

Wave Height Sensor

with Variable Time Distance-to-Water Output

O'CONNOR



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, sending the serial data through a telephone line for readout at a remote location. Its operating frequency allows effective performance in limited visibility conditions and is designed to run continuously for years without maintenance.

The Wave Height Sensor collects data in internal memory, then sends it out periodically over a telephone connection. The frequency of the transmission depends on the wave height being measured. In addition, the Sensor can be called over the phone line to transmit both current and stored data immediately. Added to each data stream is the GPS location and time.

Operational data is stored internally for 30 days in the waterproof enclosure.

The Wave Height Sensor is designed to last 10 years in salt water environments.



Wave Height Sensor

*O'Conner Engineering, Inc. 10 Cayce School Road Fulton, KY 42041
Phone 270 838 1000 Fax 270 838 0001 Email joconner@oconnerengineering.com
www.oconnerengineering.com*

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Sensor Specifications

Sensor Type	FMCW radar, 24 GHz
Antenna	100 mm diameter sealed lens, 7° beamwidth
Range	3 m to 35 m with nominally 2 cm range precision
Output Signal	Telephone standard, 14,400 Baud modem data stream of distance to the water, GPS location, time and date.
Update Rate	<p>1) Automatic Transmissions</p> <p>For wave heights less than 0.5 m: 15 minute mean maximum distance-to-water measurements are transmitted once every 4 hours. For wave heights from 0.5 m to 3 m: 5 minute mean maximum distance-to-water measurements are transmitted once every 30 minutes. For wave heights above 3 m: Distance-to-water measurements are transmitted every minute.</p> <p>2) Download</p> <p>The Wave Height Sensor's internal memory may be downloaded at any time by calling over the telephone line.</p>
Connector	Sealed hard wire connection with pigtailed 10 meter multiple wire cable
Power Required	12 V dc (11 to 16 V dc), 0.5 Amps, solar power package available
Size, Weight	30 cm x 30 cm x 40 cm, 12 kg

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