

O'CONNOR

ENGINEERING Inc.

All Weather Wave Height
Sensor Systems



All-Weather Wave Height Sensor

High Performance Radar System

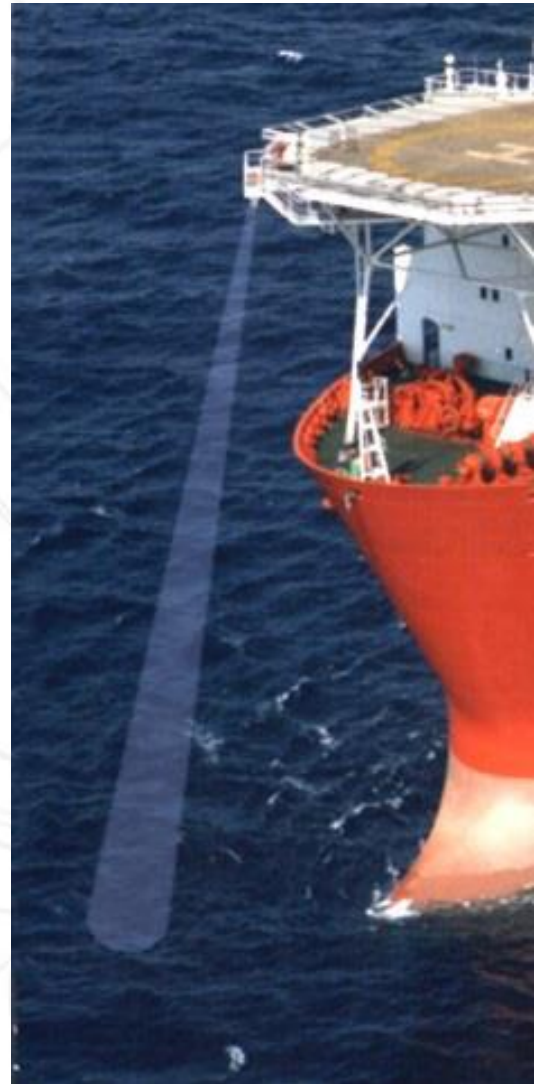
This radar-based sensor is a remote, all weather radar ranging device for monitoring the height of waves. Mounted over the water, the sensor continually measures the distance to waves below.

Its operating frequency allows effective performance in limited visibility conditions and is designed to run continuously for years without maintenance.

With the optional 802.11x wireless system, the data may be sent to a control room without using wires and conduits.

Features

- High range precision, no pulse radar
- Weather penetration
- Choice of enclosures
- Data on command



Sensor Specifications

with Distance to Water Output

Sensor Type	FMCW radar, 24 GHz
Antenna	75 mm diameter sealed lens, 10° beamwidth
Range	Option 1: 3 m to 35 m with nominally 2 cm range precision Option 2: 1 m to 15 m with nominally 1 cm range precision
Output Signal	Standard; RS232, ASCII data stream of distance to the water. The data can be displayed on a PC or laptop in HyperTerminal or recorded to Excel for graphing.
Update Rate	Radar: 491 samples per second Processor Output: 3 to 25 updates per second
Connector	Standard: Round 5 pin screw connector on case with breakout for +12 V DC at end of 10 m cable, others available
Power Required	12 V DC (11 to 16 V DC), 0.5 Amps, solar power package available
Size	Stainless Steel Enclosure: 12 cm x 12 cm x 21 cm, 2 kg Explosion Proof Enclosure: 30 cm x 30 cm x 40 cm, 12 kg



Wave Height Sensor in Explosion Proof Enclosure

Sensor Specifications

with RS232 Nominal Wave Height + External Data Trigger

Sensor Type	FMCW radar, 24 GHz
Antenna	75 mm diameter sealed lens, 10° beamwidth
Range	3 m to 30 m with nominally 2 cm range precision
Radar Sample Rate	491 samples per second
Output Signal	RS232 data stream of nominal wave height over last 10 or 20 minutes (internally selectable) 9600 Baud, 8n1, data on command or data transmitted at 1 minute intervals.
Input Signal	Data Send Command (optional)
Power Connection	Hard wired inside enclosure
Power Required	12 V DC (11 to 16 V DC), 0.6 Amps
Size	Stainless Steel Enclosure: 32 cm x 26 cm x 26 cm, 12kg Cast Aluminum Enclosure: 28 cm x 28 cm x 24 cm, 10 kg



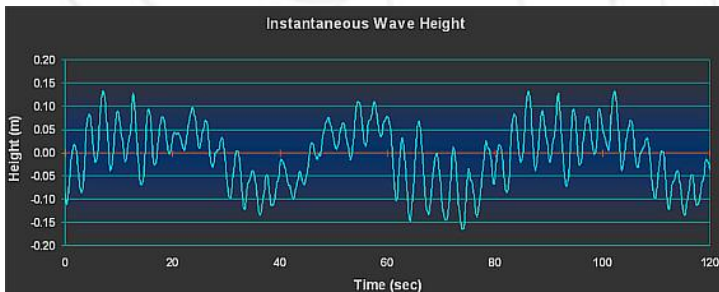
Wave Height Sensor
In
Stainless Steel Casing



Sensor Specifications

Nominal Wave Height, Extended Range + External Data Trigger

Sensor Type	FMCW radar, 24 GHz
Antenna	125 mm diameter sealed lens, 5° beamwidth
Range	3 m to 60 m with nominally 3 cm range precision
Radar Sample Rate	491 samples per second
Temperature	-40° C to +60° C
Output Signal	RS232, RS422, RS485, or TCP/IP data stream of nominal wave height over last 10 or 20 minutes (internally selectable) 9600 Baud, 8n1, data on command or data transmitted at 1 minute intervals.
Input Signal	Data Send Command (optional)
Power Connection	Hard wired inside enclosure
Power Required	12 V DC (11 to 16 V DC), 0.6 Amps, solar power package available
Size	Stainless Steel Enclosure: 32 cm x 26 cm x 26 cm, 12kg Cast Aluminum Enclosure: 28 cm x 28 cm x 24 cm, 10 kg



Received Data
Visualization

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