



FUGRO DEEPDATA

Fugro's DeepData range of sensors presents an innovative and cost-effective solution for providing high-precision motion measurements on subsea assets.

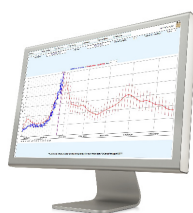
SUBSEA ASSET INTEGRITY

DeepData seeks to ensure the integrity of subsea assets in harsh marine environments.

High precision accelerometers and angular rate sensors are used to record the motion of subsea structures.

Measurements allow engineers to refine structural models and make accurate predictions of fatigue life and structural behaviour.

The service and rental equipment is available worldwide.



Measurements allow engineers to refine structural models



DeepData in versatile mounting receptacle

BENEFITS

- **Increased operational efficiency**
Up to 506 days continuous operation, minimising the risk of data loss
- **Reduced project risk**
Compact and light-weight pods for simple installation by the vessel crew, removing the cost and risk of mobilising specialists to the vessel
- **Faster data delivery**
Advanced data processing techniques provide prompt, same day, data delivery to all stakeholders
- **Lower costs**
Proven, reliable equipment minimises the need for pod servicing, onsite spares and redundancy

DEEPDATA

Technical Specifications

Accelerometers

Range	±2 g
Resolution	613 $\mu\text{m}/\text{s}^2$
Noise floor	200 $[\mu\text{m}/\text{s}^2]/\sqrt{\text{Hz}}$

Angular rate sensors

Range	±75 °/s
Resolution	0.0104 °/s
Noise floor	0.005[°/s]/ $\sqrt{\text{Hz}}$

Calculated displacement and inclination noise (RMS in band 0.05Hz to 2Hz)

Lateral displacement	4.9 mm
Inclination	0.0035 °

Data acquisition

Sample rate	10 Hz or 100 Hz	10 Hz
Bandwidth	2.7 Hz or 27 Hz	2.7 Hz

Self-logging

Real-time Monitoring

DeepData enclosure

Weight (in air)	12 kg	23 kg
Weight (in water)	7 kg	11 kg
Depth rating		3,000 m

Self-logging

Real-time Monitoring

Battery

Lifetime-continuous recording	Up to 506 days	Up to 300 days
Battery pack		Alkaline or lithium

Self-logging

Real-time Monitoring

APPLICATIONS

- Wellhead fatigue measurement
- Riser motion monitoring for drilling or production risers
- Vortex-Induced Vibration (VIV) assessment
- Balance of Plant (BOP) tether monitoring
- Foundation integrity
- Cable span monitoring
- Pipeline span motion
- Determining soil stiffness for wellhead or platform foundation
- Calibration of fatigue models and verification of designs
- Mooring line motions

FEATURES

- Self-logging
- Hydro-acoustic data transmission for real-time monitoring
- High-precision motion measurements in six degrees of freedom
- Up to 506 days continuous operation
- Corrosion resistant pod
- Remotely operated vehicle (ROV)
- Custom transit case
- Compact and light-weight which allows safe handling
- Various customisation options are available

MOUNTING RECEPTACLE

- Positive securing of enclosure
- Allows attachment to circular columns over a wide range of diameters
- Can be mounted to square or rectangular sections
- ROV installable
- Magnetic attachment

DeepData is part of Fugro's NorthStar® integrated marine management and advisory solution. NorthStar® monitors multiple data systems and improves the performance, efficiency and safety of marine assets.

By integrating information from the diverse range of sensors and sub-systems that collect and relay data and presenting it in an intuitive single data interface, NorthStar® offers a unique asset wide overview of environmental, positional and structural conditions.

