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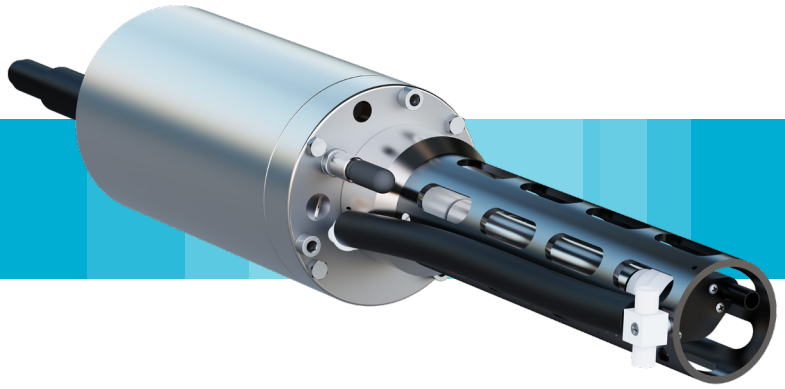
SBE 52-MP

MOORED PROFILER CTD & OPTIONAL DO SENSOR



Overview

The SBE 52-MP CTD sensor is intended for use as a modular component on moored profiling platforms in which a device travels vertically beneath a buoy or a buoyant package is winched up and down from a bottom-mounted platform. It is an easy-to-use, light, and compact instrument, well suited to even the smallest vehicle. The 52-MP can be equipped with an SBE 43F Dissolved Oxygen sensor,but does not support other auxiliary sensors. It is externally powered, and temporarily stores data in memory (if power is removed, datain memory is lost).

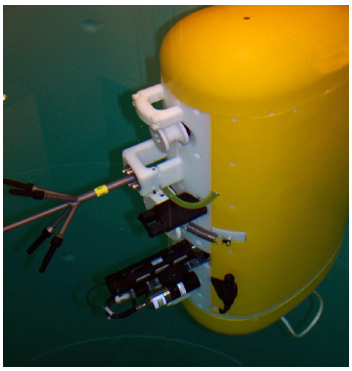
The SBE 52-MP's pump-controlled, TC-ducted flow minimizes salinity spiking, and its 1 Hz sampling provides good resolution of oceanographic structures and gradients on typical slow-moving packages (20-50 cm/sec). Data are output in real-time in engineering units (mmho/cm, °C, decibars, ml/l) or raw hex or binary.

Features

- Conductivity, Temperature, Pressure, and (optional) Oxygen at 1 Hz (1 sample/second) or polled sample acquisition. For 1 Hz sampling, SBE 52-MP stores data in memory and can also transmit in real-time. On command (typically at the end of eachprofile), data is uploaded to the moored profiler.
- Integral pump.
- RS-232 or logic-level (0-3.3 V) interface, small memory, no batteries—for use on vehicles that can supply power and acquire data.
- Unique flow path, pumping regimen, and expendable anti-foulant devices, for maximum bio-fouling protection.
- Pump-controlled, T-C ducted flow to minimize salinity spiking.
- 3/8-16 locator/mounting hole, to assist in mounting to a McLane MMP moored profiler.
- Depths to 600 or 7000 m.
- Seasoft© V2 Windows software package (setup and data display).
- Five-year limited warranty.

Components

- Unique internal-field conductivity cell permits use of expendable anti-foulant devices, for long-term bio-fouling protection.
- Aged and pressure-protected thermistor has a long history of exceptional accuracy and stability.
- Pressure sensor with temperature compensation is available in eight strain-gauge ranges (to 7000 m).
- (Optional) Oxygen sensor is field-proven, individually calibrated SBE 43F Dissolved Oxygen sensor.
- For 1 Hz sampling, pump runs continuously, providing bio-fouling protection and correlation of CTD (and optional DO) measurements. For polled sampling, Adaptive Pump Control provides high-accuracy oxygen data.



SBE 52-MP on McLane Moored Profiler

Options

- Plastic (600 m) or titanium (7000 m) housing.
- SBE 43F Dissolved Oxygen Sensor (frequency-output version of our SBE 43).
- RS-232 or logic level (0 - 3.3 V) interface.
- XSG/AG or wet-pluggable MCBH connectors.

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Field Specifications

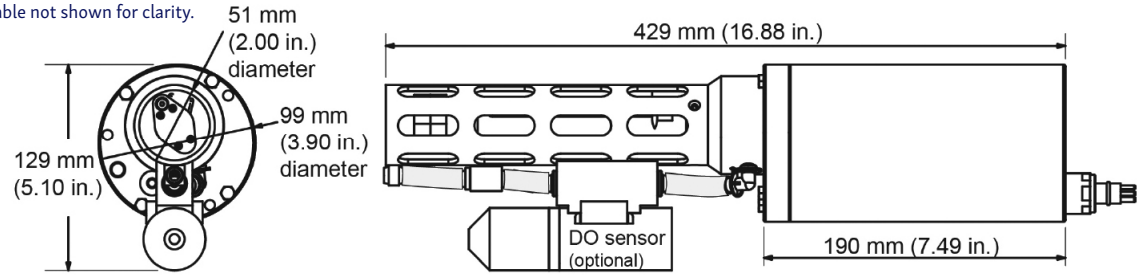
The specifications below represent the expected performance of the instrument when deployed in the field. Under controlled circumstances in a lab, we would expect the instrument to outperform these specifications.

We have chosen to display field specifications to give our users a true measure of how Sea-Bird Scientific instruments perform in harsh environments and applications. It is critical to keep this in mind when comparing specifications with instruments from other manufacturers.

Measurement Range	
Conductivity	0 to 9 S/m (0 to 90 mmho/cm)
Temperature	-5 to 35 °C
Pressure	0 to 20 / 100 / 350 / 600 / 1000 / 2000 / 3500 / 7000 m
Dissolved Oxygen (optional)	120% of surface saturation (all natural waters, fresh & salt)
Initial Accuracy	
Conductivity	± 0.0003 S/m (± 0.003 mmho/cm)
Temperature	± 0.002 °C
Pressure	± 0.1% of full scale range
Dissolved Oxygen (optional)	± 2% of saturation
Typical Stability	
Conductivity	0.0003 S/m per month (0.003 mmho/cm per month)
Temperature	0.0002 °C per month
Pressure	± 0.05% of full scale range per year
Dissolved Oxygen (optional)	0.5% per 1000 hours (clean membrane)
Resolution	
Conductivity	0.00005 S/m (0.0005 mmho/cm) (most oceanic waters; 0.4 ppm in salinity)
Temperature	0.001 °C
Pressure	0.002% of full scale range
Dissolved Oxygen (optional)	0.035% of saturation (0.003 ml/l at 0 °C & 35 PSU)

Sampling Speed	1 Hz (1 sample/sec)
External Power Requirements	Input power: 3 Watts at 7-16 VDC (consult factory for voltage outside this range) Turn-on transient: 300 mA at 10V Sampling (includes pump): 62 mA at 10V
Memory	Static RAM stores up to 28,000 samples of C, T, P, & DO (if power removed, data in memory is lost)
Housing, Depth Rating, & Weight	Plastic, 600 m, in air 3.2 kg, in water 1.5 kg 3AL-2.5V Titanium, 7000 m, in air 5.3 kg, in water 3.7 kg

DO sensor cable not shown for clarity.



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