

Lightning control system

OPERATOR MANUAL



1. SAFETY INFORMATION

Please read the manual carefully before installing or operating the Humphree system. Pay extra attention to the safety notices listed under section 1.1 Warnings and Important Notices.

1.1 WARNINGS AND IMPORTANT NOTICES

Three types of warning or notification signs are used in this manual. The signs are listed as follows in order of severity:



IMPORTANT!

Information shown with the IMPORTANT! sign can lead to system or property malfunctions or damage if it is disregarded.

NOTE!

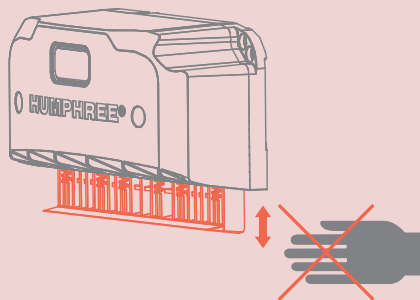
NOTE!

Notes contain important information regarding the Humphree system.

1.2 INTERCEPTOR SAFETY PRECAUTIONS



SHARP EDGES!



2. ABOUT THIS MANUAL

The purpose of this manual is to give instructions on how to correctly use the Lightning Interceptor system, and ensure captain and other people onboard enjoy more days at sea. This includes things such as managing the maintenance of the system, know where to get help and how to hand over complicated trim and list correction to the real pro, the system.

This manual is available digitally as a PDF file, and can be downloaded in the following ways: Scan the QR code that is displayed on the product packaging and attached documentation. Use the following Humphree URL address: <https://humphree.com/downloads>

2.1 INTENDED PRODUCT USAGE

LIGHTNING by Humphree is a stabilization system designed for motorboats with the following specifications:

Length of 20-45 feet

Speed of 10-50 knots

The system must not be used for purposes other than the intended usage.

2.2 INTENDED AUDIENCE

This manual is aimed at Captains of boats equipped with a LIGHTNING by Humphree system. If you are not a LIGHTNING by Humphree captain, there is no risk of harm or in proceeding to read, it's a very pretty operator manual. When you are done, but thirsty for more, pay www.Humphree.com/lightning a visit to find out more.

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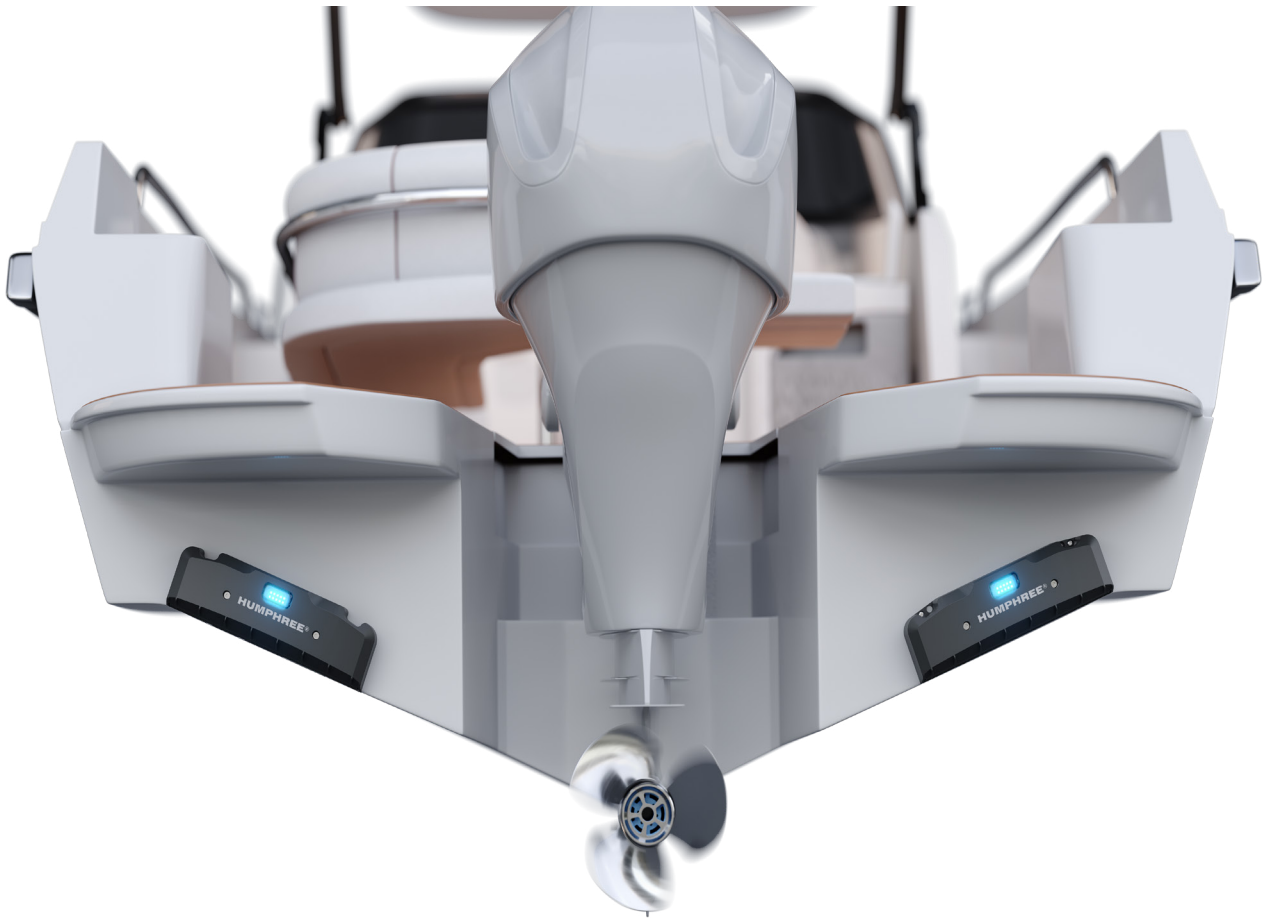
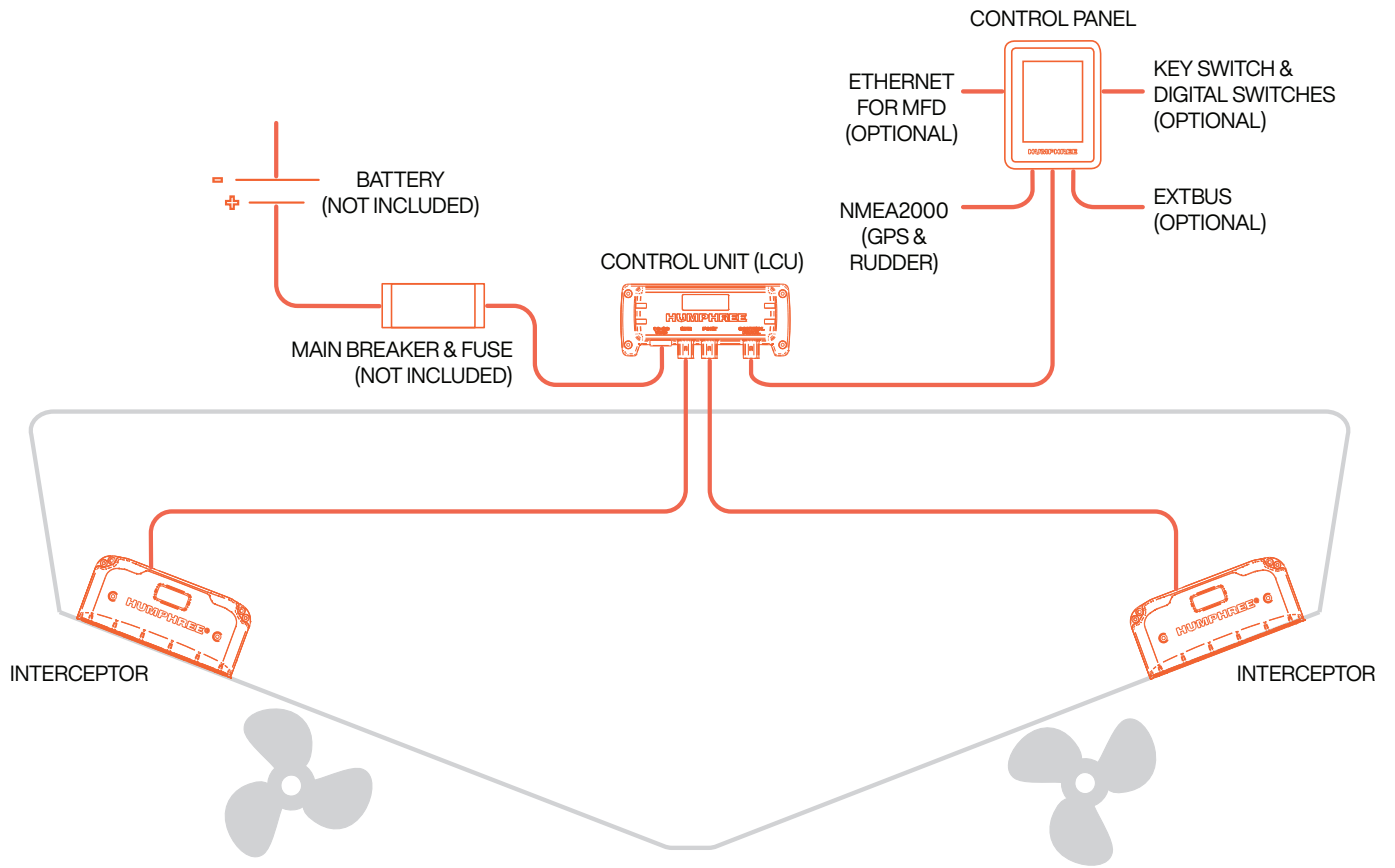
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3.SYSTEM OVERVIEW



