



SR50AT-316SS-L

Stainless-Steel Sonic Distance Sensor for Marine Environments with Temperature Sensor



Corrosion-resistant Chassis and Transducer

Overview

The SR50AT-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 (that is, marine). It is typically used to measure snow or water depth, but it is well-suited for other uses.

The SR50AT-316SS includes an external temperature sensor and outputs a temperature-corrected distance reading, eliminating the need for further post-processing. This sensor is compatible with most Campbell Scientific data loggers.

Benefits and Features

- › Integrated temperature probe for providing temperature correction of measurements
- › 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 SR50AT-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 SR50AT-316SS. Campbell Scientific's MD485 interface can be used to connect one or more SR50AT-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 [SR50ATH-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

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|-----------------------------|--|
| 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 |
| Temperature Accuracy | › ±0.2°C (at 0° to +50°C) › ±0.75°C (at -45° to 0°C) |

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

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) |

Maximum Cable Length

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

For comprehensive details, visit: www.campbellsci.com/sr50at-316ss-l 



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