

SBE 39plus-IM

TEMPERATURE (DEPTH) RECORDER

Overview

The SBE 39plus-IM is a high-accuracy, fast-sampling temperature (pressure optional) recorder with integrated Inductive Modem (IM) interface, internal batteries, and memory. The 39plus-IM is designed for long-duration deployments on moorings.

Data is recorded in memory and can be transmitted when polled through inductive Modem telemetry. Measured data is output in engineering units.

Memory capacity exceeds 9.5 million samples without pressure, or 5.5 million samples with pressure. Battery endurance varies, depending on the sampling scheme, but the 39plus-IM is usually limited by its memory capacity. Sampling every 7 seconds (without pressure) or 12 seconds (with pressure), the 39plus-IM can be deployed for 2 years.

Components

Inductive Modem (IM) system provides reliable, low-cost, real-time data transmission for up to 100 IM-enabled instruments using plastic-coated wire rope (typically 3x19 galvanized steel) as both transmission line and mooring tension member. IM instruments clamp anywhere along the mooring, which is easily reconfigured by sliding and re-clamping instruments on the cable. In a typical mooring, an Inductive Modem Module (IMM) in the buoy communicates with IM instruments and interfaces to a computer/data logger (not supplied by Sea-Bird) via RS-232. The data logger is programmed to poll each IM instrument for data, and sends the data to a satellite link, cell phone, etc.

Aged and pressure-protected thermistor has a long history of exceptional accuracy and stability. It is available in two configurations: embedded in titanium endcap (25-sec time constant) for rugged conditions, or external thermistor in pressure-protected sheath (0.5-sec time constant) for fast sampling.

Optional strain-gauge pressure sensor with temperature compensation is available in eight ranges (maximum depth 7000 m).



Features

- Moored Temperature, Pressure (optional), and time, at user-programmable 5-sec to 6-hour intervals
- Inductive Modem (IM) interface
- Internal memory and battery pack; internal USB interface for fast upload
- 600 m plastic or 10,500 m titanium housing
- Rigorous 11-point temperature calibration of each sensor
- Seasoftware V2 Windows software package (setup, data upload, and data processing)
- Next generation SBE 39-IM — faster sampling, more power and memory, same diameter housing, compatible output
- Five-year limited warranty

Options

- Embedded thermistor (25-sec time constant) for rugged conditions, or external thermistor (0.5-sec time constant) for fast sampling
- No pressure, or strain-gauge pressure sensor in one of 8 ranges
- Plastic (600 m) or titanium (10,500 m) housing
- Wire guide and mounting clamp in one of 9 sizes
- Net fender/fairing (conical ends shaped to shed fishing lines and nets)

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.

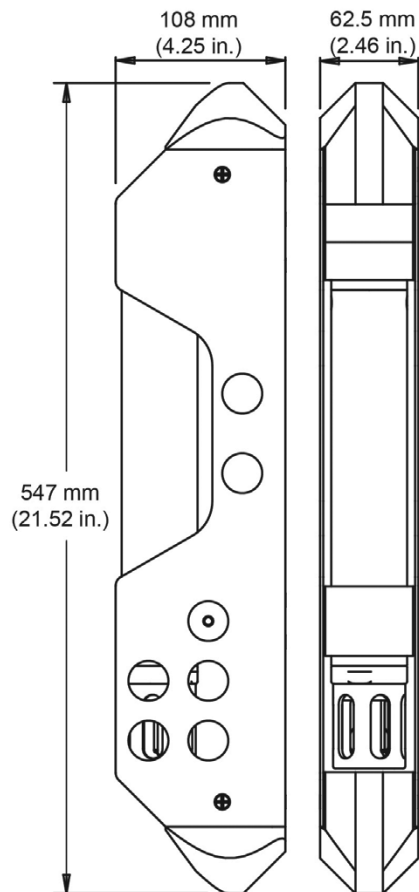
We have chosen to display field specifications to give our users a true measure of how Sea-Bird Scientific instruments perform in harsh environments and applications. It is critical to keep this in mind when comparing specifications with instruments from other manufacturers.

Measurement Range	
Temperature	-5 to 45 °C
Optional Pressure	20/100/350/600/1000/2000/3500/7000 (meters of deployment depth capability)
Initial Accuracy	
Temperature	± 0.002 °C (-5 to to 35 °C); ± 0.01 °C (35 °C to 45 °C)
Optional Pressure	± 0.1% of full scale range
Typical Stability	
Temperature	0.0002 °C per month
Optional Pressure	0.05% of full scale range per year
Resolution	
Temperature	0.0001 °C
Optional Pressure	0.002% of full scale range

Sampling Speed	User-programmable 5-sec to 6-hour intervals
Memory Capacity	9.5 million samples T (7-sec interval for 2 years); 5.5 million samples TD (12-sec interval for 2 years)
Power Supply & Consumption	Lithium battery pack (4 AA Saft LS 14500): endurance varies, but is usually limited by memory (see manual)
Housing, Depth Rating, & Weight	PET Plastic: 600 m, Weight (with embedded thermistor): 1.1 kg in air, 0.5 kg in water Titanium: 10,500 m, Weight (with embedded thermistor): 1.6 kg in air, 1.0 kg in water

SBE 39plus-IM

TEMPERATURE (DEPTH) RECORDER



With Fairing
(shown with external thermistor)

