

OBS500

Turbidity Probe with Antifouling



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.

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.

Features/Benefits

- Dual backscatter and sidescatter sensors used to measure turbidity
- ClearSensor™ (patent pending) Antifouling Method providing better measurements in biologically-active water
- Shutter/wiper mechanism
- Refillable biocide chamber for preventing fouling
- Disposable plastic sleeve that facilitates clean up
- Optional copper sleeve for additional protection, especially in sea water.
- SDI-12 and 5V outputs



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 cleanup. The three above photographs shows the sleeve being removed.

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.

- 27785** OBS500 Field Cable with 2-m (6 ft) length
- 27786** OBS500 Field Cable with 10-m (32.8 ft) length
- 27787** OBS500 Field Cable with 20-m (66 ft) length.
- 27788** OBS500 Field Cable with 30-m (98 ft) length.

Accessories

- 27225** OBS500 Carrying Case (holds 2)
- 27573** Test Cable with 5-m (16 ft) length. Connects sensor to a PC.
- 27803** OBS500 Copper Sleeve.
- 27473** OBS500 Plastic Sleeve.
- 20915** 5-Point Sediment Calibration (must send Campbell Scientific a dry sample of sedimentation from the water that will be monitored)



Specifications

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

◀ 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.

