

# WindMast 350-M

## Marine Wind Lidar



### PRODUCT DESCRIPTION

- WindMast 350-M is a type of pulse coherent wind lidar for marine application, featured of small size, low power consumption and high measurement precision.
- It can continuously acquire wind speed and wind direction profile at height of 20m~350m above the lidar all day, with 20 range gates.
- The 10m large-scale buoy platform is featured of high reliability, strong survival capability and abundant power supply. The equipment can work in harsh marine environments like continuous raining and typhoon weather, with continuous acquisition of high-precision wind data. Over 100 sets of WindMast 350-M have been deployed in China, widely used for offshore wind resource survey and evaluation, offshore wind turbine power curve test, offshore wind power prediction, and research of air-sea



GEOSPACE



Product Display

# WindMast 350-M

## Marine Wind Lidar

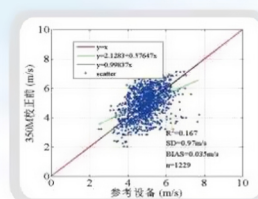
### Functional features and advantages

- Wide detection range: 20m ~ 350m, suitable for various impeller diameter and installation environment.
- High precision: 0.1m/s, real time attitude correction algorithm for accuracy correction, compliant with IEA Wind recommended standards.
- High resolution: data refresh rate at second, 1m distance resolution.
- Portable: small in size, light in weight, low in power consumption, convenient for transport and booster station integration.
- Flexible deployment: can be deployed on buoy, offshore single pile or booster station platform, and powered by complementary wind and solar power or fuel cell.
- Unattended: remote access of data acquisition and equipment monitoring, support Beidou satellite data transmission.
- High reliability: airtight and anti-corrosion design, continuous and stable operation in harsh offshore environments.
- Protection grade: IP67.
- Correction algorithm: real-time attitude correction.

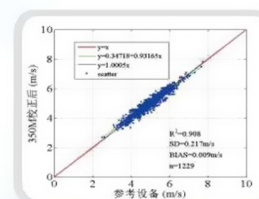


### Technical specifications

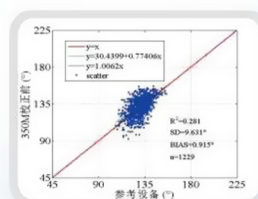
Specifications	Parameter
Detection range	20m~350m
Range gates/resolution	20 range gates configurable, 1m resolution
Wavelength	1550nm, eye safe, invisible
Data refresh rate	1s/1min/2min/5min/10min configurable
Wind velocity range	0~70m/s
Wind velocity accuracy	≤ 0.1m/s
Wind direction accuracy	< 3° (average wind speed >2m/s)
Scanning modes	Multiple beam / VAD
Data output	wind velocity and wind direction at second, time-average wind velocity and wind direction, vertical wind velocity, min./max. horizontal wind velocity, mean square deviation of wind velocity (turbulence intensity), wind shear index, SNR, GPS position and time, lidar status, surface atmospheric temperature, humidity and pressure etc.
Weight	<30kg



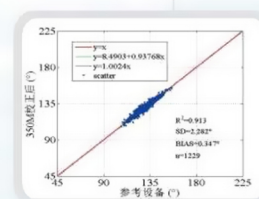
350-M Comparison of instantaneous wind velocity with reference equipment before calibration



350-M Comparison of instantaneous wind velocity with reference equipment after calibration



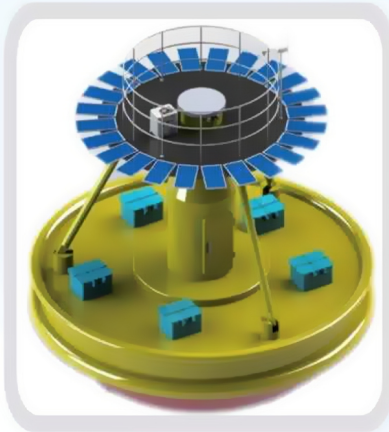
350-M Comparison of instantaneous wind direction with reference equipment before calibration



350-M Comparison of instantaneous wind direction with reference equipment after calibration



## Overall solution of floating offshore wind lidar



Floating wind lidar installed on the 10m large buoy ( with high stability, strong survival capability and sufficient power supply)

## Experimental Simulation of Marine lidar



Marine state simulation and comparative test of lidar rocking platform

The rocking platform is equipped with lidar to measure and simulate various marine conditions, and the ground lidar is used for comparison. The experimental results show that: the attitude correction algorithm is very effective for the accurate measurement of wind data under the condition of rolling, basically filtering out the influence of platform swing on the measurement, and ensuring the measurement accuracy on the floating platform.

## WindMast 350-M deployed on a fixed offshore platform



The lidar can be easily deployed on the offshore single pile platform or booster station platform