

Spotter Buoy



Rapidly deploy the solar-powered Spotter buoy—either moored or free-drifting—to capture real-time data on waves, weather, and sea surface temperature.

- 1 Real-Time Data Access**
View observations of waves & other surface variables in real time via dashboard and API.
- 2 Deploy at Scale**
Significantly lower total cost of ownership vs. traditional platforms. Easily deploy a network to maximize spatial density.
- 3 Rugged & Reliable**
Engineered to operate continuously in harsh marine conditions, from polar ice to extreme heat.

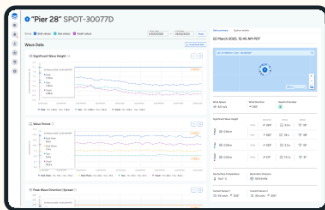
Spotter Measurements Wave & Wave Spectra — Wind (Derived) — Sea Surface Temperature — Atmospheric Pressure

Real-Time Data Access & Management

View your data instantly after deployment via satellite or cellular connection, or download historical data stored in the cloud.

Remotely configure settings and deploy firmware updates through two-way satellite communication—minimizing downtime and maintenance trips.

Use the Sofar API to build custom dashboards and integrate with existing systems, combining real-time observations with forecast data.



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Core Specifications

Dimensions	Width: 42 cm (16 in), Height: 31 cm (12.2 in)
Weight	7.45 kg (16 lb 7 oz)
Connectivity	Satellite (Iridium SBD) and Cellular
Primary Power Source	Solar-powered, 5 x 2 Watt, 6 Volt solar panels
Battery	Rechargeable lithium-ion 13,400 mAh capacity, 3.7 Volts

Motion Sensing

Motion Data Format	Easting (mm), northing, elevation, latitude, longitude
Wave Frequency Range	0.03 - 0.8Hz (30s - 1.25s)
Wave Direction Range	0 - 360°
Sampling Rate	2.5Hz
Wave Displacement Accuracy	Approximately ±2cm accuracy depends on field of view, weather conditions, and GPS system status

Data Outputs

	Standard Mode	Spectrum Mode	On Device
Significant Wave Height	●	●	●*
Peak Period	●	●	●*
Mean Period	●	●	●*
Peak Direction	●	●	●*
Mean Direction	●	●	●*
Peak Directional Spread	●	●	●*
Mean Directional Spread	●	●	●*
Variance Density Spectrum	○	●	●
Directional Moments (a1, b1, a2, b2)	○	●	●
3D Displacement Time Series @ 2.5 Hz (x,y,z)	○	○	●
Sea Surface Temperature	●**	●**	●**
Barometer	●	●	●
Wind Speed	●	●	○
Wind Direction	●	●	○
Drift Speed	○	○	●*
Drift Direction	○	○	●*
Geographical Coordinates (lat, lon)	●	●	●

Additional Onboard Sensors

Sea Surface Temperature (SST)	
Accuracy	±0.1°C absolute
Resolution	±0.02°C
Range	-5°C - 50°C
Barometer	
Accuracy	±0.5mbar at 25°C
Range	700 - 1100mbar

Data Storage

Onboard (SD Card)
Records time series of 3D displacement data, ships with 16GB SD card (supports up to 2TB, FAT32 format required)

Cloud Storage (Online Dashboard)
Online account includes real-time and historical data outputs, Spotter configurations, alerts, maps, and two-way communication

Misc. Specifications

System Monitoring
Battery voltage, solar panel power, internal humidity

Advised Mooring Depth
5 - 300m

Visibility Light
.5s flash every 2.5s (configurable), minimum 1 mile visibility in normal conditions

Firmware Updates
USB-C and over-the-air updates (cellular only)

Usability
Physical on/off switch, run/idle magnetic toggle, user LEDs and integrated grab handles

*Can derive from SD card data

**Sea Surface Temperature is not available with Smart Mooring