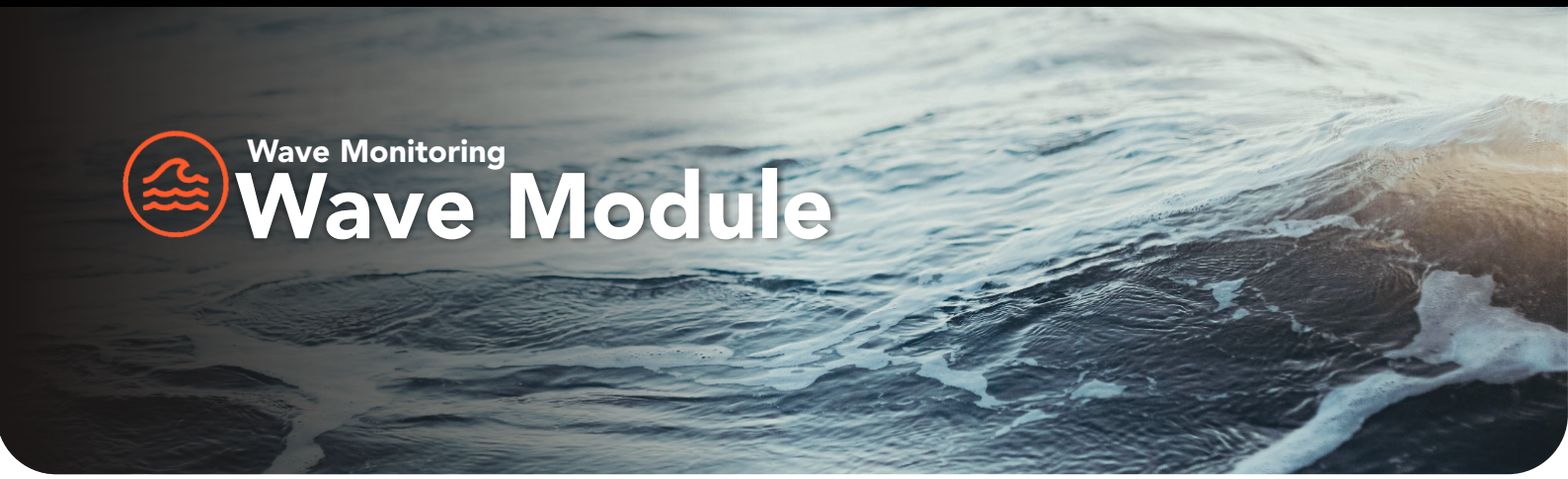
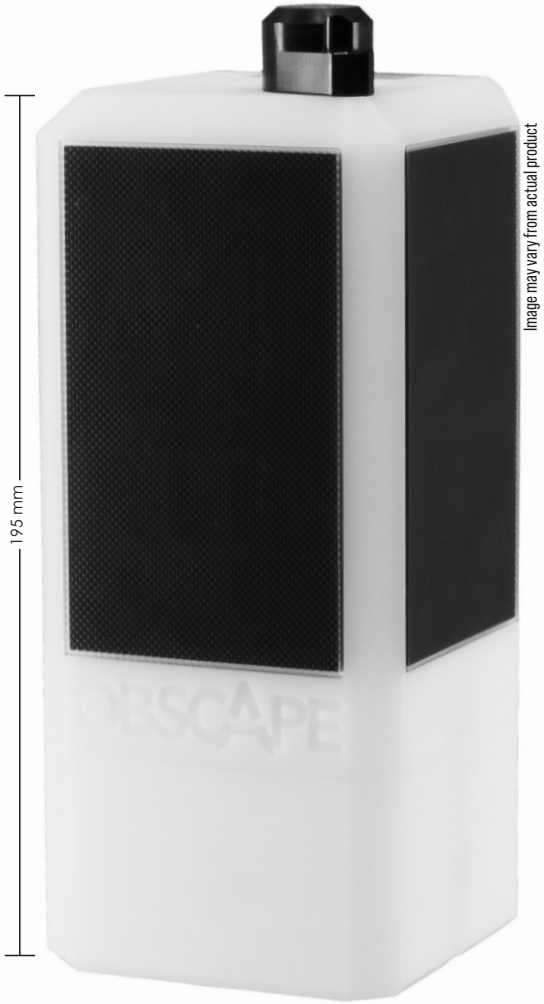


Wave Monitoring

Wave Module

WAVE PRECISION

The **Obscape Wave Module** is a real-time wave measurement system that delivers precise data on the full wave spectrum, including wave height, period, and direction. Designed for durability, it features a rugged, solar-powered housing built to withstand extreme maritime conditions. Data are accessible via the secure **Obscape Data Portal** with cellular connectivity, and optional satellite communication upgrade for global coverage. With GPS tracking, automated alerts for drift or system issues, and easy deployment on various floating structures, the **Wave Module** provides a reliable and user-friendly solution for accurate wave monitoring and operational planning.



