



NMEA-2K

**The HUB - HTML Integrator**

Rev.: [A]

## **Disclaimer**

The interceptor units are also steering equipment and it is the sole responsibility of the navigator-operator to ensure that, at any point, any problem that will alter the vessels's course, rising from malfunction of interceptors, should be dealt immediately by the operator. Under no circumstances, fault of our interceptor equipment leading to any kind of accident, creates liability for the manufacturer.

## **Trademark Notice**

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## **Patent Notice**

HydroTab products are protected by patents and industrial design patents, patents pending or design patents pending.

## **Declaration of Conformity**

This product conforms to the following Electromagnetic Compatibility (EMC) regulations and standards for use in marine environments:

**CE EN 60945**

## **Technical Information and Documentation**

The technical information provided in this document was accurate and correct at the corresponding production time of the HydroTab interceptors. Our operating principal for improving the manufactured product, may lead to changes regarding its specs, without prior notice. Liability will not be held for any inaccuracy, considering the product and the user manual.

## **Fair Use Statement**

This manual can be printed or copied for private use only. Copies should not be provided to third parties and manual should not be commercialized.

## **Product Disposal**

Waste removal of this product must be done, according to the Waste Electrical and Electronic Equipment (WEEE) Directive.

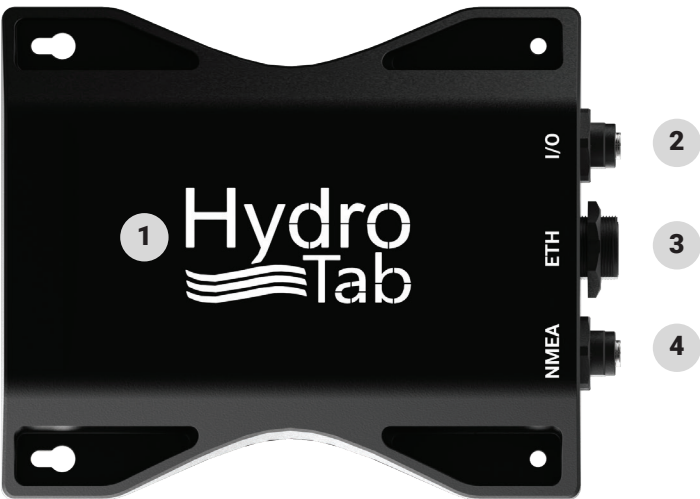
## **Product Registration**

Please register your product online in order for the warranty to be valid.

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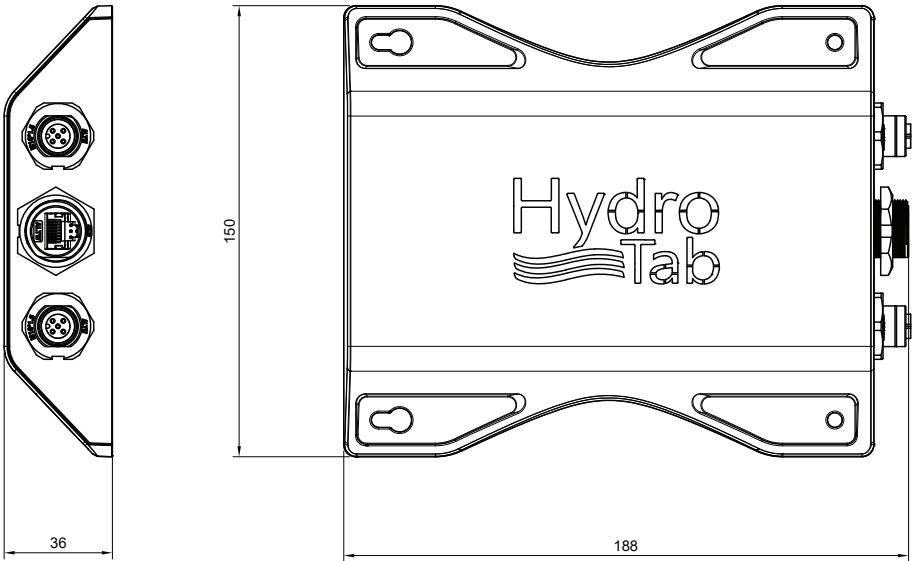
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# THE HUB OVERVIEW - TECHNICAL DATA

