

## SEA.AI

# INSTALLATION MANUAL OFFSHORE ONE

## 7.24.1 ENG version



### SEA.AI Group

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The user must have previously registered online at the following address to obtain the serial password: [https://sea.ai/user\\_registration/](https://sea.ai/user_registration/)

## 1. PRECAUTION OF USE

- The SEA.AI system must be installed by an experienced marine electronics technician, improper installation may void the warranty.



### **WARNING**

- Turn off the power before beginning to install the unit, as this may result in fire, electric shock or serious injury.
- Make sure that the power source is compatible with the voltage rating of the unit: connecting to an unsuitable power source may cause a fire or damage the unit.
- Do not disassemble or modify the equipment: this can result in fire, electric shock or serious injury.



### **WARNING**

- Do not rely exclusively on the OSCAR system to steer the boat: for the safety of the boat and the people on board, the captain must monitor all available navigation aids. SEA.AI is not a substitute for a proper lookout.
- Adjust the masthead vision unit correctly: the adjustment of the camera has a significant impact on the operation of the system.

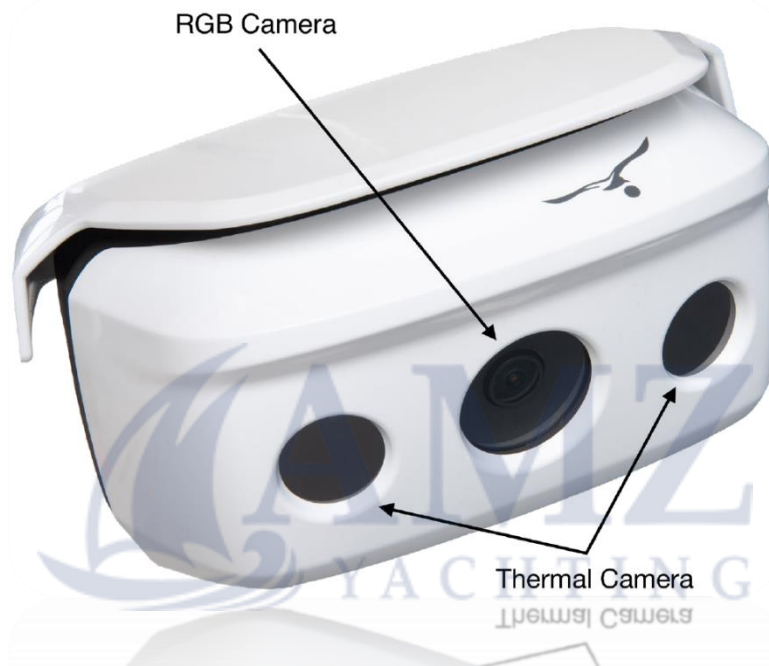


### **WARNING**

- Working at heights requires that safety instructions be followed.

## 2. GENERAL INFORMATIONS

- SEA.AI Offshore combines optical sensors and artificial intelligence to detect objects floating on your trajectory. SEA.AI automatically assesses the risk of collision in real time and warns of any possible danger.
- Having a SEA.AI system on board means improved safety for you and your crew.
- All SEA.AI systems can be controlled using the SEA.AI navigation app, which runs on smartphones and tablets (Android and iOS), on your chartplotter or on a computer.



<b>Offshore One</b>	
<b>Thermal camera</b>	2x FLIR BOSON™ 320 x 256 px, 50°
<b>RGB camera</b>	5 Mpx low light vision 2592 x 1944 px, 110°
<b>Range détection</b>	
-Large size (yacht, fishing vessel...)	1000m
-Middle size (boat, beacon...)	250m
-Small size (MOB, buoy...)	100m
<b>Detection</b>	Thermal
<b>Weight</b>	990 g
<b>Dimensions</b>	190 x 143 x 106 mm

### 3. SYSTEM COMPONENTS



Vision Unit (VU)



Wind sensor bracket



Vision Unit Bracket

Offshore One Power supply

+ external buzzer cable

(lengths 25m)



« Y » Splitter RJ 45 connector

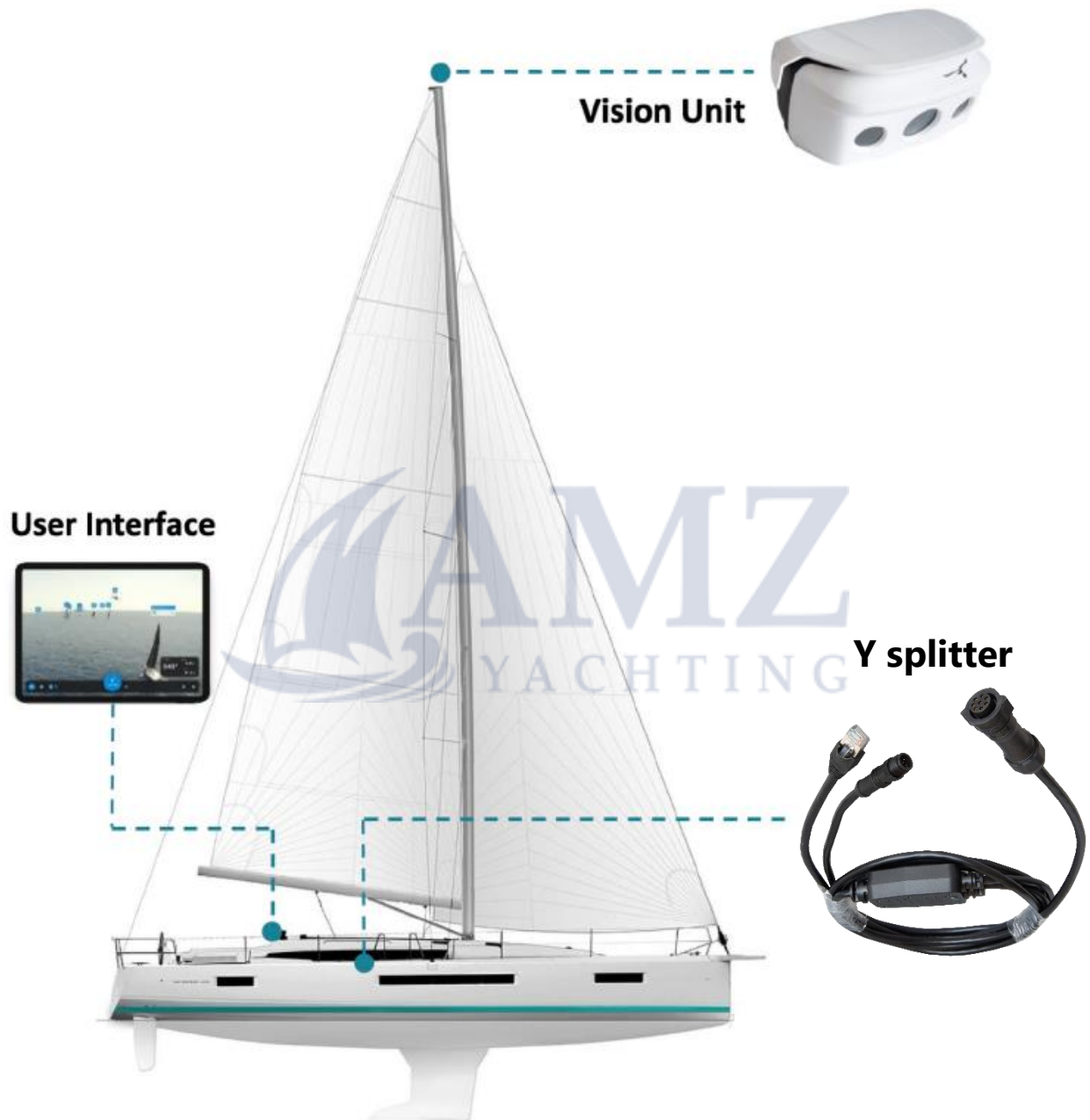
Offshore One Data Cable

(lengths 25m)



