDC

Operating Current: 19-27mA

**Baud Rate<sup>(5)</sup>:** 1200, 2400, 4800, 9600,

14400, 19200, 28800

**Bus Addressing<sup>(5)</sup>:** Address up to 89 units

### Environmental Features<sup>(3)(4)</sup>

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

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

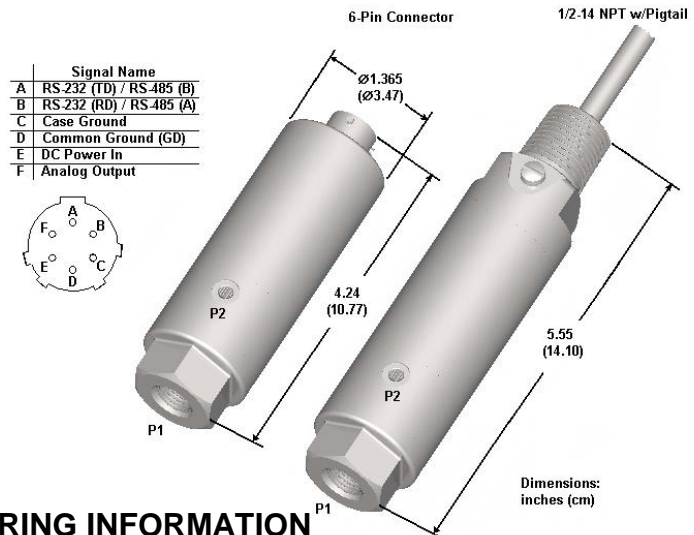
**Mechanical Shock:** 1500g, 0.5ms half sine

**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) CE Mark per IEC 61326. See [www.ssec.honeywell.com/pressure/datashets.html](http://www.ssec.honeywell.com/pressure/datashets.html) for information on test levels and results. Connector MIL-C-26482, Shell Size #10, 6-pin #20 size. (5) User configurable. (6) Demonstration kit includes unit, power supply/data cable (120V), demonstration software, and user manual.

## CASE OUTLINE



## ORDERING INFORMATION

### PPTR Precision Pressure Transducer - Ruggedized

#### 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

B 6-pin connector<sup>(4)</sup>

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

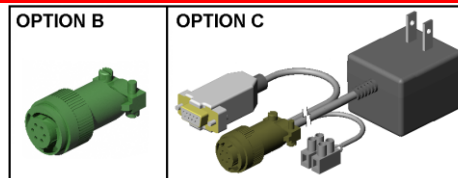
#### OPTIONS

A Demonstration Kit<sup>(6)</sup> (RS-232 only)

B Mating Connector – for 6-pin connector version

C Power Supply/Data Cable – for 6-pin connector version (RS-232 only)

PPTR 0500 A P 2V B -A



## Find out more

For more information on Honeywell's Precision Pressure Transducers visit us online at [www.pressuresensing.com](http://www.pressuresensing.com) or contact us at 800-323-8295 or 763-954-2474. Customer Service Email: [ssec.customer.service@honeywell.com](mailto:ssec.customer.service@honeywell.com).

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