

Lidar Wind Profiler

BEAM6x Wind sciences



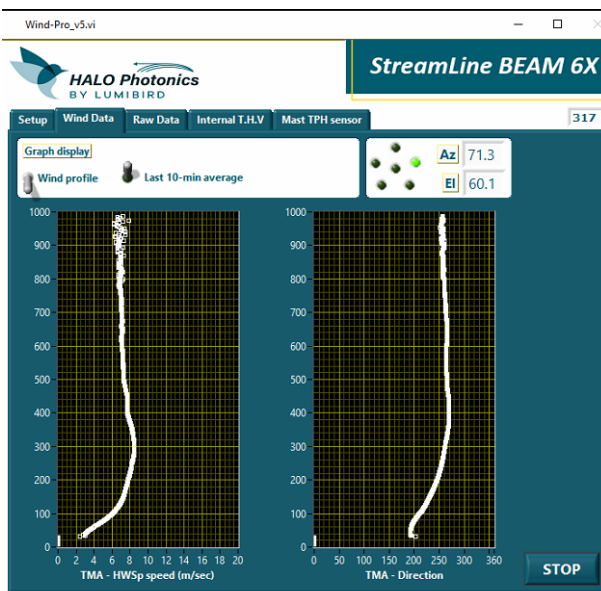
- Superior performing Doppler lidar for wind studies within the boundary layer
- Powerful pulsed laser with 6 fixed beams (5 tilted and 1 vertical)
- Measuring range from 40 m up to 1000 m
- 380 height ranges, overlapping range gating with 2.6 m increments
- High data availability even for upper height ranges (typ. $\geq 50\%$ @ 500 m)
- Easy and fast transportation and installation
- Output of raw line-of-sight data (radial velocity and SNR)
- Online calculation of 10 minutes averaged wind profiles
- Comprehensive Built-In system status monitoring
- Applications include meteorological studies, wake studies, new developments in wind energy

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The BEAM6x Wind sciences was developed on the expertise of Lumibird's widely used AllSky scanning lidars of type Streamline but uses 5 fixed tilted beams @ 60 ° elevation and one vertical beam to derive online vertical wind profiles of adjustable averaging intervals. The unique range overlapping feature provides a vertical spacing as fine as 2.6 m and allows to select the exact measuring heights of interest.

The BEAM6x Wind sciences offers compact design and low weight assuring a safe and easy handling and reducing all installation efforts. The measuring height of max. 1000 m agl is an adequate response to the ongoing increase of the wind turbines hub heights and warrants a long term useability.

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| Laser wavelength | 1.5 µm, laser class 1M (eye-safe) |
| Pulse length | typ. 150 ns |
| Range of measuring heights | 40 ... 1000 m |
| Number of measuring heights | 380 at 2.6 m increments |
| Availability | ≥ 50 % @ 500 m (typically experienced) |
| Rays | 5 tilted beams at 60 ° elevation, 1 vertical beam |
| Range of radial wind speed | ± 19 m/s |
| Range of horizontal wind speed | 0.2 ... 38 m/s |
| Range of wind direction | 0 ... 360 ° |
| Accuracy of wind speed | ≤ 0.2 m/s or 2 % |
| Accuracy of wind direction | ≤ 2 ° at wind speeds ≥ 5 m/s |
| Dwell time per beam | 1 s |
| Averaging time of wind profiles | adjustable, typically 1 .. 30 minutes |
| Interfaces for data output and control | RJ45 Ethernet x2, USB x2, SVGA |
| Built-in memory | 1 TB solid-state hard drive (other types available) |
| Position and time synchronization | GPS |
| Levelling | recording of 2-axis inclination sensor |
| Ambient operation conditions | -20 °C ... 45 °C (active cooling) / 5 ... 100 % RH |
| Power consumption | 24 VDC, 140 W lidar/170 W extra for heating/cooling |
| Weight | 60 kg (approx.) |
| Enclosure dimensions (L x W x H) | 62 cm x 54 cm x 60 cm (approx.) |
| Windows cleaning | blower unit |



In 08/2023 LUMIBIRD S.A. and METEK GmbH signed a comprehensive cooperation agreement regarding distribution, after sales service, maintenance and repair by METEK GmbH for 15 European countries. Pls. see our website www.metek.de or contact us by phone for more information about our products and services.

METEK GmbH is offering a variety of Doppler LIDAR systems for rental services and short term demonstrations.

METEK GmbH reserves the rights to modify the specifications without prior notice.