

WindCube Offshore

Vertical profiling lidar for floating buoys and harsh marine environments



Key Benefits

Trustworthy, superior metrology
Powerful technology in a compact package — WindCube Offshore provides accurate wind measurement up to 300m over 20 simultaneous heights. It is well suited for offshore sites and Floating Lidar Systems (FLS) and has been validated in accordance with Carbon Trust Roadmap of acceptance.

Bankable data that reduces uncertainty and ensures more successful projects — WindCube Offshore provides accurate, bankable data to help you secure funding, reduce the cost of equity, and minimize risk. Thousands of customers and financial institutions across the globe already use WindCube data to make the best possible decisions.

Innovative lidars from a one-stop shop
Reliable and efficient across the project lifecycle — WindCube Offshore boasts high reliability and is an ideal solution for demanding offshore wind resource assessment. Each lidar unit can easily find its place and can be moved and repurposed for a variety of projects, providing outstanding value over time.

Data at your fingertips with WindCube Insights — Fleet software — WindCube Offshore comes packaged with WindCube Insights — Fleet, an easy-to-use, secure, cloud-based tool that provides real-time insights, allowing you to access and manage your systems and data, whether you have one system or many.

Backed by a worldwide service infrastructure — Like all of Leosphere's solutions, WindCube Offshore benefits from an unrivaled, global service network ensuring fast response and maximum uptime.

WindCube® Offshore, the reference lidar for all phases of wind energy development and operations, has been engineered with a robust, marinated casing for integration into floating buoys and other harsh offshore locations, such as lighthouses, substations, and vessels.

With offshore wind development accelerating, this is a timely innovation for consistent, reliable, and accurate data, wherever you need it.

WindCube data has been validated by more than 100 independent studies and is accepted onshore and offshore by all international standards and guidelines. Many of the most pioneering and successful wind energy companies today rely on the WindCube lidar to push the industry forward to meet its potential for growth.



System at a glance

Offshore applications

- Support all phases of a project lifecycle (wind resource assessment, operations, optimization, research)
- Permanent met data for continuous wind monitoring and grid-loss compensation

Key features

Measurement across the entire rotor sweep up to 300m over 20 simultaneous heights

IEC compliance for contractual Power Performance Testing (IEC 61400-12-1 ed2)

Low power consumption (45W nominal) and easily deployed in small spaces, reducing operational costs and complexity

Includes WindCube Insights — Fleet cloud-based data management system

High reliability increases data collection and reduces maintenance expense

3-year limited warranty and onshore, on-site maintenance

Technical support and services including remote assistance, comprehensive on-site help, and short-term maintenance

Buoy integration (fixed base for easy integration, more locks)

Suitable for harsh marine conditions with an IP67 waterproof casing

Why Leosphere, a Vaisala company?

We are modern innovators, scientists, and discoverers who enable our customers to harness the power of wind energy in new ways. We are driven by passion, relentless curiosity, and the desire to create a better world, as evidenced in our commitment to four guiding principles:

1. Trustworthy, superior metrology
2. Unrivaled thought leadership
3. Innovative lidars from a one-stop shop
4. Easy, reliable global solution

As a result, Leosphere, a Vaisala company, is the iconic and trusted gold standard in wind lidar. Our turnkey WindCube product suite offers innovative, reliable, and highly accurate solutions for thousands of customers across the globe. All of this has enabled us to be catalysts for change and ambassadors for wind energy, always advancing the field and those we serve.

Specifications

Wind data provided	Wind speed, wind direction, turbulence intensity, vertical wind speed
Range	40m to 300m
Speed accuracy	0.1 m/s (in static mode)
Speed range	0 to 60+ m/s
Speed uncertainty	2-3% when used static; 3-4% when mounted on a buoy
Direction accuracy	2° (in static mode)
Beam geometry	4 inclined beams at 28° + 1 vertical beam
Power consumption	45W nominal to 100W
Data storage	120GB industrial disk (10+ years of data); WindCube Insights secure cloud-based server
Communication	LAN, USB, 4G router, Modbus RTU, Wi-Fi
Temperature range	-20°C to 40°C / -4°F to 104°F
Compliance	CE, FCC, ICES
Output data	1s/1, 2, 5, 10min averaged (user-defined); standard deviation; direction; CNR (signal-to-noise ratio); GPS coordinates; data availability
Data sampling rate	1Hz
Corrosion resistance	500h normative accelerated corrosion sea salt test; equivalent to 3-4 years of offshore applications
Waterproofness	IP67 waterproof casing; additional locks and belts
Software	Standard: WindCube Insights software Optional: Reprocess software for motion correction
Services	Standard: 3-year limited warranty Optional: 3-year warranty extension; 3-year maintenance
Other options	FCR and Geofencing for fixed installation



WindCube Offshore on a fixed platform.



windcubelidar.com

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