Installation Guide

Models:

OSCAR ONE SERIES

Last updated: 06/2021

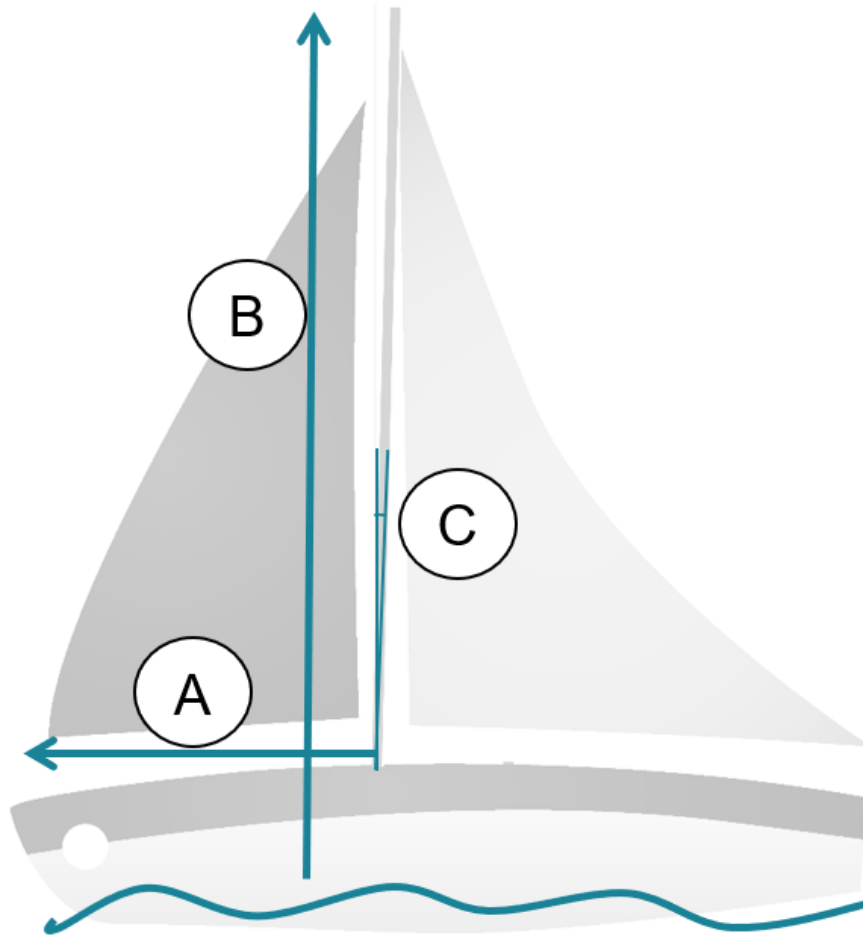# Installation Guide

Content

1.1.   System Requirements

o   Minimum height of OSCAR ONE of 7m to the water surface

o   NMEA 2000 compatible boat bus

o   Required wiring (see chapter [Wiring](#))

o   Compatible MFD ([check here](#)) or onboard computer (Windows, Apple, Linux)

o   Browser on PC/MAC (Firefox, Chrome; latest version), if Wi-Fi router available -tablet Android (V 7.0 or later) I or iPad (5th Gen, iOS 11.0.1 or later) with the OSCAR App (v1.0.3) installed. Or

o   12 to 24V DC power supply

2.   Installation and Setup Preparation

2.1.   Checklist preparation

o   Cables, connectors – see chapter [Wiring](#).

o   Free switch on switch panel

o   Laptop with Ethernet adapter (LAN)

o   You can use OSCAR via MFD, via computer (Browser Web-access) or a portable device via your boat Wi-Fi

  o   App: Download it from Google PlayStore or Apple App Store: "OSCAR Navigation"

o   Web-access: Default IP address: http://192.168.1.11/WebContent/page/welcome.html

o   NMEA 2000 boat-bus

(A) Horizontal distance from mast / signal mast to bow (+/- 1 m)

