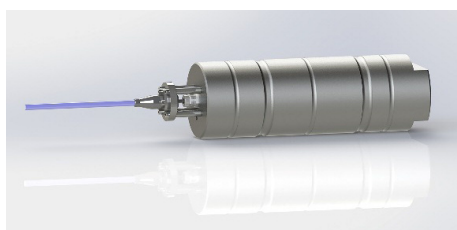
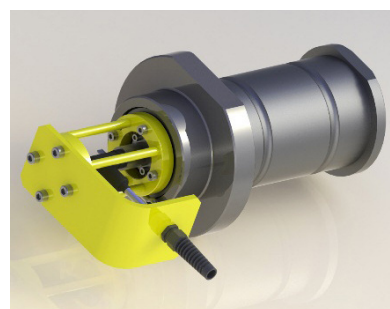
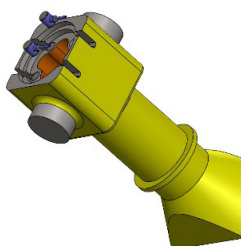


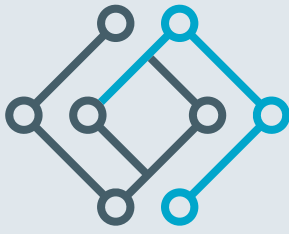
LIGHT STRUCTURES
Passion for Monitoring



Marine Load Monitoring for Offshore, Aquaculture and Fish farm

Measure the unknown to eliminate failure





LIGHT STRUCTURES
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MOORING LOAD MONITORING

There are many applications used in the marine industry requiring tension measurements including monitoring the mooring loads of ships to the jetty or mooring buoy. Mooring monitoring solutions are custom-made to enable the early identification of possible mooring line failures, protecting your valuable vessels or fish assets from the risk of costly incidents. The most common solution is to either replace the pin in a mooring hook or to replace the pins in the triangular mooring plate.

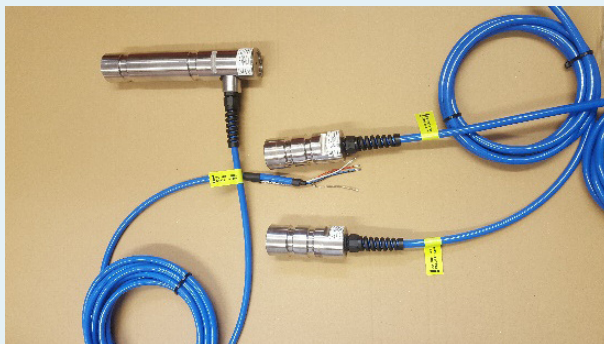
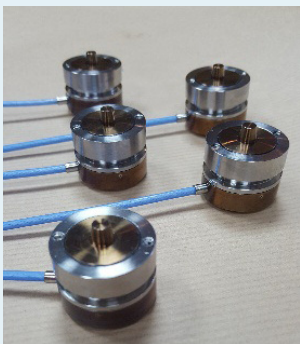
LIFTING APPLICATION

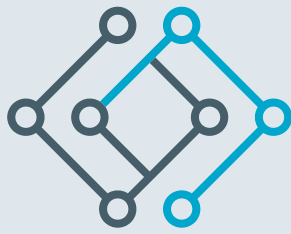
There are many applications used in the marine industry ranging from weighing loads suspended under a crane to checking the tensions required.

Most of these applications require various ways of measuring the loads and forces that can be solved using a load link or load shackle

WINCH LOAD MEASUREMENT

Winches can be used to assist in the measurement of tension in ropes and chains. Various winches are used and can come in all different designs and sizes. The solution can simply replace a pivot pin with a load pin, or placing a load cell in the bed of the support frame to completely replace the supports





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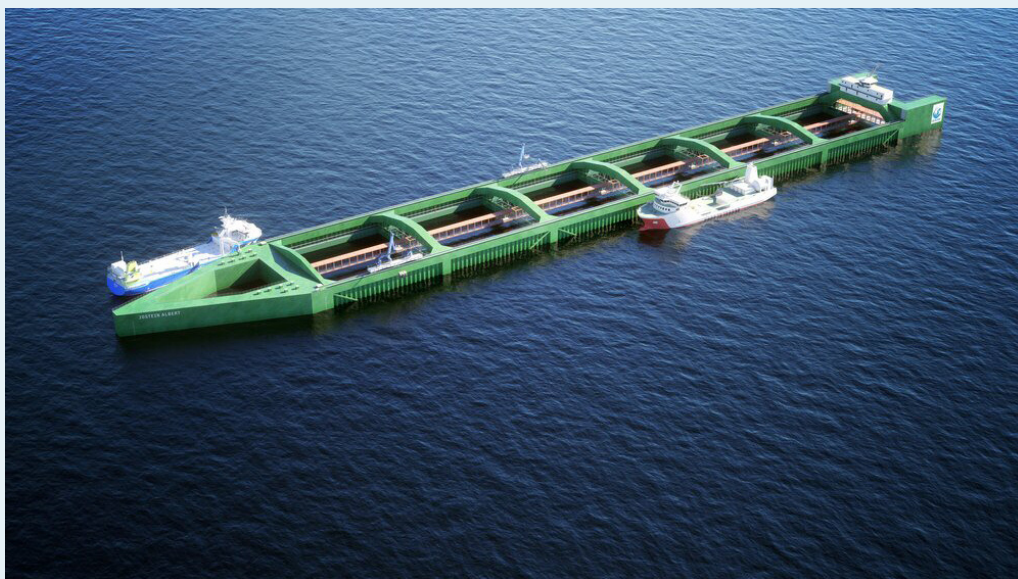
MOORING LOADS for AQUACULTURE and FISH FARM

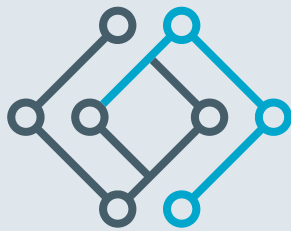
As the aquaculture industry develops larger assets and locates further offshore, it has become more important to monitor the increased mooring loads.

Light Structures deliver hardware, software and instrumentation solutions to measure loads in real time. These are custom-made to enable the early identification of possible mooring line failures, protecting your valuable aquaculture assets from the risk of costly incidents.

The systems are designed to monitor environmental conditions: tension monitoring of the anchoring lines, buoys and any other applicable monitoring parameters.

- ✓ mooring condition monitoring, mooring line tension
- ✓ measure the tension in the various connecting lines to the buoys and other
- ✓ logging and monitoring for real time data and historical information
- ✓ optional wireless technology, battery operated nodes and data-acquisition units
- ✓ equipped with alarm set points and variable limits





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ANCHOR HANDLING/ MOORING LOADS for FPSO

FPSO's have an extra range of requirements where load measurements are necessary. One of the main applications needed is to measure the anchor mooring loads. The method commonly used is to modify the anchor guide tube where the chain stopper is situated.

One solution has been to install a compressive load cell under the clapper plates or alternatively to strain gauge the stub axle trunnions on the side of the guide tubes.

The Compressive Load Cell LS2300 can be designed to meet this requirement and be used in hazardous environments

Special transducers can be designed to meet unique applications and can be installed to monitor special components



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