

# MB WAVE 3

## WAVE SENSOR



The **MB Wave 3** is an efficient, integral, versatile, compact, low energy consumption and low-cost sensor, that allows the characterization of the directional waves with high performance and wide range of measurement parameters for installation on floating devices such as buoys.

## FEATURES

This unit provides data on the height, period, and direction of waves in real time as well as statistics of measurements as programmed by the user. This system is composed by a powerful and precise **AHRS** sensor with **3 accelerometers**, **3 gyroscopes** and **3 magnetometers**, as well as a **temperature sensor** to compensate the measurements. It also integrates a **GNSS** that brings a precise time and position for better statistical calculations.



## ADVANTAGES

- High precision in data capture.
- Low power consumption.
- Robust configuration and design for its use in harsh marine conditions with IP67.
- Small size.
- Integrated with GNSS (56 channels, GPS/GLONASS, QZSS and SBAS).
- Internal memory (SD card) to store raw data.
- Variety of available interface: RS232, RS422, USB and Bluetooth.

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### SPECIFICATIONS

**Sampling frequency:** up to 10 KHz (programmable)  
Measurement period for statistics: 10, 15, 20, 30 or 60 minutes, userprogrammable.  
Other times can be programmed upon special order.

#### OUTPUT DATA:

##### Wave quantity:

Total wave number (n) in the programmed time.

##### Height:

Maximum height (Hmax)  
Significant height in the n/3 highest waves (Hs or H/3)  
Significant height in the n/10 highest waves  
Average height

##### Period:

Maximum period (Tmax)  
Peak period  
Significant period of the n/3 highest waves (Ts)  
Significant period of the n/10 highest waves  
Average period

##### Direction

Average direction  
Average dispersion of the direction

*(Other parameters can be generated under special orders.)*

### WAVE HEIGHT

<b>Range:</b>	+/-40 m.
<b>Resolution:</b>	1 mm.
<b>Accuracy:</b>	5 cm.

### WAVE DIRECTION

<b>Range:</b>	0° - 360°.
<b>Resolution:</b>	Up to 0.001°.
<b>Accuracy:</b>	Typical 0.5°.
<b>Reference:</b>	Magnetic North

### WAVE PERIOD

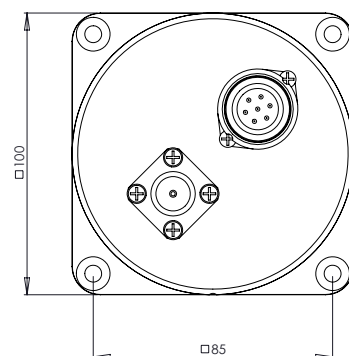
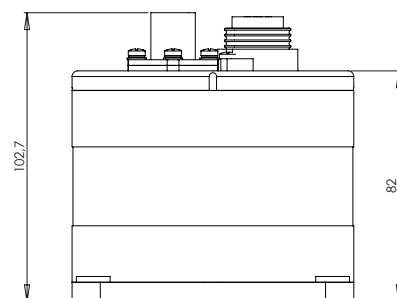
<b>Range:</b>	1 - 40 sec.
<b>Resolution:</b>	Up to 0.001 sec.
<b>Accuracy:</b>	1%

### INTERFACE

<b>Port:</b>	RS-232 (Option RS-422, RS-485, USB and Bluetooth).
<b>Format:</b>	ASCII Format: - Serial port: all the statistical parameters of the waves. - Memory card of the device: all the statistical parameters of the waves, instant displacement data and summary data of each wave.
<b>AMP Connector</b>	7 female pins.
<b>GPS</b>	Female N connector.

### GENERAL

<b>Power supply:</b>	10 - 30 VDC (<780 mW). Protection against reverse polarity.
<b>Watertightness:</b>	IP67.
<b>Temperature range:</b>	-40°C to 85°C in operation.
<b>Enclosure:</b>	Hard anodized aluminium (OEM module in MMB03 circuit).
<b>MTBF:</b>	50,000 h.
<b>Weight:</b>	1,020 gr.
<b>Fixings:</b>	4 x M5.
<b>Micro-SD card:</b>	32Gb.



Specifications subject to change without previous notice.



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