(B) Height of the mounted Vision Unit to water surface

ATTENTION: for correct functionality the tolerance is +/- 250 mm

(C) Mast rake in degrees

2.2.   Tools needed for hardware installation

o   OSCAR system

o   Serial Password (sent per e-mail or provided by your OSCAR dealer)

o   2x Wrench Size 8 mm

o   Drilling machine + Drill bit or screw tap

o   4x screws + tools for mast bracket (material quality stainless, A4)

o   Boatswain's chair

2.3.   OSCAR One parts package
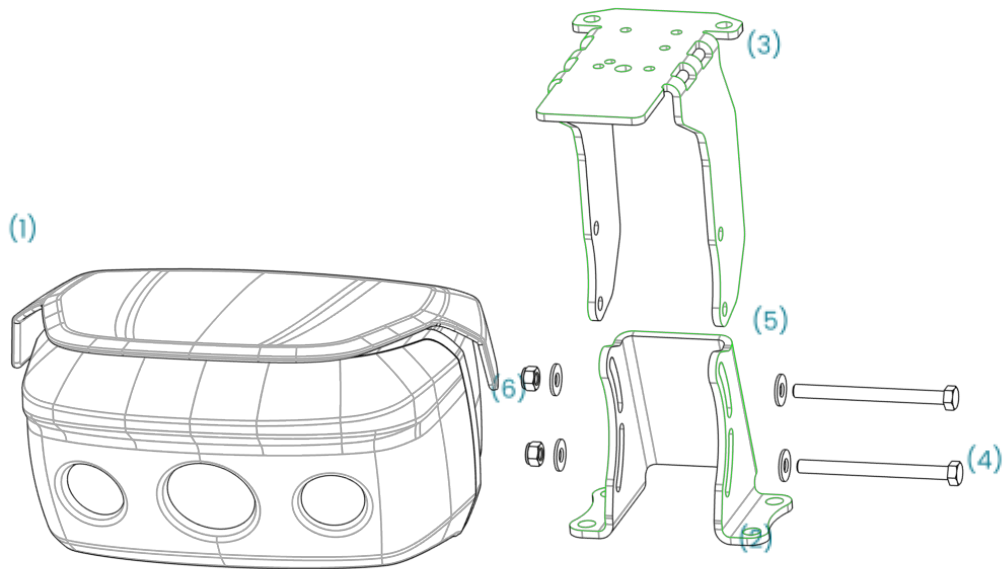
(1) OSCAR One Unit

(2) Mast Bracket

(3) Wind Sensor Bracket

(4) 2x hex-head screw M5x60

(5) 4x washer

(6) 2x self-locking nut M5

2.4. Cables

Please see Chapter 4 Wiring.

3. OSCAR one Unit

## 3.1. Overview and Positioning

The *OSCAR ONE (1)* needs to be installed either on top of the mast or signal mast at a minimum height of 7 m above the water surface. OSCAR ONE *(1)* has to be placed with no danger of getting harmed (e.g. from a spinnaker, a halyard, or other ropes) and with a clear view to the front. Don't position behind any other instrument (e.g. wind sensor, antenna, lights).