## 4. INSTALLATION

### - 4.1 General view of the installation



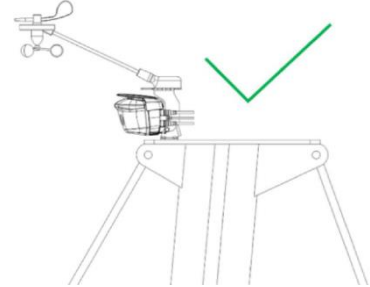
## - 4.2 System installation

The installation of SEA.AI Offshore One requires the following tools:

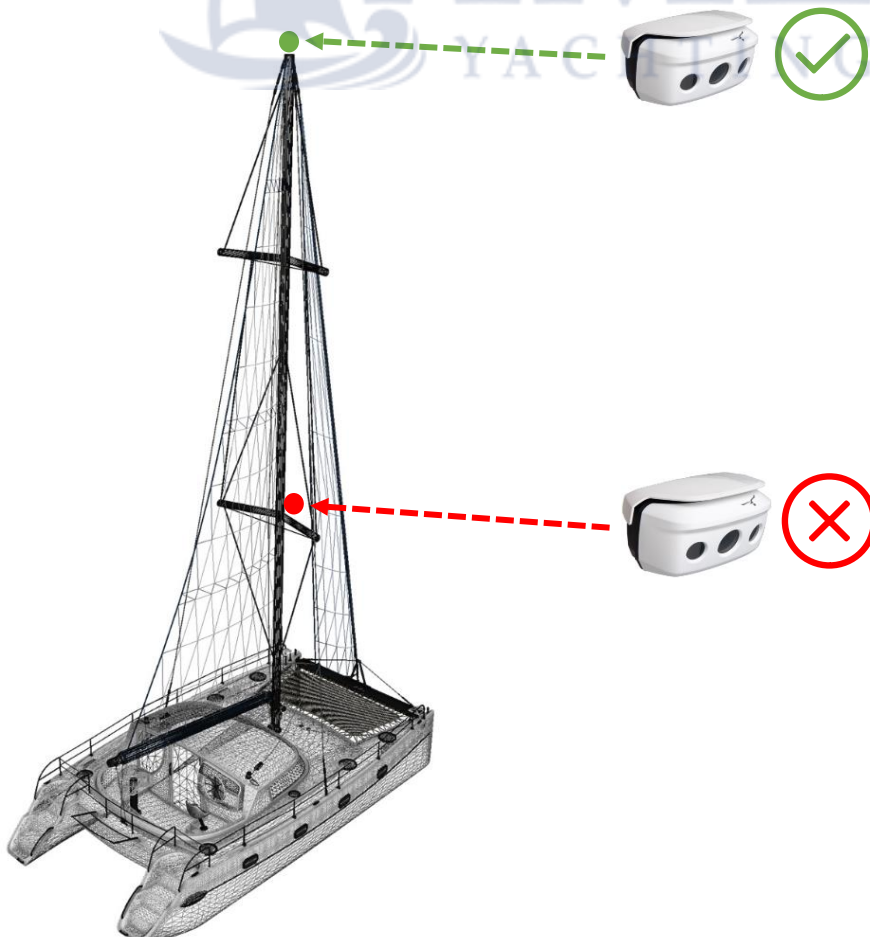
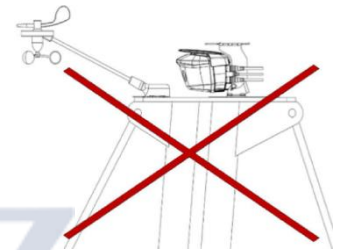
- . 8mm wrench
- . 8mm ratchet wrench
- . LAN tester
- . RJ45 adapter cable

The installation of the system must comply with the following points:

- . The system must be installed at the highest point of the boat
- . The system must be installed at a minimum height of 8 meters
- . The Offshore One's vision field must be completely clear.



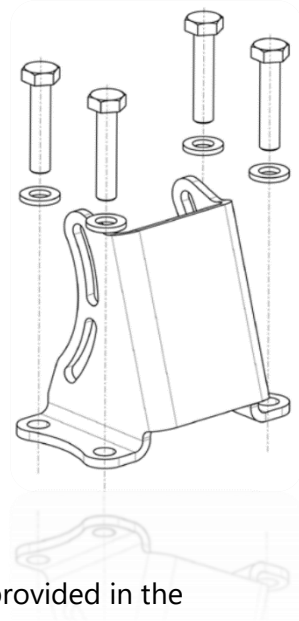
**NOTE:** Sufficient space at the rear of the system must be provided for the proper handling of cables and electrical connectors.



#### - 4.3 Attaching Offshore One's bracket

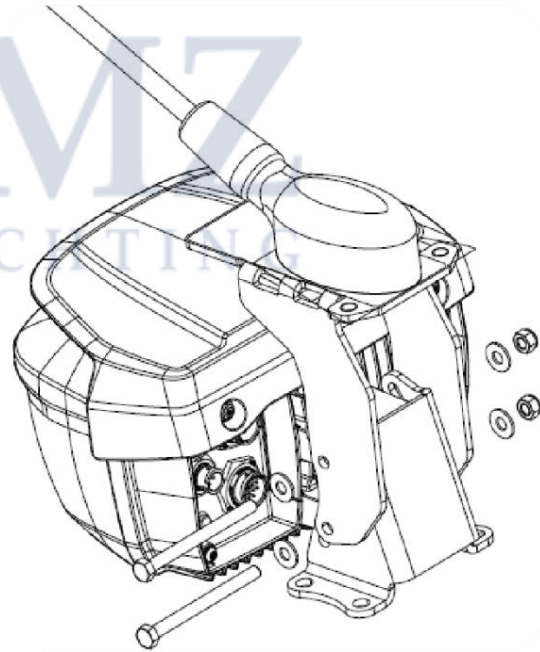
The following points must be observed when mounting the system:

- . The system bracket must be fixed with four screws (not included) adapted to the characteristics of the support on which it is mounted (drawings of the bracket available on page 22).
- . The fixing screws must be secured with threadlockers or locknuts.



#### - 4.4 Mounting Offshore One on the bracket

To attach the system to the bracket, use the two screw/washer/nut sets provided in the installation kit.



**NOTE :** If necessary, an windsensor bracket, included in the installation kit can be attached to the system bracket.





**NOTE:** The inclination of the system will have to be adjusted during the commissioning (+/- 15°)



## **WARNING :**

Offshore One must not be painted or covered!



### - 4.5 Connecting Offshore One

After routing the cables, connect the **data cable (label A)** and the **power cable (label B)** to the corresponding sockets on the system.



