

SEAWATCH Mini II Buoy



The collection and transfer of high quality directional wave and current measurements in coastal environments requires a robust and economical solution.

The SEAWATCH Mini II buoy is a robust, economical and flexible buoy that measures a range of oceanographic parameters for harbours and coastal areas.

Features

- Extremely robust construction
- Solar charging allowing long-term unattended operation
- Designed for wave measurements
- Choice of GENI datalogger or WAVESENSE integrated datalogger and directional wave sensor
- Various two-way communication options

Applications

- Harbour and coastal monitoring
- Coastal engineering
- Offshore design and operations
- Scientific studies
- Wave energy studies
- Maritime traffic control

The Hull

The hull of the SEAWATCH Mini II buoy is made from foam-filled polyethylene. The choice of material ensures no risk of corrosion and sulphation as well as excellent resistance to impacts. The buoy is practically unsinkable.

Below the water surface it is spherically shaped to ensure optimal wave measuring capability. Above the surface the robust marine grade solar panels have been fitted in recesses for security. The wave sensor is a complete solid-state design with no moving parts.



SEAWATCH Mini II buoy



SEAWATCH Mini II buoy is configured before deployment



SEAWATCH Mini II buoy is used for coastal applications



SEAWATCH Mini II Buoy

Power Supply

Maintenance free solar panels and sealed lead-acid batteries enable long-term unattended operation.

The accumulated charge and load current are transmitted to shore for control of the power consumption. For low sun radiation conditions, lithium batteries can be supplied.

Data Communication

The SEAWATCH Mini II buoy uses GSM mobile phone or UHF/VHF radio for short range communications. For long distance data transfer, the high capacity and reliable Inmarsat-C or Iridium satellite is used.

The buoy's position can also be monitored by means of one-way GPS satellite position tracking.

Various sensor alternatives exist; please contact us with your requirements. Limitations exist in the number of sensors, their size and power consumption.

Directional Wave Measurements

The buoy is ideal for directional wave measurements. When used for directional wave measurements, the integrated wave sensor and datalogger means one less power consuming processor, decreased system complexity and hence increased system reliability.

Directional Wave Data Sensor

Parameter	Range	Accuracy
Heave, Surge, Sway	± 25m (adjust)	< 10 cm
Direction	0 - 360°	0.3°
Wave Period	2 - 30 sec	< 2% of value

Technical Specifications

General

Material	Polyethylene
Flash light	LED based, 3-4 nautical miles range IALA recommended characteristic
Positioning	Standalone GPS Receiver

Buoy Dimensions

Weight (approx)	320 kg
Height (hull)	1.18 m
Overall height	1.8 m
Diameter	1.25 m
Net buoyancy	410 kg

Power Supply

Solar panels	60 W (10W x 6)
Solar panel angle	63° (to horizontal)
Lead-acid battery bank	124 Ah
Optional lithium batteries	816 Ah

Processing

32-bit microprocessor
 512MB flash memory, approx 10 years of raw data
 Real-time operating system (Linux)
 Low power consumption
 Large number of serial and analogue inputs
 Flexible data acquisition software

Data Communication

Short Range	GSM/GPRS
	UHF/VHF radio (two-way)
Long Range	Inmarsat-C, Iridium (two way)

Sensor Options

Current velocity
 Current direction
 Temperature and conductivity/salinity
 Directional waves

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