180
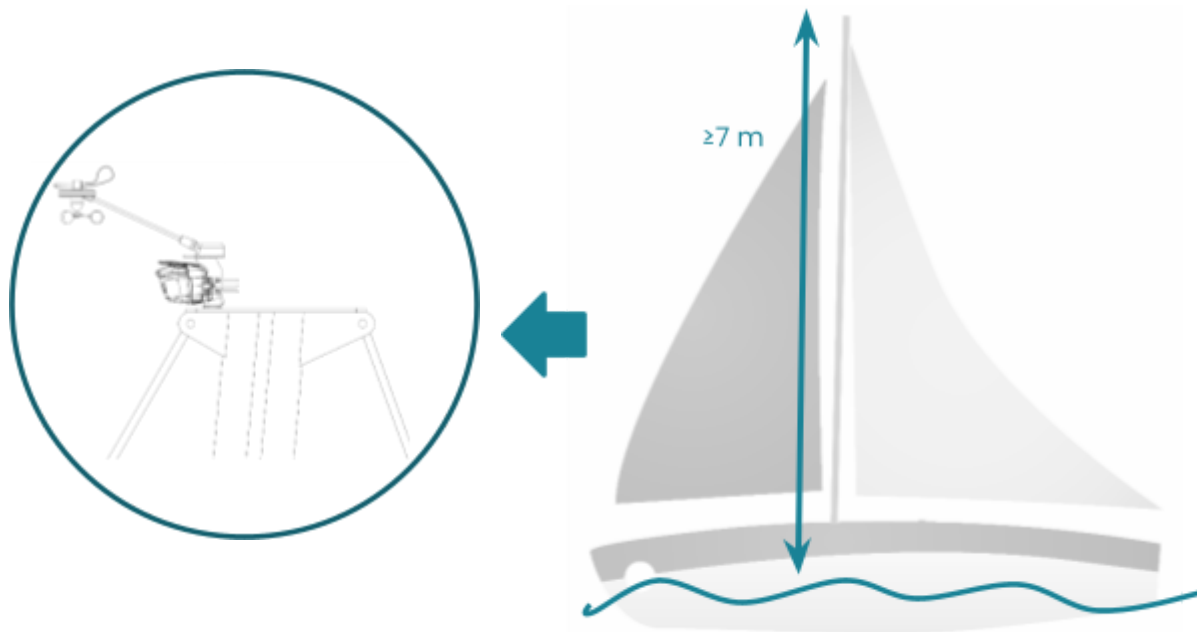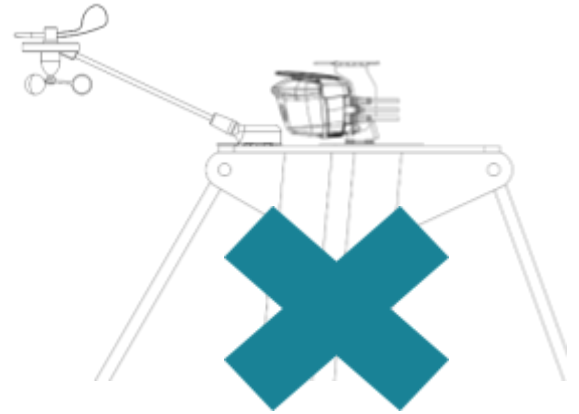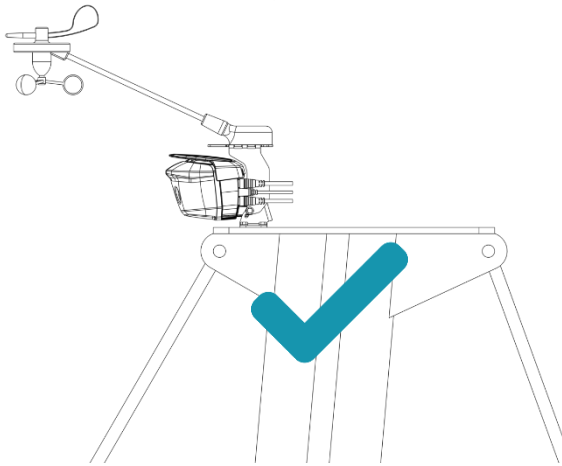
Depending on the orientation of your mounting surface (e.g. mast rake) OSCAR One can adjust +/- 15° to have the right angle to the horizon. The OSCAR App will assist to get the optimal angle during first set up.

