



## OBS500

Smart Turbidity Meter with Antifouling Features



## Accurate, Rugged

ClearSensor antifouling features,  
dual backscatter sensors

### Overview

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 data loggers 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

### Detailed Description

Design features of the OBS500 include the combination of a backscatter sensor (better at measuring higher 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 (U.S. 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.

*(OBS® is a registered trademark of Campbell Scientific.)*

## 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.com/obs500](http://www.campbellsci.com/obs500) 



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