4. FUNCTION PACKAGES

4.1 PACKAGE CONTENTS

CRUISE

Automatically compensating for every condition on the boat, like trim, wind, uneven load and turns in all speeds.



Auto trim



Auto list



Coordinated turn



Underwater Lights

ULTIMATE

The full Humphree experience with Proactive™ ride control, taking control of conditions before it has happened.



Auto trim



Auto list



Coordinated turn



Proactive™ Turn



Proactive™ Pitch



Roll control



Underwater Lights

4.2 DESCRIPTION OF FUNCTIONS



AUTO TRIM

Adjusts the trim of the boat according to speed.



AUTO LIST

Keeps the boat at even keel during speed, for comfort and safety.



COORDINATED TURN

Adjusts the boats heeling angle during turns. Improving safety and comfort levels.



ROLL CONTROL

Dynamically counteracts roll motions, which reduces the risk of seasickness



PROACTIVE™ PITCH

Eliminates a large amount of unwanted pitching. Adapts to head sea and applies more trim if necessary, just like an experienced captain would.



PROACTIVE™ TURN

This function increases turn dynamics. In wide turns, the system allows the boat to lean slightly like you'd expect, instead of fighting to stay flat. Also when you straighten out any turn, the system reacts earlier, so the boat levels out immediately instead of leaning for a few seconds after the turn.

UNDERWATER LIGHTS

Each interceptor is factory equipped with 10 RGBW LEDs providing a total of 25W.

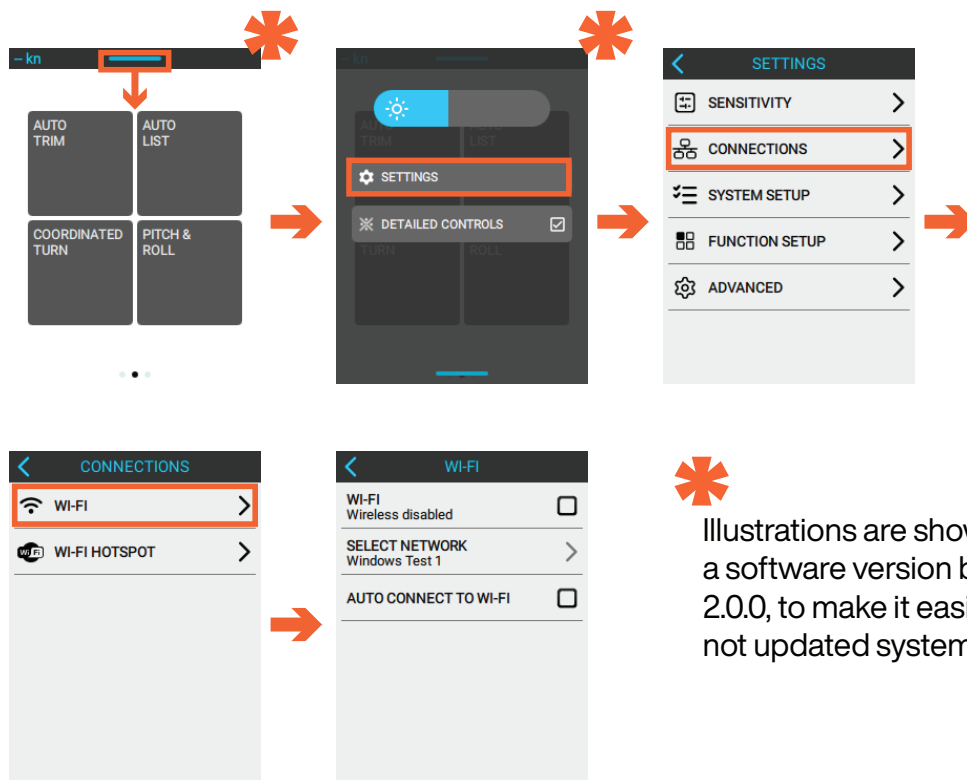
5. SOFTWARE UPDATE

5.1 CONNECT TO WI-FI

The best thing you could do for your system experience is updating the software. It's super easy, and all you need is Wi-Fi or a mobile hotspot.

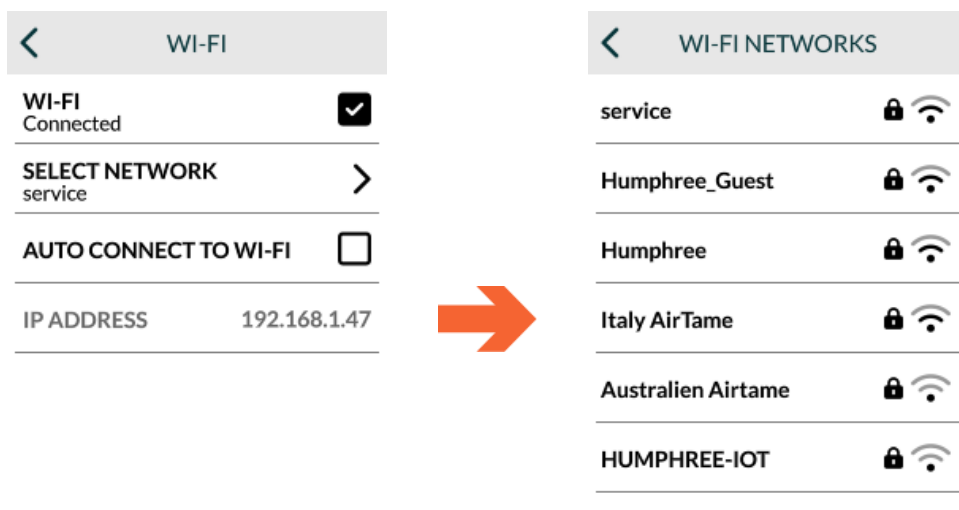
We have improved system performance over time by great lengths. One of our biggest updates was the user interface update, so if the manual looks different from your system, upgrade to get a better experience. You can read all the latest release notes on www.humphree.com/lightning/release-notes/

- 1** **TO OPEN THE WI-FI SETTINGS,** do the following:
HOME > MENU > SETTINGS > CONNECTIONS > WI-FI



Illustrations are showing a software version below 2.0.0, to make it easier for not updated systems.

- 2** **TO CONNECT TO A WI-FI NETWORK,** Do the following:
- Enable Wi-Fi
 - In WI-FI settings screen, tap SELECT NETWORK.
 - Choose one of the Wi-Fi network listed on the screen.



