PRECISION PRESSURE TRANSDUCER

Highly Accurate Over a Wide Temperature Range

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.

FEATURES & BENEFITS

HIGHLY ACCURATE

- Accuracy is guaranteed over the whole operating temperature range
- 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 Network up to 89 units

VERSATILE AND CONFIGURABLE

- Works with existing and new systems
  0-5V analog and either RS-232 or RS-485 digital output
- Optimizes Output
  User-configurable pressure units, sampling, update rate
- Flags Problems
  Internal diagnostics set flags, indicates errors

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

ISO-9001, ISO-14001

APPLICATIONS

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

Honeywell

SPECIFICATIONS

PERFORMANCE	
Total Error Band[1]	See Ordering Information
Temperature Range	Operating: -40 to 85°C; Storage: -55 to 90°C
Sample Rate[3]	8.33 ms to 51.2 min; minimum response delay 17 ms
Resolution	Digital: Up to 0.001% FS, Analog: 1.22 mV steps (12 bits)
Long Term Stability	0.025% FS per year typical
MECHANICAL	
Pressure Units[3]	atm, bar, cmwc, ftwc, hPa, inHg, inwc, kg/cm2, KPa, mBar, mmHg, MPa, mwc, psi, user, Icom, pfs
Media Compatibility	Suitable for non-condensing, non-corrosive, and non-combustible gases
Weight	Approx. 5 oz. (142 gm) without fittings
ELECTRICAL	
Output[3][4]	RS-232 Digital with 0-5V Analog, RS-485 Digital with 0-5V Analog
Power Requirements	Supply Voltage: 5.5 to 30 VDC, Operating Current: 35 mA maximum
Baud Rate[3]	User configurable between 1200 and 28800 bits/sec
Bus Addressing[3]	Address up to 89 units
Connector	Plastic: Mini-Con-X(R) Harsh Environment 6-pin circular connector Metal: MIL-C-26482, Shell Size #10, 6-pin, #20 size
ENVIRONMENTAL	
Mechanical Shock	1500G, 0.5 ms half sine; per MIL-STD-883D, M2002.3, Cond. B
Thermal Shock	24 1-hr cycles, -40 to 85°C
Vibration	0.5 in or 20G, 20-2000 Hz; per MIL-STD-883D, M2007.2, Cond. A
Overpressure[2]	3X FS
Burst Pressure[2]	3X FS
EMC Directive	Compliant, Metal Connector Model Only
RoHS	Non-Compliant

[1] Total Error is the sum of worst case linearity, repeatability, hysteresis, thermal effects and calibration errors over the operating temperature range. Full scale for differential ranges is the sum of + and – ranges. Calibration is traceable to NIST.
[2] 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.
[3] User configurable.
[4] Recommended load impedance of 100 k-ohm or greater.

ORDERING INFORMATION

PPT PRECISION PRESSURE TRANSDUCER

FULL SCALE PRESSURE RANGE					
	Absolute	Gauge	Differential	Digital Total Error Band[1] [2]	Analog Total Error Band[1] [2]
0001	N/A	1 PSI	N/A	±(0.20%FS + 0.04% Abs. Reading)	±(0.24%FS + 0.04% Abs. Reading)
0001	N/A	N/A	±1 PSI	±(0.10%FS + 0.04% Abs. Reading)	±(0.12%FS + 0.04% Abs. Reading)
0002	N/A	2 PSI	±2 PSI	±(0.10%FS + 0.04% Abs. Reading)	±(0.12%FS + 0.04% Abs. Reading)
0005	N/A	5 PSI	±5 PSI	±(0.10%FS + 0.04% Abs. Reading)	±(0.12%FS + 0.04% Abs. Reading)
0010	N/A	10 PSI	±10 PSI	±0.10%FS Max.	±0.12%FS Max.
0015	15 PSI	N/A	N/A	±0.10%FS Max.	±0.12%FS Max.
0020	20 PSI	20 PSI	N/A	±0.10%FS Max.	±0.12%FS Max.
0050	50 PSI	N/A	N/A	±0.10%FS Max.	±0.12%FS Max.