KEY FEATURES

01 **Accurate Data:** Peak and mean wave period data; peak wave direction and spreading

02 **Solar-Powered:** Self-sustaining power source ensures uninterrupted operation

03 **Reliable Connectivity:** Data transfer via cellular networks ensures seamless access

04 **Compact & Robust Design:** Durable, weatherproof housing built for tough conditions

05 **GPS Watch Circle:** so you can monitor where your floating assets area at all times

06 **Integrated Data Portal:** User-friendly portal for efficient data management and analysis

PURCHASE INCLUDES

- Free access to the **Obscape Data Portal**
- Mounting brackets
- SD card - can also be run in offline mode

Optional:
1) Satcom upgrade for continuous connectivity beyond cellular range
2) Cellular global SIM - Includes €100 of data credit

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WAVE MODULE TECHNICAL SPECIFICATIONS

SPECS	
HOUSING SIZE	195 mm height x 87 mm width x 87 mm depth
WEIGHT	2 kg
PRIMARY POWER SOURCE	Solar-powered, 3 Watt
CONNECTIVITY	Cellular (4G with 2G fallback)
CELLULAR DATA LOAD	~8 kB per message (Bulk parameters) / ~14 kB per message (Bulk parameters and spectra)
REAL-TIME DATA INTERVAL	30 minutes - 24 hours (User selectable)
BATTERY TYPE	1 x 18650 Lithium-ion battery
NOMINAL VOLTAGE	3.7 V

PARAMETERS	
SAMPLE FREQUENCY	6.25 Hz
FILTERED FREQUENCY RANGE	0.05 Hz – 1.00 Hz (20 sec – 1 sec)
BURST DURATION	30 minutes
TELEMETRY DATA QUEUE	In the event of temporary connection outages, a data queue ensures data are sent
DIAGNOSTIC PARAMETERS	Latitude & longitude, battery voltage, solar panel voltage, signal strength

DATA STORAGE	
CLOUD STORAGE	Free access to the **Obscape Data Portal** for real-time and historical data, sensor configuration, alerts
ON-BOARD SD CARD	Data stored to the on-board SD card as a backup - or for cases where data connection is absent

DATA OUTPUTS

	CELL	*SATCOM	SD CARD
Significant Wave Height (Hm0 [m])	✓	✓	✓
Maximum Wave Height (Hmax [m])	✓	✓	✓
Peak Wave Period (Tp [s])	✓	✓	✓
Mean Wave Period Tm0,1[s]	✓	✓	✓
Mean Wave Period Tm0,2[s]	✓	✗	✓
Mean Wave Period Tm-1,0[s]	✓	✗	✓
Mean Wave Period (Tavg[s])	✓	✗	✓
Maximum Wave Period (Tmax [s])	✓	✗	✓
Peak Wave Direction (Dirp [deg N])	✓	✗	✓
Mean Wave Direction (Dirm [deg N])	✓	✓	✓
Peak Directional Spreading (Sigp [deg])	✓	✗	✓
Mean Directional Spreading (Sigm [deg])	✓	✓	✓
Swell Wave Height (Hsw [m])	✓	✓	✓
Swell Wave Period (Tsw [s])	✓	✓	✓
Swell Wave Direction (Dirsw [deg N])	✓	✓	✓
Variance Density Specturm (Puu [m2/Hz])	Only in real-time spectrum mode		✓
Directional Coefficients (a1, b1, a2, b2 [-])			✓
GPS Coordinates (Lat, Lon)	✓	✓	✓
Estimated Wind Speed	✓	✓	✓
Estimated Wind Direction	✓	✓	✓

*Optional Upgrade

The accuracy of wave modules, particularly in determining wave direction, is highly influenced by the dynamics of the buoy platform they are mounted on.

DATA ACCESS

SEAMLESSLY CONNECT FIELD DATA & OFFICE OPERATIONS

01 **Real-time data:** Wave data, temperature, diagnostic parameters

02 **Download:** CSV file, graphs, PDF report

03 **Forwarding:** JSON API or HTTP post

04 **Notifications:** GPS watch circle, wave height threshold

OPTIONAL SATCOM UPGRADE

SATCOM SPECS	
ANTENNA SIZE	Height 74.2mm / Diameter 66.5mm
NETWORK	Iridium
DATA LOAD	1 satellite credit per message
MONTHLY COST	Line rental and SATCOM credits

Satellite subscription services and credits available on request

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