3

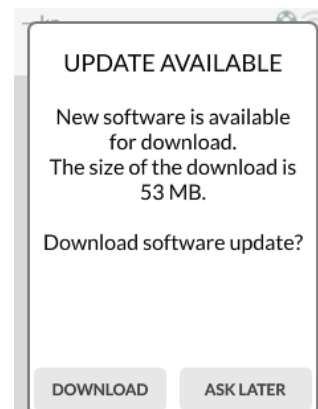
FOR PASSWORD PROTECTED WI-FI NETWORKS, input the password and make sure that Control Panel remains connected to the Wi-Fi. The password must have a minimum of 8 characters for the LCP to send a connection request to the network.



5.2 DOWNLOAD AND INSTALL SOFTWARE UPDATE

The Lightning Control System automatically searches for the latest software version when connected to the Internet. If a new software version is available, a popup will appear on the controls page. You can also manually search for updates.

1 **DOWNLOAD AND INSTALL**, press the download button in the pop-up on the screen. The software version will download in the background. Go to them main screen.



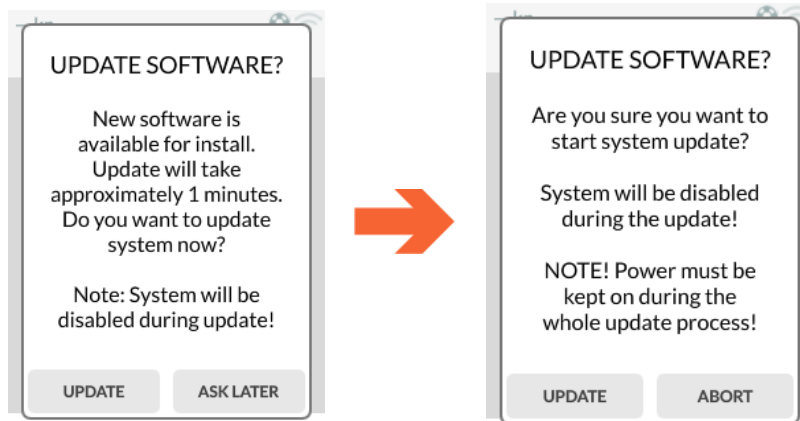
NOTE!

NOTE!

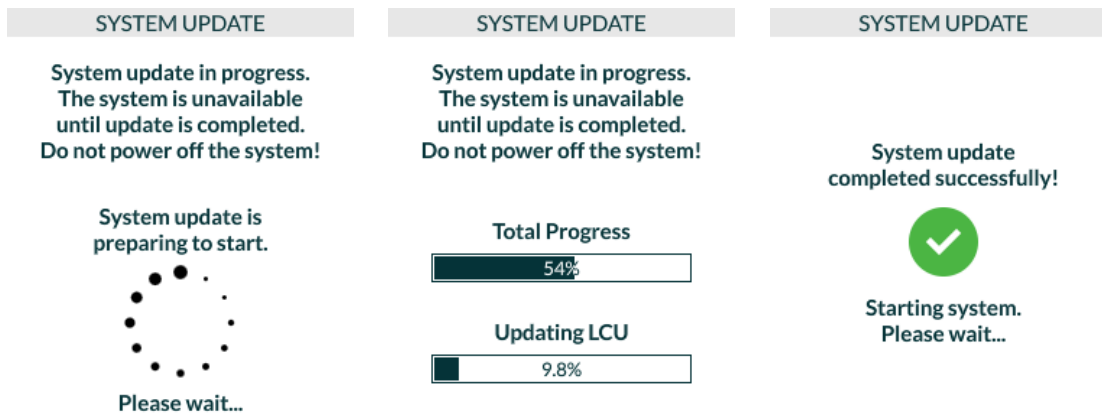
If the system is "ready for update" but won't start:

- Navigate to Settings > Advanced.
- Enter GPS simulation
- On SW version below 3.0: Swipe down and hold from the top of the screen for three seconds to access the "GPS simulation" menu.
- Simulate a GPS speed of 0 to proceed with the update. Important: Turn off the simulation after updating.

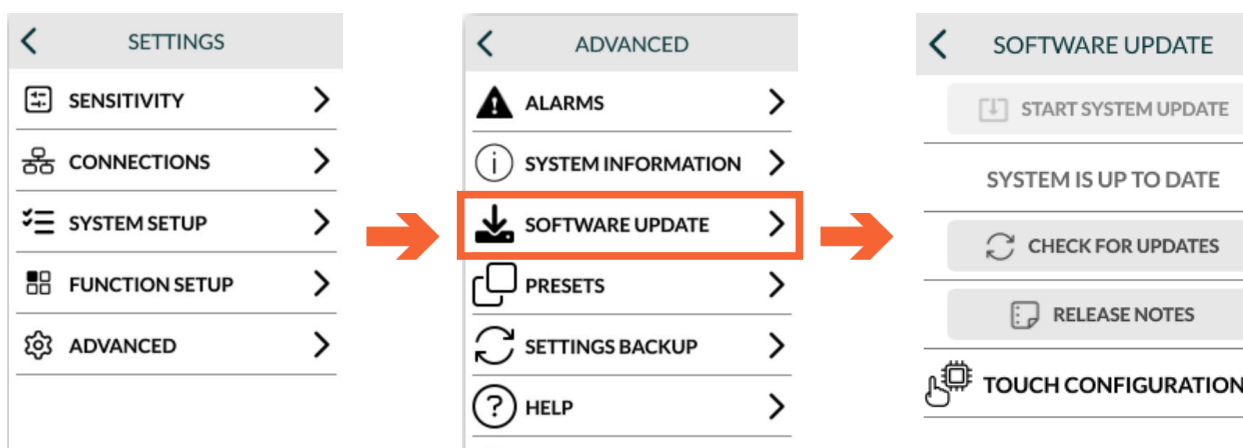
2 TO INSTALL SOFTWARE UPDATE, press the update button in the pop-up on the screen. A second pop-up will appear to make sure you keep the power on during the entire update.



3 DURING INSTALLATION, the system will restart and update the different units one by one. When the software update is completed the system will display a success message.



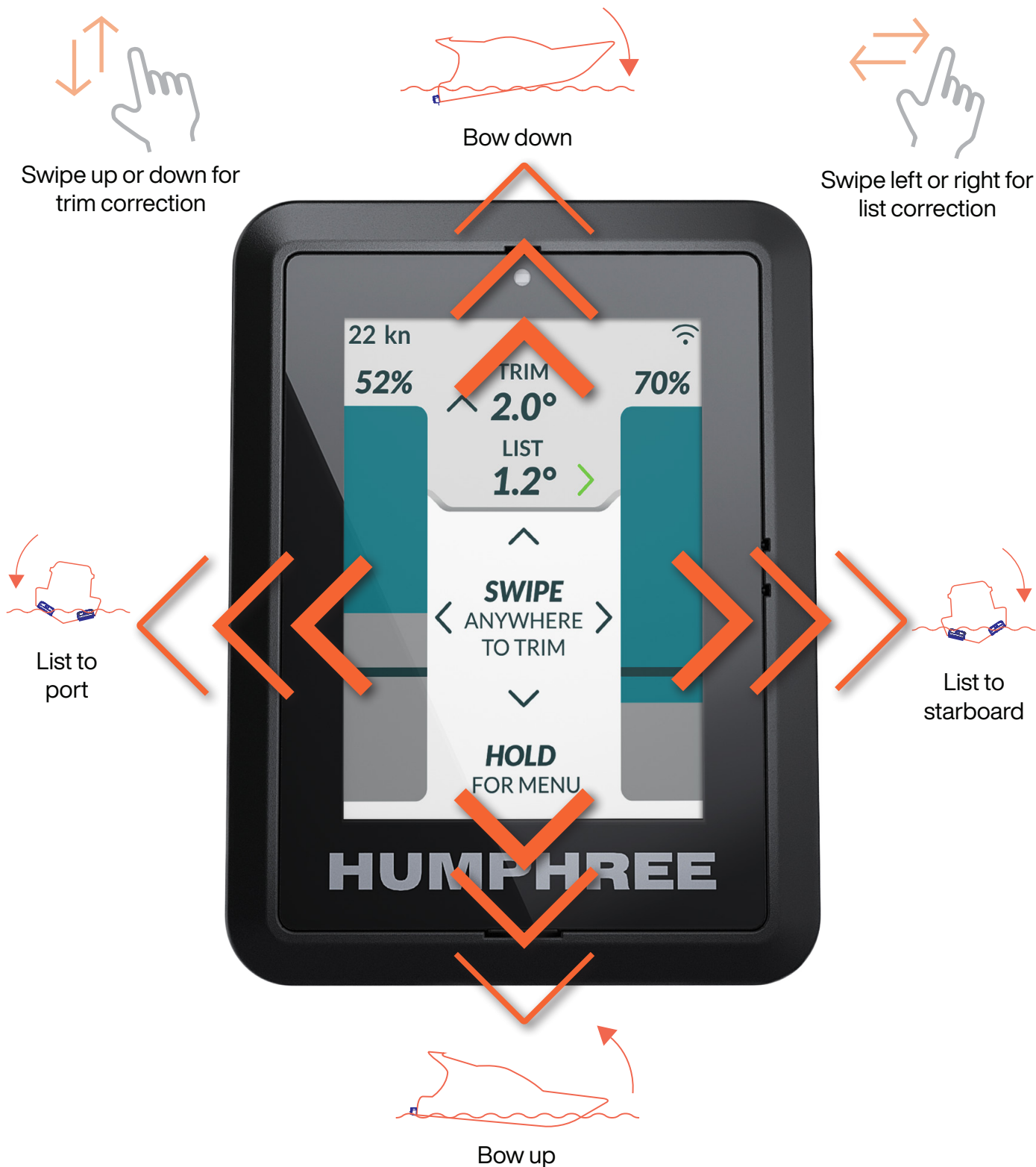
MANUALLY CONTROL SOFTWARE, press **ADVANCED > SOFTWARE UPDATE** and manually search for the latest software. Here you can also follow the download percentage and other information.