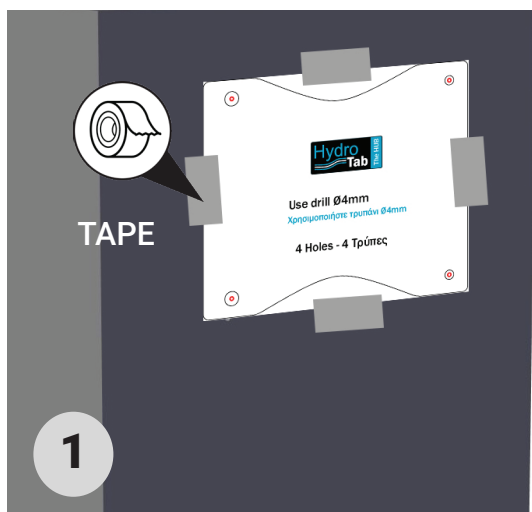


The HUB Mounting & Connection Elements		
1	HydroTab Logo	Illuminated by RGB LED Light <b>WHITE</b> - The HUB functions properly <b>RED</b> - Error on NMEA-2K Connection
2	I/O Port	Power Supply - <b>Use FUSE 5A</b>
3	Ethernet Port	Connection to MFD
4	NMEA-2K Port	Connection to NMEA-2K Network

The HUB External Dimensions	
Length	188 mm
Width	150 mm
Height	36 mm

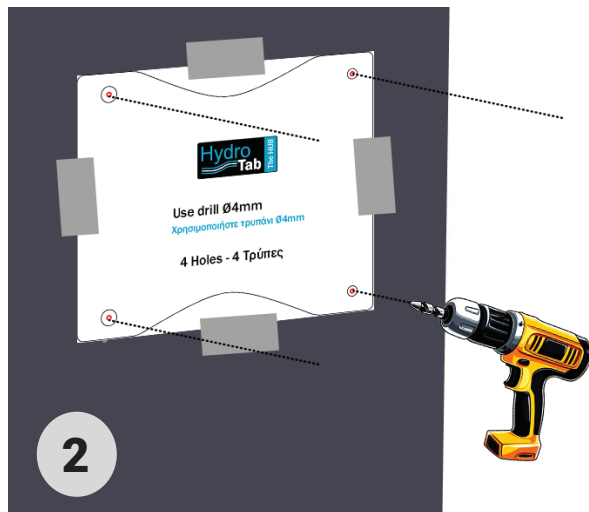


## THE HUB - CONTROLLER INSTALLATION

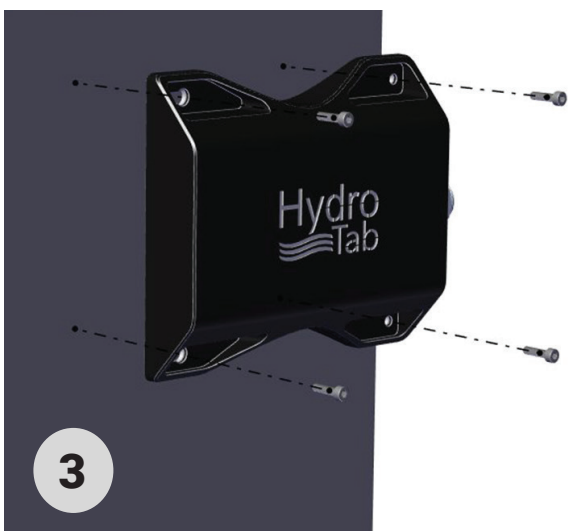


**1.** Place The HUB Drilling Pattern in the desired position, preferably a clean and easy-to-access area.

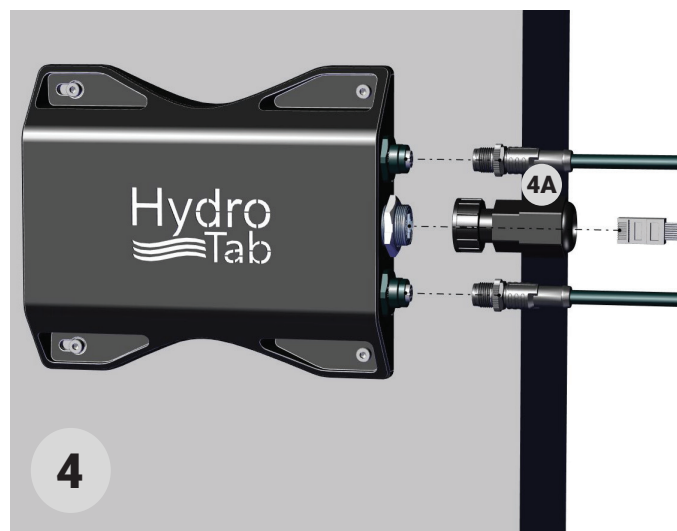
**IMPORTANT: The mounting area must be perfectly vertical!!**



