

## CPT6010 Barometer

Data Sheet CPT6010 Barometer • 09/2013

### Applications

- Barometric pressure transducer
- Internal barometer in OEM devices
- Barometer in test & calibration stands
- Wind tunnels
- Aerospace
- Meteorology

### Features

- 0.020% of reading uncertainty
- Temp. Comp: 15 to 45 °C
- Range: 8 - 17 psia (~560 to 1170 mbar)
- Resolution to 1 ppm, depending on units
- Customer assigned pressure units
- RS-232 or RS-485 communication
- Multi-drop capability
- Reading Rate 50 Hz
- 303 stainless steel housing
- CE compliant

mentor



CPT6010 Barometer

### Description

#### General

The CPT6010 Barometer is a self-contained, high accuracy, barometric pressure transducer. This transducer incorporates a low hysteresis silicon sensor with electronically compensated pressure linearity over the specified temperature range.

The CPT6010 Barometer is characterized over the full pressure and temperature range to achieve 0.020% R uncertainty. This uncertainty specification includes linearity, hysteresis, repeatability and temperature errors. Also featured is a digital output which is updated at a rate of 50 readings per second (20 ms).

#### Applications

The CPT6010 Barometer is used in OEM Applications where a high accuracy Barometer is required. It can also be used as a barometric standard or in pressure calibration and testing areas of production facilities.

#### Functional Flexibility

The CPT6010 Barometer uses either RS-232 or RS-485 to communicate with a host computer over long distances. Any MS-DOS compatible PC with an available serial output port can serve as the host controller.

System designers will appreciate the flexibility offered by having highly accurate barometers that are not tied to a front panel and which may be located remotely. For remote operation the transducer equipped with RS-485 can be located up to 4,000 feet from the host. A simple cable can accommodate both the power and the two-way communications requirements.

## Specifications

Description	Unit	Specification
<b>Total Uncertainty</b>	R	0.020% R. Total uncertainty (k=2) includes hysteresis, linearity, repeatability, reference standard, drift and temperature effects over the calibrated range for the calibration interval specified with periodic rezeroing.
<b>Calibration Stability after warmup</b>		Less than 0.02% R for six months.
<b>Calibration</b>		Calibration Interval: 180 days Calibration adjustment: Zero and Span. (Zero and span may be reset via the serial interface without affecting the linearity.)
<b>Pressure Range</b>		8 - 17 psia (~560 to 1170 mbar).
<b>Pressure Units</b>		Selected from a list of 35: psi, inHg @0°C and 60°F, inH <sub>2</sub> O @4°C, 20°C and 60°F, ftH <sub>2</sub> O @ 4°C, 20°C and 60°F, mTorr, inSW @ 0C, ftSW @ 0C, ATM, bars, mbars, mmH <sub>2</sub> O @ 4°C, cm H <sub>2</sub> O @ 4°C, MH <sub>2</sub> O @ 4°C, mmHg @ 0°C, cmHg @ 0°C, Torr, hPa, mPa, kPa, Pa, D/cmsq, G/cmsq, Kg/cmsq, mSW @ 0°C, OSI, PSF, TSF, TSI, μHg @ 0°C, %fs. All seawater units are 3.5% salinity.
<b>Resolution</b>		Up to 1 ppm, depending on units.
<b>Overpressure Limit</b>		150% FS
<b>Compensated Temp. Range</b>	°C	15 to 45
<b>Warm-up</b>	min	10 minutes to rated accuracy
<b>Reading Rate</b>	Hz	50
<b>Communications</b>		RS-232 or RS-485. LabVIEW <sup>®1</sup> drivers are available.
<b>Max. Transmission</b>	ft.	4000 feet (RS-485)

<b>Multi-drop Capacity</b>		The maximum number of RS-485 CPT6010 transducers which can be connected to a single host computer is 31.
<b>Mechanical Shock</b>		5g max.
<b>Case Size</b>		1.75" wide x 6.0" long (4.45 x 15.24 cm), not including pneumatic and electrical.
<b>Weight</b>	oz.	Approximately 12 ounces (28.3 grams).
<b>Media Compatibility</b>		All media compatible with 316L stainless steel.
<b>Fittings</b>		Pressure Port: 1/4 inch male NPT Reference Port: 1/16 inch barb (gauge instruments only)
<b>Power</b>		6-20 VDC, 45mA @ 12 VDC 6 pin Bendix connector #PT02E-10-6P
<b>Compliance</b>		Conforms to CE standards EN 50081-1, EN 50082-1, EN 50081-2, and EN 50082-2.
<b>Options</b>		Relief Valves —up to 1000 psig Custom ranges.

<sup>1</sup>LabVIEW<sup>®</sup> is a trademark of National Instruments Corporation.

The calibration program at Mensor is accredited by A2LA as complying with both the ISO/IEC 17025:2005 and the ANSI/NCSL Z540-1-1994 standards. All Mensor primary standards are traceable to NIST. Mensor is registered to ISO9001:2008.



Since product innovation is a continuous process at Mensor, we reserve the right to change specifications without notice.

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