6. CONTROL PANEL

6.1 MAIN CONTROLS PAGE

The Lightning Control System uses intuitive swipe controls to correct or manually trim and list the boat. To correct the boat in a desired angle, swipe on the screen in the same direction. You can swipe anywhere on the screen, so you don't have to look at the screen to operate the system. This works for manual control and with automatic functions on, if you want to do corrections.



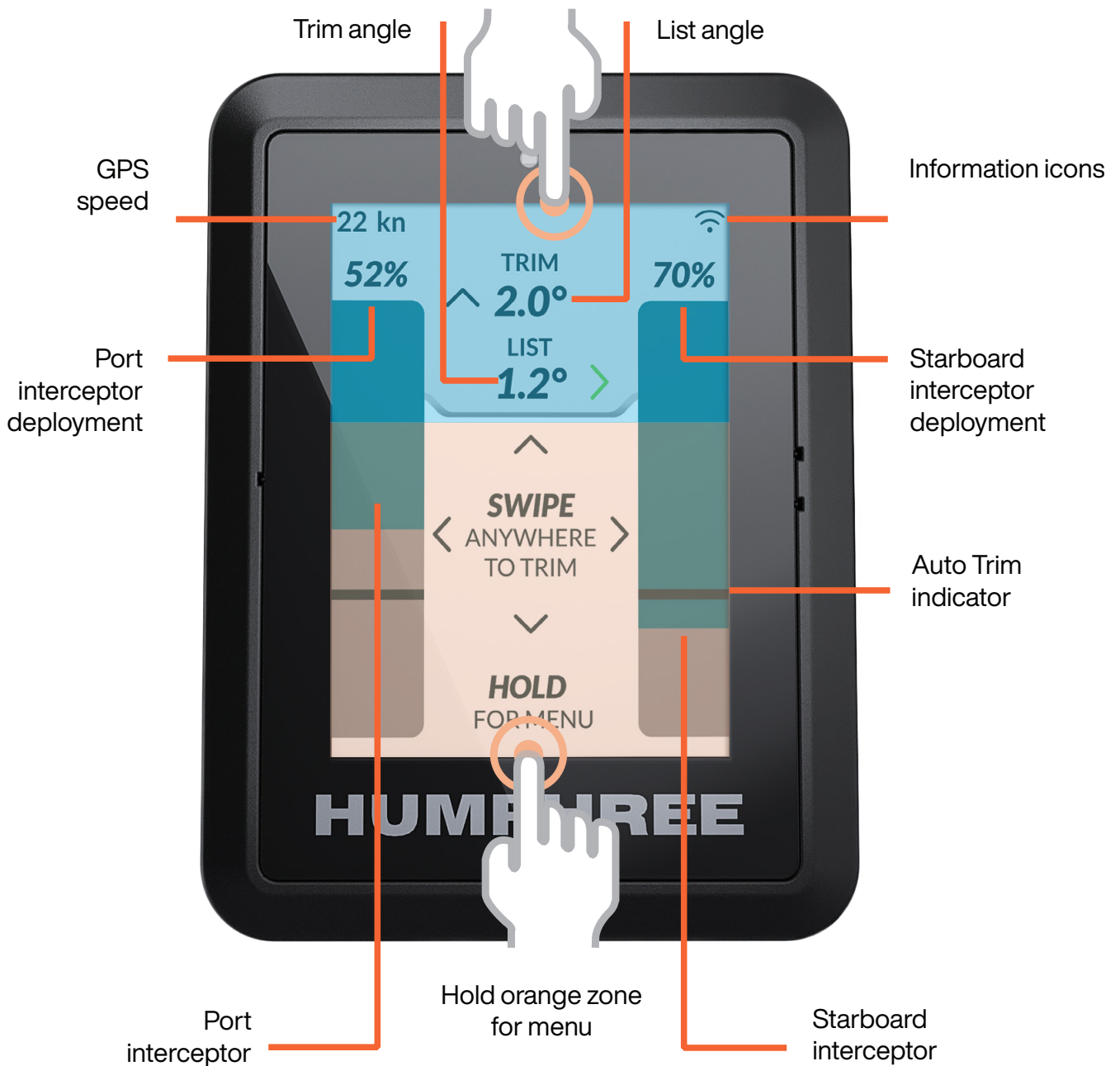
6. CONTROL PANEL

6.1 MAIN CONTROLS PAGE

All the data you need is available at a glance. From this view you will instantly see how the system operates to trim and stabilize your boat.

To enter the main menu, press and hold anywhere on the screen.

Hold blue zone to reset trim and list corrections



6. CONTROL PANEL

6.2 MAIN MENU PAGE

From this menu you can toggle all functions on and off individually. Tapping a function will gray out the function and indicate with "OFF". To turn it on again, just tap it. Functions are ON by default.

Settings, standby and underwater lights are also is easily accessible.



NOTE!

COORDINATED
TURN



If an icon with a lock appears on a function, it means that it is not included in the function package bought with the system. Contact the partner that installed the Humphree systems for upgrade possibilities.

6. CONTROL PANEL

6.3 UNDERWATER LIGHTS PAGE



NOTE!

When underwater lights are on, all operations of the interceptors are disabled. To enable interceptor control and automatic functions, turn off the underwater lights. You can drive with the lights are on, but you can't turn them on underway.

