

WindCube

The industry standard lidar for accurate, bankable wind data



WindCube® is the most flexible and accurate wind measurement technology available, for both onshore and offshore projects. It is well-suited for all turbine types and supports continuous measurement campaigns throughout all project phases. A highly refined, mature technology, WindCube provides unrivalled wind measurement capabilities and services for simplifying operations and maximizing operational continuity.

During the development phase, WindCube provides the bankable data needed to secure funding while minimizing risk; it also provides precise measurements for energy yield assessment. Operators often rely on WindCube for performance verification, since it is validated by Deutsche WindGuard® and is fully IEC-classified.

WindCube can be positioned almost anywhere (even offshore with the WindCube Offshore edition) and covers the rotor sweep of even the largest turbines now and in the future, including emerging offshore technologies. It is suitable for permanent or temporary applications with little or no environmental disruption, while increasing worker safety.

WindCube data has been validated by hundreds of independent studies and is accepted by all international standards and guidelines. It also uses turnkey FCR for complex terrain and is compatible with CFD post-processing solutions for more complex sites.

Wherever it is located, WindCube helps users optimize financial performance, increase efficiency, and maximize energy output.

Key benefits

Trustworthy, superior metrology

WindCube provides accurate wind measurement up to 300m, with 20 simultaneous heights measured per second. The system also features a hybrid wind reconstruction algorithm that further reduces uncertainty and enables unrivaled IEC classification. The result is better, bankable data and a more complete view of the wind profile, both of which help secure funding, reduce uncertainties and the cost of equity, and minimize risk.

WindCube comes with WindCube Insights — Fleet software, an easy-to-use, secure, cloud-based tool that provides real-time insights and simple management, whether you have one system or many.

WindCube also brings powerful validation advantages. IEC-compliant DNV GL pre-validated lidar units are available to accelerate deployment by up to two months, and a validation continuity option saves time in case of maintenance events.

Easy, reliable global solution

A suite of standard and premium global service offerings maximize uptime and simplify campaigns. They include the industry's best warranty, accelerated workshop and on-site maintenance, and the assurance and speed of our global network of seven service centers and two factories.

Innovative lidars from a one-stop shop

WindCube is simple to deploy anywhere, with few permitting or regulatory hassles. Turnkey options such as a 4G modem and affordable power pack enable deployment in the most remote areas.

WindCube at a glance

Applications

Supports all phases of a project lifecycle:

- Site prospection
- Wind resource assessment
- Site suitability and calibration
- Continuous wind monitoring
- Power Performance Testing (PPT)
- Grid-loss compensation
- R&D applications

Features

Hybrid wind reconstruction algorithm, which combines scalar and vector data for the highest possible accuracy and reliability

Embedded FCR correction for direct measurement in complex terrain

IEC compliance for contractual performance testing (IEC 61400-12-1 ed2)

Includes WindCube Insights — Fleet cloud-based data management system

4G modem for fast in-field communications and data transfer

Affordable remote power pack for deployment almost anywhere

Services

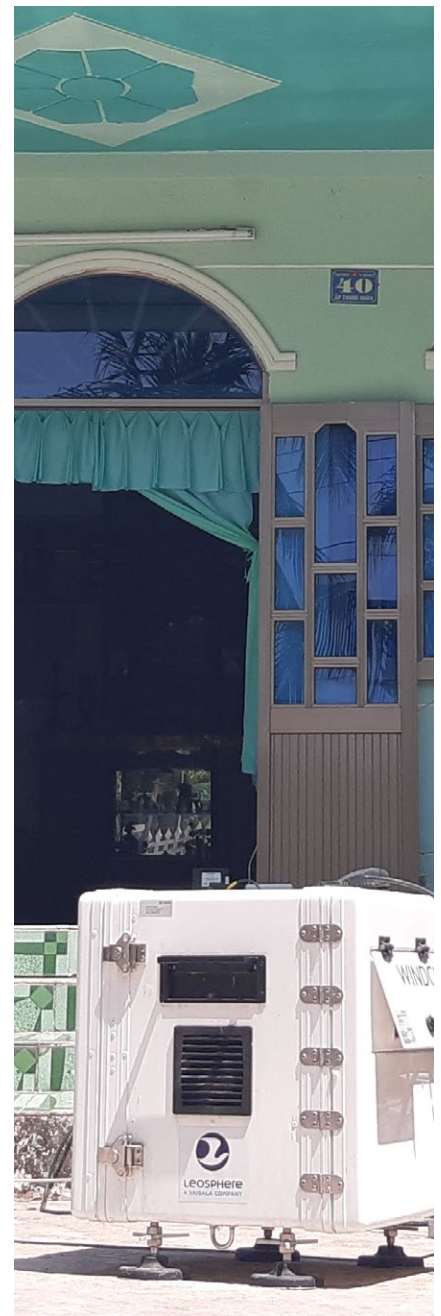
Golden Lidar validation included with every new WindCube

Accelerated workshop processes part of the standard service level; repair time goes from weeks to days

Premium 15-day on-site repair option to simplify customer logistics and optimize uptime

DNV GL pre-validated WindCube units available to accelerate deployment

Validation continuity option available during maintenance events



Specifications

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|----------------------------------|--|
| Wind data provided | Wind speed, wind direction, turbulence intensity, vertical wind speed, data availability |
| Range | 40m to 300m |
| Simultaneous measurement heights | 20 in 1s |
| Speed accuracy | 0.1 m/s |
| Speed range | 0 to 60+ m/s |
| Speed uncertainty | 2-3% |
| Direction accuracy | 2° |
| Beam geometry | 4 inclined beams at 28° + 1 vertical beam |
| Data storage | 120GB industrial disk (10 years of data); WindCube Insights secure cloud-based server |
| Communication | LAN, USB, 4G modem, Modbus RTU, Wi-Fi |
| Temperature range | -30°C to 45°C / -22°F to 113°F |
| Compliance | CE, FCC, ICES |
| Data sampling rate | 1Hz; 1s/1, 2, 5, 10min averaged (user-defined) |
| Housing classification | IP 67 (inner racks) |
| Power consumption | 45W |
| Weight | 46kg |
| Dimensions | L55 cm, W56cm, H55 cm |

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.



windcubelidar.com



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