

WindCube Nacelle

VAISALA

Product Spotlight

A generational leap in Power Performance Testing

WindCube® Nacelle lidar enables operators to efficiently and accurately assess and verify performance to ensure maximum power output. It is IEC-compliant for contractual and operational Power Performance Testing (PPT). Maximize your wind farm power output and project profitability with robust data and ease of use.



Key benefits

Precise data outputs with different installation setups available: 4-beam and 2-beam mode

Embedded TI algorithm for accurate Power Curve filtering

Includes WindCube Insights – Fleet cloud-based data management system

Constant accuracy from 50 to 450m with 10 configurable measurement distances

Optional weather sensor provides pressure, temperature, humidity, and rain data for the state-of-the-art PPT following the IEC-50-3 standard

Why Vaisala?

We are innovators, scientists, and discoverers who are helping fundamentally change how the world is powered. Vaisala elevates wind and solar customers around the globe so they can meet the greatest energy challenges of our time. Our pioneering approach reflects our priorities of thoughtful evolution in a time of change and extending our legacy of leadership.

Vaisala is the only company to offer 360° of weather intelligence for smarter renewable energy, nearly anywhere on the planet. Every solution benefits from our 85+ years of experience, deployments in 170+ countries, and unrivaled thought leadership.

Our innovation story, like the renewable energy story, continues.

DNV, in collaboration with Vaisala, has classified the WindCube Nacelle as the first nacelle lidar to comply with the IEC 61400-50-3 standard.

With a range up to 450m, this version of WindCube Nacelle is ideally suited for onshore applications. It provides a complete picture of the wind profile with accuracy and reliability as good as or better than met masts.

More than 400 WindCube Nacelle lidars are deployed worldwide, on 100+ wind turbine models onshore and offshore. The system's ease of deployment, universal compatibility, and simple structure make it non-intrusive and easy to integrate into existing wind energy operations.

To adapt to onshore and offshore range requirements while providing the most competitive solution, the WindCube Nacelle PPT portfolio includes two versions:

1. WindCube Nacelle: 50–450m range, ideal for onshore turbines
2. WindCube Nacelle Long Range: 50–700m range, ideal for offshore turbines

Applications

- PPT
- Warranty power curve
- Yaw misalignment correction
- Nacelle transfer function calibration