6. CONTROL PANEL

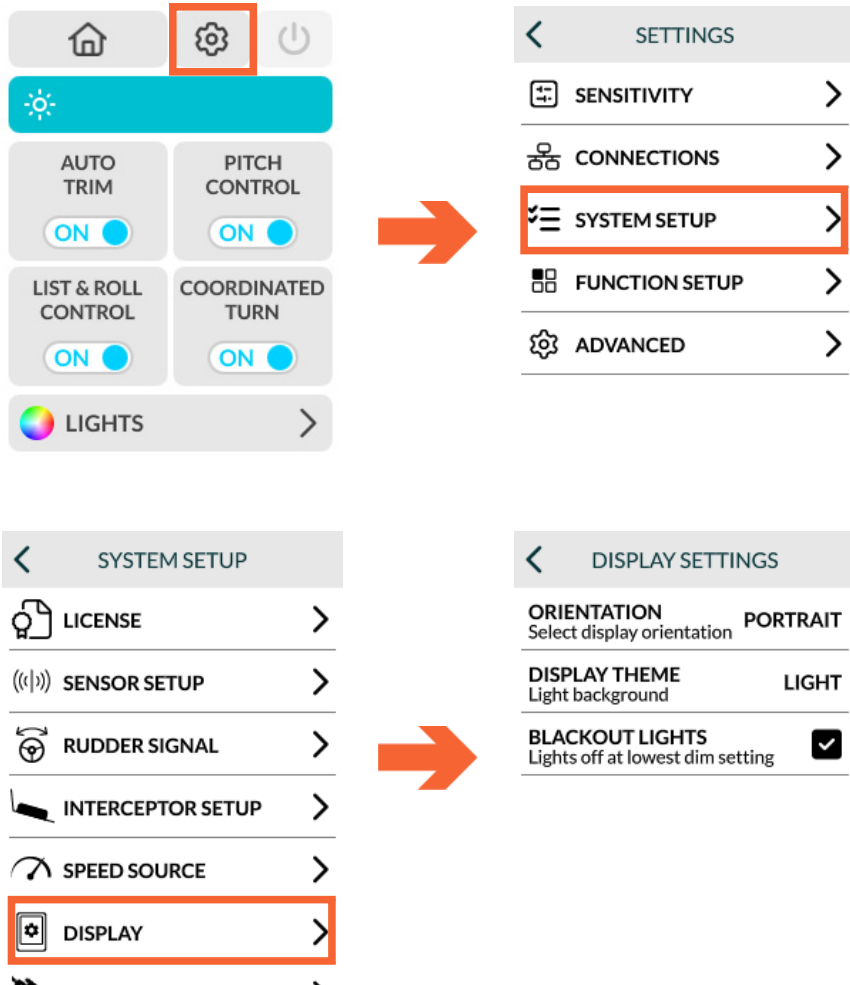
6.4 DISPLAY SETTINGS

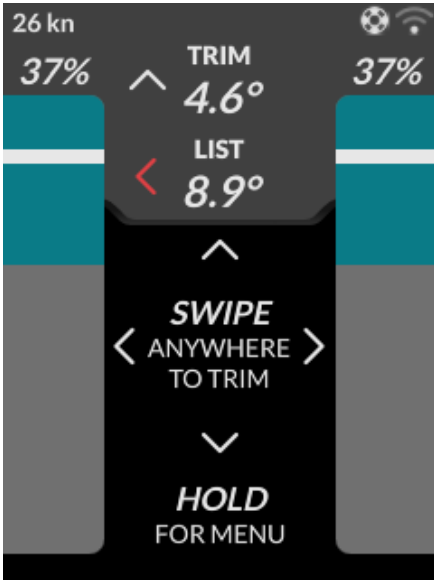
The Lightning Control Panel can be customized in the following ways:

- Change the display orientation to fit how the LCP is installed on the boat.
- Change the default theme to dark theme or night modes
- Enable the display backlight to switch off at the lowest dimmer setting.

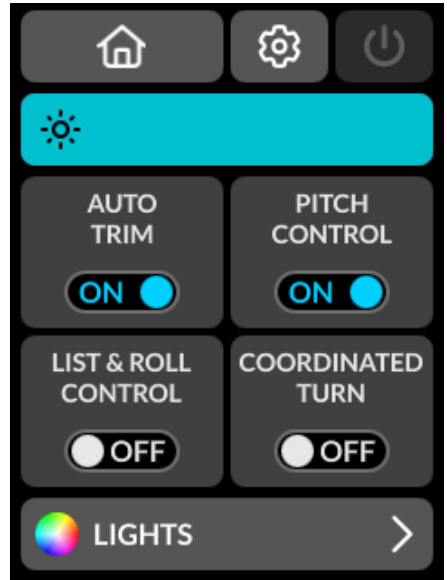
To make changes to the LCP Display go to:

MENU > SETTINGS > SYSTEM SETUP > DISPLAY

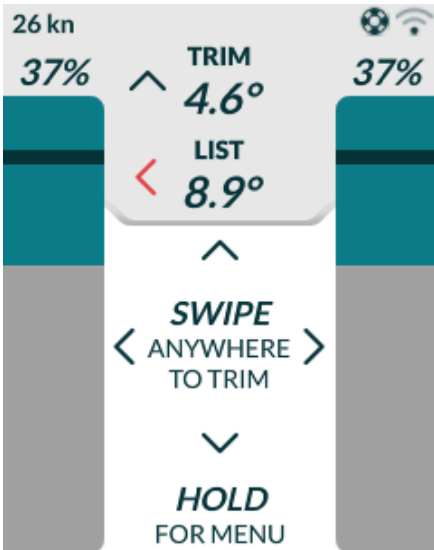




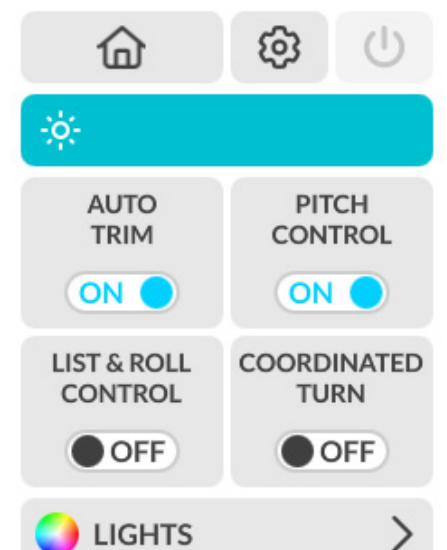
Dark theme
Main Controls



Dark theme
Main Menu



Light theme
Main Controls



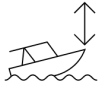
Light theme
Main Menu



Red Night Mode



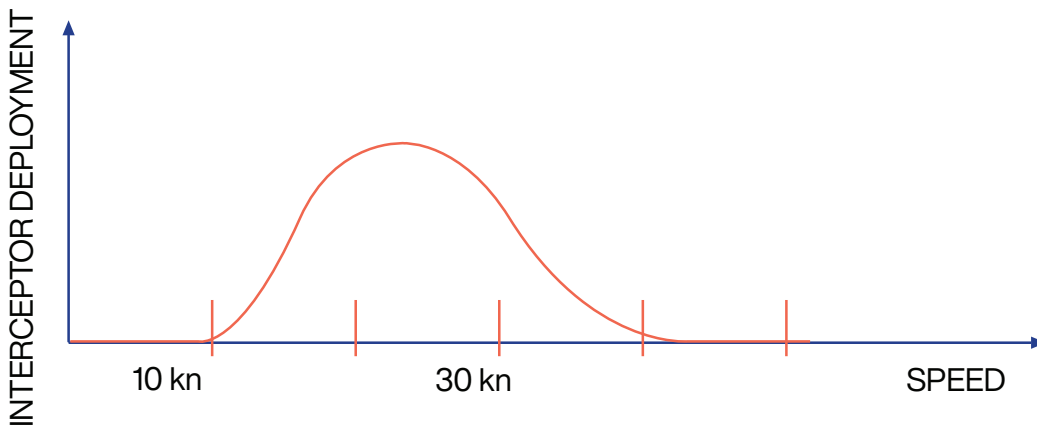
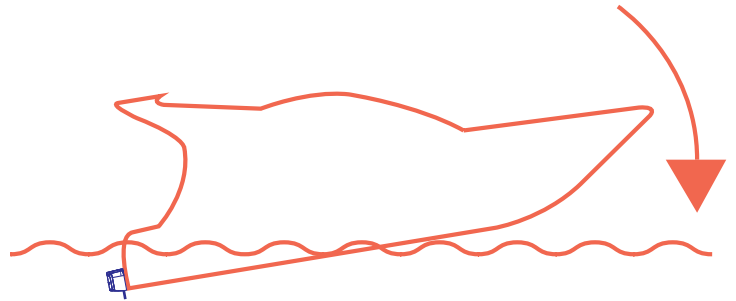
Green Night Mode



7. AUTO TRIM

Automatic trim control delivers perfect running trim at all times. Having the optimum running trim of your vessel means best performance, faster acceleration and fuel savings.

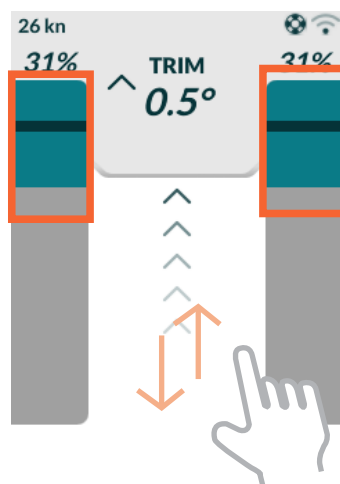
If your vessel runs with high trim it is likely that you are using too much fuel and not getting the speed that you could do. With Humphree Automatic Trim Control you will always have the optimum trim on your boat, with out the need of adjusting the trim system manually.



