

BLACKBOX — Product Description (One-Pager)

Purpose

- Compact, marine-grade unit that records, monitors, and transmits critical onboard data with real-time and historical visibility via a browser-based dashboard.

Primary use cases

- Full control of engine and generator parameters
- Advanced propulsion system monitoring
- Power source supervision (voltage, current, power, overload detection)
- Unified connectivity and integration across vessel systems
- Intelligent alarms and automation to support safe operation

Key benefits (for users)

- Continuous monitoring with clear, actionable visibility (live & history)
- Reliable data capture with local redundancy and optional remote sync
- Plug-and-play integration via standard marine interfaces (NMEA 2000, CAN, RS-485, Ethernet)
- Robust, sealed enclosure for demanding marine environments (IP68)
- Built-in UPS to maintain operation during power loss

Core features

- Processing & storage: ARM Cortex-A72 1.5 GHz, 4 GB RAM, 1 TB backup drive
- Interfaces: NMEA 2000, CAN, RS-485, RJ-45 (Ethernet)
- Integrated sensors: accelerometer, gyroscope, temperature, humidity
- Dashboard (web app): configurable widgets; live charts & historical playback; threshold alerts with optional e-mail notifications; CSV export; local log; optional cloud sync
- Data handling: reverse-chronological archiving; operation without internet for core functions

How it works (at a glance)

1. Collect: interfaces read data from engines, propulsion, power, and other onboard systems
2. Detect & alert: rules/thresholds trigger notifications and drive automation
3. Record & review: data is stored locally (with optional remote sync) for diagnostics and post-event analysis

Core specs (summary)

- Power input: 10–30 V DC, ~5 W (typ.); internal Li-Ion 7000 mAh UPS (~2 h runtime)
- Ingress protection: IP68; marine-grade sealed enclosure
- Operating range: –20 °C to +60 °C; 0–100 % RH (non-condensing)
- Mechanical: 274 × 173 × 66 mm
- Connectivity: NMEA 2000, CAN, RS-485, Ethernet (RJ-45)