

SBE 50

Digital Oceanographic Pressure Sensor

The SBE 50 is a high-accuracy, high-resolution (16 Hz sampling) pressure sensor, intended for use in towed vehicles, ROVs, AUVs, or other autonomous platforms that can supply DC power and acquire data. It is an easy-to-use, light, compact instrument, well suited to even the smallest vehicle. The SBE 50 must be externally powered, and its RS-232C data (and/or 0 - 5 volt output) logged or telemetered by the vehicle to which it is mounted.

The SBE 50's strain-gauge pressure sensor is offered in eight full scale ranges from 20 to 7000 dbars. Compensation of the temperature influence on pressure offset and scale is performed by the SBE 50's CPU. Measurements are output as raw data (pressure and pressure temperature) or in engineering units (pressure in decibars or psia, or depth in meters or feet).

Commands sent to the SBE 50 provide status display, data acquisition setup, and diagnostic tests.



Features

- Pressure sensor with temperature compensation.
- Programmable sampling:
 - 16 Hz Autonomous sampling (begins sampling when power is applied or on command; can average data if desired), or Polled sampling.
- RS-232 output; voltage output interface (in addition to RS-232 output) available.
- Calibrated over full scale range using a dead weight tester; results tabulated on a certificate furnished with each sensor.
- Compatible with SBE 32 Carousel Water Sampler and Auto Fire Module (AFM) to provide autonomous water sampling on a non-conducting cable (AFM powers SBE 50 and monitors transmitted pressure, closing bottles at pre-defined pressures or depths, or when the system is stationary for a specified period of time).
- Titanium housing; depths to 7000 m.
- Seasoft® V2 Windows software package (instrument setup and data display).
- Five-year limited warranty.

Options

- One of eight full-scale pressure ranges from 20 to 7000 dbars.
- RS-232 output, or voltage output (0 to 5 V) in addition to RS-232 output.
- XSG/AG or wet-pluggable MCBH connector.

Performance

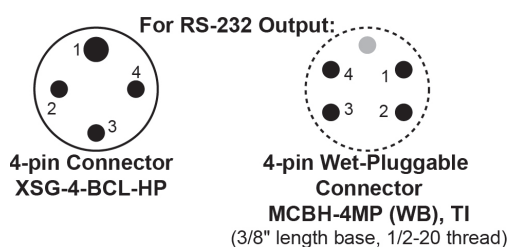
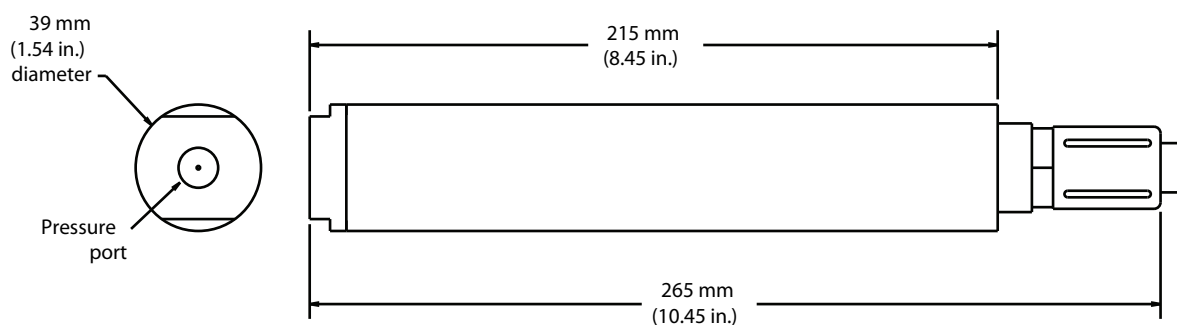
Measurement Range	20 / 100 / 350 / 600 / 1000 / 2000 / 3500 / 7000 m (meters of deployment depth capability)
Initial Accuracy	± 0.1% of full scale
Typical Stability	0.05% of full scale range per year
Resolution	0.002% of full scale range (D/A resolution for 0 to 5 volt output: 16 bit)
Sampling Speed	16 Hz (16 samples/sec)

Electrical

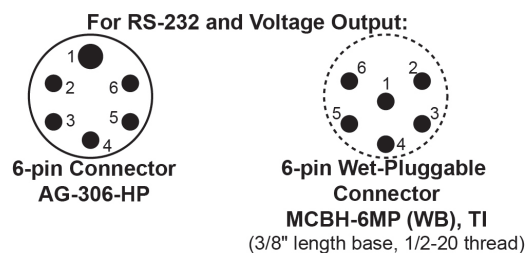
Input Power	8 - 30 VDC; 51 mA at 8 VDC to 21 mA at 30 VDC (see manual for details)
Output Signal	RS-232; 0 to 5 V output (in addition to RS-232) if ordered with voltage output interface

Mechanical

Housing & Depth rating	3AL/2.5V Titanium, 7000 m
Weight	0.7 kg in air, 0.4 kg in water



Pin	Signal
1	Ground
2	RS-232 receive (from computer)
3	RS-232 transmit (to computer)
4	8-30 VDC power in



Pin	Signal
1	Ground
2	RS-232 receive (from computer)
3	RS-232 transmit (to computer)
4	Pressure output voltage +
5	Pressure output voltage -
6	8-30 VDC power in

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