Example of AUTO TRIM curve.

It is possible to manually adjust the trim angle to compensate for different conditions, e.g. loading or sea states.

Swipe up or down for trim correction



When adjusting, the interceptor position will differentiate from the Auto Trim indicator. The indicator tells you a reference of the position the interceptors would have, unless deployment was demanded from other automatic functions and manual correction.

Scan QR code for more information about the Auto Trim and Auto List function

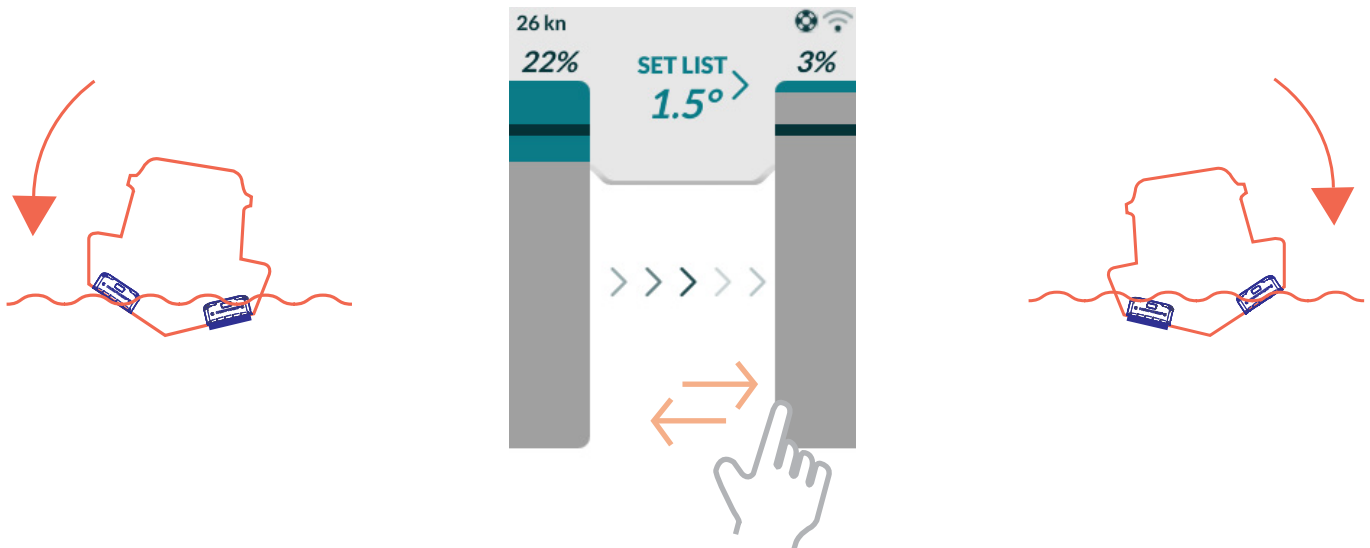




8. AUTO LIST

Due to uneven loading or cross winds, the boat will often lean to one side. When running in a straight course, AUTO LIST automatically prevents the boat from heeling. When the boat is turning, the system allows the boat to heel naturally.

It is possible to manually adjust the list command to compensate for different loading conditions. Swipe left or right for list correction. A SET LIST indicator will appear, showing the new target list angle you have set for the boat. It will reset after exiting a turn.

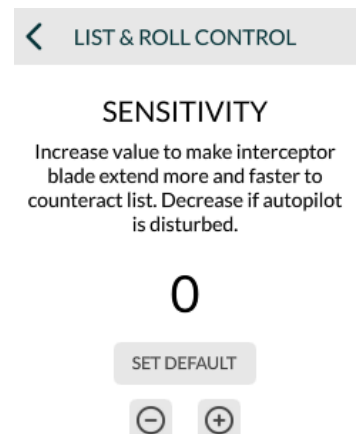
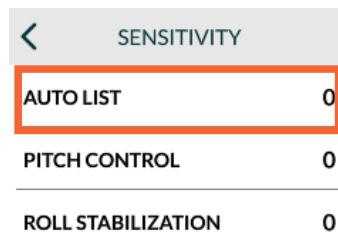


NOTE!

AUTO LIST can interfere with the auto-pilot's course keeping. It is important to make the function and the boat's autopilot work together. If the Auto Pilot have a self tuning feature, always perform the self tuning with all Humphree functions properly setup and activated.

High values of AUTO LIST SENSITIVITY can interfere with the course keeping. To solve issues that which cannot be solved by autopilot calibration, reduce the Auto List sensitivities until the autopilot starts working again.

Adjust sensitivity can be set from the SETTINGS > SENSITIVITY menu together with other functions sensitivity values.





9. COORDINATED TURN

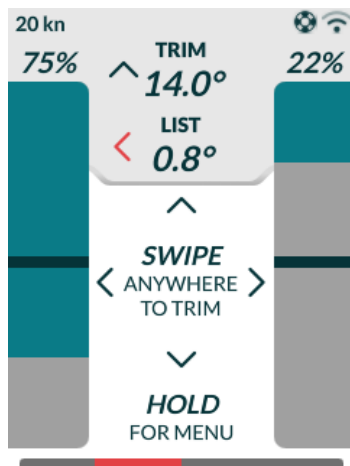
TURN CONTROL

Thanks to the coordination between the rudder and interceptors, the COORDINATED TURN automatically controls the heeling angle of the boat during turns to reduce the side forces for the people on board. With a controlled heel angle, higher turning speeds and better comfort can be achieved. Coordinated turn works seamlessly with the AUTO LIST function and transitions smoothly in and out of turns.

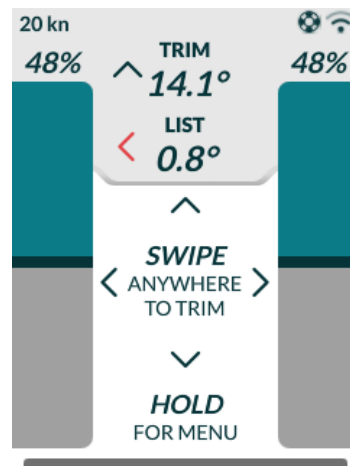
TURNING ABILITY

The boat's turning ability and maneuverability can also be significantly improved as a result of the steering force created by the Interceptor. This allows for more sporty handling of the boat.

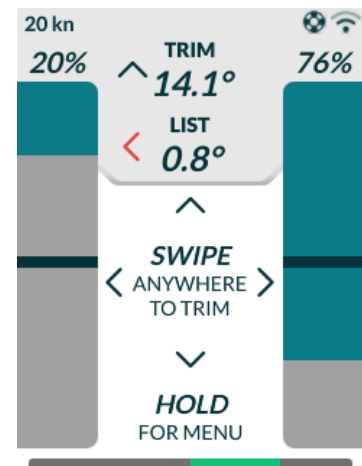
A rudder indicator is visible in the bottom of the controls page, illustrating the current rudder input



Port turn, port interceptor deployed



No rudder input



Starboard turn, starboard interceptor deployed

NOTE! The function demands rudder input. For more information, see Setup Manual.

Scan QR code for more information about the Coordinated Turn function





10. PROACTIVE™ TURN

Our refined addition to dynamic turning experience. It consists of two features that improves the boat behavior when entering and exiting turns.

The first feature allows the boat to bank naturally in wide turns. Without this feature Auto List is trying to achieve a list angle of zero until a sharp turn is detected. The effect of this function can be adjusted in a menu to achieve the feeling that the you prefer.

The second feature detects that the boat is in a turn but that the driver is about to end the turn and go to a straight course. By reactivating Auto List as early as possible at the end of the turn, the interceptors can compensate for the new wind direction without any delay after the turn.