(A)



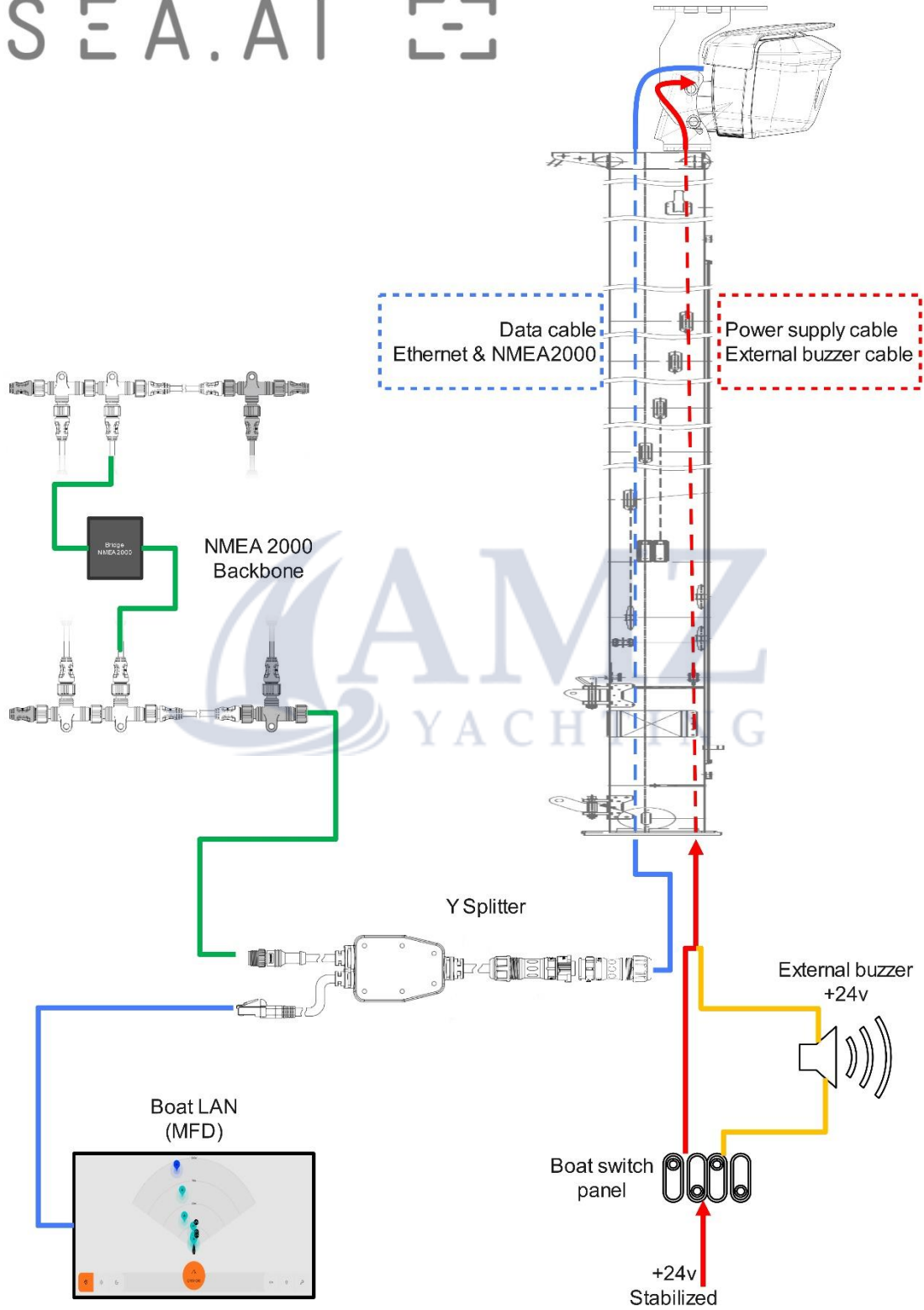
(B)



## **WARNING :**

- Circular connectors must be properly locked.
- Cables must be properly secured so that their weight is not supported by the connectors.

4.6 Wiring Offshore One



Use original SEA.AI cables and plugs, signal quality and performance will be reduced with incorrect cabling.

- **4.7 Connecting the Offshore One unit**

**Power cable**

Connect the power cable to the boat's electrical system:

- Supply voltage 24 V stabilized.
- The power supply must be protected by a 3A FAST-BLOW type fuse.
- The power supply must be subject to an independent switch.

Connect the power cable from boat's breaker to the Offshore One's **B** socket.

<b>Wire 1</b>	<b>VCC</b>
<b>Wire 2</b>	<b>GND</b>
<b>Green / yellow</b>	<b>External Buzzer</b>



**WARNING:** Incorrect "+" and "-" can damage the system. Make sure the power supply is secured with a fuse (max 5A).

**Mast data cable**

The mast data cable is connected to the SEA.AI Offshore One unit on the top of the mast (**socket A**) and to the Y-SPLITTER inside the boat. The 8 pins have to be plug into the BD-08BMMA-QL8MP0 connector



**BD-08BMMA-QL8MP0 connector**

Cable Colour	Pin Number	Connector Front View
Brown	1	
White	2	
Green	3	
Yellow	4	
Grey	5	
Pink	6	
Shield	7	
Shield	8	

**“Y”- Splitter cable**

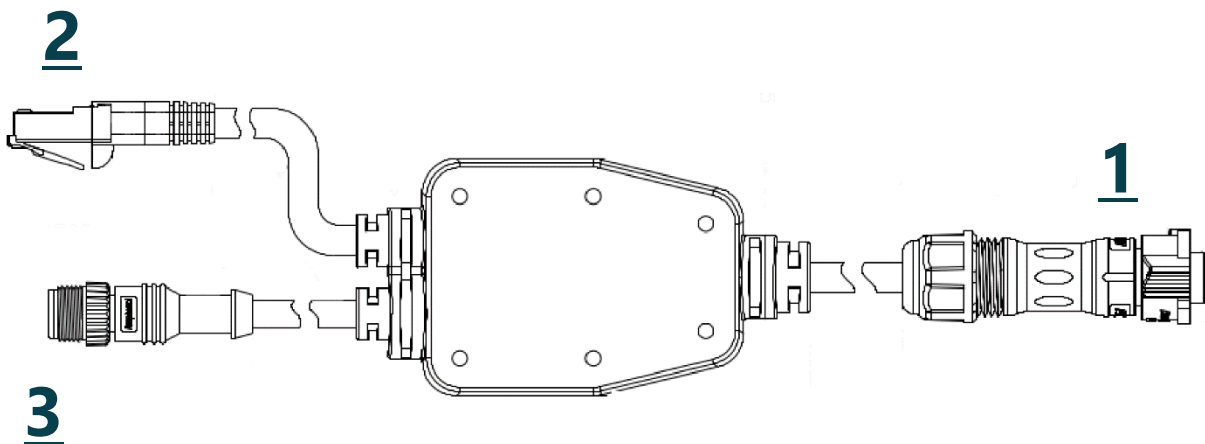
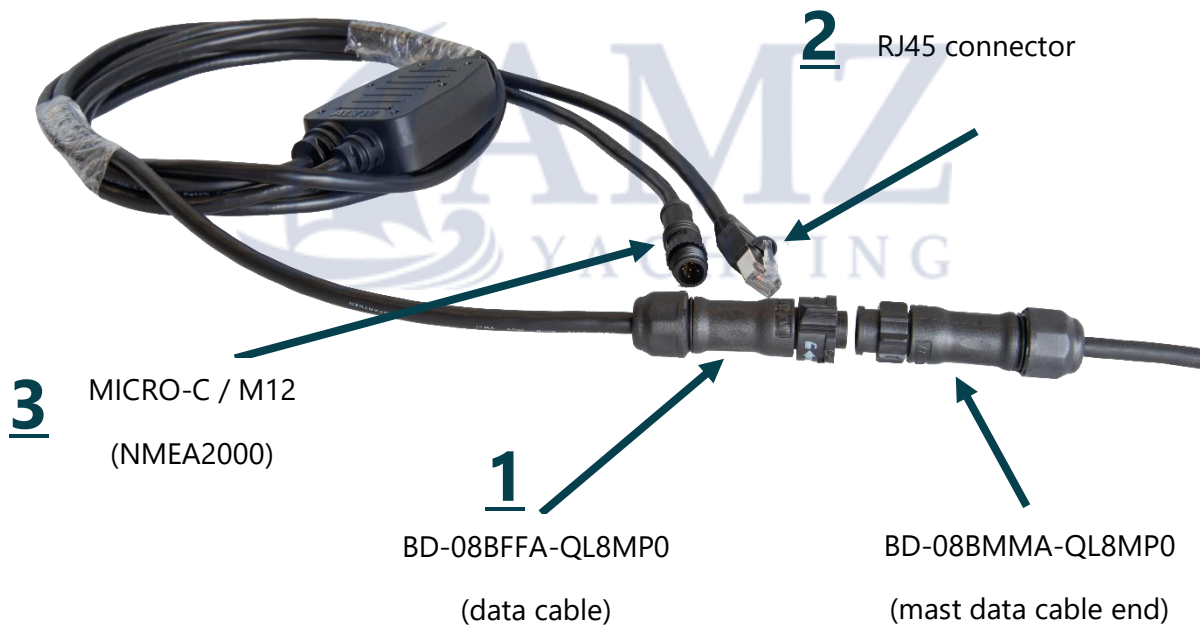
The Y-cable is necessary to split the ethernet cable and the NMEA 2000 backbone.

