

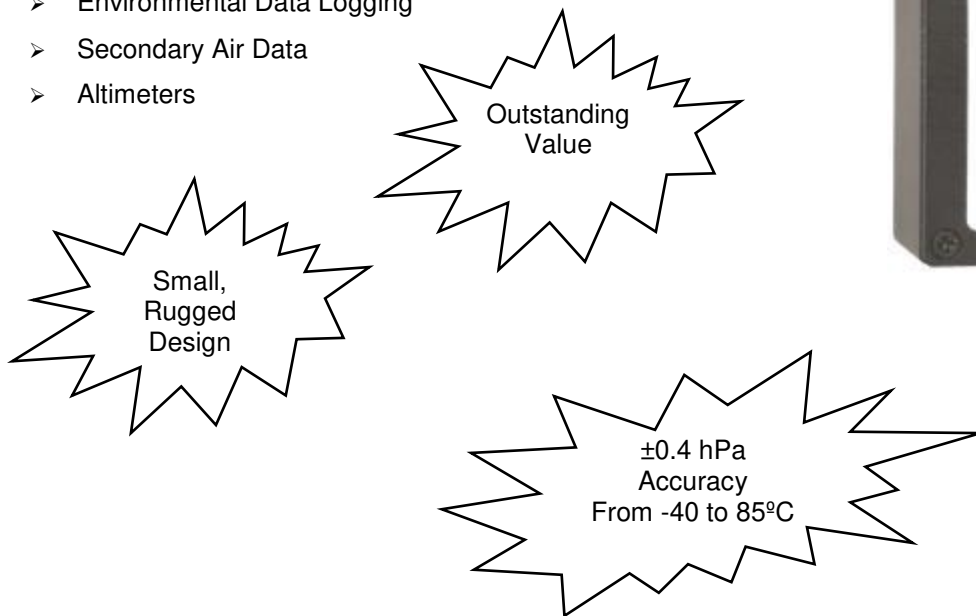
Honeywell Precision Barometer HPB

Honeywell

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

ISO-9001
ISO-14001

- ▶ **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⁽¹⁾

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⁽³⁾: 8.33ms to 51.2 min

Resolution:

0.0011% FS⁽⁴⁾

Response Delay:

(1000/update rate) +1ms, minimum 17ms

Long Term Stability⁽⁶⁾:

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⁽⁵⁾: atm, bar, cmwc, ftwc, hPa, inHg,

inwc, kg/cm², KPa, mBar, mmHg, MPa, mwc, psi,

user, lcom, pfs

Media Compatibility: Suitable for non-condensing, non-corrosive, and non-combustible gases.

Weight: 5 oz. (142 gm) without fittings

Electrical Specifications

Output: TTL, RS-232, RS-485

Power Requirements:

TTL Supply Voltage: 6 to 26 VDC

RS-232, RS-485 Supply Voltage: 5.5 to 30 VDC

Operating Current:

RS-232/RS-485: 17-30mA; TTL: 6-9 mA

Baud Rate⁽³⁾: 1200, 2400, 4800, 9600,

14400, 19200, 28800

Bus Addressing⁽³⁾: Address up to 89 units.

Environmental Features⁽²⁾

Humidity Sensitivity: Negligible

Acceleration Sensitivity: Negligible

Mechanical Shock: 1500g, 0.5ms half sine

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

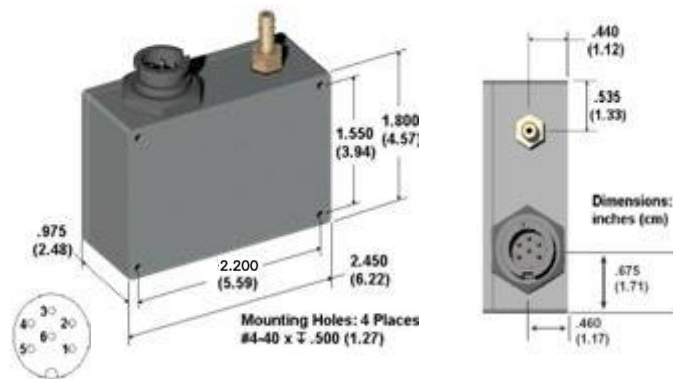
Vibration: 0.5in or 20G's, 20Hz – 2K Hz

(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-RS-232 converter (TTL only), and user manual. (6) Beyond max. total error band when continuously powered at 25±10°C, <90%RH and 28 to 32 inHg atmospheric pressure.

CASE OUTLINE

| Pin# | Signal Name |
|------|----------------------|
| 1 | RS-232(TD)/RS-485(B) |
| 2 | RS-232(TD)/RS-485(A) |
| 3 | Case Ground |
| 4 | Common Ground(GND) |
| 5 | DC Power In(+) |
| 6 | N/C |

| Pin # | Signal Name |
|-------|--------------------|
| 1 | TTL XMIT |
| 2 | TTL RCV |
| 3 | Case Ground |
| 4 | Common Ground(GND) |
| 5 | DC Power In(+) |
| 6 | Power Control |



ORDERING INFORMATION

Honeywell Precision Barometer

APPLICATION TYPE

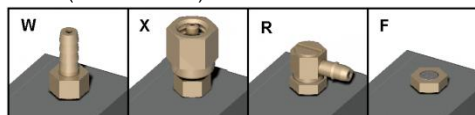
HPB Barometer Application, 500 to 1200 hPa (1 hPa = 1 mbar)

HPA Altimeter Application, 0 to 17.6 psia

| ACCURACY | BAROMETER | ALTIMETER |
|----------|--------------|---------------|
| 200 | ±0.4 hPa max | ±0.03% FS max |
| 100 | ±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)



OUTPUTS

- 2D** RS-232
- 5D** RS-485
- TT** TTL

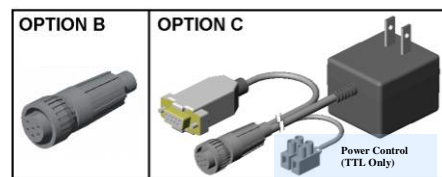
ELECTRICAL CONFIGURATION AND CONNECTION

- A** 6-pin plastic connector

OPTIONS

- A** Demonstration Kit⁽⁵⁾ (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



Find out more

For more information on Honeywell's Precision Pressure Transducers visit us online at 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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