3.2.   Mounting mast bracket

Before climbing on the mast / signal mast, prepare everything you need to mount the mast bracket according to the sketch below and to feed the cables inside the mast:
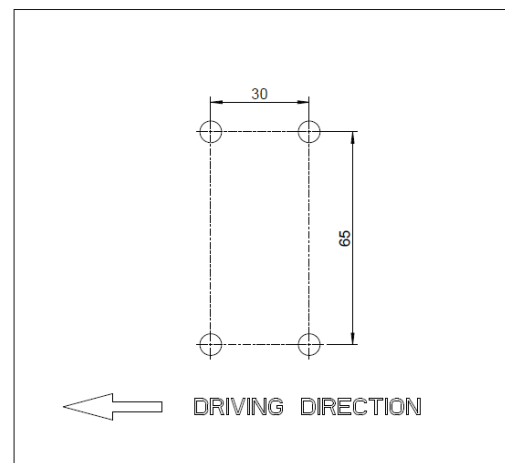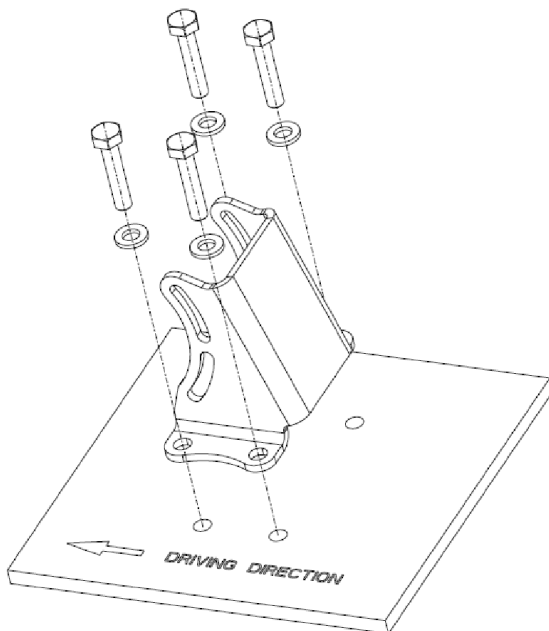
ATTENTION: Use proper screws and screw locking to mount the bracket on the mast! Do not use wood-screws (spax-screws).

3.3.   Wind Sensor Bracket (optional)

The Universal Wind Sensor Bracket has been designed to mount wind vanes on top of OSCAR One because of the limited space on the mast tops.

It contains prepared clearance holes compatible for the latest horizontal wind vanes of B&G, Garmin and Raymarine (see drawings below).
Any other hole pattern must be drilled separately.
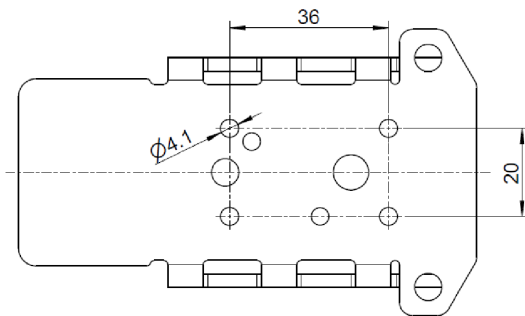
B&G   Garmin
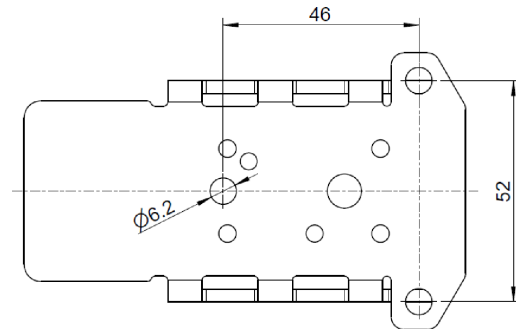
Raymarine
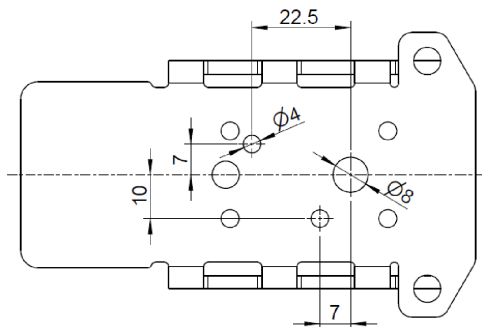
After installing the mast bracket on the mast top you can mount OSCAR One and the Wind Sensor Bracket.
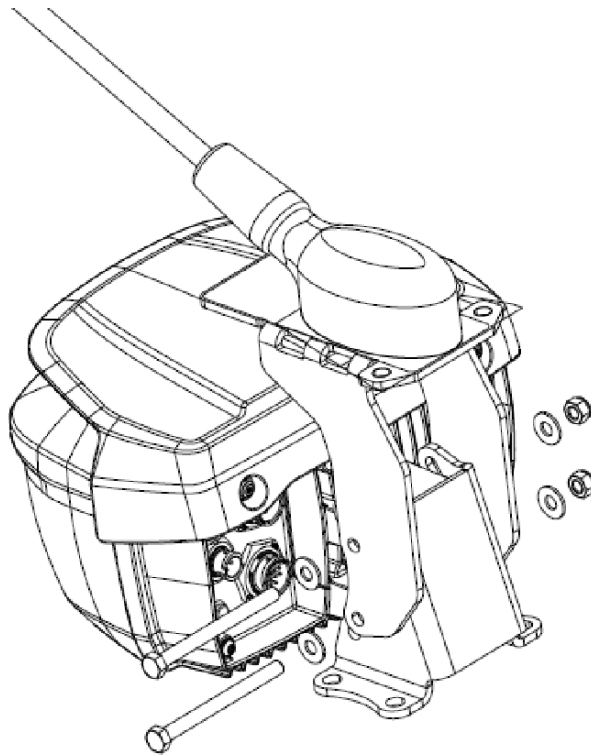
ATTENTION: Tighten the *2 flange nuts only slightly. During the OSCAR installation Setup the alignment will be checked if it is properly or if OSCAR One must be tilted up or down.* (see chapter Setup User Interface - Setup)

