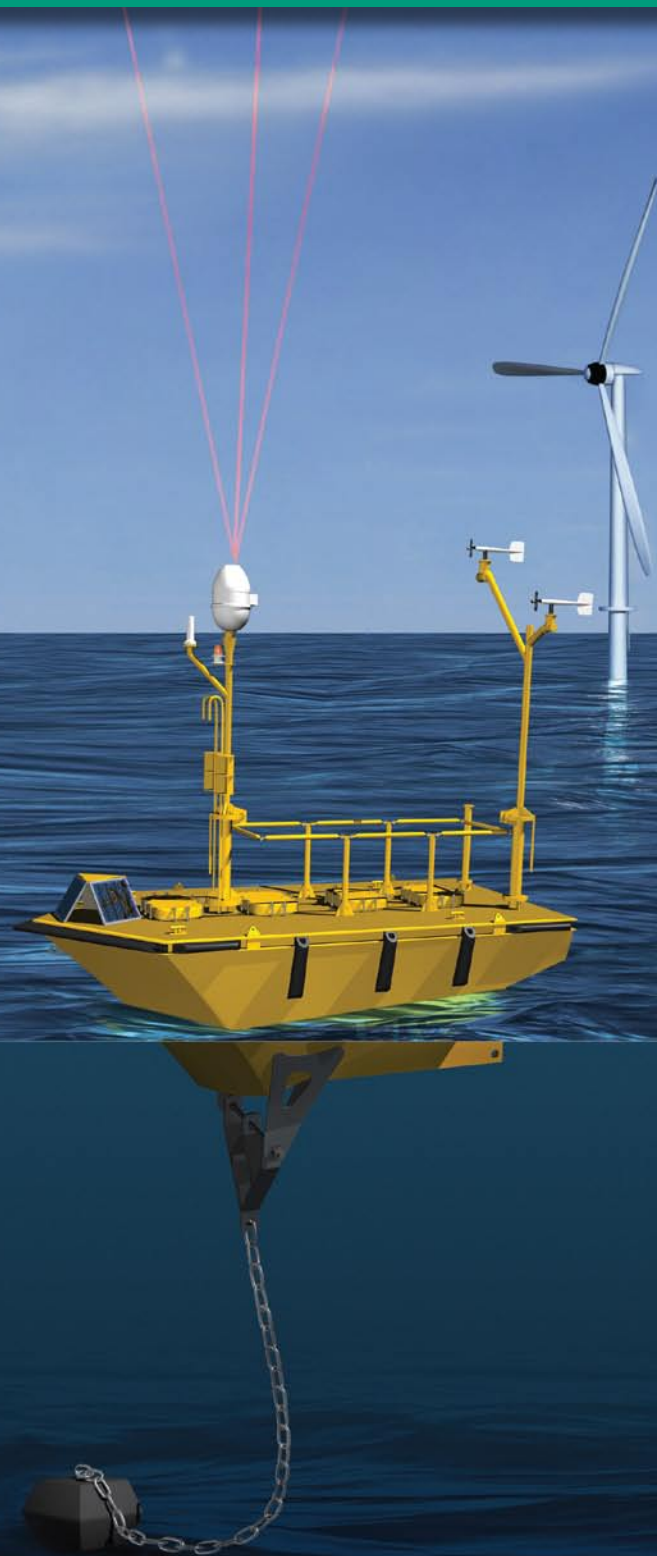


# WindSentinel™

Offshore Wind Resource Assessment Buoy

## FEATURES & BENEFITS:

- Perform, turbine-height, offshore wind resource assessments from a buoy
- Lower the cost of offshore wind resource assessments
- Reduce time to market
- Improve the quality and accuracy of wind data
- Superior solid state laser technology
- Continuous two-way remote access to your systems and data in real time
- Portable and reusable
- Eliminate permit, environmental assessment and licensing requirements associated with Met Tower construction
- Deploy multiple buoys in networked arrays for the cost of one offshore Met Tower



*WindSentinel™ is the first Offshore Wind Resource Assessment Buoy capable of accurately gathering wind data at turbine hub-height and across the blade span.*

How will **YOU** compete for **YOUR** share of the Wind? The WindSentinel™ delivers real competitive advantage.



