Honeywell Precision Barometer
HPB

The Honeywell Precision Barometer (HPB) offers outstanding value to instrument builders requiring accurate and stable barometric measurements in real-world conditions. The HPB uses proven silicon sensor technology with microprocessor-based signal compensation, eliminating the need to insulate or temperature-regulate the barometer. The HPB has a pressure range of 500 to 1200 hPa. The HPA, intended for altimeter applications, provides a pressure range of 0 to 17.6 psia.

APPLICATIONS:
- AWOS Weather Systems
- Remote Meteorological Stations
- Ocean Data Buoys
- Environmental Data Logging
- Secondary Air Data
- Altimeters

FEATURES AND BENEFITS

- **High Accuracy**
  - ±0.4 hPa max from -40 to 85°C
  - ±0.03% FS max from -40 to 85°C

- **Multiple Interface Options**

- **Proven Honeywell Technology**

- **Two-tiered accuracy including temperature errors over -40 to 85°C**
  - HPB, ±0.4 hPa or ±0.8 hPa; HPA, ±0.03% or ±0.06% FS Max.

- **Simplifies System Design** – there is no need to insulate, temperature-regulate or provide additional signal compensation.

- **Easy Interface, Plug-and-Play for your system requirements.**
  - TTL – for lowest power consumption (33 milliwatts)
  - RS-232 – receives commands and sends data to a single serial port of a computer.
  - RS-485 – up to 89 units can be connected to a two-wire multidrop bus.

- **Stable and Reliable** – Honeywell has been building the world’s highest performance silicon pressure sensors for over thirty years.
**SPECIFICATIONS**

**Performance Specifications**

- **Total Error Band**: From -40 to 85°C
  - HPB200: ±0.4 hPa maximum
  - HPB100: ±0.8 hPa maximum
  - HPA200: ±0.03% FS maximum
  - HPA100: ±0.06% FS maximum

- **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**: 8.33ms to 51.2 min

- **Resolution**: 0.0011% FS

- **Response Delay**: (1000/update rate) +1ms, minimum 17ms

- **Long Term Stability**
  - HPB: 0.25 hPa max per year
  - HPA: 0.02% FS max per year

**Mechanical Specifications**

- **Pressure Ranges**: HPB: 500 to 1200 hPa (1 hPa = 1 mbar)
  - HPA: 0 to 17.6 psia

- **Pressure Units**: atm, bar, cmwc, ftwc, hPa, inHg, inwc, kg/cm², KPa, mBar, mmHg, MPa, mwc, psi, user, Icon, psis

- **Humidity Sensitivity**: Negligible

- **Acceleration Sensitivity**: Negligible

- **Temperature**: ±1°C (at sensing element)

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

- **Temp Shock**: 24 1-hour cycles, -40 to 85°C

- **Vibration**: 0.5 in 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. Calibration is traceable to NIST. (2) Mechanical Shock tested per MIL-STD-883D, M2002.3, Cond. B. Vibration tested per MIL-STD-883D, M2007.2, Cond. A. (3) User Configurable. (4) Best resolution obtained with PFS (percent full scale) pressure units. (5) Demonstration kit includes unit, power supply/data cable (120V), demonstration software, TTL-to-RS232 converter (TTL only), and user manual. (6) Beyond max. total error band when continuously powered at 25±10°C, <90%RH and 26 to 32 inHg atmospheric pressure.

**ORDERING INFORMATION**

**Honeywell Precision Barometer**

**APPLICATION TYPE**

- **HPB**
  - Barometer Application, 500 to 1200 hPa (1 hPa = 1 mbar)

- **HPA**
  - Altimeter Application, 0 to 17.6 psia

**ACCURACY**

- **BAROMETER**
  - ±0.4 hPa max
  - ±0.03% FS max

- **ALTIMETER**
  - ±0.8 hPa max
  - ±0.06% FS max

**PRESSURE CONNECTION**

- **W**
  - Brass barbed (1/8 inch ID tubing)

- **X**
  - Brass Swagelok™ (1/8 inch female)

- **R**
  - Brass barbed, right angle (1/8 inch ID tubing)

- **F**
  - Filter (blocks debris)

**OUTCOMES**

- **2D**
  - RS-232

- **5D**
  - RS-485

**TT**

**ELECTRICAL CONFIGURATION AND CONNECTION**

- **A**
  - 6-pin plastic connector

- **OPTIONS**
  - A) Demonstration Kit (RS-232, TTL only)
  - B) Mating Connector (See Below)
  - C) Power Supply/Data Cable (RS-232, TTL with Option G only, See Below)
  - G) TTL to RS-232 Converter (TTL only)

**HPB 200 W 2D A -B**

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**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 1-800-601-3099 (International: 1-602-365-3099). Customer Service Email: D&Sorders@honeywell.com.

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ADS-14181
July 2014
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