The ethernet cable must be connected to your boat LAN (Ethernet HUB; MFD; etc...) or your onboard computer.

To receive boat data, SEA.AI Offshore One must be connected to the boat bus backbone (NMEA 2000)



**WARNING:** Termination resistor is mounted inside SEA.AI Offshore One Unit. A separate backbone for SEA.AI Offshore One with an NMEA bridge connection to the boat backbone is highly recommended.

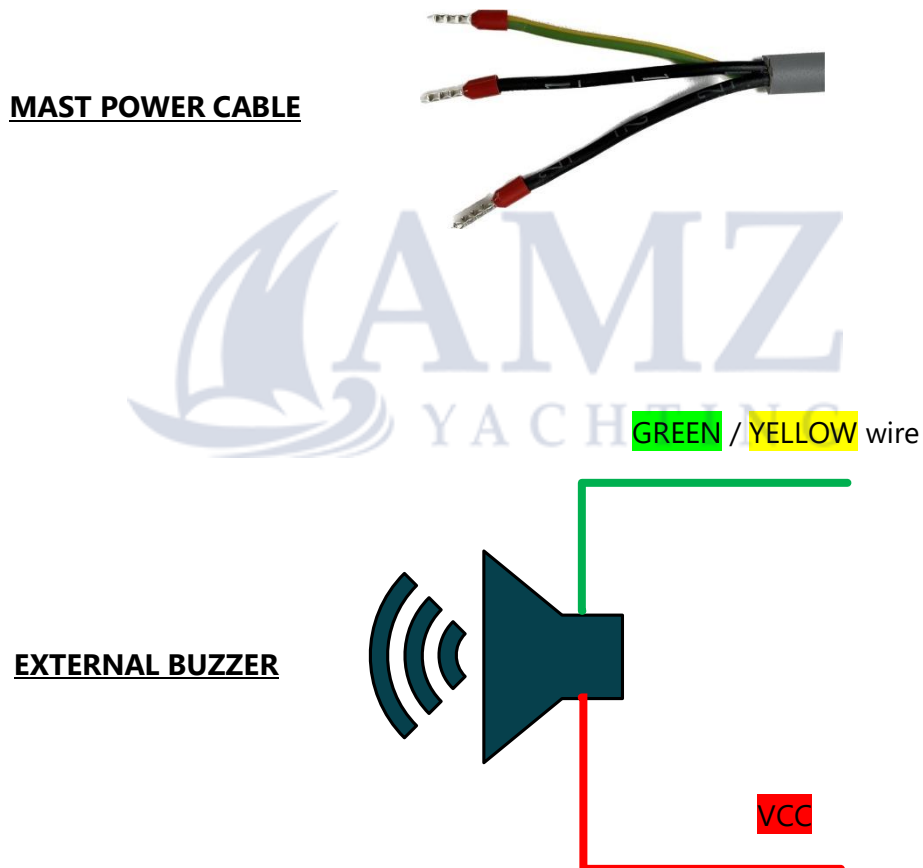


#### - 4.8 External Buzzer

SEA.AI Offshore One has an in-built switch to control an external buzzer.

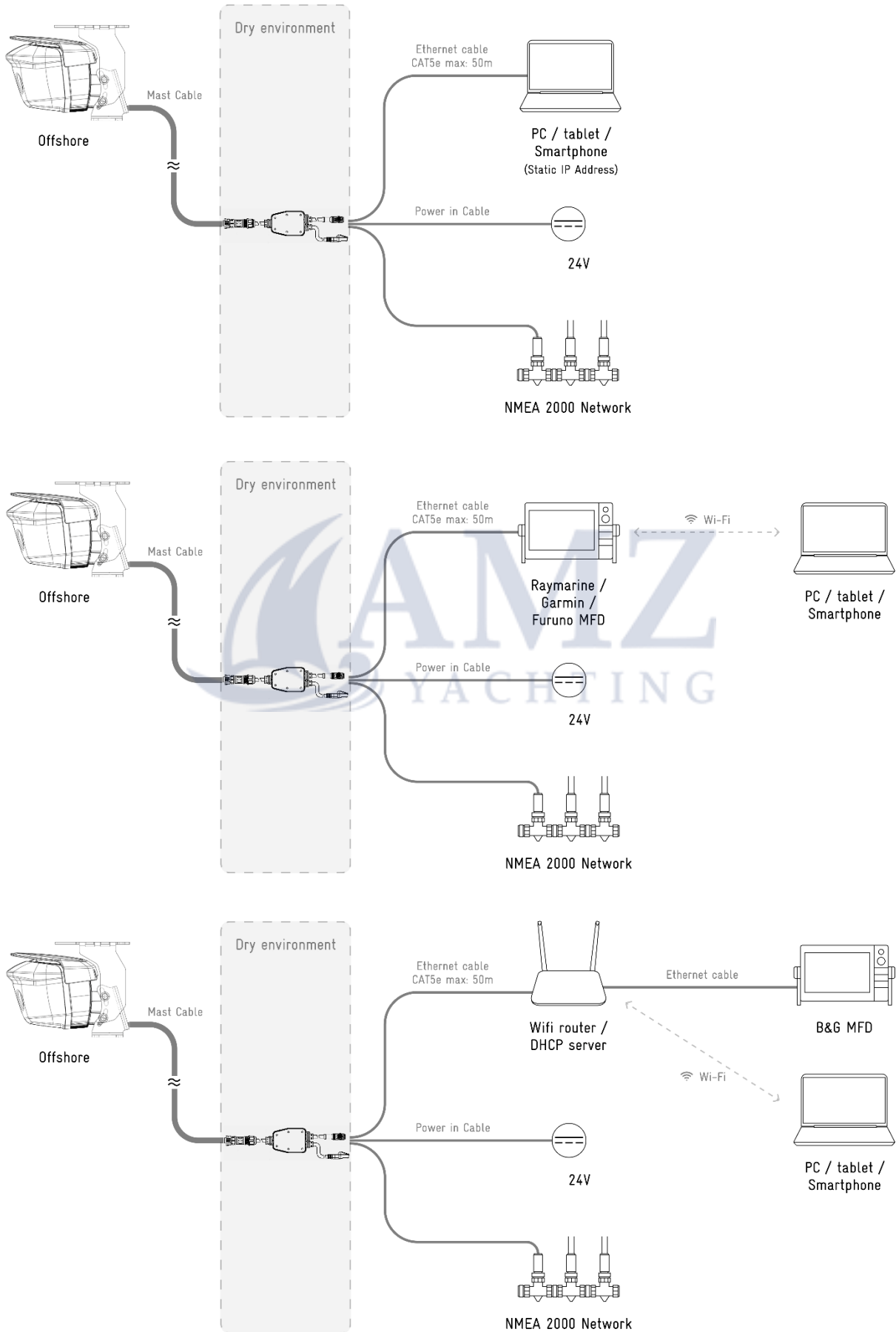
The external buzzer needs to be continuous in order to correctly reflect alarm intervals generated by SEA.AI Offshore One.