Both features can be adjusted if licensed under the FUNCTION SETTINGS > AUTO LIST.
For more information, see Setup Manual



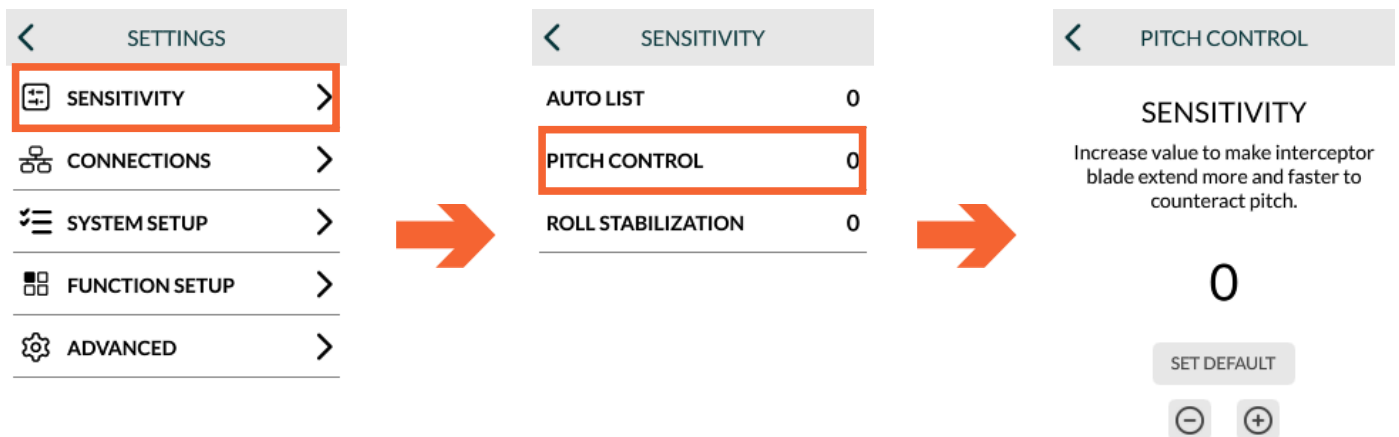
11. PROACTIVE™ PITCH

PITCH CONTROL dynamically extend and retract the interceptors when you are driving the boat facing the waves or following the waves. This significantly reduces boat motions to avoid sea sickness and fatigue of everyone aboard.

PROACTIVE™

A completely new patented pitch control that detects head sea and trim down the bow automatically by adding extra interceptor deployment, just like an experienced captain would. You don't have to trim down the bow manually anymore.

Adjust sensitivity can be set from the SETTINGS > SENSITIVITY menu together with other functions sensitivity values.



Scan QR code for more information about the Pitch Control function



12. ROLL CONTROL

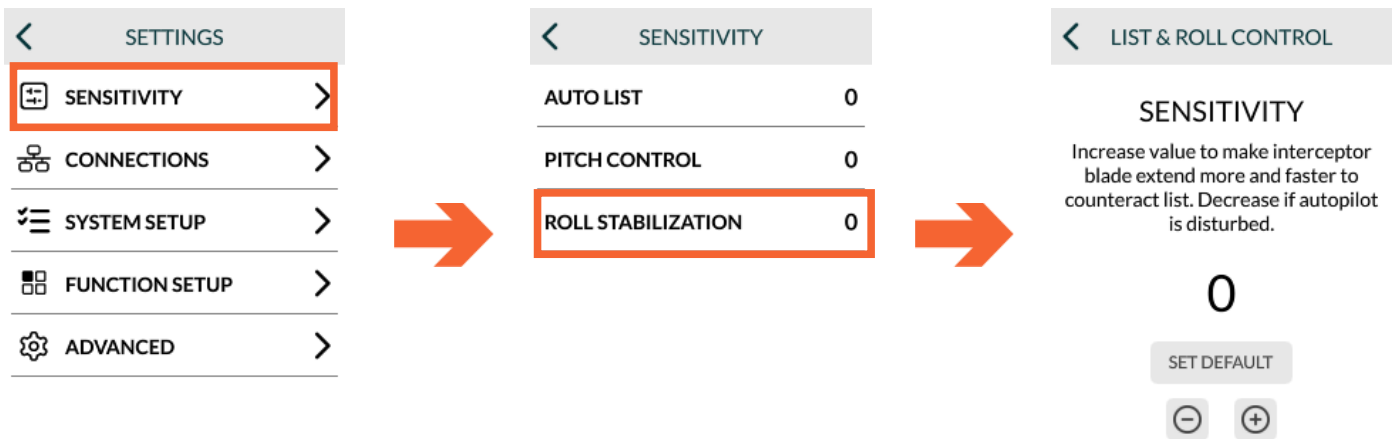
ROLL CONTROL is our most advanced stabilization function. Rolling motion is the biggest cause of seasickness on board a boat. Our ROLL CONTROL uses gyro sensors to calculate and counteract all roll motions of the boat by extending and retracting the interceptors with the highest possible speed to reduce the risk of seasickness to a minimum.

NOTE!

ROLL CONTROL can interfere with the auto-pilot's course keeping. It is important to make the function and the boat's autopilot work together. If the Auto Pilot have a self tuning feature, always perform the self tuning with all Humphree functions properly setup and activated.

High values of ROLL CONTROL SENSITIVITY can interfere with the course keeping. To solve issues that which cannot be solved by autopilot calibration, reduce the Roll Control Sensitivity until the autopilot starts working again.

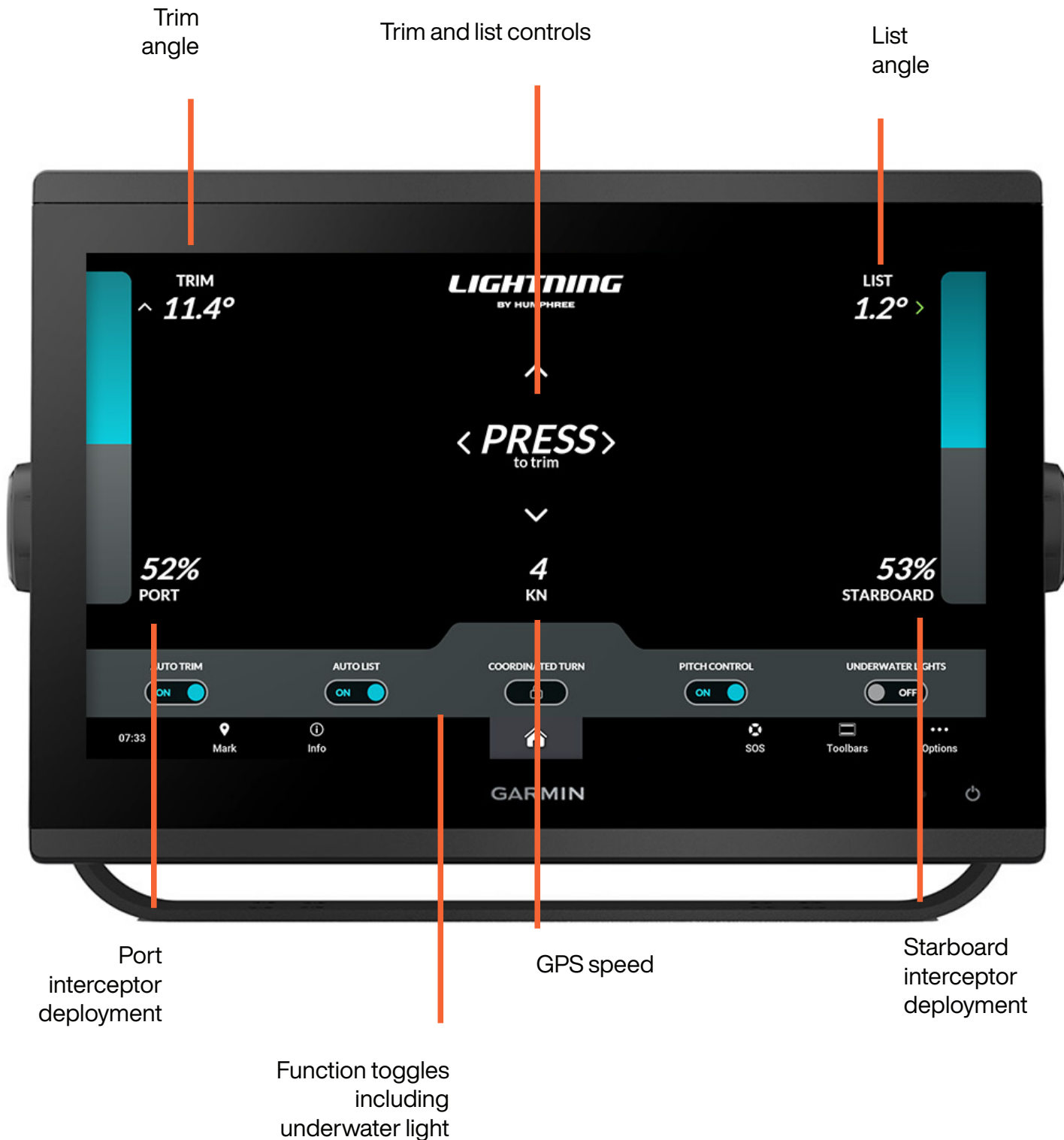
Adjust sensitivity for faster or slower response. The settings can be set from the SETTINGS > SENSITIVITY menu together with other functions sensitivity values.



