acoem

FALCON MARINER

PORTABLE RELIABILITY INTELLIGENCE FOR MARINE OPERATIONS

A smarter approach to vessel reliability

Marine operations depend on equipment uptime—for safety, regulatory compliance, and operational efficiency. From main engines and thrusters to pumps, compressors, and auxiliary systems, unexpected failures at sea are costly, disruptive, and potentially dangerous.

Maintaining this reliability is becoming more complex as vessels operate longer between dry docks, with rotating crews and limited specialist support onboard.

Marine reliability teams must work within clear constraints:

- Limited access to vibration and diagnostic expertise at sea
- Extended intervals between inspections and overhauls
- Harsh operating conditions—vibration, heat, moisture, confined spaces
- High operational and safety consequences when failures occur

This is where traditional time-based or reactive maintenance falls short.

Shipowners and shipyards are left facing two fundamental questions:

1. How do you implement condition-based maintenance on board without increasing operational burden?
2. How do you capture high-quality vibration data at sea without requiring vibration experts" on every vessel?

Falcon Mariner is the answer

Smarter vessel reliability is not achieved by adding tools or data, but by converting every onboard measurement into reliable, actionable insight—without adding complexity for the crew.

Predictive maintenance adapted for marine conditions

Immediate machine health visibility
Capture vibration and temperature data during routine rounds—no dry dock required.

Smarter diagnostics on the spot
Embedded intelligence identifies probable faults and severity at the machine.

Repeatable, consistent measurements
Built-in machine and point images, automatic point recognition, and indexed studs ensure data consistency across shifts and crew changes.

Safety by design
Wireless tri-axial sensing enables measurements from a safe distance—ideal for confined or hazardous environments.

Certified
Guarantees full compliance with class certification requirements (ABS, DNV-GL, etc.).

Vibration analysis
made simple for crew. powerful for experts.

Designed for rapid deployment and long-term reliability programs. It bridges onboard data collection and shore-based expertise—without compromising data quality.

1. Preparation

Install indexed measurement pads
Cemented, indexed studs ensure every future measurement is taken at the exact same location.

Set up machines
Create machine structures using smart templates or configure kinematics via the Acoem cloud.

Plan routes
Define machine lists for structured, repeatable data collection.

2. Collection

Wireless tri-axial acquisition
All three vibration axes captured synchronously—fewer passes, safer operation, consistent data.

Guided operation
7" touchscreen with icon-driven workflow guides crew step by step.

One-pass productivity
Capture vibration, temperature (laser pyrometer), and speed (stroboscope) in a single visit.

Visual verification
Built-in camera for QR-based machine ID and inspection photos (leaks, cracks, abnormalities).

3. Reporting & Expertise

Seamless synchronization
Data is uploaded to the Acoem Cloud or sent by email.

Remote expert analysis
Reliability teams access and analyze data via the ACOEM Cloud - no need to travel to the vessel.

Automated reporting
Generate professional PDF or DOC reports with fault summary tables for entire routes in one step.

Features	Benefit for the Vessel
Wireless synchronous tri-axial sensor	Fast, safe, repeatable measurements
Integrated camera	Field guidance and reports clarity
Rugged design	IP65, 1.2 m drop resistance
Modern UI	Minimal training, guided workflows
ATEX / IECEx option	Suitable for hazardous offshore zones

Why Falcon Mariner

Falcon Mariner delivers expert-level reliability insight in a portable, crew-friendly solution—ensuring onboard data can be trusted for high-value maintenance decisions.

- Supports all skill levels—from junior crew to chief engineers
- Rapid diagnostics with minimal training
- Reduces unplanned machinery downtime
- Covers critical marine assets: engines, gearboxes, pumps, compressors, fans
- Integrates seamlessly with shore-based reliability programs.

From shipboard measurements to fleet intelligence

Falcon Mariner connects portable onboard measurements to the Acoem Reliability Ecosystem, unifying ship and shore data for stronger maintenance planning.

Scalable

Add shaft alignment, balancing, or wireless sensors within the same ecosystem.

Supported

Remote diagnostics, training, and advisory services from Acoem experts.

Future-ready

Expand to online or wireless monitoring for highly critical assets such as thrusters.

Falcon Mariner Kit: What's in the box?

This Falcon Mariner is designed for immediate deployment.

Falcon portable unit
The all-in-one data collector and analyzer.

Triaxial wireless sensor
The high-performance Wireless 3-Axis Vibration Sensor.

10 Indexed studs
For permanent, repeatable mounting on key assets.

Built-in camera
Integrated into the Falcon unit.

Standard accessories
Charger, carrying case, safety strap.

Connectivity
Registration card for 1-year free access to Acoem Cloud.

Documentation
Calibration Certificate & Quick Start Guide,

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CREATING ENVIRONMENTS OF POSSIBILITY

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