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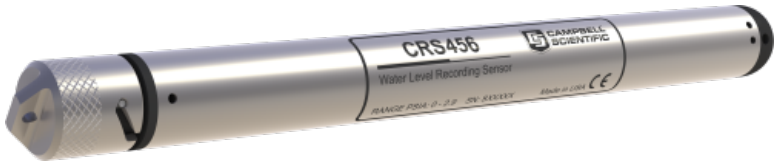
CRS456

Titanium - Water-Level Recording Sensor



Self-Contained Memory

Easy to use software, reliable hardware

Overview

The CRS456 consists of a water-level and water-temperature sensor that has its own time clock and memory to store the collected data, in a compact titanium case. This frees users to place the sensor in remote sites and let it collect data for long periods. The sensor can then be retrieved, connected to a PC via a micro-USB port, and the data transferred to the PC.

HydroSci software is included and elegantly supports test setup, data retrieval, and data display. Long battery life and rugged construction mean you can trust the CRS456 to collect important data. Low cost and ease of use make it a good choice in a variety of applications.

Benefits and Features

- Rugged titanium case protects piezoresistive sensor allowing it to be used in saltwater and other harsh environments
- Quality construction ensures product reliability
- Fully temperature-compensated
- Capable of storing large amount of data
- Easy-to-use software
- Fast scan rate

Technical Description

The CRS456 has several pressure range options. The CRS456 is unvented; therefore it is monitoring sealed gage pressure. For maximum accuracy, the data should be corrected for barometric pressure.

HydroSci software is included in the Resource DVD. This software simplifies the process of configuring the CRS456. Users can configure the CRS456 to monitor surface water, ground water, or a standard pump test.

HydroSci software will also compensate the measurements for barometric pressure using an additional CS456 or a CS451 as a reference sensor, or using a barometric pressure sensor from a nearby weather station.

HydroSci software will display the data in tabular or graphical formats.

Specifications

Venting	Unvented	Measurement Time	< 1.0 s

Output Options	micro USB
Internal Data Collection Memory	4 MB
Logging/Scanning Modes	Standard, Delta, Wave, Logarithmic
Resolution	0.0035% FS
Dry Storage Temperature Range	-10° to +80°C WARNING: Sensor could be damaged if encased in frozen ice.
Operating Temperature Range	0° to 60°C WARNING: Sensor could be damaged if encased in frozen ice.
Overpressure	2 x pressure range
Power Requirements	Internal user-replaceable lithium battery
Battery Life	5+ years (when logging interval is once per hour)
Body Material	Titanium
Distance	❱ 2.3 cm (0.9 in.) Distance from black line etched on housing to end of standard nose cone ❱ 9.9 cm (3.9 in.) Distance from black line etched on housing to end of weighted nose cone ❱ 2.54 cm (1 in.) Distance from black line etched on housing to end of NPT fitting
Water-Level Accuracy	±0.1% full-scale-range TEB Includes the combined errors due to nonlinearity, hysteresis, nonrepeatability, and thermal effects over the compensated temperature range, per ISA S51.1.
Temperature Accuracy	±0.2°C
Ingress Protection	Exceeds IP68
Diameter	2.22 cm (0.875 in.)
Length	22.23 cm (8.75 in.)
Weight	230 g (0.51 lb)

Power Consumption

Quiescent	< 80 µA
Measurement/ Communication	4 mA (1 s measurement)

Measurement Ranges at Fresh Water Depths

0 to 5.1 m (16.7 ft)	❱ 0 to 7.25 psi ❱ 0 to 50 kPa
0 to 10.2 m (33.4 ft)	❱ 0 to 100 kPa ❱ 0 to 14.5 psi
0 to 20.4 m (67 ft)	❱ 0 to 200 kPa ❱ 0 to 29 psi
0 to 50.9 m (167 ft)	❱ 0 to 72.5 psi ❱ 0 to 500 kPa
0 to 102 m (334.5 ft)	❱ 0 to 1000 kPa ❱ 0 to 145 psi

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