## WHAT THE **WINDSENTINEL™** CAN DO FOR YOU

The WindSentinel™ is the world's first wind resource assessment buoy capable of measuring wind data at heights of conventional offshore wind turbines.

At the heart of the WindSentinel™ is the Vindicator® Laser Wind Sensor, a next generation solid state laser designed to accurately measure wind from moving platforms. Using three fixed beams this laser wind sensor can take single focused or multi-point measurements up to a maximum range of 300 meters. The resulting wind data is acquired, processed and transmitted via a selection of telemetry options through the AXYS WatchMan500™ controller. These components have been engineered into the AXYS Nomad™ buoy – a well proven proprietary platform designed to perform in extreme offshore marine environments.

The WindSentinel™ is the faster and more accurate way to gather offshore wind data across multiple locations for less money. Deploy a WindSentinel™ to perform wind resource assessments without the high costs and bureaucratic hurdles associated with fixed marine met tower construction.

For the cost of a single fixed met tower, and in substantially less time, you can deploy a networked array of WindSentinel™ buoys over one or all of your potential Wind Farm sites, allowing you to be more agile and responsive throughout assessment, financing and operations phases.

### Deploy a **WindSentinel™** to:

- Lower the operating and capital costs associated with wind resource assessment
- Gather data at multiple sites simultaneously
- Reduce permitting, licensing and red tape
- Increase the speed with which your project gets funding
- Lower your time to market

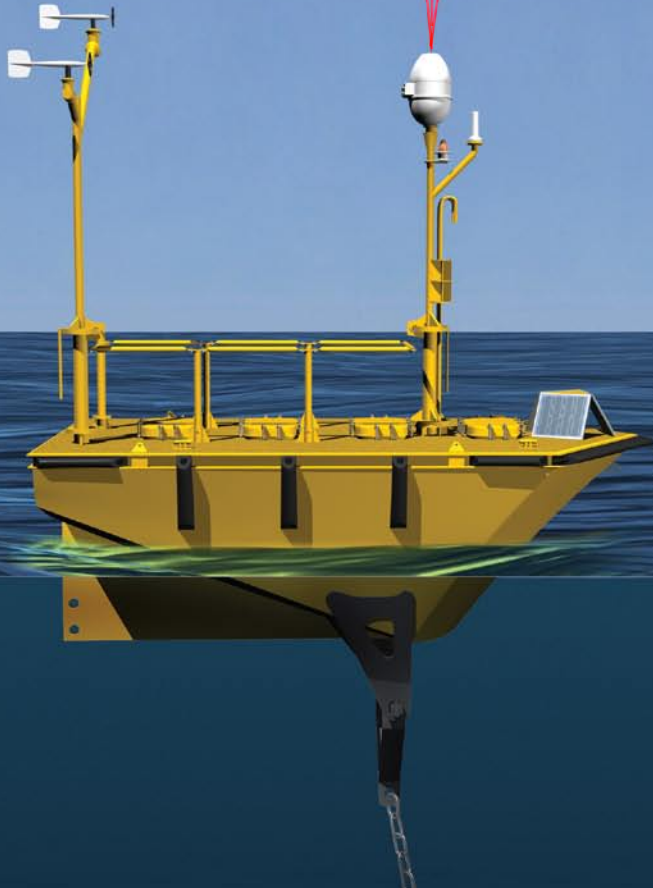
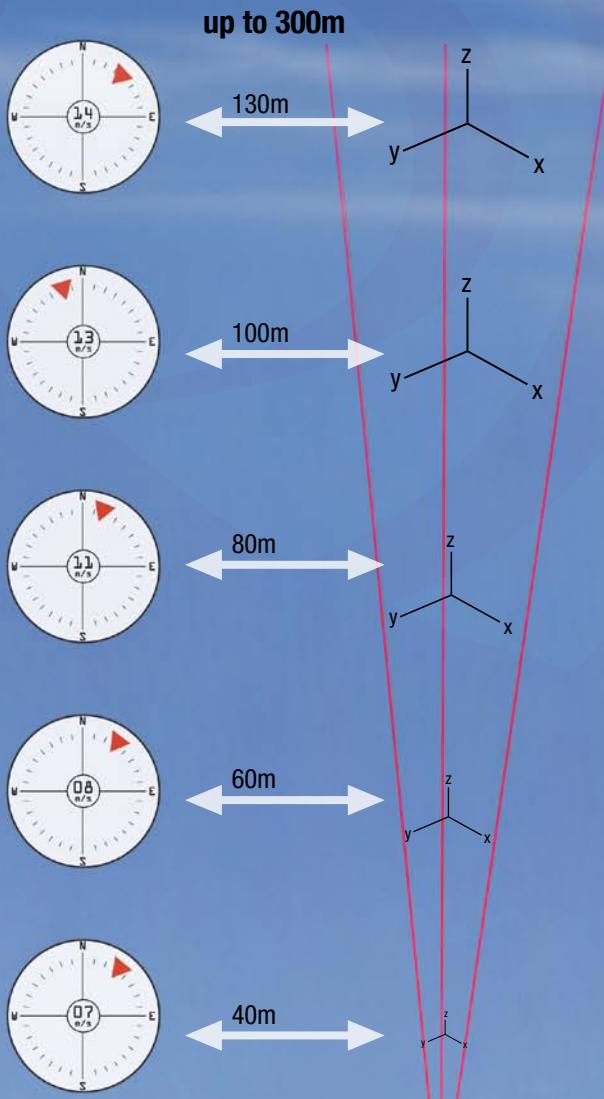


