

# OBS-3A Turbidity Sensor



*Innovative logger of  
suspended solids, pressure,  
temperature, and salinity*

## Description

The OBS-3A combines our OBS probe with pressure, temperature, and conductivity sensors in a battery-powered recording instrument. The monitor is operated with software running under Windows® 98, 2000, and XP.

Users can program sampling schedules with a PC. When surveying, data are displayed in real time as they are recorded. During autonomous operation, the unit records data in FLASH memory which can be post-processed and graphically displayed with EXCEL or LOTUS.

## Features

- Measures sediment concentrations to 5,000 mg/l and turbidity to 4,000 NTU with field-proven OBS\* technology
- Logs depth, wave height, wave period, temperature, and salinity
- Records 200,000 lines of data in FLASH memory
  - No cable required, runs 1,500-8,000 hours on 3 "D" cells
  - Compact package - 76 mm (3") by 362 mm (14.3")
- Program setpoints and sampling times

## Specifications

### Ranges

Turbidity: 0 to 4,000 NTU  
 Concentration<sup>1</sup> - Mud: 0 to 5,000 mg/l;  
 Sand: 2 to 100,000 mg/l  
 Depth: 0 to 10, 20, 50, 100 or 200 mtrs  
 Temperature: 0-35°C  
 Conductivity: 0-65 mS/cm

<sup>1</sup>Depends on sediment type

### Accuracy

Turbidity: <2%  
 Concentration - Mud 2% of reading, sand 3.5% of reading  
 Pressure: ±0.5% of f.s.<sup>2</sup>  
 Temperature: ±0.5°C  
 Conductivity: 1%

<sup>2</sup>f.s. = 50, 100, or 200 dBar

### Other Data

PC interfaces:  
 RS-232 / 115 kbps  
 RS/485 / 115 kbps with external interface  
 Maximum data rate: 25 Hz  
 Infrared wavelength: 875 nm  
 Maximum depth: 300 m  
 Drift: < 2% / year  
 Connector: MCBH-7-FS, wet-pluggable

### Physical

Dimensions  
 Diameter: 76 mm (3.0")  
 Length: 362 mm (14.3")  
 Weight: 1.5 kg (3.4lb) without batteries

## Applications

- Monitor dredging and mining operations
- Wastewater effluent measurements
- Sediment transport research
  - River and stream gauging
  - Permit compliance

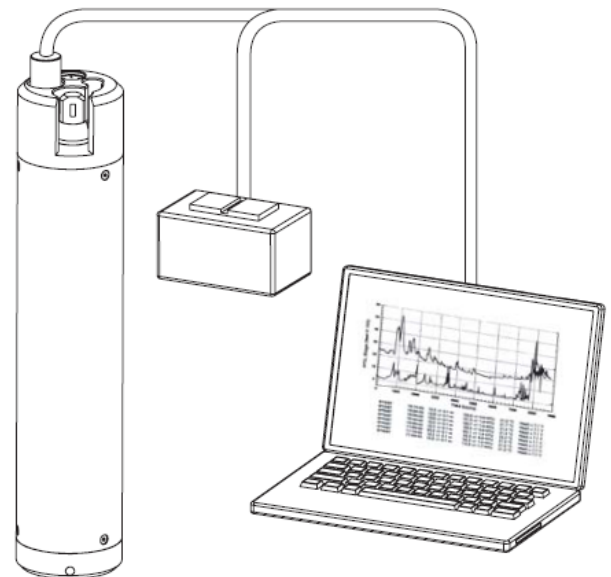
## Ordering Information

### System and Its Options

Model	Description
OBS-3A	Turbidity & Temperature Monitoring System (requires three D-cell batteries; must choose a Turbidity Range; carrying case and field cable for attachment to a PC are ordered as common accessories)
<b>Turbidity Range Options (must choose one)</b>	
-N1	Measures the range of 0 to 100 NTUs.
-N2	Measures the range of 0 to 250 NTUs.
-N3	Measures the range of 0 to 500 NTUs.
-N4	Measures the range of 0 to 1000 NTUs.
-N5	Measures the range of 0 to 2000 NTUs.
-N6	Measures the range of 0 to 4000 NTUs.
<b>Pressure Sensor Options</b>	
-10	Orders a pressure transducer that measures depth up to 10 m (14 psi).
-20	Orders a pressure transducer that measures depth up to 20 m (28 psi).
-50	Orders a pressure transducer that measures depth up to 50 m (71 psi).
-100	Orders a pressure transducer that measures depth up to 100 m (142 psi).
-200	Orders a pressure transducer that measures depth up to 200 m (284 psi).
<b>Conductivity Sensor Option</b>	
-CS	Orders a conductivity probe that measures the range of 0 to 65 mS/cm.

### Common Accessories

Model	Description
21099	OBS-3A Carrying Case (Holds 2)
20915	5-Point Sedimentation Calibration (must send Campbell Scientific a dry sample of sedimentation from the water that will be monitored).
425	Alkaline D Cell Battery.
<b>Field cables for attachment to PC</b>	
Campbell Scientific offers a choice of field cables that attach the OBS-3A to a PC. The cables differ in their length.	
21214	OBS-3A Field Cable with a 10-m (33 ft) length
21318	OBS-3A Field Cable with a 20-m (66 ft) length.
21319	OBS-3A Field Cable with a 30-m (98 ft) length.



The field cables are used to connect the OBS-3A to a PC for system configuration. A CD containing OBS software is shipped with the OBS-3A.

### Other Accessories

#### HYDRO-WIPER-K

OBS-3A Battery Powered Mechanical Wiper with 1 m Cable. This wiper can help ensure accurate measurements by preventing algae and other fouling from covering the sensor's lens.