Connect the external buzzer between the power supply's "+" pin, and the **ground** pin to wire **GREEN/ YELLOW** of the mast power cable.



**WARNING:** MAX. CURRENT: 1A / MAX. VOLTAGE 24V

- 4.9 Installation examples.



## 5.1 INSTALLER COMMISSIONING

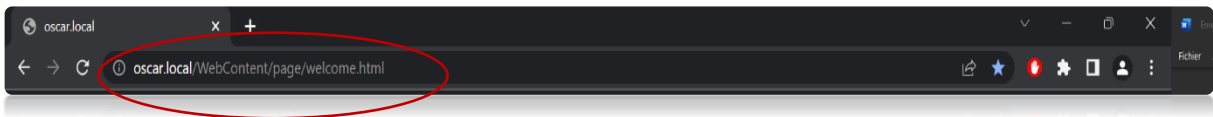
- Turn on the SEA.AI system (start-up time is approximately two minutes).
- On MFD, the access to the application is done via the SEA.AI icon (appears automatically).
- From a computer, use the following links to access the SEA.AI home screen.

-System integrated in a network with DHCP server (router) :

<http://oscar.local/WebContent/page/welcome.html>

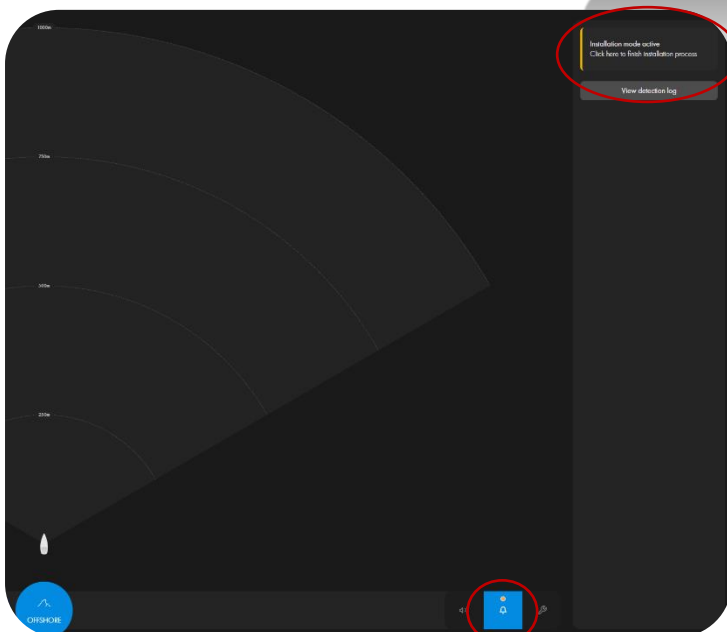
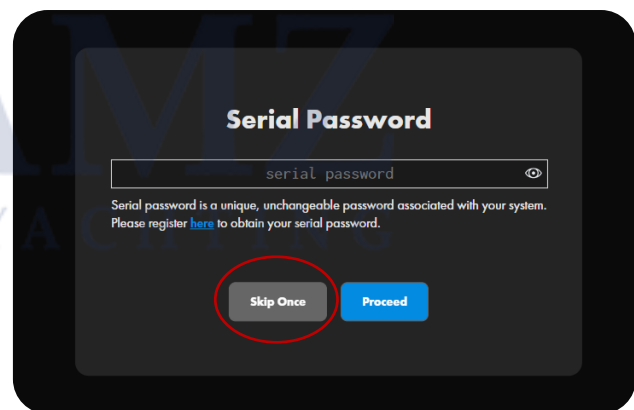
-System directly connected to a computer (static IP address) :

<http://192.168.17.11/WebContent/page/welcome.html>



An installer mode is available for settings and parameters of the SEA.AI system (pages 16 & 17) in the absence of a serial password.

This **unique** access is available via the Serial Password, **Skip Once** page.



Once all settings and parameters have been completed, you can log out of installer mode by clicking on the "**Click here to finish installation process**" button on the **notification page**.

**Following this action, the next connection to the SEA.AI system must be made using the Serial Password.**

## 5.2 FINAL USER COMMISSIONING

The **user** must have previously registered online at the following address to obtain the serial password: [https://sea.ai/user\\_registration/](https://sea.ai/user_registration/)

- Turn on the SEA.AI system (start-up time is approximately two minutes).
- On MFD, the access to the application is done via the SEA.AI icon (appears automatically).
- From a computer, use the following links to access the SEA.AI home screen.

-System integrated in a network with DHCP server (router) :

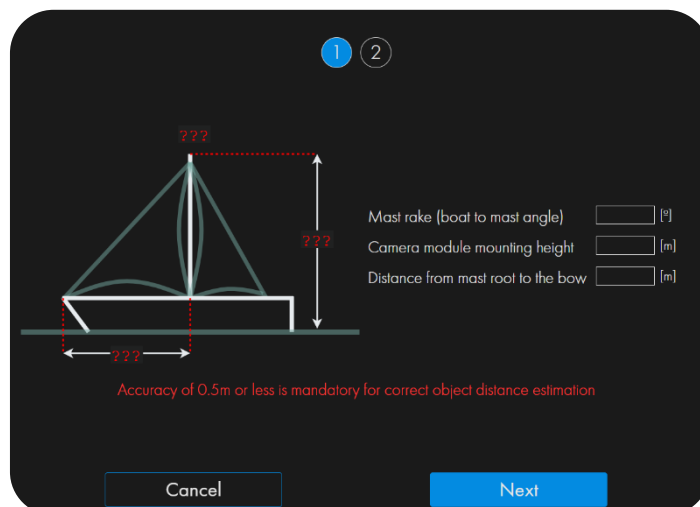
<http://oscar.local/WebContent/page/welcome.html>