**2.** Drill the 4 holes, according to the provided drilling pattern, with 4 mm bore.



**3.** Mount The HUB, with the 4 provided screws.



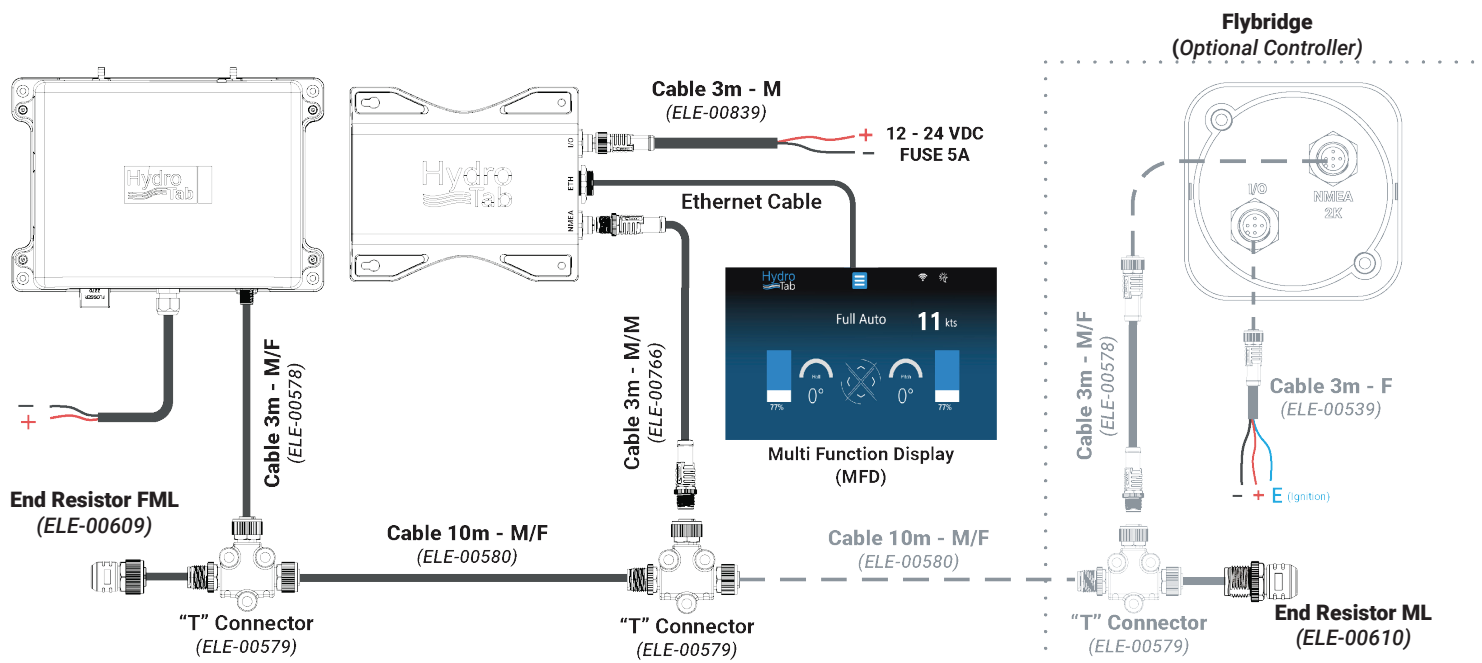
**4.** Connect the NMEA, Ethernet & power cables to The HUB. The MFD will start displaying the main screen menu automatically, right after this step.

*Optionally, you can use the Ethernet Protection Cover - Part No. ELE-00833 (Fig. 4A).*

