DATASHEET

BLACKBOX MONITORING UNIT

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1. GENERAL INFORMATION

Plug-and-play device for real-time and historical monitoring of vessel systems.

BlackBox is a compact, plug-and-play device designed for easy integration across a wide range of marine vessels – from leisure craft to commercial and workboats.
It connects directly to onboard systems via standard marine communication protocols, enabling seamless data acquisition, logging, and transmission from multiple sources, including engines, generators, propulsion systems, and auxiliary equipment.

With browser-based access to a real-time dashboard and detailed historical logs, BlackBox enhances operational awareness, safety, and diagnostics – whether onboard or remotely.

Key Applications

- **Full Control of Engine and Generator Parameters**
  Access and log available metrics from compliant systems in real time.
- **Advanced Propulsion System Monitoring**
  Track performance, load, temperature, and behavior over time.
- **Power Source Monitoring**
  Observe usage and state of batteries, inverters, and charging systems.
- **Full Connectivity and Integration**
  Seamlessly connect to existing infrastructure with minimal (without?) configuration.
- **Intelligent Alarms and Automation**
  Trigger alerts or automated responses based on custom thresholds or events.

Distinctive Features

- **Integration with communication interfaces:** NMEA 2000, CAN, RS-485, RJ-45
- **Data redundancy:** On-device storage with remote sync capability
- **Reverse-chronological data archiving:** Efficient event tracking and post-incident analysis
- **Support for custom signals:** e.g. bilge pump status, hatch sensors, sea valve positions
- **Remote access:** Secure dashboard via standard web browser, no additional software required.

IMPORTANT INFORMATION



READ THIS DATASHEET BEFORE ATTEMPTING TO INSTALL THE DEVICE

Read the contents of the datasheet before installation. Failure to follow the recommendations in the datasheet and other requirements of diligence appropriate to the nature of the equipment may: prove hazardous to life/health, cause damage to the equipment or the installation to which it is connected, result in damage to other property, or violate other applicable regulations. The manufacturer of the equipment, Yacht Concept sp. z o.o., assumes no liability for damages (property and non-property) resulting from installation and/or use of the equipment not in accordance with the datasheet and/or due care in handling the equipment in question.



WATCH THE PARAMETERS

The device's power supply, permissible load or other characteristic parameters must comply with the device's specifications.



DO NOT MODIFY

Do not modify this device in any way not included in this datasheet.



OTHER DEVICES

The manufacturer, Yacht Concept sp. z o.o. will not be held responsible for any damage or loss of warranty privileges for other connected devices if the connection is not compliant with their datasheets.



TECHNICAL SUPPORT

If you have any technical questions or comments on the operation of the device, contact Yacht Concept technical support.



NOT A TOY

The product is not intended for children or pets.

SAFETY INFORMATION



ELECTRICITY

Dangers of life caused by electricity.



PROPER USAGE

The components of the system (individual devices) are designed for operation on yachts. Incorrect connection or use may cause fire or electric shock.



INSTALLATOR

Any work related to the installation of the device, especially work involving interference with the electrical system, can only be performed by a person with the appropriate qualifications or authorizations.



POWER SUPPLY

When installing the device, make sure to disconnect the power supply voltage in the circuit in which this device is connected or in the vicinity of which the installation takes place.