-System directly connected to a computer (static IP address) :

<http://192.168.17.11/WebContent/page/welcome.html>

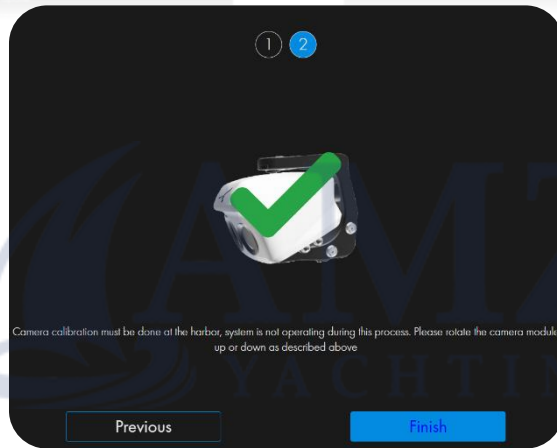
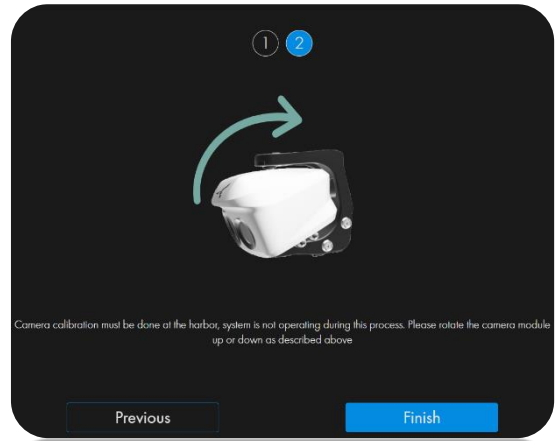
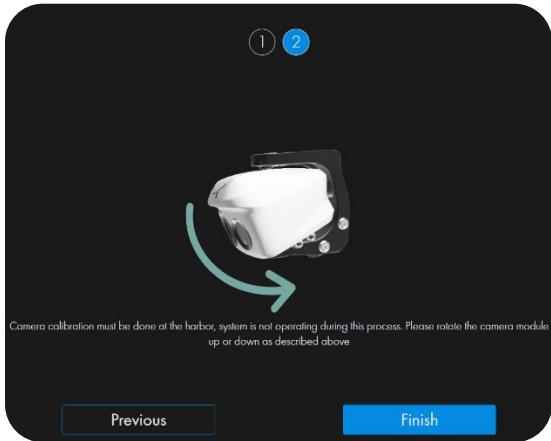


- Select the language.
- Enter the serial password
- Fill in the position of the vision unit (VU) on the boat with the following information:
  - . Mast rake
  - . Height of the VU above sea level
  - . Distance from mastbottom to bow





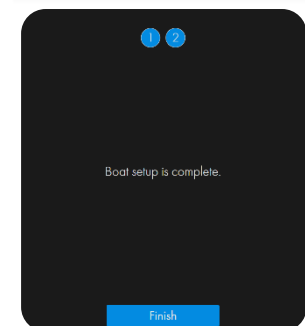
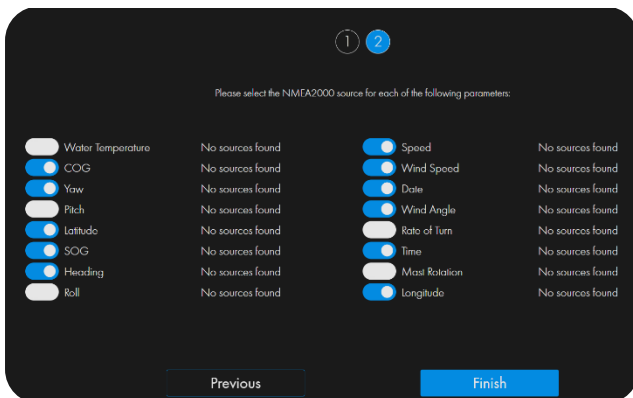
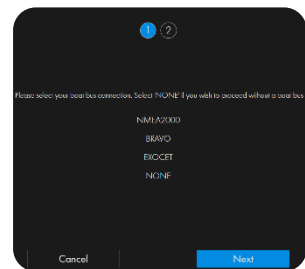
- Adjust the angle of the vision unit as indicated on the interface. (needs 2 technicians: one on top of the mast; one at the display).



Configure SEA.AI with the onboard information network.

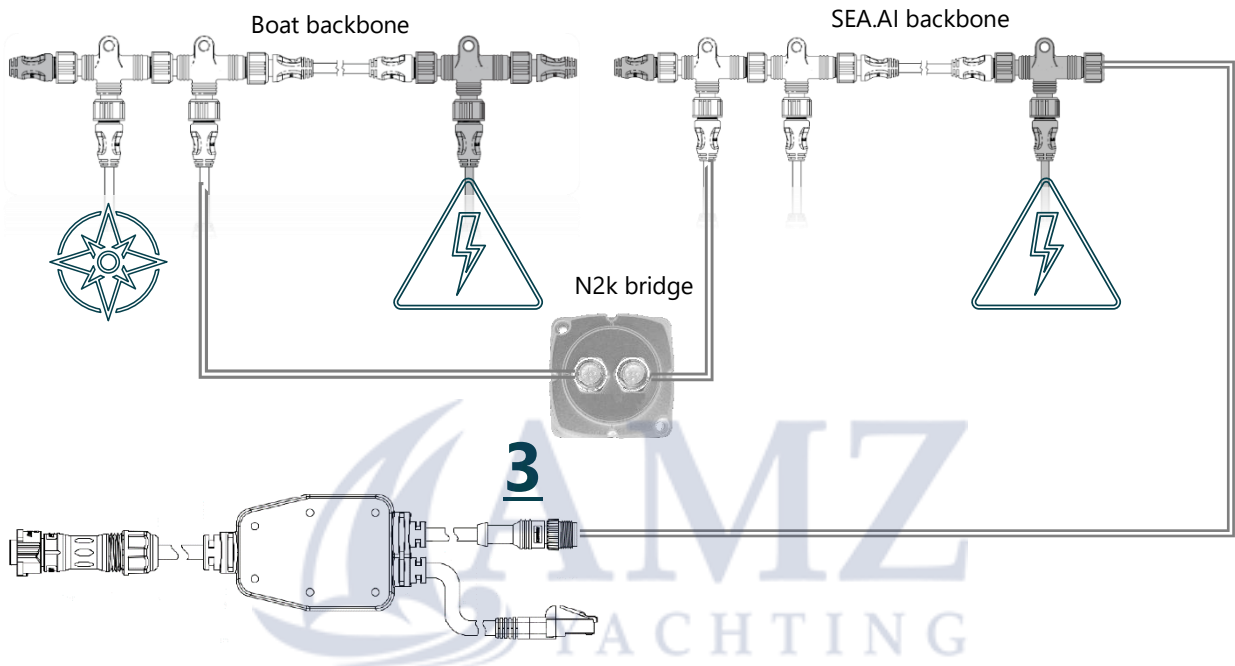
- Select the network type (NMEA 2000, BRAVO, EXOCET, NONE).
- Select the information to be displayed

**NOTE:** Uncheck "No sources found" data parameters.



## 6. Connecting to NMEA 2000 network

Connect the Y-Splitter in place of a terminator. Termination resistor is mounted inside SEA.AI Offshore One Unit. A separate backbone for SEA.AI Offshore One with an NMEA bridge connection to the boat backbone is highly recommended.



