



## Accurate, Rugged Patented\* ClearSensor antifouling features, dual backscatter sensors

### Overview

The OBS500 combines a backscatter sensor (better at measuring high turbidity) with a second sidescatter

sensor (better at measuring lower turbidity). This SDI-12 probe uses digital processing.

### Benefits and Features

- › Dual backscatter and sidescatter sensors used to measure turbidity
- › Patented\* ClearSensor Antifouling Method providing better measurements in biologically-active water
- › Shutter-wiper mechanism to keep lenses clean
- › Refillable biocide chamber for preventing fouling
- › Disposable plastic sleeve that facilitates clean up
- › Optional copper sleeve for additional protection (especially for sea water) or disposable plastic sleeve facilitates easy cleanup

### Technical Description

The OBS500 incorporates the ClearSensor™ Antifouling Method (patent pending) to ensure the accuracy of its measurements. The ClearSensor™ method uses a shutter/wiper mechanism to protect and clean the optics. This antifouling method also includes a chamber filled with a biocide that continuously leaches out over the optics while the probe is in the closed position.

Campbell Scientific is offering a disposable plastic sleeve that can make clean up a snap, as well as an optional copper sleeve that can provide additional protection, especially in sea water.



A shutter on the OBS500 probe is opened (left) only during measurements to reduce fouling of the lens.



The OBS500 has a plastic sleeve option that can simplify clean up. The three above photographs show the sleeve being removed.

## Specifications

› Dual Probe:	backscatter and 90° sidescatter	› Measurement Time:	< 10 s
› Range:	0 to 4000 NTU	› Outputs:	SDI-12 (version 1.3) 1200 bps; RS-232 9600 bps; Analogue 0 to 5 Vdc
› Active & Passive Antifouling:	shutter, wiper, biocide, copper, optional removable sleeve	› Max. Submersion Depth:	100 m (330 ft)
› Accuracy:	±2% of reading or 0.5 NT (whichever is greater)	› Dimensions	
› Temperature Range:	0° to 40°C	Diameter:	4.8 cm (1.88 in)
› Temperature Accuracy:	±0.3°C	Length:	27 cm (10.63 in)
› Emitter Wavelength:	850 nm	› Weight:	0.59 kg (1.30 lb)
› Power Requirements:	9.6 to 18 Vdc	› Maximum Cable Length:	> 500 m (1640 ft)
› 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		

## Ordering information

### Turbidity Sensors

When ordering the sensor, you must choose a wiper option. You will also need a cable to connect the sensor to a datalogger.

OBS500 Smart Turbidity Meter with ClearSensor Technology (case not included)

### Wiper Options (choose one)

- SW Standard Wiper
- BW Brass Wiper for biologically-active water

### Cables for Datalogger Attachment

Several field cable choices are offered for attaching the OBS500 to the datalogger. The cables differ in their length.

009316	OBS500 Field Cable with 5 m length
009316-010	OBS500 Field Cable with 10 m length
009316-020	OBS500 Field Cable with 20 m length
009316-030	OBS500 Field Cable with 30 m length

### Accessories

- 009314** OBS500 Carrying Case (holds 2)
- 009315** Test Cable with 5 m (16 ft) length. Connects sensor to a PC
- 009312** OBS500 Copper Sleeve
- 009313** OBS500 Plastic Sleeve



Biological fouling on an OBS500 probe after 86 days of deployment in the Atlantic Ocean near Savannah, Georgia. A closed sensor (far left) and opened sensor are shown.