# WindSentinel™

*An Offshore Wind Resource Assessment Buoy*  
**You Can Bank On**



# HOW IT WORKS



# SPECIFICATIONS

## LIDAR SPECIFICATIONS

### GENERAL SPECIFICATIONS

<b>OPERATING TEMPERATURE</b>	-40°C to 55°C
<b>SYSTEM POWER REQUIREMENTS</b>	110 VAC at 250 Watts Max.; 0°C - 55°C 110 VAC at 450 Watts Max.; -40°C - 0°C
<b>OPERATION</b>	Unattended, 24/7
<b>REMOTE SUPPORT</b>	Remote Access for Maintenance and Configuration
<b>DATA OUTPUT FORMAT</b>	Customer defined

### FUNCTIONAL SPECIFICATIONS

<b>OPERATIONAL WAVELENGTH</b>	1550 nm
<b>MINIMUM WIND SPEED</b>	0 m/s
<b>MAXIMUM WIND SPEED</b>	36 m/s
<b>SENSING RANGE</b>	50 to 300 meters
<b>NUMBER OF SIMULTANEOUS REPORTING HEIGHTS</b>	Customer Defined
<b>RANGE GATE DEPTH – EXPECTED</b>	±20 meters (adjustable)
<b>WIND SPEED ACCURACY</b>	< ± 0.2 m/s @ 1 Hz data rate
<b>VECTOR ORIENTATION</b>	360° in vertical plane (± 180 degrees)
<b>RELATIVE ANGULAR ACCURACY</b>	±0.7° @ 13 m/s speed, 1 Hz
<b>EYE-SAFETY</b>	Class 1 Eye-Safe

## NOMAD SPECIFICATIONS

<b>HULL CONSTRUCTION:</b>	Welded Aluminum. Four water tight compartments for electronics, power and sensors. Aluminum superstructure and steel substructure are bolted onto the hull.
<b>FINISH:</b>	marine grade epoxy
<b>WEIGHT:</b>	5200 kg (not including ballast or mooring)
<b>DIMENSIONS:</b>	6m (L) x 3.1m (W) x 9m (H)
<b>MOORING:</b>	Inverse catenary, chain, semi-taught, or false bottom.
<b>NAVIGATION LIGHT:</b>	IALA standard lamp and automatic multiple bulb changer
<b>POWER:</b>	Primary batteries, solar supplemented primary batteries, fully solar powered, onboard fuel cell, onboard generator.
<b>POSITION:</b>	GPS package indicates whether buoy is on-station

## AVAILABLE TELEMETRY

- Globalstar
- Cellular (CDMA, GPRS, 3G, etc)
- Iridium
- Inmarsat
- VHF/UHF
- GOES
- ARGOS



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