

## SBE 45

### MicroTSG Thermosalinograph

The externally powered SBE 45, typically mounted near the ship's seawater intake, accurately determines sea surface temperature and conductivity from underway vessels. Measured data and derived variables (salinity, sound velocity) are output in real-time in engineering units.

As an option, the SBE 45 connects to an AC-powered interface box near a computer. The interface box provides power and an isolated data interface; it contains a NMEA 0183 port for appending navigation data, and a port for appending the output of an optional remote temperature sensor (SBE 38). The SBE 38, installed at the seawater intake (ideally near the bow), measures sea surface temperature with minimal thermal contamination from the hull.



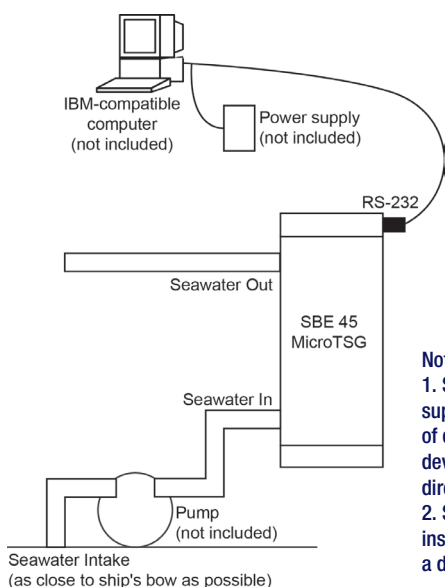
## Features

- Conductivity and Temperature at user-programmable intervals.
- Optional interface box for appending navigation data and remote temperature sensor (SBE 38) data.
- No memory, powered externally.
- RS-232 interface.
- Expendable anti-foulant device for bio-fouling protection.
- Sensor assembly easily removed for cleaning.
- Seasoft® V2 Windows software package (setup, and data acquisition and processing).
- Five-year limited warranty.

## Components

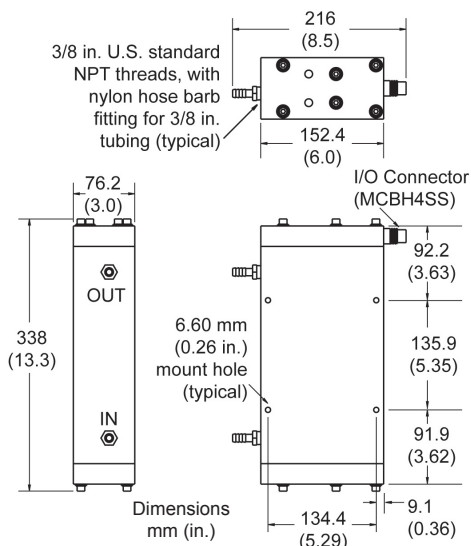
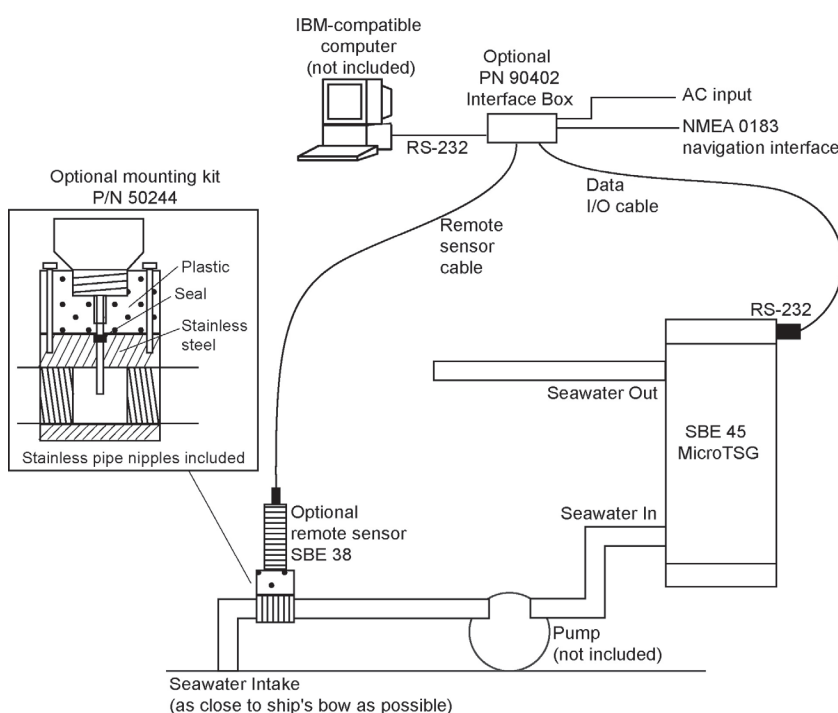
- Unique internal-field conductivity cell eliminates proximity effects. This is critically important for thermosalinographs, where the cell operates in a water jacket's confined volume, and also permits use of expendable anti-foulant devices, for long-term bio-fouling protection.
- Aged and pressure-protected thermistor has a long history of exceptional accuracy and stability.

System Schematic



- Notes:**
1. Seabird also supports acquisition of data from a NMEA device connected directly to computer.
  2. Some installations require a de-bubbler.

System Schematic with Interface Box & Remote Temperature Sensor



Measurement Range

Conductivity	0 to 7 S/m
Temperature, primary	-5 to 35 °C
Temperature, SBE 38 remote	-5 to 35 °C

Initial Accuracy

Conductivity	± 0.0003 S/m
Temperature, primary	± 0.002 °C
Temperature, SBE 38 remote	± 0.001 °C

Typical Stability

Conductivity	0.0003 S/m per month
Temperature, primary	0.0002 °C per month
Temperature, SBE 38 remote	0.001 °C per 6 months

Resolution

Conductivity	0.00001 S/m
Temperature, primary	0.0001 °C
Temperature, SBE 38 remote	0.0003 °C

Sample Interval

user-programmable 1-sec to 9-hour intervals (minimum dependent on setup; see manual)

Input Power

8 - 30 VDC

Power Draw

Acquisition: 34 mA at 8 VDC; 30 mA at 12-30 VDC  
Quiescent: 10 µA

Recommended Flow Rate

10 to 30 ml/sec (0.16 to 0.48 gal/min)

Operating Pressure

34.5 decibars (50 psi) maximum

Materials & Weight

PVC housing; 4.6 kg

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