HIGH-ACCURACY BAROMETER

FEATURES:

- High Accuracy
- Excellent Long-Term Stability
- Low Power Consumption
- Instant Warm-Up
- Fast Response

Climatronics High-Accuracy Barometer (P/N 102347) is an ultra-high accuracy barometric pressure transducer mounted in a weatherproof enclosure. It is a form, fit, and function replacement for our previous barometers. Long term reliability and stability in demanding application environments are achieved by the combination of ceramic capacitive sensor and a proprietary custom IC analog circuit.

The fundamentally simple design and thermally stable glass fused ceramic sensing capsule is coupled with the sophisticated capacitance charge-balance type IC circuit where accurate signal conditioning and environmental compensation is performed. Standard accuracy is 0.05% with 0.01% non-repeatability and 0.1%/100°F thermal performance. And even tighter specs are available!

The barometric pressure transducer adheres to strict quality standards including MIL-I-45208A and ANSI-Z540-1. The calibration of the transducer is NIST traceable.

The High-Accuracy Barometer can be provided with a range of either 500 – 1100 hPa or 800 – 1100 hPa.
SPECIFICATIONS

Performance Data
Accuracy: <±0.05% FS
Non-Linearity
End to point method: ±0.05% FS
Best fit straight line method: ±0.03% FS
Hysteresis: 0.01% FS
Non-Repeatability: 0.01% FS
Resolution: Infinite, limited only by output noise level (0.005% FS)
Thermal Effect
Compensated Range: 30° to 120°F (-1° to 49°C)
Barometric: <±0.2% FS/100°F (±0.18% FS/50°C)
Other Ranges: <±0.1% FS/100°F (±0.09% FS/50°C)
Thermal Coefficient Sensitivity: <±0.1% FS/100°F (±0.09% FS/50°C)
Long Term Stability: <±0.1% FS over 6 months at 70°F
Static Acceleration Effect: <±0.04% FS shift after turn on for 20 minutes at constant
   temperature & pressure.
Warm-up: <10 ms to reach 90% final output with step function pressure input.

Environmental Data
Operating Temperature: 0° to 175°F (-18° to 80°C)
Storage Temperature: -65° to 250°F (-54° to 120°)
Vibration: 2 g from 5Hz to 500Hz continuous any axis
Acceleration: 10 g maximum
Shock: 50 g operating, 1/2 sine 10 ms
Pressure fitting: 1/8" -27 NPT internal
Electrical connection: 2 ft. multiconductor cable
Weight (approx.) 9 ounces (0.25 Kg)

Electrical Data
Full Scale Output: 5.00 VDC, internally adjustable, factory set within ±5 mV
Zero Pressure Output: 0 mV, internally adjustable, factory set within ±5 mV
Excitation Power: Nominal 24 VDC, 8 mA (0.2 watts), 20 to 32 VDC. Internal regulation
   minimizes effect of excitation variation, 0.005%
Electrical Circuit: Four-terminal circuit for units with 0 to 5 VDC output
Isolation: The insulation resistance between all signal leads tied together and case
ground is 100 megohms minimum at 25 VDC
Output Impedance < 5 ohms (effective)
Output Noise < 200 microvolts RMS (0 Hz to 100 Hz).

* Accuracy as RSS of non-linearity, hysteresis, and non-repeatability. Higher accuracy units available on special order.
** Calibrated into 50K ohm load, operable into loads of 5000 ohms or greater. You can attenuate output to match your data system.
*** For best performance, either negative excitation or negative output should be connected to case. Unit calibrated at the factory with negative
   excitation connected to case.