After Setup is finished, tighten the 2 flange screws and nuts to fix OSCAR One in its final position.

4.   Wiring

ATTENTION: Use original OSCAR cables and plugs only. Signal quality and performance will be reduced with incorrect cabling.

4.1.   Overview
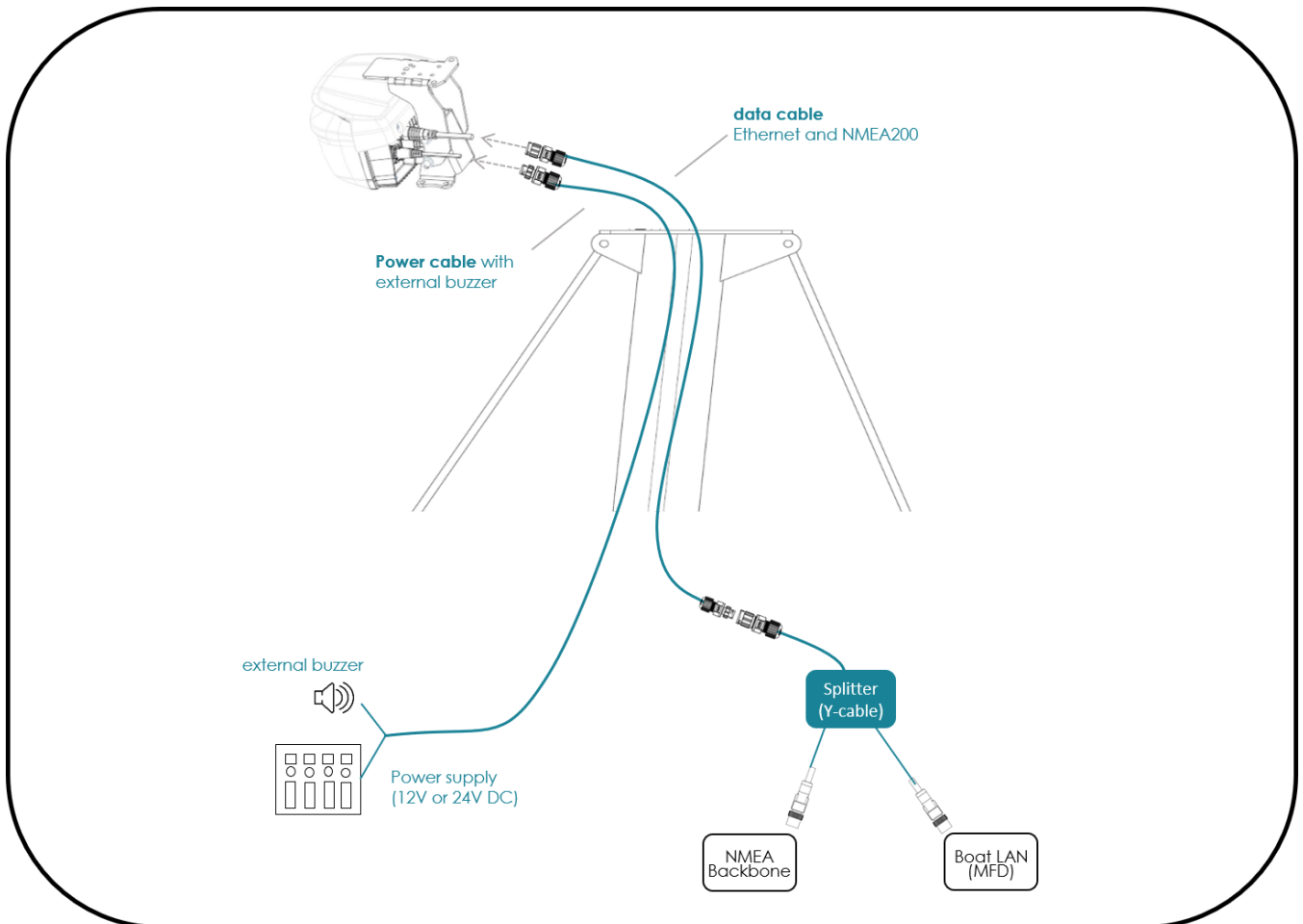
4.2.   Cables and pin description

Power cable (3 pin)

Make sure you have a separate switch available on your panel to be able to switch the system on & off.

Power supply 12V DC
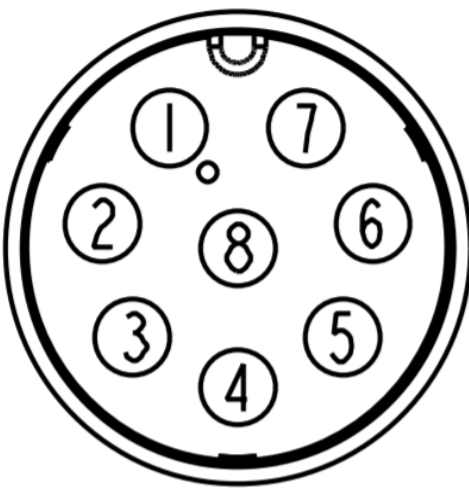
Attention: *Incorrect "+" and "-" can damage the system. Make sure the power supply is secured with a fuse (max 5A).*

Wire 1	VCC
Wire 2	GND
Wire 3 / green-yellow	External Buzzer

Mast data cable (6 pin)

The mast data cable is connected to the OSCAR One unit on the top of the mast and to the Y-cable inside the boat. Refer to this video https://www.youtube.com/watch?v=DEre-SzwMt0 for assembling the bottom connector.
The mast data cable contains ethernet (4 pin) and NMEA 2000 backbone. (Backbone termination-resistor is inside Oscar One.)

cable wire	pin number	connector front view
