Wind Monitoring Solutions

Technology

- ZX Lidars
  - Onshore Lidars
  - Marine Lidars
  - Nacelle Mounted Lidars
- Fulcrum3D Sodars
- Kintech
  - Met Mast Systems
  - Geovane
- Halo Scanning Doppler Lidar
- RPS Floating Lidar

Services

- Customised Solutions
- Installation Support
- Maintenance and Services
- Met Mast Construction

Applications

- Wind Resource Assessment (WRA) – Onshore
- Wind Resource Assessment (WRA) - Offshore
- Wind Monitoring
- Wind Farm Operations
- Power Curve Measurement and Verification

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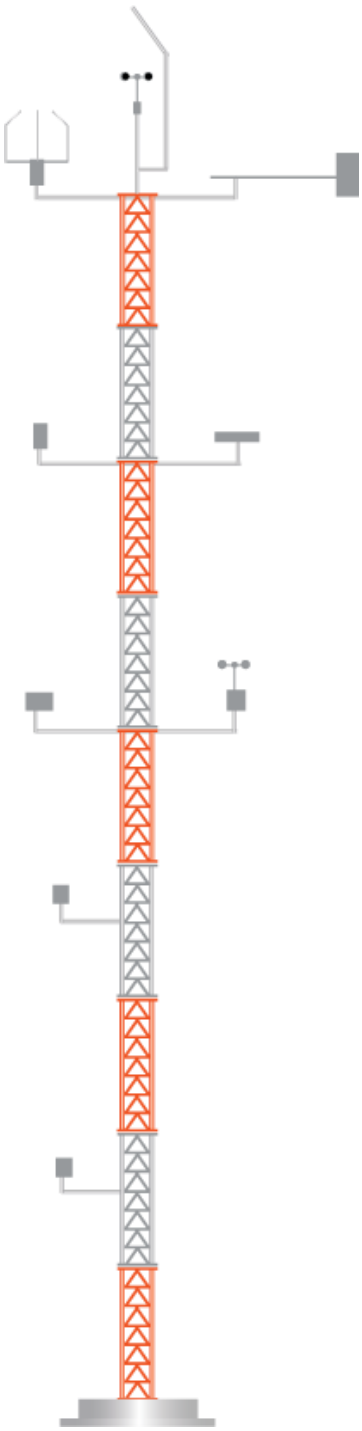
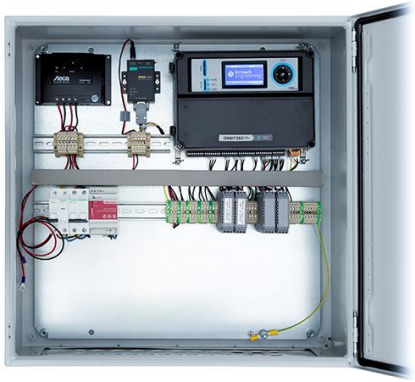
Wind Measurement System

OVERVIEW

Benefits of the Kintech Wind Measurement System

- Built-in Cellular Modem with Global SIM card
- No Static IP address required
- Built-in GPS module
- Real-time monitoring (24 x 7)
- Built-in battery backup (100 days)
- Built-in memory backup (120 days)
- Low power consumption
- Atlas software for data collection. Data directly from the datalogger to your PC.
- Compliant with IEC61400.12.1
- Support multiple sensor manufacturer (Thies etc)





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StreamLine Series

Scanning Doppler Lidar

The Streamline XR Lidar belongs to the StreamLine series, which is a range of compact Doppler Lidar systems offering high resolution wind measurements with all sky scanning. It offers the benefit of low power consumption, light weight and portable operation coupled with autonomous operation.