PGN	Description
Water Temperature	130311
Course over ground	129026
Yaw	127257
Pitch	127257
Latitude	129025
Speed over ground	129026
Heading	127250
Roll	127257
Speed over water	128259
Wind speed	130306
Date	126992
Wind angle	130306
Rate of turn	127251
Time	126992
Mast rotation	65330
Longitude	129025

## 7. MAINTENANCE

The system should always be updated to the latest available software version.

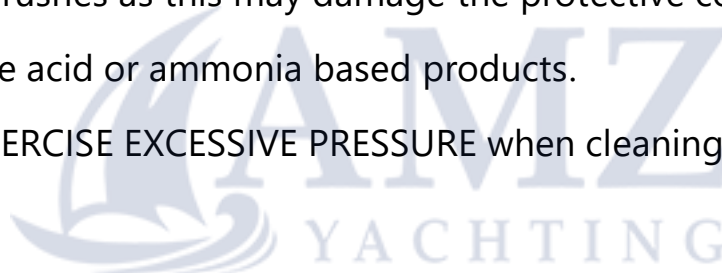
You should update your software frequently to benefit from all the improvements.

The software can be updated with the SEA.AI Oscar Navigation application.

The vision unit (VU) and camera lenses should be cleaned periodically, clean the lenses if you notice a decrease in image quality or dust accumulation.

### **WARNING :**

- DO NOT SCRUB the lenses with a dry cloth or abrasive material such as paper or brushes as this may damage the protective coating.
- DO NOT use acid or ammonia based products.
- DO NOT EXERCISE EXCESSIVE PRESSURE when cleaning



Be especially careful when cleaning the lenses. The anti-reflective coating could be damaged by improper cleaning..

Clean the vision unit housing with a soft, clean cotton cloth. You can dampen the cloth and use a mild detergent if necessary.

Rinse the camera lenses with clean water to remove dust particles and salt deposits. Allow to dry naturally.

If stains or streaks remain. Gently rub the lenses with a clean microfiber cloth or soft cotton cloth.

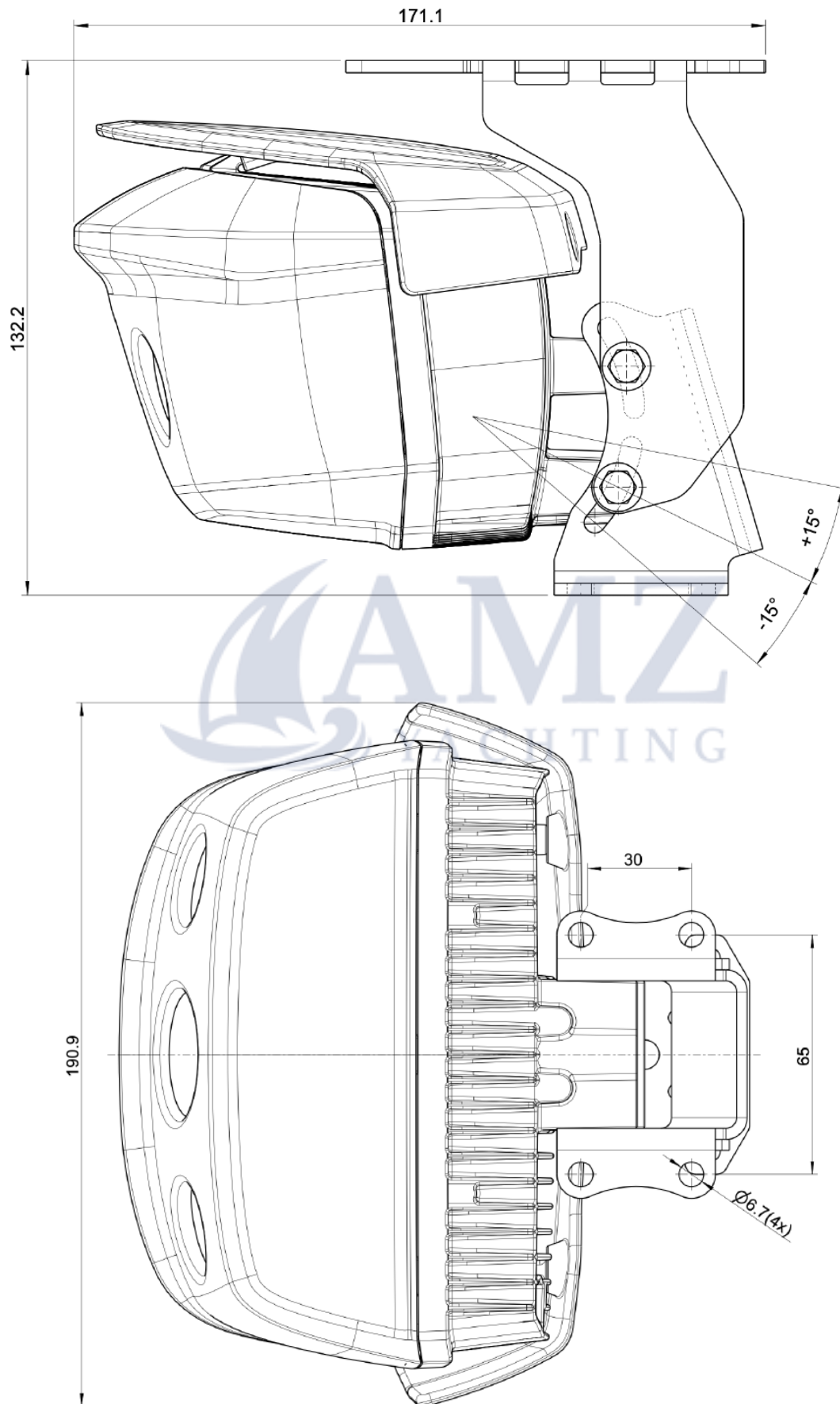
If necessary, use isopropyl alcohol or a mild detergent to clean up any remaining traces.