brown	1	
white	2	
green	3	
yellow	4	
grey	5	
pink	6	
shield	7	
shield	8	

Y-cable (splitter cable)

The Y-cable is necessary to split up 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 OSCAR One must be connected to the boat bus backbone (NMEA 2000).

Attention: _Termination resistor is mounted inside OSCAR One Unit. A separate backbone for OSCAR ONE with an NMEA bridge connection to the boat backbone is highly recommended._

4.3.   Connectors

Mast Data Cable:

Top: Amphenol LTW "BU-12BFFA-LL7001"
Circular Connector ASSY LOCK 12PIN F CONN F PIN

Bottom: Amphenol LTW "BD-08BMMA-QL8MP0"
Circular Connector ASSY LOCK 8PIN M CONN M PIN

Power Cable:

Top: Amphenol LTW "03BFFA-LL7001"
Circular Connector REC 3 Contacts Skt Cable Mount AD

Bottom: free cable end

Y-cable (Splitter):

Mast end: Amphenol LTW "BD-08BFFA-QL8MP0"
*Circular Connector ASSY LOCK 8PIN F CONN F PIN*

Boat bus: NMEA 2000 male connector (5 pin)

Boat LAN: RJ45 or brand specific connector (e.g. Raynet, B&G, etc.)

4.4. External Buzzer

OSCAR 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 OSCAR One.