	StreamLine All Sky Scanner (Model Variation)				
Model	**XR**		**XR+**		**LR**
Max Wind Speed	±19m/s	±38m/s	±19m/s	±38m/s	±30m/sec
Bin Resolution	3m	1.5m	3m	1.5m	1.875
Max gates	3900	7900	3900	7900	7900
Max Range	12km		12km		15km
Range with good data	4.5km		6.5km		11.5km
Azimuth Resolution	0.01°				
Accumulation Time	0.1 – 30 seconds				
Weight	85kg		90kg		100kg
Temperature Range	-20°C to +45°C (active cooling option)				
Typ Power Consumption	160W		180W		200W
Max Power Consumption	525W (max cooling)				600W (max)
Type of Scanner	All-Sky scanner -10° to 190°				

RPS LiDAR 3.5 BUOY

The Level 2 accredited (Carbon Trust) RPS Lidar 3.5 Buoy has been designed to deliver stable, reliable, and bankable offshore wind measurements in the harshest environments. Its robust structure and single point mooring are based on decades of experience in reliably measuring cyclonic weather.

The completely autonomous buoy is powered by renewable energy and batteries with redundancy in the power, communications, and data logging systems giving customers piece of mind that their data is safely protected on a zero-carbon footprint.

- Proven modelled buoy design and mooring analysis.
- Utilises market leading ZX 300M Lidar.
- Fully renewable power source combining solar and wind power.
- Dual redundant power, logging and transmission systems ensures data security whilst maintaining data reliability.

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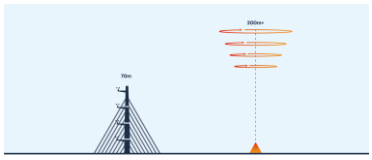
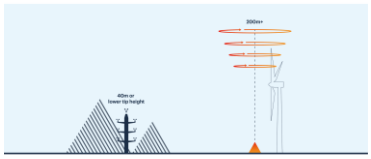
ZX Lidars

ZX 300 onshore wind Lidar

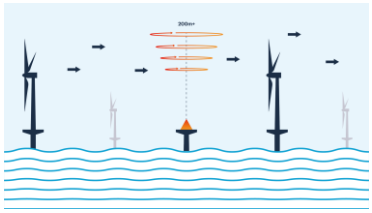
- Remotely measure the wind from 10 to 300+ metres above ground.
- Be flexible within your planning applications by using a low visual impact, low height device.
- Start your measurement campaign tomorrow with little or no site preparation or planning permits required.
- Suitable for standalone wind energy assessments, by DNV GL. ZX 300 is fully IEC Classified to IEC 61400-12-1: 2017.
- Take confidence from our 3-year Warranty and Service Interval.

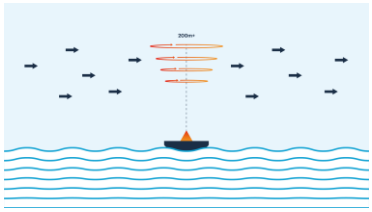




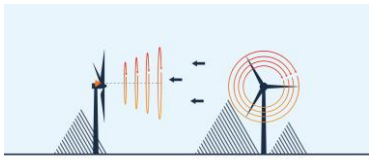
ZX 300M Offshore wind Lidar

- Our Continuous Wave laser measures the Line of Sight wind speed every 20 milliseconds to 'freeze' any motion encountered.
- Multi-layered, highly insulated, plastic moulded Lidar housing, with additives to provide high UV stability and improved marine growth resistance.
- Highest grade of marine connectors available for all peripheral items, 2000+hrs salt spray tested.
- Custom stainless steel frame to allow for ease of handling and efficient securing to any platform surface.
- Marine met station with improved yaw determination, for floating offshore platforms.
- Stainless steel window wiper system with silicone wiper blade.
- External cooling system / air movement fans upgraded to IP 68.





ZX TM Turbine Mounted wind Lidar



- Remotely measure the wind ahead of wind turbines from 10m to 500m+.
- Compensate for turbine movement automatically for accurate measurements above ground level, e.g. hub height.
- Standard industry-accepted methodologies and measurements for: Power Curves, Nacelle Transfer Function calibration including Yaw Alignment, and Wake Detection.
- Extensive 3-year service period ensuring the lowest cost of through-life ownership.
- Suitable for installation on all major turbine platforms.

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