JFC | MARINE

Data Buoy Range

www.jfcmarine.com

JFC Marine Data Buoys

JFC Marine offer a complete range of Data or Met Acquisition Buoys floating structure solutions.

The buoy day mark is custom designed to customer specifications to host the necessary instrumentation required such as:

- Weather Stations
- Water Sensors
- Measuring Instruments
- Wind or Solar Generators
- Data Transmission
- Technical Compartments etc.

JFC Marine Data Buoys are rotationally moulded using marine grade (UV stabilised) polyethylene and are designed for use in moderate seas. The modular design has a unique central core steel arrangement for superior strength and durability.

The data buoy range are designed with an emphasis on maximising the optimal area for data monitoring instrumentation application. Each data buoy is custom designed to satisfy individual customer specifications offering greater flexibility to the customer.

Features & Benefits

Modular Buoy Design

- Excellent strength and durability.
- Increase flexibility.
- Easier to transport.

Easy Accessible Hull Section

- Low height from ground.
- Slip resistant platform.

Moorings

- Single and bridal mooring.
- 2 point mooring.
- 2 to 4 lifting eyes (dependent on buoy type).

Customisation of Day Marks

- IP Rated storage compartment battery boxes.
- Safe work area (Crow's Nest fitted if required).
- Additional gussets on tower base for increased strength and durability.

Built-In Moon Pool In Buoy Hull

- 2 sizes available: Ø400mm & Ø900mm for the Seagull Navigation Buoy range
- Offers protection for sensor and measuring instruments.
- Reduces risk of water ingress.

Remote Sensor Pod

The Remote Sensor Pod (RSP) is an internet of things centric data acquisition system designed to deliver high speed real time data. It is designed to operate in a broad range of all-weather environments such as ports and harbours, offshore, fresh water, or land based.

The RSP utilises ultra low power but powerful micro-controllers or microprocessors running a fault tolerant operating system. The microprocessor selected being based on the particular application and environment. It can be configured to work in remote environments where power and communications are scarce resources.

Data returned from the device is formatted according to NMEA 0183 standard and is streamed over the communications interfaces. Data is provided via industry standard protocols and is streamed direct to customer's applications, databases, mobile apps or web servers.

Built-in communications resilience allows local storage of data during the "perfect storm" conditions when communications are down. On-board data is subsequently uploaded and synced so that the data is never lost.

Features & Benefits

- Operates in extreme maritime environments - surviving the perfect storm.
- Operates for extended periods on ultra low power budgets.
- Transmit data to shore or store internally during autonomous operation.
- Remotely configurable.
- High speed data acquisition.
- NMEA / AIS formatted messaging.
- Comprehensive alerting system e.g. collision / bump detection.
- Geo fencing, tracking and positioning features.
- Easy web interface for configuration and data / results presentation.
- Cloud integration together with industry standard databases.
- Operates on a variety of embedded platforms, and Linux capable platforms.
- Eco-rate feature to dynamically adjust data transmission rates and use of communications.

Built-In Sensors

- A precision GPS, also providing data time stamping.
- A high resolution altitude sensor.
- A precision humidity sensor.
- A tilt compensated compass, for pitch, roll and yaw.
- An accelerometer, magnetometer and gyro.
- A temperature sensor.

Sensor / Instrument Interfaces

The remote sensor pod has a variety of user /sensor / instrument interfaces including:

- 4 x RS232 ports.
- 8 x Analog input ports (16-24 bit) with scaling. Configurable as 4-20mA current loop inputs.
- 1 x RS485 port.
- Up to 128 Gigabyte on board storage.
- I2C interfaces.
- USB interface.
- Digital input / output signalling.
- PWM control.
- FET Power switching.

Communications

The sensor pod can deliver data to users over a variety of communications devices:

- Fiber
- Ethernet
- GPRS / 3G
- Wifi 2.4 and 5.8Gz (802.11a/b/g) radio.
- Bluetooth
- Serial RS232
- Serial twisted pair RS485, at distances up to 4km.
- Satellite
- AIS

