Sailboat Mast Compression Load Cells

Industry: Maritime

Summary

Customer Challenge

Proper mast compression is critical to the performance and structural integrity of a sailboat. Excessive compression loads can damage the mast, deck, or supporting structure, while insufficient tension can negatively affect sail shape and overall vessel performance. The customer needed a reliable way to accurately measure mast compression loads to ensure safe operating limits and optimize rig tuning.

Interface Solution

Interface provided the 1200 Standard Precision Flange LowProfile™ Load Cell capable of measuring the compressive force applied to the sailboat mast. Installed within the mast step or compression post ass embly, the 1200 continuously monitors the forces generated. This data allows sailors and engineers to accurately tune the rigging while ensuring the mast load remains within safe structural limits.

Results

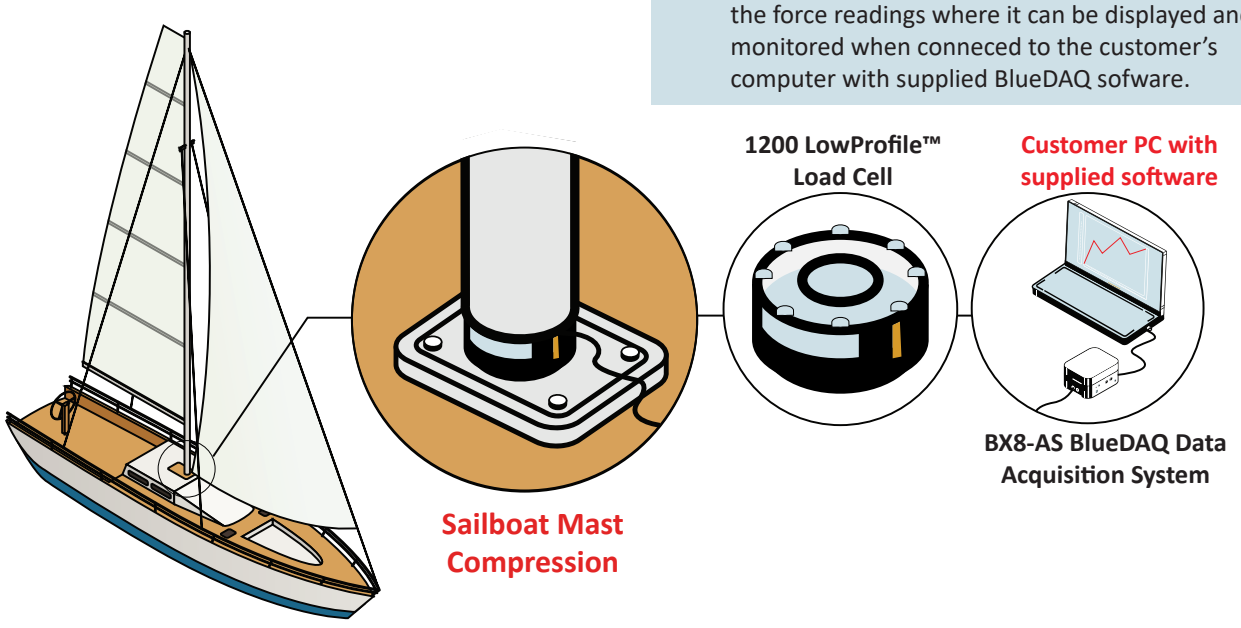
By integrating Interface load cells into the static mast compression measurement system, the customer gained accurate, real-time load data. This improved rig tuning for optimal sail performance while protecting the mast and supporting structures from overload conditions.

Materials

- 1200 Standard Precision Flange LowProfile™ Load Cell
- BX8-AS BlueDAQ Data Acquisition System with Industrial Enclosure
- Sailboat mast undergoing test
- Customer PC or laptop

How It Works

1. The 1200 Standard Precision Flange LowProfile™ Load Cell is placed in the load path under the mast step so all mast forces pass through it.
2. Incremental forc es of rigging tension is added, while the compression load cell monitors the load.
3. The BX8-AS BlueDAQ Series Data Acquisition collects the force readings where it can be displayed and monitored when conneced to the customer's computer with supplied BlueDAQ sofware.



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