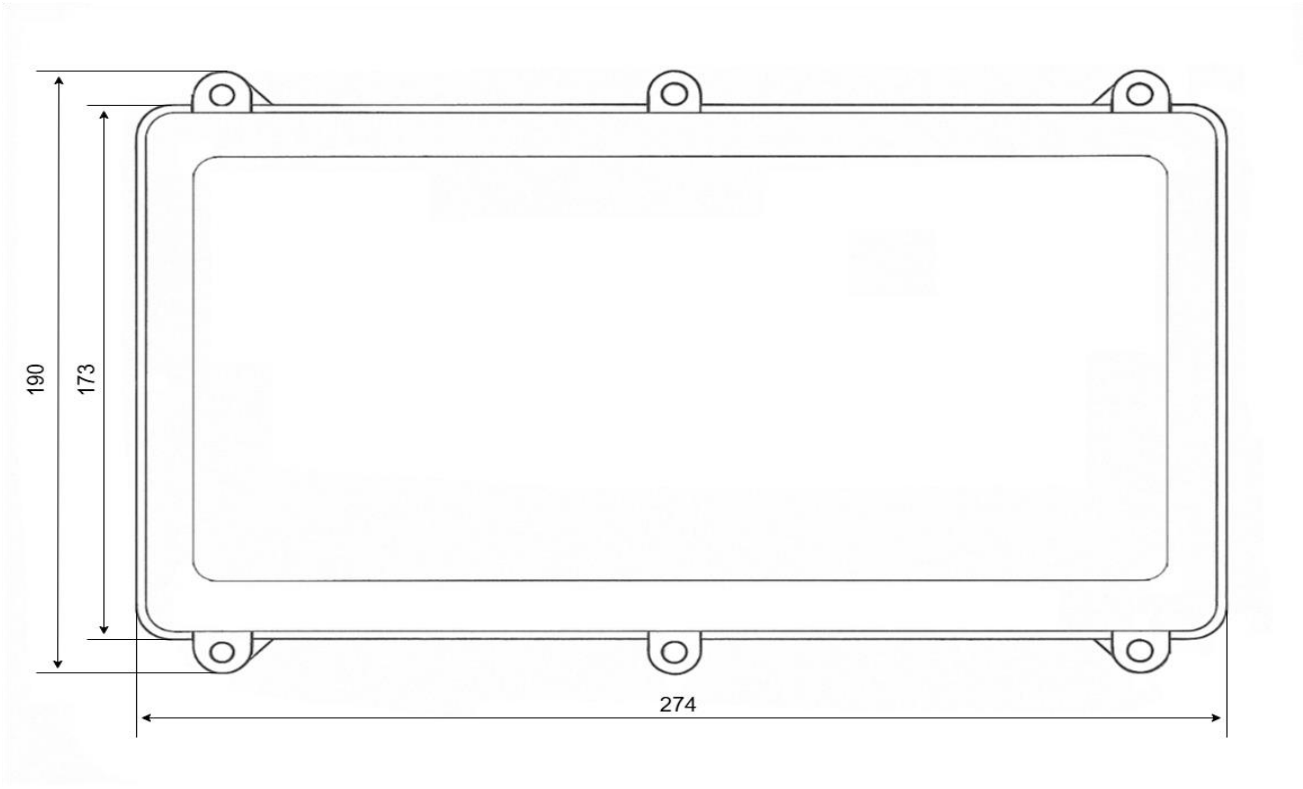
INTERFACE COMMUNICATION

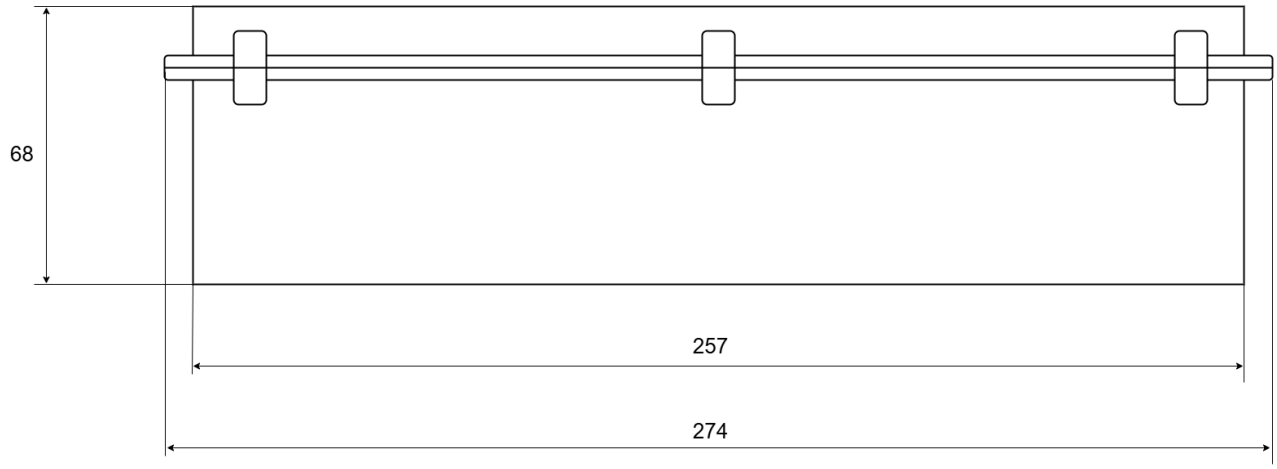
CAN, RS-485, and NMEA 2000 interfaces can transmit electrostatic charges – before making any connections, perform grounding and discharge any ESD.

2. TECHNICAL DATA

SYSTEM	
Processor	ARM Cortex-A72 1,5 GHz, 4 GB RAM
Software	YC_BB_V1.002
Backup Drive	1 TB
POWER PARAMETERS	
Input Power	10–30 V DC, 2 A
Power Consumption	~ 5 W
UPS	
Emergency Battery	7000 mAh, Li-Ion
Runtime	~ 2 h
SENSORS	
Accelerometer	± 2 g, ± 4 g, ± 8 g, ± 16 g
Gyroscope	± 250 °/s, ± 500 °/s, ± 1000 °/s, ± 2000 °/s
Temperature	zakres -40 °C do +80 °C, accuracy ± 0,5 °C
Humidity	0 % – 99,9 % RH, accuracy ± 3 % RH 25 °C
COMMUNICATION	
Interfaces	NMEA 2000, CAN, RS-485, RJ-45
MECHANICAL PARAMETERS	
Ingress Protection rating	IP68
Size (W * L * H)	274×173×66 mm
Weight	X
WORKING ENVIRONMENT	
Operation temperature	-20 °C … +60 °C
Working humidity	0 % … 100 % RH (non-condensing)

3. TECHNICAL DRAWING





PRODUCT PICTURE



Examples of devices to connect:

- Engine,
- Generator,
- Watermaker,
- A/C System,
- All data navigation system,
- OnBoard system.

4. CERTIFICATIONS AND COMPLIANCE

The manufacturer, Yacht Concept sp. z o.o., hereby declares that the BlackBox Monitoring Unit (model YC-OB-BlackBox) conforms to the requirements of the following directives and standards.

COMPLIANCE WITH DIRECTIVES

Directive GPS 2001/95/WE
Directive EMC 2014/30/UE
Directive RoHS 2011/65/UE
Directive RoHS 2018/736



