

APPLICATIONS

- Remote Meteorological Stations
- Data Buoys
- Environmental Data Logging
- General Meteorology
- Altimeters
- Airborne Measurements
- Airports

Honeywell Precision Barometer

HPB

**± 0.4 hPa
Accuracy
from
-40 to 85°C**

**Outstanding
Value**

**Small,
Rugged
Design**



The Honeywell Precision Barometer 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.

ISO 9001

FEATURES AND BENEFITS

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

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 maximum.

Simplifies system design—no need to insulate, temperature-regulate or provide additional signal compensation.

Multiple Interface Options

Easy Interface, plug-and-play for your system requirements

TTL—for lowest power consumption (33 milliwatts)

RS232—for general purpose (with converter, Option G)

SDI-12—for data acquisition systems requiring this protocol (in Development)

Proven Honeywell Technology

Stable and reliable—Honeywell has been building the world's highest performance silicon pressure sensors for over thirty years.

SPECIFICATIONS

Performance Specifications⁽¹⁾

Accuracy: (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 51.2min

Resolution:

HPB: 0.01 hPa
 HPA: 0.001psi

Response Delay:

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

Long Term Stability:

HPB: 0.25 hPa max per yr
 HPA: 0.02% FS max per yr

Mechanical Specifications

Pressure Range:

HPB: 500 to 1200 hPa (note: 1 hPa = 1 mbar)
 HPA: 0 to 17.6 psia

Pressure Units⁽³⁾: 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. (142gm) without fittings

Electrical Specifications

Output: TTL

Power Requirements (TTL interface):

Supply Voltage: 6 to 26 VDC, 30-225mW⁽⁴⁾

Bus Addressing⁽³⁾: Address up to 89 units

Baud Rate⁽³⁾:

1200, 2400, 4800, 9600, 14400, 19200, 28800

Environmental Features⁽²⁾

Humidity Sensitivity: Negligible

Acceleration Sensitivity: Negligible

Mechanical Shock: 1500g, 0.5ms half sine

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

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

(1) Accuracy is the sum of worst case linearity, repeatability, hysteresis, thermal effects and calibration errors from -40 to 85°C.

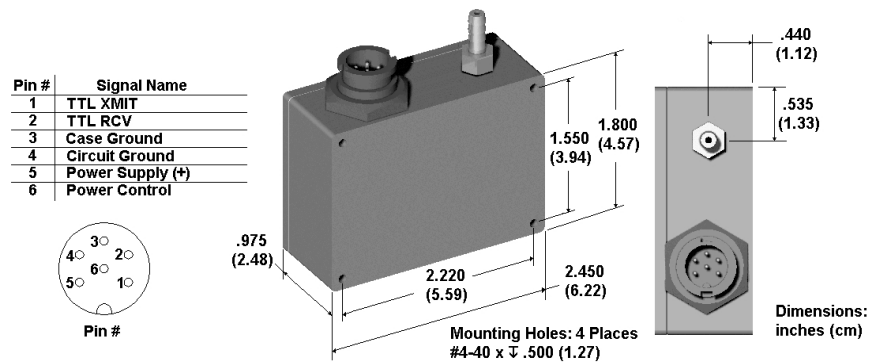
(2) Mechanical Shock tested per MIL-STD-883D, M2002.3, Cond B. Vibration tested per MIL-STD-883D, M2007.2, Cond A.

(3) User-Assignable.

(4) Depending on configuration.

(5) For computer interface using RS232, utilize both options C and G.

CASE OUTLINE



ORDERING INFORMATION

Example: HPB200WTTA-A

Honeywell Precision Barometer

APPLICATION TYPE

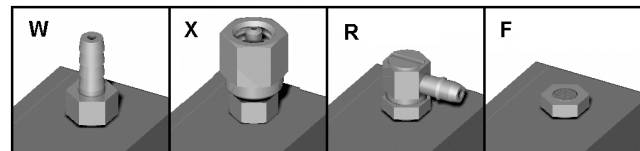
HPB Barometer Application, 500 to 1200 hPa (note: 1 hPa = 1 mbar)
HPA Altimeter Application, 0 to 17.6 psia

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 I.D. tubing)
X Brass Swagelok™ (1/8 inch female)
R Brass barbed, right angle (1/8 inch I.D. tubing)
F Filter (blocks debris)



OUTPUT

TT TTL

ELECTRICAL CONNECTION

A 6-pin plastic connector

OPTIONS

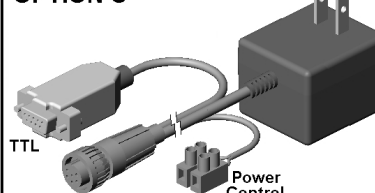
A Demonstration Kit
B Mating Connector (See below)
C Power Supply/Data Cable⁵ (See below)
G TTL-to-RS232 Converter (See below)

HPB 200 W TT A -A

OPTION B



OPTION C



OPTION G



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