

WindCube Scan *Explore Edition*

3D scanning Doppler wind lidar for accurate real-time wind and aerosol backscatter measurements



Key benefits

Improved short-term weather forecasting

WindCube Scan helps fill the much needed hyper-local measurement gap with continuous observations of the lower troposphere.

Augmented climate modeling

WindCube Scan feeds climate models and databases with continuous planetary boundary layer heights and profiles of optical atmospheric properties, helping generate continuously improved climate models.

Supported by the industry leader

WindCube Scan is supported by decades of experience, scientific tools and expertise, and industry standard support services — all of which enable customers to get the most from their equipment over its full life span.

Accurate weather forecasts, climate modeling and other atmospheric research depend on the ability to reliably monitor atmospheric parameters such as wind, turbulence, clouds and aerosols. These parameters impact all aspects of human life, directly or indirectly.

For example: The next generation of high-resolution weather prediction models require very high levels of spatial and temporal continuity. Satellite observations for global coverage have to be interlinked with ground-based instrument networks offering high vertical and temporal resolution.

The WindCube® Scan series of wind and aerosol lidars perform 24/7 real-time measurements and high-level data processing. It is a versatile tool for recovering accurate wind and aerosol backscatter measurements in any scanning geometry up to more than 10 km. The state-of-the-art structure detection algorithm enables you to detect, locate and classify clouds and aerosol layers in the troposphere, and monitor the height of the Atmospheric Boundary Layer (ABL).

WindCube Scan enables you to monitor the first vertical layers of the atmosphere with superior accuracy — not covered by standard ground or satellite-based observations. Advancing research of the meso- and microscale aspects of weather and climate with wind lidars helps scientists and meteorologists develop ever more accurate forecasting models.

Trusted weather observations for a sustainable future

WindCube Scan at a glance

Applications

- Atmospheric sciences and climatology
- Boundary layer profiling for observation networks
- Weather monitoring and decision support
- Structural engineering
- Air quality monitoring and forecasting
- Industrial emissions monitoring
- Aerospace and defense

Key features

- Wind, aerosol backscatter and cloud measurements
- Versatile and user-friendly configuration support multiple scanning patterns and measurement needs
- Autonomous remote operation
- 1 year initial warranty coverage with onsite maintenance service options for high uptime and long lifetime
- A dedicated WindCube Scan model for long range profiling



	100P	100S	200S	400S
Typical wind measurement range	Up to the boundary layer	6 km	8 km	10 km
Maximum acquisition range		14 km+	15 km+	18 km+
Scanner rotation speed	Up to 50°/s			
Accumulation time	From 0.1s to 10s			
Data transfer	Graphical User interface / FTP / SSD swap / API			
Data format	NetCDF data format			
API type	REST web API			
API functionalities	Lidar scan configuration and monitoring; status/activities/logs monitoring; data (JSON stream and NetCDF files) download			
Dimensions	830 x 1008 x 1355 mm (L x W x H)			
Weight	220kg			
Temperature range	-40°C to +55°C (-40° to 131 F°)			
Power consumption	1100W maximum average power with brief peaks up to 1600W			
	Designed for quick and efficient onsite services			

Why Vaisala?

The industry's most dependable technology

Vaisala solutions are built on decades of industry leadership, and thousands of WindCube units are deployed around the world. Our technology's precision and reliability under varying conditions have been validated time and time again.

Support to count on

Look to Vaisala for dependable support and training so you can get the most from your equipment. With decades of experience providing the best technologies and the finest support, Vaisala's philosophy of partnership is unmatched in the industry.



vaisala.com/wind-lidars



Scan the code for more information

Ref. B212058EN-C ©Vaisala 2022

This material is subject to copyright protection, with all copyrights retained by Vaisala and its individual partners. All rights reserved. Any logos and/or product names are trademarks of Vaisala or its individual partners. The reproduction, transfer, distribution or storage of information contained in this brochure in any form without the prior written consent of Vaisala is strictly prohibited. All specifications — technical included — are subject to change without notice.