



DIGITAL BAROMETER FOR AVIATION

FEATURES:

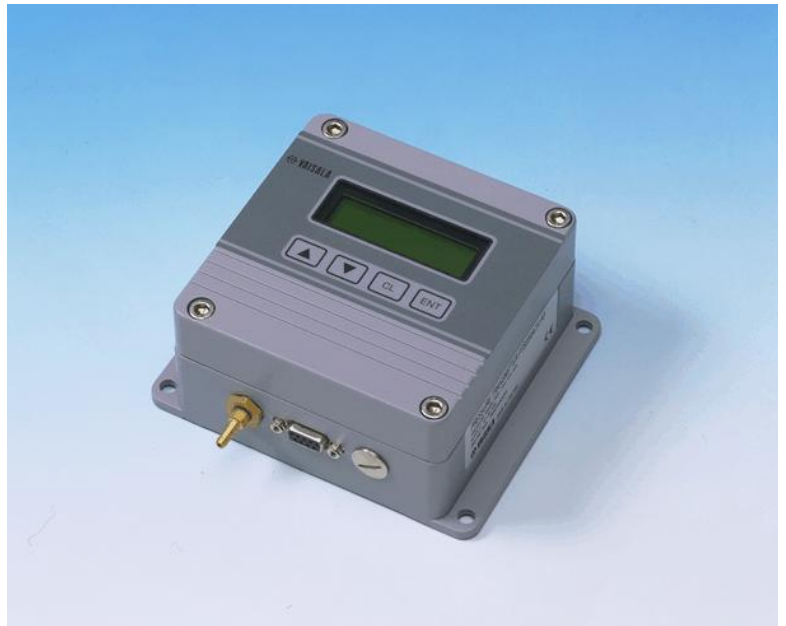
- **Aviation Qualified**
- **High Accuracy**
- **Long-Term Stability**
- **Includes Three Barometric Pressure Transducers**
- **Available with RS-232C/TTL Level or RS-485/RS-422 Serial Interface**

The P/N 102459 digital barometers for aviation are designed for a wide pressure and temperature range. The barometers are adjusted and calibrated by using electronic working standards.

A single barometer can have one, two, or three pressure transducers. Two or three transducers provide improved reliability in airport, weather station, and pressure standard applications. Climatronics' AWOS systems will include barometers with three transducers, unless otherwise noted.

The local display can simultaneously show the barometric pressure, the three-hour pressure trend, and a WMO pressure tendency code. An analog output option is also available, which is particularly well suited for traditional systems with analog input.

The P/N 102459 barometers use a silicon capacitive absolute pressure sensor with excellent hysteresis and repeatability characteristics and outstanding temperature and long-term stability. All P/N 102459 barometers are delivered with a factory calibration certificate.



SPECIFICATIONS:

Pressure Range: 500 - 1100 hPa
Temperature Range: Operating: -40° to +60°C
Storage: -60° to +60°C
Humidity Range: Non-condensing

Accuracy

Linearity: ± 0.05 hPa¹
Hysteresis: ± 0.03 hPa¹
Repeatability: ± 0.03 hPa¹
Calibration Uncertainty: ± 0.07 hPa²
Accuracy at +20° C: ± 0.10 hPa³
Temperature Dependence: ± 0.10 hPa⁴
Total Accuracy: ± 0.15 hPa
Long-Term Stability: ± 0.10 hPa/year

¹ Defined as ± 2 standard deviation limits of end-point non-linearity, hysteresis error, or repeatability error.

² Defined as ± 2 standard deviation limits of inaccuracy of the working standard, including traceability to NIST.

³ Defined as the root sum of the squares (RSS) of end-point non-linearity, hysteresis error, repeatability error, and calibration uncertainty at room temperature.

⁴ Defined as ± 2 standard deviation limits of temperature dependence over the operating temperature range.

GENERAL

Supply Voltage: 10 - 30 VDC, reverse polarity protected
Supply Voltage Sensitivity: Negligible
Current Consumption: Operation Mode: Less than 30 mA
With Local Display: Less than 50 mA
Hardware Shutdown Mode: Less than 0.1 mA
Serial I/O: RS 232C* full duplex, bi-directional TTL level, or RS 485/422 half duplex
Code: ASCII
Parity: None, Even*, or Odd
Data Bits: 7* or 8
Stop Bits: 1* or 2
Baud rates: 300, 600, 1200, 2400, 4800, 9600*
Pulse Output: TTL level pulse output at 5 kHz or 50 kHz
Pressure Units: hPa*, mbar, kPa, Pa, inHg, mmH₂O, mmHg, torr, psia
Resolution: 0.01 hPa*
Settling Time, Power-Up (one sensor): 4 s*
Response Time (one sensor): 3 s*
Acceleration Sensitivity: Negligible
Pressure Connector: M5 (10-32) internal thread
Pressure Fitting: Barbed fitting for 1/8" I.D. tubing
Maximum Pressure Limit: 5000 hPa abs.
Minimum Pressure Limit: 0 hPa
Electrical Connector: Female 9-pin subD
Housing: Epoxy painted aluminum
Weight: 1 kg
Fully electromagnetically compatible according to the EN50081-1 and EN50082-1 standards

* Factory Setting



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