

The Green Rebel Floating LiDAR

UNCOMPROMISING ENGINEERING FOR THE MOST RELIABLE RESULTS

Green Rebel's MetOcean team have over 25 years experience in managing real-time data buoys with over 300 successful deployments across the world.

In 2018, the Green Rebel MetOcean team (then known as IDS Monitoring) set about designing a platform that would provide higher quality data to offshore developers, with reduced uncertainty and greater reliability.

The result is the Green Rebel Floating LiDAR, a ground-breaking platform that has been carefully engineered to meet the requirements of floating offshore projects, ensuring superior reliability, robustness, redundancy and performance regardless of MetOcean conditions.

The Green Rebel Floating LiDAR is stage 1 and stage 2 certified, in line with the Carbon Trust FLS roadmap.

THE BENEFITS

Proven technology, proven results

With over 300 deployments since our first metocean buoy in the North Atlantic in 1997, Green Rebel's MetOcean team has an intimate understanding of what it takes to deliver reliability at sea. Our proprietary DataPOD technology, coupled with the expert knowledge and experience of our team, offers certainty to offshore developers

More power, less risk

The Green Rebel Floating LiDAR solution has a larger, more sophisticated power system than any alternative platform on the market. This allows for longer-term sustained operations at the higher and lower latitudes as well as the deployment of additional power-hungry sensors. Significantly, this system design allows the Green Rebel Floating LiDAR to operate two ZX LiDARs simultaneously.

Redundancy, everywhere

Experience has shown that unexpected things can happen at sea. When conditions are rough at an offshore site and affects access to a platform, component damage becomes a high-cost risk. Our solution mitigates this risk by providing redundancy for all core system elements including power systems, data acquisition and telemetry and providing options for redundancy on everything else including the LiDAR.

Superior buoyancy

As wind farms move further offshore, the wave climate becomes more extreme. In order to continue to perform at full capacity in these climates, the Green Rebel Floating LiDAR is designed with more buoyancy and deeper ballast, ensuring that this buoy has the lift required to perform well in 20m+ waves and strong currents and on deep ocean deployments.

FLOATING LiDAR



FEATURES

Designed to meet the requirements of floating offshore projects

Built with mature, proven technology

More power than any other system

Dual LiDAR options

Superior buoyancy for more challenging MetOcean conditions

DIMENSIONS & WEIGHT

- Diameter: 4.5m
- Height: 6.5m
- Gross buoyancy: 24,000Kgs
- Net buoyancy: 12,000kgs

COMPONENT SPECIFICATION

:: LiDAR

M300 from ZxLiDAR, profiling up to 300m. 10-minute average data transmitted as standard with 1 Second data for TI.

Option for second LiDAR to run simultaneously or as a redundant backup depending on the configuration.

:: Wave Sensors

Datawell DWR and/or DWR-G with options for full redundancy. Continuous sampling with 15-minute reporting. Data include significant wave height, wave period and direction.

:: ADCP

Norteck Signature Series with options. Number of configurable bins depending on water depth.

:: Other Sensors

Including optional temperature and pressure sensors, in addition to water quality monitoring (turbidity, SS & CT profiles).

:: Power Systems

Solar ~3.2KW plus two fuel cells with option for a third and option available for twin wind turbines. Primary and backup SLA battery packs housed independently.

:: Mooring Options

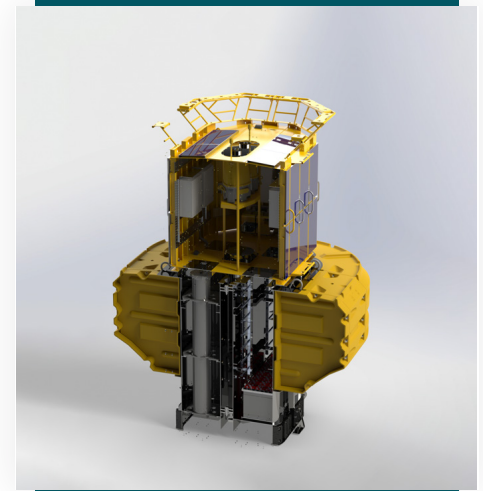
Moorings are designed for each site. Options used include a triple (crows-foot) configuration, twin mooring or single catenary mooring for deep deployments.

:: Data Acquisition and Telemetry

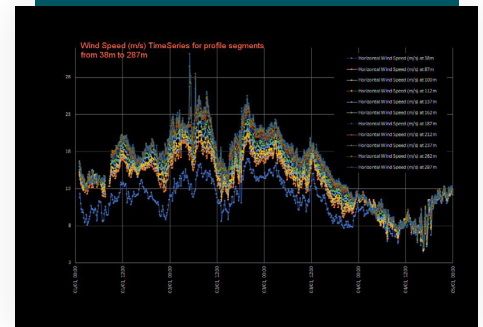
An IDS DataPOD FL with full redundancy, including multiple redundancies on telemetry (GSM, ISM and Satellite) and full remote presence and remote control on all devices and system components.

:: Data Delivery

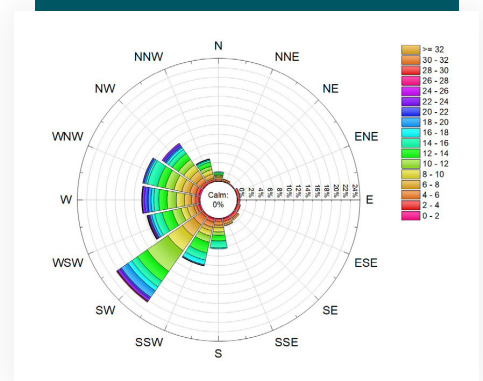
Data are made available to the client using a secure DataLink Pro Portal. Options are available for how data is presented and retrieved. Access to data and functions are password controlled.



LiDAR CROSS SECTION



LiDAR DATA - WINDSPEED



LiDAR DATA - WIND DIRECTION

ABOUT GREEN REBEL

Supporting offshore site investigations

At Green Rebel, we provide a suite of comprehensive site investigation services designed to meet the requirements of offshore wind developers. From acquisition through to processing and reporting, Green Rebel will manage the end-to-end lifecycle, delivering the data and insights needed to inform optimal engineering decision making.

SERVICES

- :: Aerial
- :: Geophysical
- :: MetOcean

CONTACT US

Get in touch

To learn more about how Green Rebel can support you, get in touch at:

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