CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

CS100

Barometric Pressure Sensor

Standard Barometer

Resides inside a weather-proof enclosure

Overview

The CS100 measures barometric pressure for the range of 600 to 1100 mb. 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 dataloggers.

Benefits and Features

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

Technical 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 iincludes a 0.76 m (2.5 ft) cable and a terminal strip for datalogger 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 has an internal switching circuit that allows the logger to power the barometer only during measurement, which reduces power usage.

Ordering Information

Barometric Pressure Sensor	
CS100	Setra 278 Barometer (600 to 1100 mb) with 30 in. cable.

Accessories	
The following accessories are used when the barometer will be housed in a different enclosure than the datalogger.	
ENC100	17 cm (6.7 in) by 14 cm (5.5 in) enclosure for housing only the CS100. Includes a backplate, compression fitting, vent, and mounting bracket.
CABLE5CBL-L	5-conductor, 24 AWG cable with drain wire and Santoprene jacket. Enter cable length, in feet, after the -L. Must choose a cable termination option (see below).

Cable Termination Options (choose one)	
-PT	Cable terminates in pigtails for direct connection to data-logger's terminals.
-PW	Cable terminates in a connector for attachment to a Campbell Scientific prewired enclosure.

The CS100 is typically mounted next to the data-logger inside an ENC12/14 or larger enclosure. The ENC100 (shown above) is available for housing the barometer in its own enclosure.

Manufacturer's Specifications

- Accuracy[1]: ±0.5 mb @ +20°C; ±1.0 mb @ 0° to 40°C; ±1.5 mb @ -20° to +50°C; ±2.0 mb @ -40° to +60°C
- Linearity: ±0.4 mb
- Hysteresis: ±0.05 mb
- Repeatability: ±0.03 mb
- Resolution: ±0.01 mb
- Long-Term Stability: ±0.1 mb per year
- Response Time: < 100 ms
- Excitation: 9.5 to 28 Vdc
- Current Consumption: < 3 mA (active); < 1 µA (sleep mode)
- Warm-up Time: < 1 s
- Resolution: 0.01 m s^{-1}
- Operating Temperature Range: -40° to 60°C
- Dimensions: 9.1 x 6.1 x 2.5 cm (3.6 x 2.4 x 1.0 in)
- Cable Diameter: 0.8 cm (0.3 in)
- Cable Length: 0.8 m (2.5 ft)
- Weight: 135 g (4.8 oz)

[1]*The root sum squared (RSS) of end point non-linearity, hysteresis, repeatability, and calibration uncertainty.*

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