TYPE		P1 PRESSURE	P2 PRESSURE
A	Absolute	0 (vacuum) to FS	N/A
G	Gauge	Reference to FS	Reference
D	Differential	+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)
N	Not Applicable (Absolute)

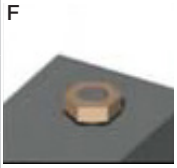
OUTPUTS	
2V	RS-232 digital, 0-5V analog
5V	RS-485 digital, 0-5V analog

ELECTRICAL CONNECTION	
A	Plastic 6-pin connector
B	Metal 6-pin connector

- OPTIONS	
A	Demonstration Kit (RS-232 Only)[2]
B	Standard Plastic Mating Connector[3]
C	Power Supply/Data Cable (RS-232 Only)[4]
E	Certificate of Conformance
F	Calibration Certificate

PRESSURE CONNECTION

F



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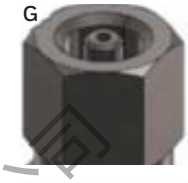

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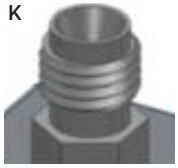

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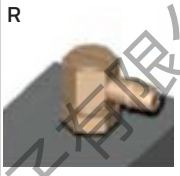

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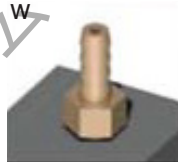

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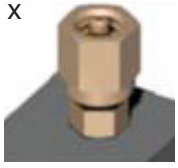


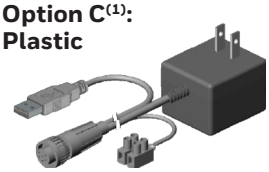
PPT	0020	A	W	N	2V	A	-EF

[1] Tighter accuracy available on some models. Consult factory.
[2] Demonstration kit includes unit, power supply/data cable (120V), demonstration software, and user manual.
[3] Metal Mating Connectors can be purchased from many electronics distributors, generic P/N is MS3116F10-6S for MIL-DTL-26482H compliant parts (not RoHS-compliant); RoHS-compliant versions are also available.
[4] RoHS-compliant.

OPTIONS

Option B

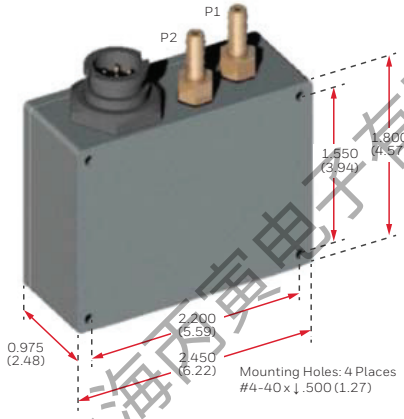
Option C(1): Plastic

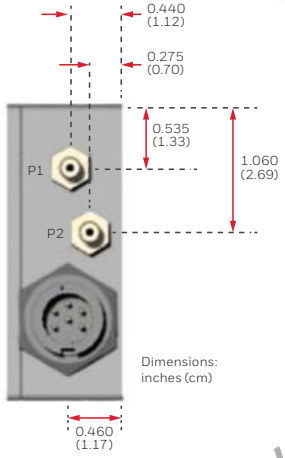


Option C(1): Metal

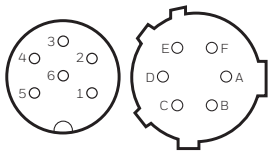
(1) RoHS-compliant

PPT DIMENSIONS





STD	METAL	SIGNAL NAME
1	A	RS-232(TD)/RS-485 (B)
2	B	RS-232(RD)/RS-485 (A)
3	C	Case Ground
4	D	Common Ground (GD)
5	E	DC Power In
6	F	Analog Output



Standard Plastic Metal

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.

For more information
aerospace.honeywell.com/en/learn/products/sensors/precision-pressure

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THE FUTURE IS WHAT WE MAKE IT

Honeywell