

SPECIFICATIONS

Measurement Units:

hectopascals (hPa)/millibars/
inches Mercury

Measurement Range:

800 to 1,100 hectopascals
(hPa) at sea level (wide range
calibration normalised to sea
level is available for high
altitude applications).

Accuracy:

< +/-1 hPa at 25°C

Resolution: Low -0.1 hPa

High -0.01 hPa

Operating Temperature

Range: -20°C to +60°C

(custom ranges are available)

Humidity Range:

0% to 100%

Temperature Drift:

< 50 ppm per °C

Sensor Type:

Silicon strain
gauge absolute pressure
transducer

Reliability: With proper
maintenance, an operating
lifetime in excess of 5 years is
expected.

Output: Serial data ASCII
format. Plus, either Voltage
0–1 V OR Frequency +5 V
pulse, 2–10 Hz

Options: 4–20 mA output
0–2.5 V, 0–4 V RS232C

Power Requirements:

Power Supply: 5–28 V DC
unregulated

Current Drain: 3 mA to 5 mA

Cable Lengths:

Standard cable length 0.8 m

Maximum cable length
4 km using DataBus
communications

Mounting:

Designed for mounting in
Model SS4 sensor shelter.
Not to be exposed to
precipitation or high dust
levels.

Sensor Dimensions:

Weight (unpacked): 185 g

Overall length: 197 mm

Diameter: 25 mm

Related Products:

SS4: Sensor Shelter

SS6: Aspirated Sensor
Shelter

EnviroStation: Automatic
Weather Station

TA1: Air Temperature Sensor

WL(x): Water Level Sensor

SI2/5: Interface module for
RS232

DocRef: Ver1.1

Barometric Pressure Sensor

ICT International has designed a reliable and stable Barometric Pressure Sensor (BP1) for environmental and meteorological monitoring applications. The BP1 uses a temperature compensated silicon strain gauge pressure transducer fully housed in an aluminium body with stainless steel insect proof mesh covering the inlet orifices of the body. The sensor is connected to a fully temperature compensated microprocessor controlled electronics package. The transducer exhibits excellent elastic properties for repeatability and mechanical shock resistance, withstanding high overpressure without any adverse effect on performance. The dual temperature compensation provides a high degree of accuracy over the range -20°C to 60°C. Other ranges of temperature compensation are available for customer-specific applications.



Microprocessor control

The microprocessor provides a host of features such as control and alarm outputs, 16-bit resolution (1 part in 65,000) and software switchable output signals. Each unit is provided with a multi-point calibration curve for maximum accuracy across the range. However, the local altitude above sea level, which has an effect on barometric pressure, must be known and used as an offset to provide relative atmospheric pressure.

Compatibility with Smart Logger

The sensor consumes 4 mA of current powered from the data logger or an external 5–28 V supply. The sensor conforms to a global algorithm in all output modes and for operation in digital, voltage or current mode. Each sensor is supplied with individual calibration certificates to enable software conversion to engineering units. In serial mode, the sensor reports in engineering units and the global algorithm is implemented internally.

With most systems, changeover of a sensor means either the recalibration of the system or the resetting of parameters in the data logger or other data collection devices. The Smart Sensor eliminates this requirement as the on-board microprocessor ensures that all sensor types that exhibit the same electronic specifications thus have identical performance characteristics.

Features

- Corrosion resistant finish
- Solid state sensor
- Long term stability
- Serial data plus frequency or
- Voltage output
- Dual control/alarm-output
- Low power consumption

Applications

- Atmospheric pressure monitoring
- Environmental studies
- Educational
- Industrial control
- Replacement for mercury barometer
- Laboratory — high accuracy liquid or gas pressure measurement
- Pressure control

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