Honeywell

PPT2 Next Generation Precision Pressure Transducer

Highly Accurate Over a Wide Temperature Range

Honeywell's Next Generation Precision Pressure Transducer (PPT2) combines proven silicon sensor technology with microprocessor-based signal conditioning to provide an extremely smart pressure transducer. Available in a compact, rugged design, the PPT2 has many software features that support a wide range of digital and analog applications.

Specifications

PERFORMANCE	
Total Error Band [1]	See Ordering Information
Temperature Range	Operating: -40 to 85°C Standard (S), -55 to 110°C Extended (E) Storage: -50 to 100°C Standard (S), -60 to 125°C Extended (E)
Sample Rate [3]	1.0 ms to 42.67min; minimum response delay 2 ms
Resolution	Digital: Up to 0.001% FS, Analog: 0.1mV typical (15+ 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, pfs
Media Compatibility	Suitable for non-condensing, non-corrosive, and non-combustible gases
Weight	4.4 oz. (125 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: 6.0 to 34 VDC, Operating Current: 50 mA maximum
Baud Rate [3]	User configurable between 1200 and 115200 bits/sec
Bus Addressing [3]	Address up to 89 units
Connector	MIL-C-26482, Shell Size #10, 6-pin, #20 size
ENVIRONMENTAL	
Mechanical Shock	RTCA/DO-160E Sec. 7, Cat. B: up to 20 G 3 sec/direction
Thermal Shock	RTCA/DO-160E Sec. 5, Cat. A, -55 to 110°C
Vibration	RTCA/DO-160E Sec. 8, Cat. S, Curve W: 20G, 10-2000 Hz
Overpressure [2]	3X FS
Burst Pressure [2]	3X FS
EMC Directive	Compliant, Directive 2004/108/EC, Standards BS EN 61326-1:2006
RoHS	Compliant

(1) Total Error Band 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.

POTENTIAL APPLICATIONS

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

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), Deadband, Sensitivity, Tare Value, Configurable Analog Output
- CE QUALIFIED. ISO-9001, ISO-14001

PPT2 Specifications

Ordering Information

PRECISION PRESSURE TRANSDUCER						
PPT2	Full Scale Pressure Range	Absolute	Gauge	Differential	Digital Total Error Band[1]	Analog Total Error Band[1]
	0002	N/A	2 PSI[1]	±2 PSI	±(0.075%FS + 0.20% Abs. Reading)	±(0.090%FS + 0.20% Abs. Reading)
	0005	N/A	5 PSI	±5 PSI	±(0.075%FS + 0.20% Abs. Reading)	±(0.090%FS + 0.20% Abs. Reading)
	0010	N/A	10 PSI	±10 PSI	±0.075%FS	±0.090%FS
	0015	15 PSI	N/A	N/A	±0.075%FS	±0.090%FS
	0020	20 PSI	N/A	N/A	±0.075%FS	±0.090%FS

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 SwagelokTM (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)

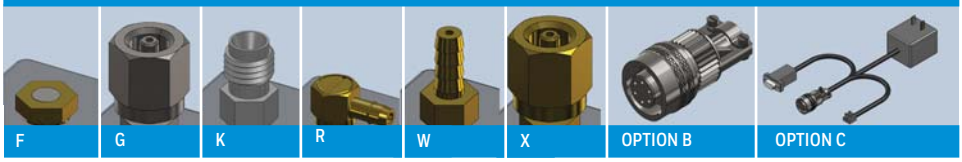
P2	PRESSURE CONNECTION (GAUGE, DIFFERENTIAL)
F	Filter (blocks debris)
G	Stainless SwagelokTM (1/8 inch female)
K	Stainless Swagelok-compatible (1/8 inch male)
R	Brass barbed, right angle (1/8 inch ID tubing)
W	Brass barbed (1/8 inch ID tubing)
X	Brass SwagelokTM (1/8 inch female)
N	Not Applicable (Absolute)

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

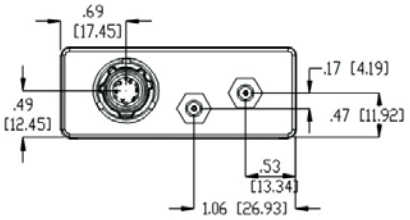
OPERATING TEMPERATURE RANGE	
S	Standard: -40 to 85°C
E	Extended: -55 to 110°C

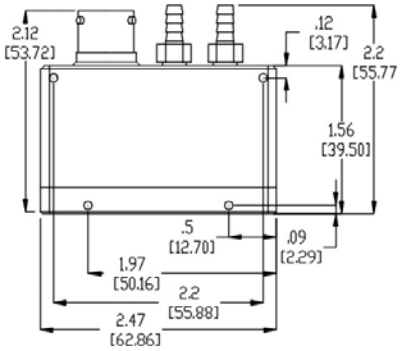
- OPTIONS	
B	Mating Connector (See Below)
C	Power Supply/Data Cable (RS-232 only, See Below)
E	Certificate of Conformance
F	Calibration Certificate

PPT2 0020 A W N 2V S -BEF



Dimensions[2]





Signal Name

A	RS-232 (TD) / RS-485 (B)
B	RS-232 (RD) / RS-485 (A)
C	Case Ground
D	Common Ground
E	DC Power In
F	Analog Output

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.

Honeywell reserves the right to make changes to improve reliability, function or design. Honeywell does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights nor the rights of others.

Find out more

For more information on Honeywell's Precision Pressure Transducers visit us online at www.pressuresensing.com.

Customer Service Email: quotes@honeywell.com

(1) See application note AN106 "Mechanically Mounting the PPT2 in Legacy PPT Applications", at www.pressuresensing.com.

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