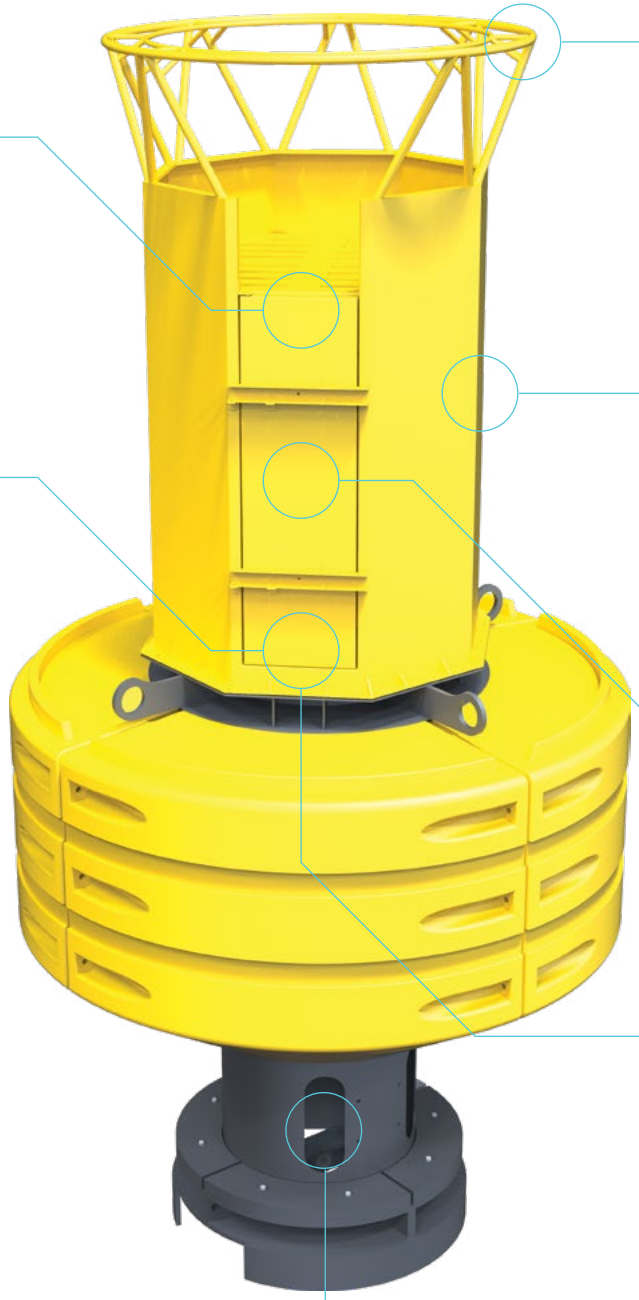
Ø2600/ Ø3000 Seagull Data Buoy

The Seagull Ø2600 / Ø3000 are offshore Met Ocean Data buoys suitable for depths up to 50-60 meters depending on moorings and sea state conditions. The octagon design allows for optimal surface area for solar panel mounting.

CODE	NAME	DIAMETER	FOCAL HEIGHT
SG2600-DB	2600 Seagull Data Buoy	2600mm	3000 - 5000mm
SG3000-DB	3000 Seagull Data Buoy	3000mm	3000 - 6000mm

The tower comes complete with instrumentation ring and a recessed ladder for safe access to service sensors.

An internal brace exists across the roof with lifting eye to enable servicing of instrumentation within the moon pool.



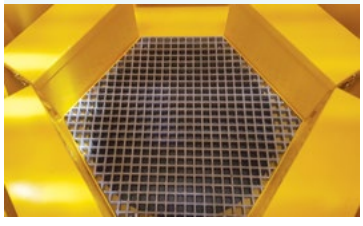
The buoy day mark is designed to reduce wind drag while also providing maximum surface area for panel mounting.

Buoy hulls are available with or without moon pools (2 sizes available: Ø400mm & Ø900mm for the Seagull Navigation Buoy range).

The moon pools can accommodate up to 24 mounting brackets for attaching sensors or to attach rails to move instrumentation frame in and out of the water safety during maintenance.

The tower comes complete with 2 x lockable reinforced doors to reduce wind damage drag during rough weather conditions.

There are up to 4 large battery compartments on the buoy floor to allow optimum overall power requirement.



The tower has a safe work area on the inside consisting of mounting brackets on the walls which can be moved or modified to suit individual sensor, power or communications requirements.

The hull frame comes with sensor access holes to allow free movement of water through the hull preventing stagnant water measurements.

Ø550 Data Buoy

The Ø550 data buoy is a small light weight data buoy, ideal for inland coastal and river monitoring. Due to its light weight design, this buoy can be easily deployed and retrieved.

Suitable for river water monitoring, turbidity or water temperature monitoring.

CODE	NAME	DIAMETER	FOCAL HEIGHT
550-DB	550 Data Buoy	550mm	350mm

Ø1500 / Ø1800 Gannet Data Buoy

The Gannet Ø1500 / Ø1800 is a midrange data buoy. Suitable for depths up to 20-30 meters depending on moorings and sea state conditions.

This buoy has a steel lattice tower day mark suitable for mounting of solar panels and monitoring equipment. In addition it has a built-in battery box for safe storage of batteries.

CODE	NAME	DIAMETER	FOCAL HEIGHT
G1500-DB	1500 Gannet Data Buoy	1500mm	1500 - 2500mm
G1800-DB	1800 Gannet Data Buoy	1800mm	2000 - 3000mm

Ø2200 Gannet Data Buoy

The Gannet Ø2200 is a large data buoy suitable for depths up to 30-40 meters depending on moorings and sea state conditions.

This buoy is available with steel lattice tower day mark or polyethylene tower depending on application. Both are suitable for mounting of solar panels and equipment, and come with a built-in battery box for safe storage of batteries.

CODE	NAME	DIAMETER	FOCAL HEIGHT
G2200-DB	2200 Gannet Data Buoy	2200mm	3000 - 3500mm

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