CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

SR50A-316SS-L

Stainless-Steel Sonic Distance Sensor for Marine Environments

Marine Rugged

Corrosion-resistant chassis and transducer

Overview

The SR50A-316SS is a stainless-steel version of Campbell Scientific's acoustic sensor for measuring the distance from the sensor to a target. The stainless-steel chassis allows for operation in environments where corrosion is a concern (such as marine environments). It is typically used to measure snow or water depth, but it is well-suited for other uses.

This measurement can be used to determine snow or water depth. An air temperature measurement is required to correct for variations of the speed of sound in air. This sensor is compatible with most Campbell Scientific data loggers.

Benefits and Features

- Rugged stainless-steel case protects piezoresistive sensor
- Non-contact method for determining snow or water depth
- Wide operating temperature range
- Designed for marine or corrosive environments
- User-selectable options for output
- Uses a multiple echo processing algorithm to help ensure measurement reliability
- Compatible with most Campbell Scientific data loggers

Detailed Description

The SR50A-316SS was designed to meet the stringent requirements of measuring depths and uses a multiple echo processing algorithm to help ensure measurement reliability.

SDI-12, RS-232, and RS-485 output options are available for measuring the SR50A-316SS. Campbell Scientific's MD485 interface can be used to connect one or more SR50A-316SS sensors in RS-485 mode to an RS-232 device. This can be useful for sensors that require lead lengths that exceed the limits of either RS-232 or SDI-12 communications. The SR50AH-L is available with a heater option for locations where rime ice is a problem.

The SR50A replaced the SR50 in March 2007. The newer SR50A is smaller and has different output options than its predecessor.

Specifications

Measurement Time	< 1.0 s
Output Options	SDI-12 version 1.3, RS-232, RS-485 (output options selected by configuring internal jumpers)
Baud Rates	1200 to 38400 bps (RS-232, RS-485 modes)
Power Requirements	9 to 18 Vdc (typically powered by data logger's 12 Vdc power supply)
Measurement Range	0.5 to 10 m (1.6 to 32.8 ft)
Beam Acceptance	~30°
Resolution	0.25 mm (0.01 in.)
Accuracy	±1 cm (0.4 in.) or 0.4% of distance to target (whichever is greatest). Requires external temperature compensation.
Operating Temperature Range	-45° to +50°C
Compliance	CE compliant

Length	10.1 cm (4.0 in.)
Diameter	7.5 cm (3 in.)
Weight	795 g (28 oz) without cable
Cable Weight	250 g (8.2 oz) for a 4.57-m (15-ft) cable

Maximum Cable Length

-NOTE-	*Cable lengths greater than 60 m require a heavier gage wire if the power supply drops below 11 Vdc.*
SDI-12	60 m (200 ft)
RS-232	60 m (200 ft) Baud rates ≤ 9600 bps
RS-485	300 m (984 ft)

Power Consumption

Active	250 mA (typical)
Quiescent SDI-12 Mode	< 1.0 mA
Quiescent RS-232/RS-485 Modes	› < 2.0 mA (> 9600 bps) › < 1.25 mA (≤ 9600 bps)

For comprehensive details, visit: www.campbellsci.com/sr50a-316ss-l

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