

NEW**Wind iris****Turbine-mounted
Lidar**

Four years after its first introduction to the market by Avent, discover the new Wind Iris turbine-mounted Lidar, bringing radical improvements in metrology and operations.



One year of successful prototype testing and validation

In addition to environmental testing and certifications, several onsite campaigns on the new 4-beam Wind Iris showed:

- **100% uptime and high data availability** in all weather conditions (down to -30°C, in freezing conditions, and in clean air)
- **High correlation with IEC met mast measurements**, both in simple and complex terrain (0.1 m/s wind speed accuracy)
- **Full operational assessment in 3-6 weeks**, from yaw misalignment to power curve measurement and NTF verification

Verify and optimise wind farm performance, turbine after turbine

Power curve measurements

Assess turbine performance with IEC equivalent or Operational power curves using an industry proven procedure, and evaluate the benefits of maintenance actions and performance upgrades with before/after power curves.

Yaw misalignment correction

Increase energy production with a direct, independent and automated measure of the yaw misalignment in a few days.

Nacelle transfer function characterization

Obtain an accurate site specific calibration for your nacelle anemometer and improve the value of your SCADA monitoring.

Advanced applications

Including site calibration, wind sector management or wakes analysis. Plus feed-forward turbine control applications with our dedicated entity Avent Lidar Technology.

Key features

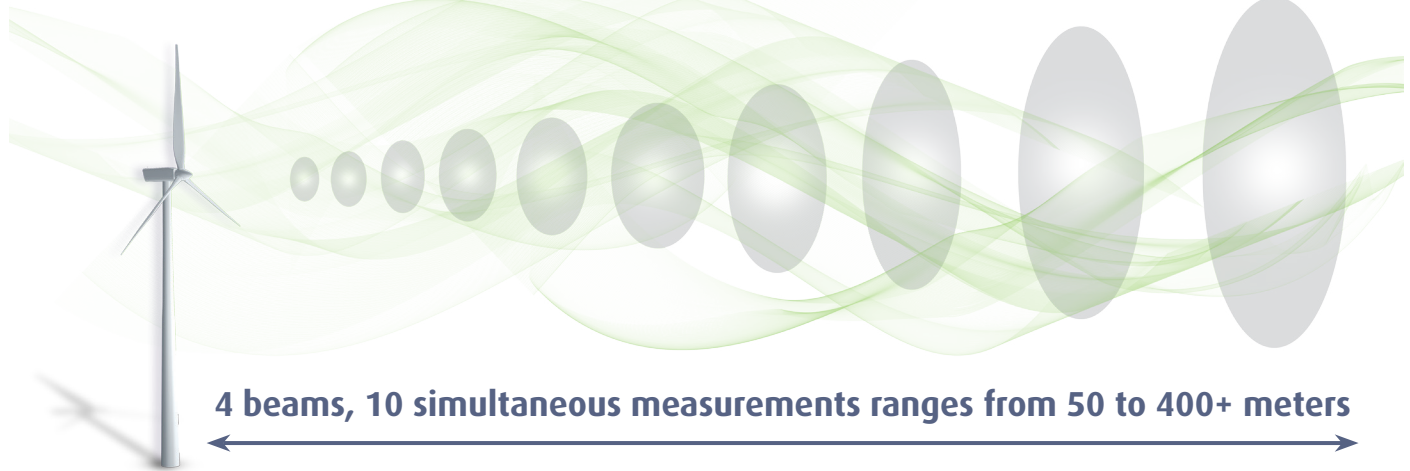
- Comprehensive **hub-height and rotor equivalent measurements** for in-depth analysis on **all terrain types**
- **Constant accuracy** from 50 to 400+ meters, suitable for **all turbine sizes and types**
- **Straightforward installation** with lightweight system parts and embedded screen for configuration
- **Proven platform** benefiting from 4 years of customer feedback and **200+ turbine deployments experience**
- **Complete range of supporting services**, from installation to data analysis training and tools

Wind data output at hub-height and through the rotor swept area

Reconstructed data output:

- Wind speed and Direction
- Shear and Veer
- Turbulence intensity

Beam geometry:



Specifications

PERFORMANCE

Range	50 to 400+ meters
Data sampling rate	1 Hz
Measuring distances	10 user defined distances simultaneously
Speed accuracy	0.1 m/s
Speed range	-20 to +50 m/s
Direction accuracy	+/- 0.5°
Number of beams	4 beams
Beam geometry	Horizontal opening: 15° half angle Vertical opening: 5° half angle

OPERATIONS

Optical Head (OH)	L53cm, W36cm, H36 cm	21 kg
Processing Unit (PU)	L50cm, W37cm, H13 cm	12 kg
Tripod	14 kg	
Connecting cables	Power: 8m length, Ø12.1mm Communications: 8m length, Ø9.6mm	
Power consumption	180 W nominal	
Temperature range	OH: -30°C/-22°F to +50°C/+122°F PU: -30°C/-22°F to +65°C/+149°F	
Environnement	Housing classification IP65 Marine atmosphere compliant (IEC 60068-2-11) Operating humidity 0 to 100% RH	
Safety	Class 1M / EN 60825-1	
Compliance	CE	

DATA

Output data	1s/10min radial and reconstructed wind data (see above) Yaw misalignment Tilt and roll angles CNR (signal to noise) Data availability
Data storage	64 GB – about 1.5 years @1Hz
Data format	ASCII (encoding), .CSV (file)
Communication	Ethernet (RJ45), CAN Bus (DB9), 3G modem (optional) + Peripheral (USB, HDMI, RS232)
Time synchronization	GPS, NTP



LEOSPHERE



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