Scan QR code for more information about the Roll Control function

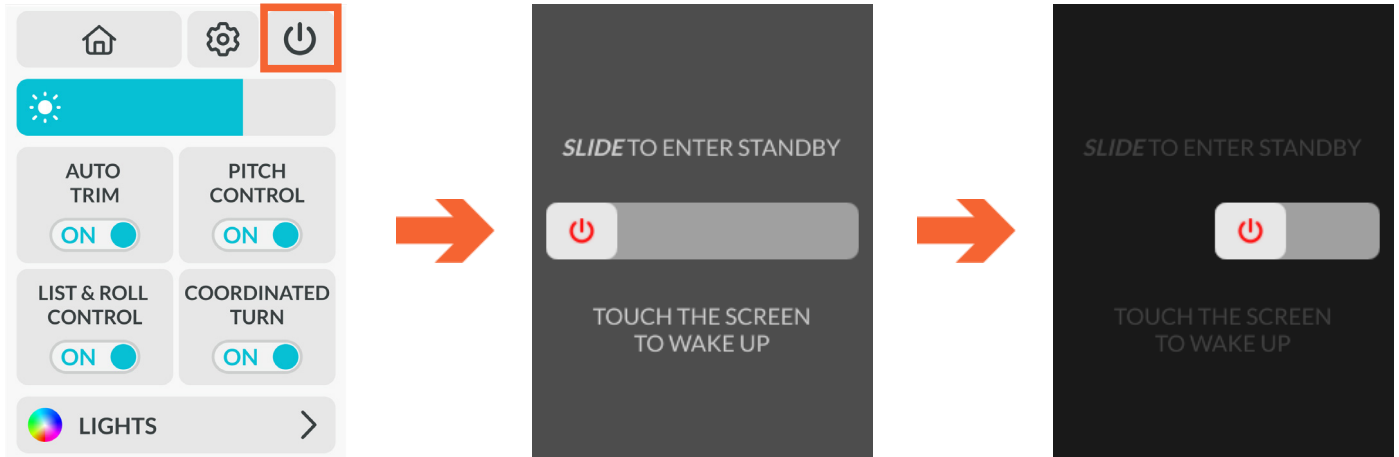
13. MULTI FUNCTIONAL DISPLAYS (MFD)

If your system is setup with your supported Garmin or Simrad MFD's, you can access the Main Controls function from you MFD app. For more information on setup see the SETUP MANUAL. You can also read more on our Q&A: <https://humphree.com/qa/>.



14. STANDBY

When the system is put in standby mode all electronic units enter a low energy scheme. Tap the standby button to activate standby mode. Slide the button all the way to the enter standby. Touch the screen to wake up. If a KEY SWITCH is installed, switching the engines off will put the system in standby.



15. RESET ANGLES

In case the system no longer displays the correct trim and list angles when the boat is at even keel, you can reset the angles.



You can either press “SET ZERO FOR TRIM AND LIST”, set zero for each individually, or fine tune the angle by pressing them and adjusting.

16. MAINTENANCE

Maintenance with Lightning is easy, no zink replacements and with automatic cleaning the interceptors will prevent marine growth themselves. To increase the durability of the system:

- Apply anti fouling to the parts that are exposed to water for more than two weeks at a time.
- Brush the interceptors regularly to avoid marine growth is best practice.
- Brush or scrape of growth on the UWL lenses, or treat with underwater light transparent anti fouling

TASK

INTERVAL

Visual inspection and a function test of the system

Annually

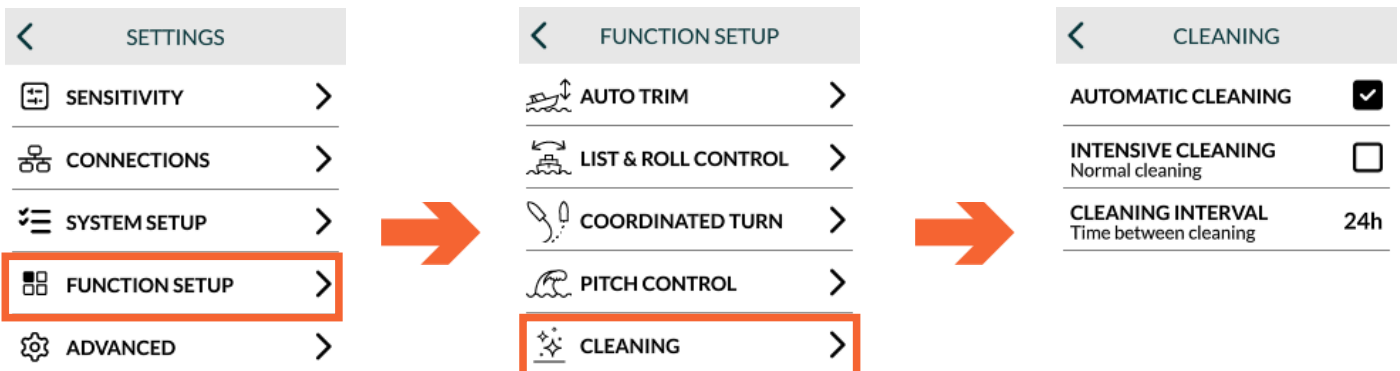
Clean the interceptor blades and underwater lights

Annually

More in depth maintenance information available on the Lightning website: <https://humphree.com/qa/>

15.1 AUTOMATIC CLEANING

Ensure cleaning is turned on in the cleaning menu, here you can also change the cleaning function to your liking. Cleaning will not work if the system has no power.



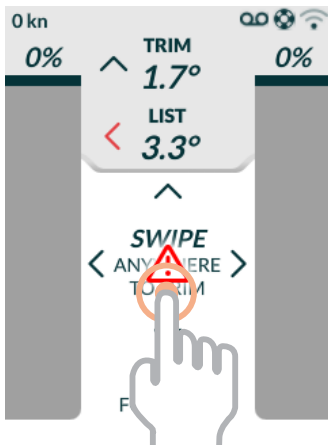
17. TROUBLESHOOTING

16.1 SUPPORT

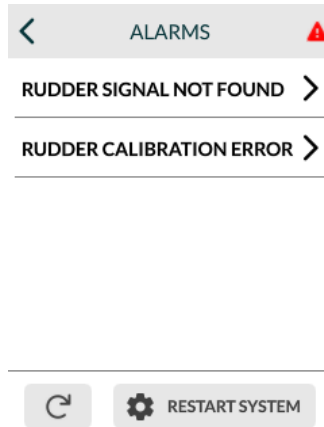
If you are experiencing issues, visit the website below and find your current trouble code in the list: <https://humphree.com/support>

Humphree also offers a Q&A with common questions: <https://humphree.com/qa/>

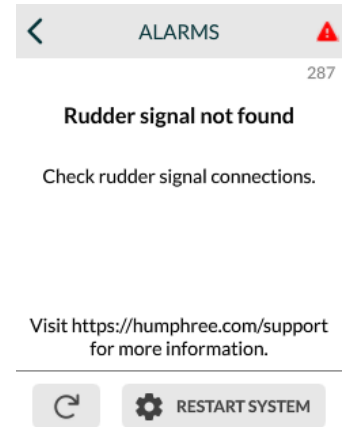
16.2 ALARM ALERT



Long press alarm icon to go to alarm menu.



Alarms are stored here. Restart system will not clear the list, but can sometimes solve the problem. Press “refresh” to update the list



To find more information about every specific alarm code, go to the website and find error.