Honeywell

SENSOR PRODUCTS

Precision Pressure Transducer - Ruggedized

PPTR

APPLICATIONS

- Process Control
- Engine Test Stands
- Flight Test
- Manufacturing Test Stations
- Laboratory and Medical Instruments
- Water Depth
- Instrumentation and Analytical Equipment

± 0.10% Accuracy from - 40 to 85°C

Digital and Analog

Hermetically Sealed

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.

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 RS-485 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 RS-232 or RS-485 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 Sensor Temperature Output (°C or °F) Deadband, Sensitivity Tare Value Configurable Analog Output And more...

SPECIFICATIONS

Performance Specifications(1)

Accuracy: (from -40 to 85°C)
Digital: ±0.10% FS typ, ±0.20% FS max.(2)
Analog: ±0.12% FS typ, ±0.24% FS max.(2)
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(5): 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(5): atm, bar, cmwc, ftwc, hPa, inHg, inwc, kg/cm², KPa, mBar, mmHg, MPa, mwc, psi, user, Icom, 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(5)
RS-485 Digital w/0-5V Analog(5)

Power Requirements:
Supply Voltage: 6.0 to 30 VDC
Operating Current: 19-27mA

Bus Addressing(5): Address up to 89 units

Baud Rate(5): 1200, 2400, 4800, 9600, 14400, 19200, 28800

Environmental Features(3)(4)

Overpressure: 3x FS, maximum 6000 psi

Burst Pressure: 3x FS, maximum 8500 psi

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. Calibration is traceable to NIST.

(2) Tighter accuracy available on some models. Consult factory.

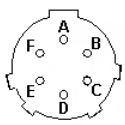
(3) Exposure to overpressure will not permanently affect calibration or accuracy of unit. Exceeding burst pressure may result in media escape. Mechanical Shock tested per MIL-STD-883D, M2002.3, Cond B. Vibration tested per MIL-STD-883D, M2007.2, Cond A.

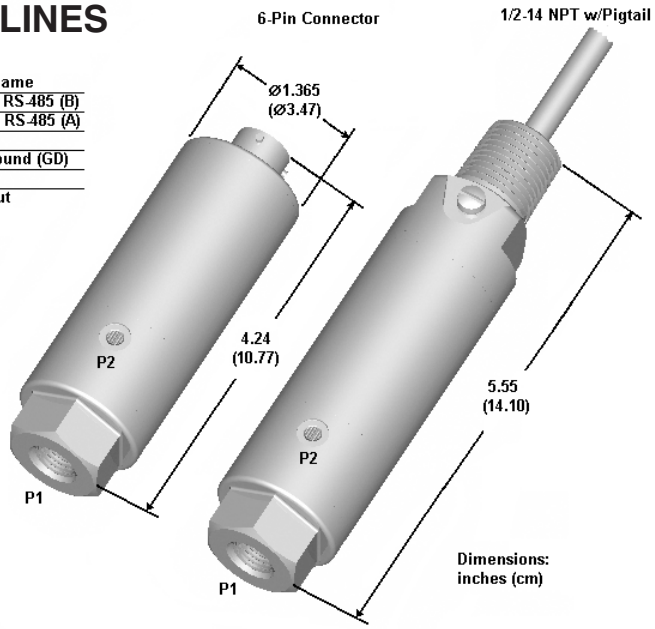
(4) CE Mark per IEC 61326. See www.ssec.honeywell.com/pressure/datasheets.html for information on test levels and results. Connector Mil-C-26482, Shell Size #10, 6-pin #20 size.

(5) User-configurable.

CASE OUTLINES

	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: PPTR1000AP2VB

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

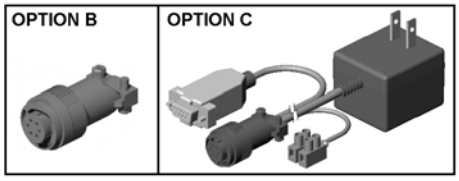
P1 PRESSURE CONNECTION
P 1/4 - 18 NPT (internal)

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

ELECTRICAL CONFIGURATION AND CONNECTION
B 6-pin connector (4)
D 1/2 - 14 NPT external w/ 4ft pigtail cable

OPTIONS
A Demonstration Kit (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 1000 A P 2V B - A



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