Connect the "+" pin of the buzzer to the power supply and the ground pin to wire 3 of the power cable.
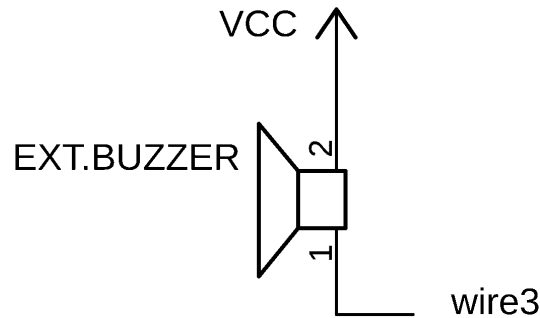

ATTENTION: *max. current: 1 A, max. voltage 24 V*

5. Setup OSCAR One

5.1. Preparation

o OSCAR: Serial Password (sent by e-mail)

o Height of Vision Unit (see chapter Preparation)

o Horizontal distance from mast / signal mast to bow (+/- 1 m) (see chapter Preparation)

o Mast rake in degrees °(see chapter Preparation)

o Boatswain's chair, 2x Wrench Size 8 mm

5.2. Setup

- o Connect your computer to the boat LAN (Ethernet HUB or directly to your MFD/laptop)

- o Open the OSCAR Navigation-App or use Chrome or Firefox in the latest version and go to http://192.168.1.11/WebContent/page/welcome.html

- o Follow the instructions in the app to configure your OSCAR system.

- o During the OSCAR installation setup, the software will guide to align the OSCAR One Unit properly. Therefore, a second person must be up the mast to tilt the OSCAR One Unit up or down according to the software until a green checkmark appears. Press finish to finish the camera set up.
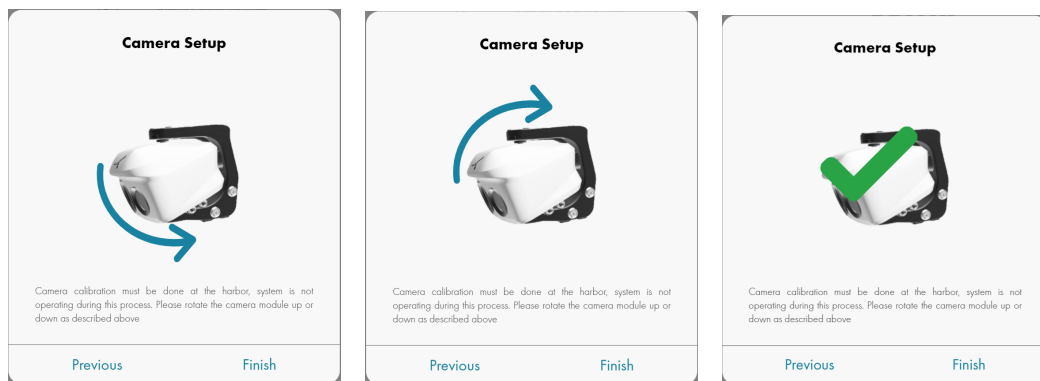
- o When camera setup is finished, tighten the 2 flange screws and nuts to fix OSCAR One.

- o To set up the boat bus connection select your boat bus source. Go to the settings panel in the OSCAR application, select settings, then "Select MFD brand" and choose your primary MFD on which OSCAR needs to run. In case you have multiple instrument sources, you need to choose a source in the "Boat bus configuration" menu.

6. OSCAR maintenance

The system shall always run the latest available software.

Updating your software will frequently provide feature- and performance enhancements.

Software can be updated via the OSCAR APP or the web browser.

The camera housing and lens will require occasional cleaning. Clean the lens when image quality degradation is noticed or excessive dirt build up is seen.

Important when cleaning this product:

Do NOT wipe the lens windows with a dry cloth, or with abrasive materials such as paper or scrub brushes, as this could scratch the coating.

Do NOT use acid or ammonia-based products.

Do NOT pressure wash.

Particular care should be taken when cleaning the lens window, this has a protective anti-reflective coating which may be damaged by improper cleaning.

Clean the vision unit body with a clean, soft cotton cloth. You can moisten the cloth and use a mild detergent if required.
Rinse the camera lenses with fresh water to remove all dirt particles and salt deposits. Allow to dry naturally.

If any spots or smears remain, gently wipe the lens window with a clean microfibre cloth or soft cotton cloth.

If necessary, use isopropyl alcohol (IPA) or a mild detergent to remove any remaining spots or marks.

7. Contact for support

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Credits

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