



Accurate, Rugged

ClearSensor[®] antifouling features, dual backscatter sensors

Overview

Please note that for most applications we recommend the newer [OBS501](#) Sensor

The OBS500 is a submersible turbidity probe with active antifouling capabilities for better measurements in biologically active water with both high and low turbidity. It

outputs an SDI-12, digitally processed signal that many of our dataloggers can measure. *ClearSensor[®]* and *OBS[®]* are registered trademarks of Campbell Scientific.

Benefits and Features

- ▶ Dual backscatter and sidescatter sensors used to measure turbidity
- ▶ Patented ClearSensor antifouling method for better measurements in biologically active water
- ▶ Shutter/wiper mechanism keeps lenses clean
- ▶ Refillable biocide chamber prevents fouling
- ▶ Disposable plastic sleeve facilitates cleanup
- ▶ Optional copper sleeve for additional protection (especially for sea water) or disposable plastic sleeve facilitates easy cleanup

Technical Description

Design features of the OBS500 include the combination of a backscatter sensor (better at measuring high turbidity) with a second sidescatter sensor (better at measuring lower turbidity). It has a shutter that is opened only during measurements, which reduces the time that algae or other organisms can cling to its optics.

To prevent biofouling and ensure better measurements, the OBS500 incorporates the ClearSensor[®] Method (Patent No. 8,429,952). This method uses a shutter/wiper mechanism to protect and clean the optics. With the ClearSensor[®] method, a chamber is also filled with a biocide that continuously

leaches out over the optics while the probe shutter is in the closed position.

Campbell Scientific offers a disposable, plastic sleeve that can make cleanup a snap, as well as a copper sleeve that can provide additional protection, especially in sea water.

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Specifications

Dual Probe	90° sidescatter and backscatter
Range	0 to 4000 NTU
Active and Passive Antifouling	Shutter, wiper, biocide, copper, optional removable sleeve
Concentration Accuracy	±2% of reading or 0.5 NTU (whichever is greater)
Operating Temperature Range	0° to 40°C
Temperature Accuracy	±0.3°C
Emitter Wavelength	850 nm
Power Requirements	9.6 to 18 Vdc
Measurement Time	< 10 s
Maximum Submersion Depth	100 m (330 ft)
Diameter	4.8 cm (1.88 in.)

Maximum Cable Length	> 500 m (1640 ft)
Length	27 cm (10.63 in.)
Weight	0.59 kg (1.3 lb)

Power Consumption

Quiescent	< 200 µA
Measurement	< 40 mA
Communication	< 40 mA
Maximum Peak Current	200 mA for 50 ms when shutter motor starts
Active Shutter Motor	< 120 mA

Outputs

SDI-12	Version 1.3, 1200 bps
RS-232	9600 bps
Analog	0 to 5 Vdc

For comprehensive details, visit: www.campbellsci.eu/obs500 



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