

# WIND IRIS<sup>®</sup>

## TURBINE MOUNTED LIDAR

POWER PERFORMANCE TESTING ONSHORE & OFFSHORE

### Accurate Power Curve Measurements

- Assess turbine performance with IEC equivalent using an industry proven procedure
- Evaluate the benefits of maintenance actions and performance upgrades with before/after power curves

### Three Years of Successful Testing and Validation

- 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)

### Advanced Applications

- Nacelle Transfer Function characterization
- Site calibration
- Wind sector management
- Wake analysis



**NRG**Systems™



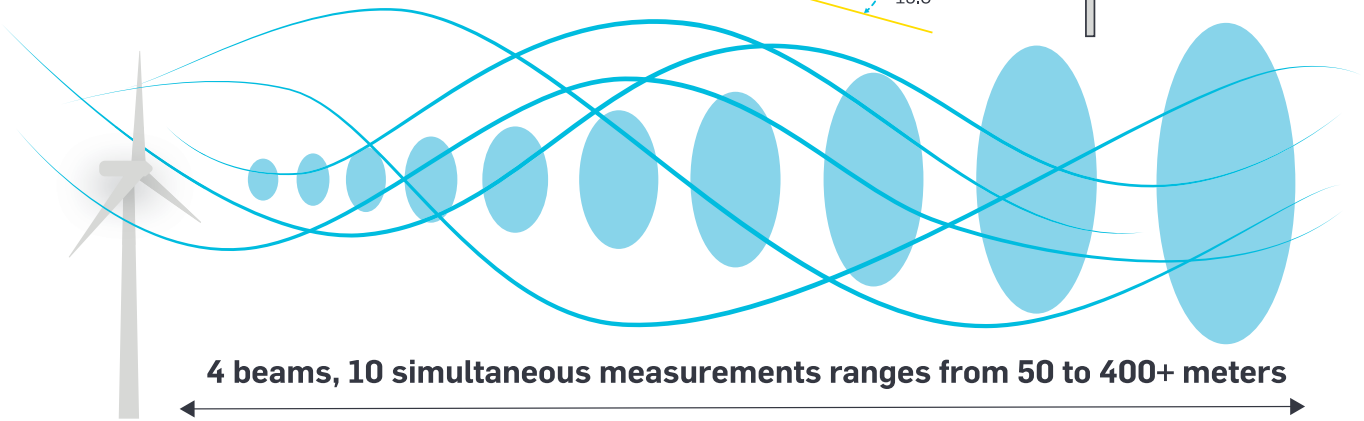
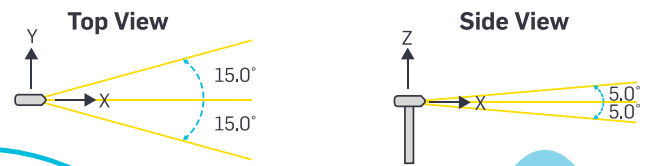
## KEY FEATURES AND BENEFITS

- Comprehensive hub-height and rotor equivalent measurements for in-depth analysis in all terrains
- 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

### Reconstructed Data Output:

- Wind Speed and Direction
- Shear and Veer
- Turbulence Intensity

### Beam Geometry:



<b>Data Sampling Rate</b>	1 Hz
<b>Output Data</b>	1s/10min radial and reconstructed wind data Yaw misalignment Tilt and roll angles CNR (signal to noise) Data availability
<b>Data Storage</b>	64 GB - About 1.5 years @ 1Hz
<b>Data Format</b>	ASCII (encoding), .CSV (file)
<b>Communication</b>	Ethernet (RJ45), CAN Bus (DB9), 3G modem (optional) + Peripheral (USB, HDMI, RS232)
<b>Time Synchronization</b>	GPS, NIP

<b>Measuring Distances</b>	10 user defined distance simultaneously
<b>Speed Accuracy</b>	0.1 m/s
<b>Speed Range</b>	-20 to +50 m/s
<b>Direction Accuracy</b>	+/- 0.5°
<b>Number of Beams</b>	4 beams
<b>Optical head (OH)</b>	L53 cm, W36 cm, H36 cm 21kg
<b>Processing Unit (PU)</b>	L50 cm, W37 cm, H13 cm 12kg
<b>Tripod</b>	14 kg
<b>Power Consumption</b>	180 W nominal
<b>Temperature Range</b>	-30°C/-22°F to +50°C/+122°F
<b>Environment</b>	Housing classification IP65

### For more information:

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ISO 9001: 2008 Certified

