

Sofar Spotter™ platform

Solar-powered surface buoy



Real-time ocean insights for scalable, long-term monitoring

The Spotter buoy by Sofar Ocean—now available via Xylem and certified partners—is a compact, solar-powered platform with satellite connectivity. It delivers real-time wave, wind, and sea surface temperature data, and now supports seamless integration with Xylem’s Aanderaa Doppler current sensor and YSI EXO multiparameter sonde.

General Information

Connected

Access real-time ocean data via the Spotter Dashboard or API, transmitted through satellite or cellular networks and stored in the cloud. Two-way communication enables remote firmware updates and minimizes downtime.

Rapidly Deployable

Spotters are lightweight and hand-deployable with no prior experience required. Their rugged design supports reliable use from any type of vessel.

Scalable

With a significantly lower total cost of ownership than traditional platforms, Spotters are ideal for large-scale deployments that increase spatial coverage across observation networks.

Extremely Durable

Engineered by ocean scientists and built to perform in harsh marine conditions—from polar ice to extreme heat. Spotters operate continuously using solar-rechargeable power.



Spotter Measurements



Wave & Wave Spectra



Wind (Derived)



Atmospheric Pressure



Sea Surface Temperature

Specifications

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× 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

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 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 (SST)	● **	● **	● **
Barometer	●	●	●
Wind Speed	●	●	●
Wind Direction	●	●	●
Drift Speed	●	●	● *
Drift Direction	●	●	● *
Geographical Coordinates (lat, lon)	●	●	●

*Can derive from SD card data. **SST is not available with Smart Mooring



Data storage

**On-board (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

0.5s flash every 2.5s (configurable), minimum 1 mile visibility in normal conditions

Advised mooring depth

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

Usability

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

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