

SM-140-47 wave radar on an offshore platform

Datasheet

SM-140-XX Wave Radar

The SM-140-XX-OMC wave radar is a perfect medium for the extreme demands of the harsh offshore environment.

The sensor emits a microwave FM chirp signal and receives the echo from the water surface. The signal propagation delay given by the distance from the antenna to the water surface causes a beat signal in the receiver. By means of advanced signal processing the beat frequency is converted to an accurate distance.

Due to the low frequency of operation (compared to laser sensors) fog, rain and water spray will not cause measurement problems.

The type of sensor depends on the required range.

SM-140-23-OMC 1-23 meter range

SM-140-47-OMC 3-47 meter range

SM-140-95-OMC 3-95 meter range

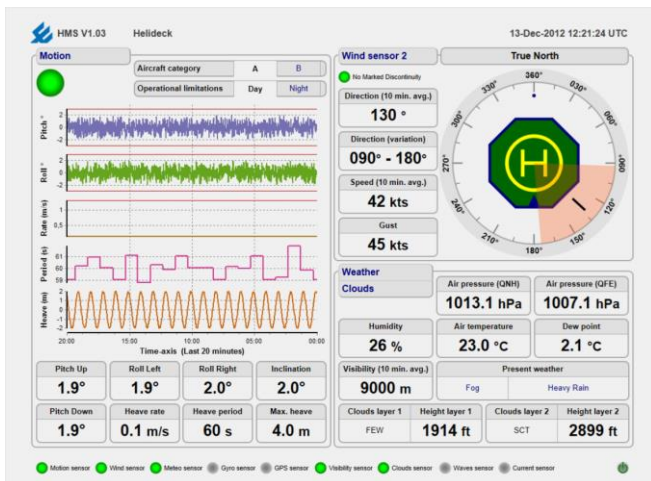
Features

- Stable in the most adverse weather conditions
- Suitable for permanent or temporary installation
- Accurate to mm precision
- No re-calibration required
- Small and easy mounting bracket
- IP 67

General

All the measurements are shown in OMC-DOL-HMS software (see below picture) . OMC-DOL-HMS is more and more used in the offshore industry for Helideck operations and fully compliant with CAP-437. It has a lot of advantages, we can combine meteorological data with wave, cloud and visibility, so all information will be available in one system.

All data can be stored and trends can be consulted. The data can be viewed on any pc with the license free viewer installed via a standard (LAN) network. The wave data are presented in figures and easy to understand graphics on a display screen in addition to being stored on the system computer in historical files.



OMC-DOL-HMS software

Specification

Microwave Transceiver

- Modulation: Triangular FM
- Frequency: 9.4 - 9.8 GHz
- Output power: 1 mW (0 dBm)

Wide Beam Antenna

- Beam width: 10° (-3 dB one way)
- Gain: > 18 dB
- Range: SM-140-23-OMC : 1-23 m
- Dimensions: 122 x 340 mm (h x diam)
- Weight: 8 kg

Narrow Beam Antenna

- Beam width: 5° (-3 dB one way)
- Gain: > 24 dB
- Range: SM-140/N/01/20: 3 – 23 m
- SM-140-47-OMC: 3 – 47 m
- SM-140-95-OMC: 3 – 95 m
- Dimensions: 136 x 500 x 440 mm (h x w x d)
- Weight: 11 kg

Measurement Error

- Individual measurements: < 1 cm
- Averaged measurements: < 1 mm

Power Requirements

- 12 – 48 VDC (nom. 24 VDC), Current: < 0,5 A (24VDC)

Environmental

- Temperature: -30 - +50 °C, 10 – 100 %RH

Housing

- Material: Aluminium EN AW 5052/EN AN 6082/polyethylen
- Finish: Enamelled, Colour: Gray, RAL 7035
- Ingress protection: IP67 (IEC/EN 60529)

Digital Signal Output

- Interface: RS-422 (optionally RS-232), Code: ASCII, baud rate: 9600 (user programmable 1200-15200), sampling interval: 20 – 60 000 ms (0.016 – 50 Hz) or polling mode. Data format: various formats available.

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