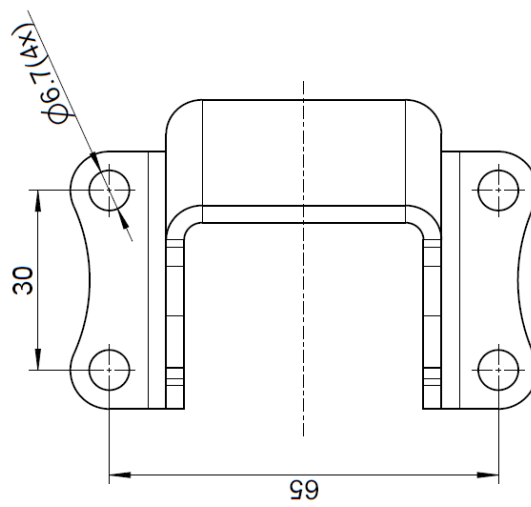
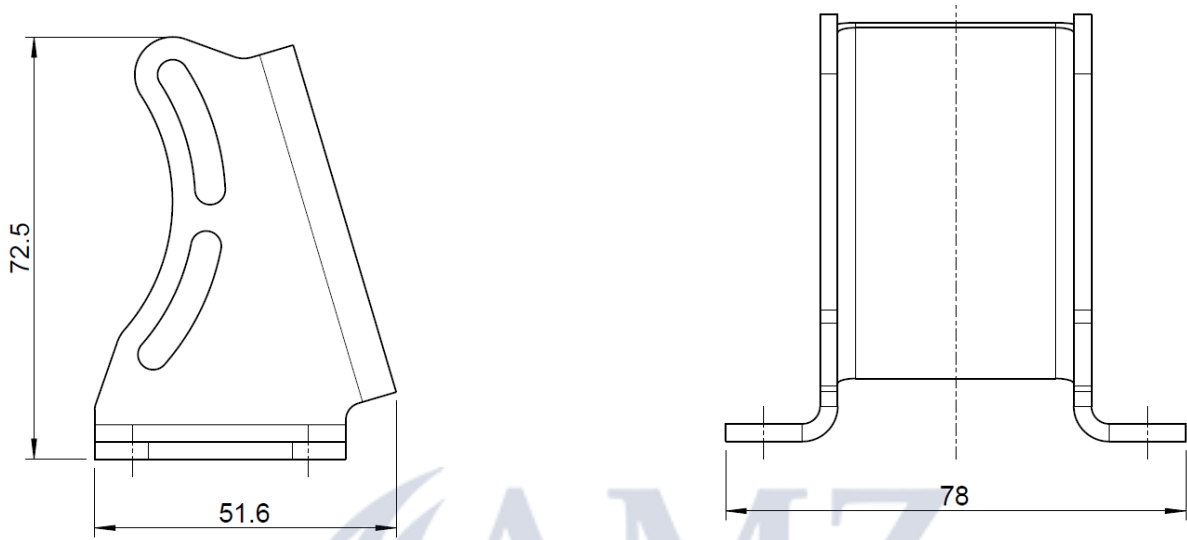
## 8. MFD COMPATIBILITY

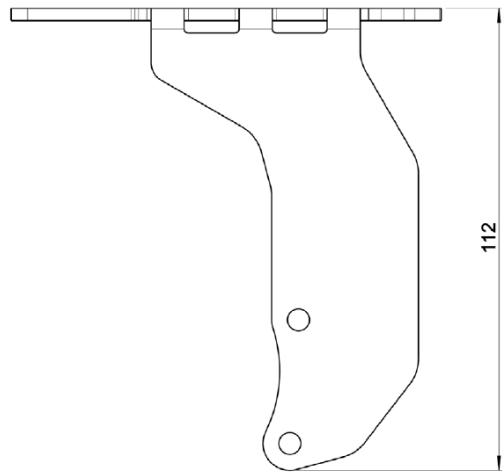
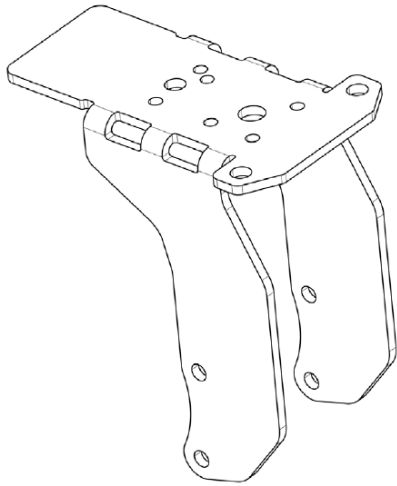
One, Offshore, Competition					
Brand	Model	App Running	Internal MFD Alarm	NMEA Buzzer	Comments
B&G	Zeus3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	reccomended	App is running but very slow performance due to slow MFD HW , wifi router necessary
	Zeus3S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	reccomended	wifi router necessary
	Vulcan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	reccomended	App is running but very slow performance due to slow MFD HW , wifi router necessary
	Nemesis	<input type="checkbox"/>	<input type="checkbox"/>	reccomended	
Simrad	evo3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	reccomended	wifi router necessary
	evo3S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	reccomended	wifi router necessary
Garmin	One Helm compatible MFDs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	reccomended	
Furuno	TZtouch3 series: TZT9F/12F/16F/19F	<input checked="" type="checkbox"/>	<input type="checkbox"/>	required	
	TZtouch2 series: TZT2BB/TZTL12F/15F	<input checked="" type="checkbox"/>	<input type="checkbox"/>	required	
Raymarine	Axiom	<input checked="" type="checkbox"/>	<input type="checkbox"/>	required	LIGHTHOUSE 3 - Edgartown - v3.13 or higher Update
	Axiom Pro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	required	LIGHTHOUSE 3 - Edgartown - v3.13 or higher Update
	Axiom XL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	required	LIGHTHOUSE 3 - Edgartown - v3.13 or higher Update



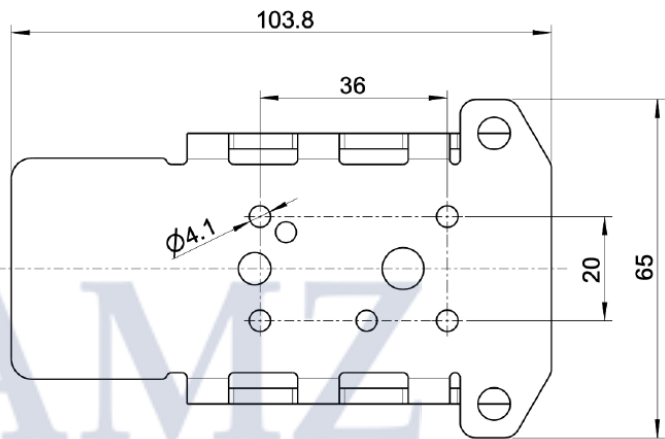
## 9. TECHNICAL DATA



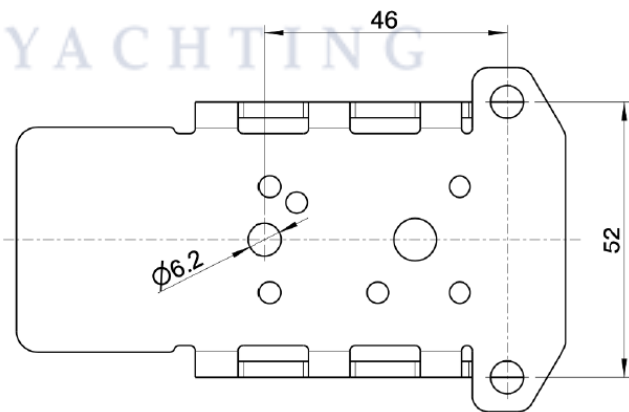




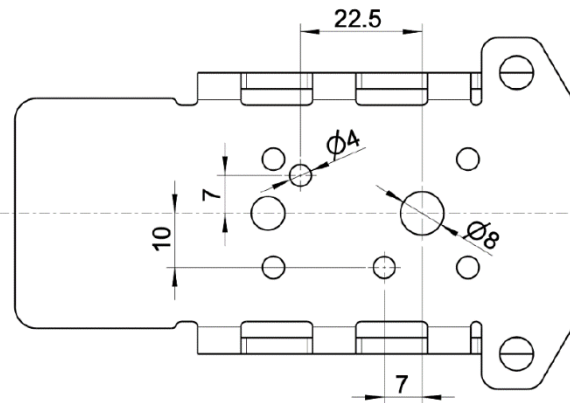
**B & G**



**GARMIN**



**RAYMARINE**







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## WhatsApp SEA.AI Service

