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CS100
Barometric Pressure Sensor

PRODUCT



Standard Barometer

Resides inside a weather-proof enclosure

Overview

The CS100 measures barometric pressure for the range of 600 to 1100 hPa (mBar). This range equates to from below sea level (as in a mine) up to 12,000 feet above sea level. Designed for

use in environmental applications, the CS100 is compatible with all Campbell Scientific data loggers.

Benefits and Features

- Optimized to mount in Campbell Scientific enclosures
- Low power consumption
- Three-year warranty
- 500 to 1100 hPa (mBar) and 800 to 1100 hPa (mBar) versions also available by special order—contact Campbell Scientific
- Integral switching circuit limits power consumption to measurement cycle

Detailed Description

The CS100 is a Campbell Scientific version of Setra's model 278 barometer. It uses Setra's Setraceram capacitive sensor and IC analog circuit to measure barometric pressure. The CS100 includes a 0.76 m (2.5 ft) cable and a terminal strip for data logger power and signal connections.

The CS100 is encased in a stainless-steel and polyester case fitted with an 1/8 in. barbed fitting for pressure connection. It includes an internal switching circuit that allows the data logger to power the barometer only during measurement, which reduces power usage.

Specifications

Measurement Description	Barometric pressure	Long-Term Stability	±0.1 hPa per year
Signal Type/Output	Analog voltage	Response Time	< 100 ms
-NOTE-	1 hPa = 1 mBar	Resolution	±0.01 hPa
Pressure Range	600 to 1100 hPa	Excitation	9.5 to 28 Vdc



Elevation	~609.6 m (2,000 ft) below sea level (as in a mine) to 3,657.6 m (12,000 ft) above sea level
Accuracy	» ±1.5 hPa (@ -20° to +50°C) » ±2.0 hPa (@ -40° to +60°C) » Accuracy refers to the root sum squared (RSS) of end point non-linearity, hysteresis, repeatability, and calibration uncertainty. » ±0.5 hPa (@ +20°C) » ±1.0 hPa (@ 0° to 40°C)
Linearity	±0.4 hPa
Hysteresis	±0.05 hPa
Repeatability	±0.03 hPa

Signal Output	0 to 2.5 Vdc
Warm-up Time	< 1 s
External Trigger Voltage	» 3 to 28 Vdc (operating mode) » 0 Vdc (sleep mode)
Current Consumption	» < 3 mA (active) » < 1 µA (sleep mode)
Temperature Range	-40° to +60°C
Cable Diameter	0.8 cm (0.3 in.)
Cable Length	0.8 m (2.5 ft)
Dimensions	9.1 x 6.1 x 2.5 cm (3.6 x 2.4 x 1.0 in.)
Weight	135 g (4.8 oz)