### **! IMPORTANT NOTE**

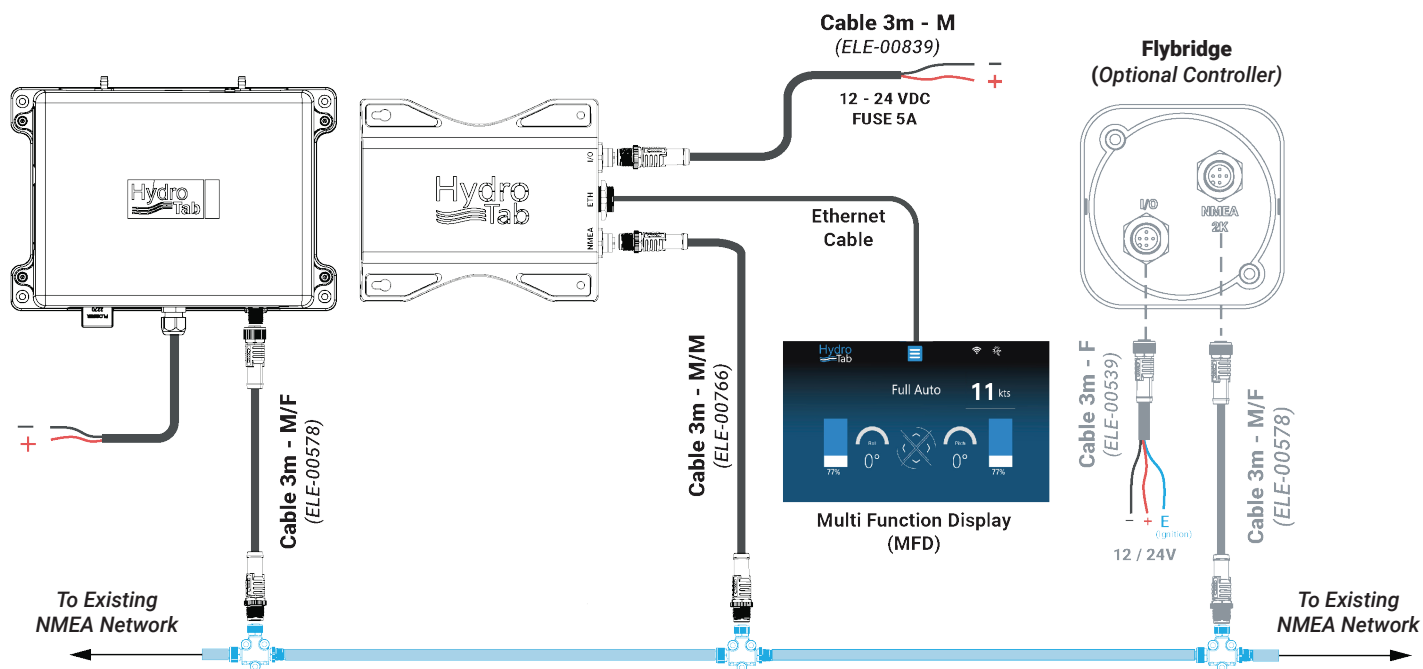
If The HUB must be connected to a legacy network, it is necessary to use a PoE isolator.

## THE HUB - DIRECT INSTALLATION DIAGRAM



**PLEASE NOTE:** This system requires a NMEA-2K GPS signal to operate.

## THE HUB - INSTALLATION ON AN EXISTING NMEA NETWORK DIAGRAM



**PLEASE NOTE:** This system requires a NMEA-2K GPS signal to operate.

## THE HUB - MAIN SCREEN OVERVIEW



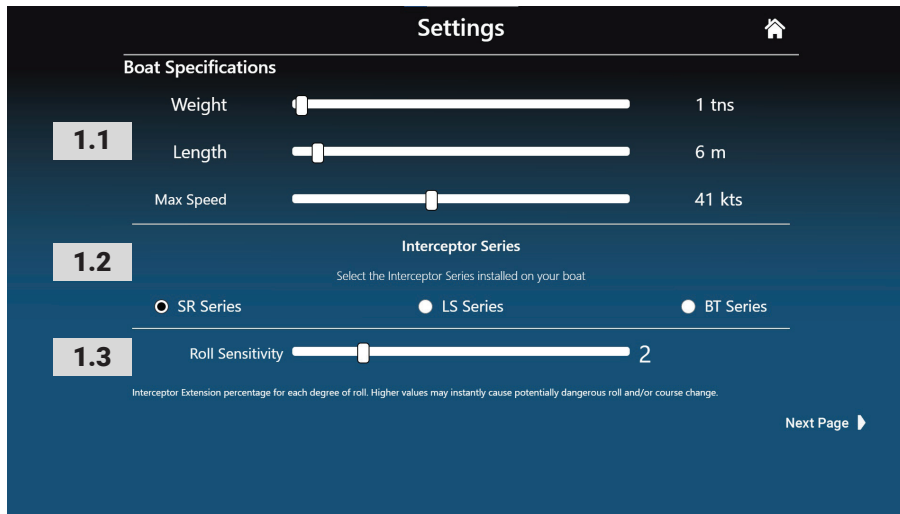
The HUB Main Screen Overview		
1	Settings Menu	Tap to browse to The HUB's Settings Menu
2	WiFi Setup Icon	Tap to connect to a WiFi Network
3	System Operation Mode	Swipe left/right, to select the desired mode: <b>1. Manual:</b> Manual operation of the interceptors. <b>2. Auto Pitch:</b> Interceptors position adjusted, according to the current vessel speed. <b>3. Full Auto:</b> Auto Pitch & Roll Operation, for optimal cruising behavior.
4	Vessel Speed	Current Speed Indication, in kts
5	PORT Gauge	Interceptor Deployment Indication, in %
6	Roll	Vessel Roll Angle Indication
7	Controller	Tap the arrows to control the operation of the interceptors.
8	Pitch	Vessel Pitch Angle Indication
9	STBD Gauge	Interceptor Deployment Indication, in %



By tapping the **Settings Menu** Icon (Fig. 1), a pop-up window appears, with the following 3 options:

1. Settings
2. Pitch Profile Edit
3. System Information

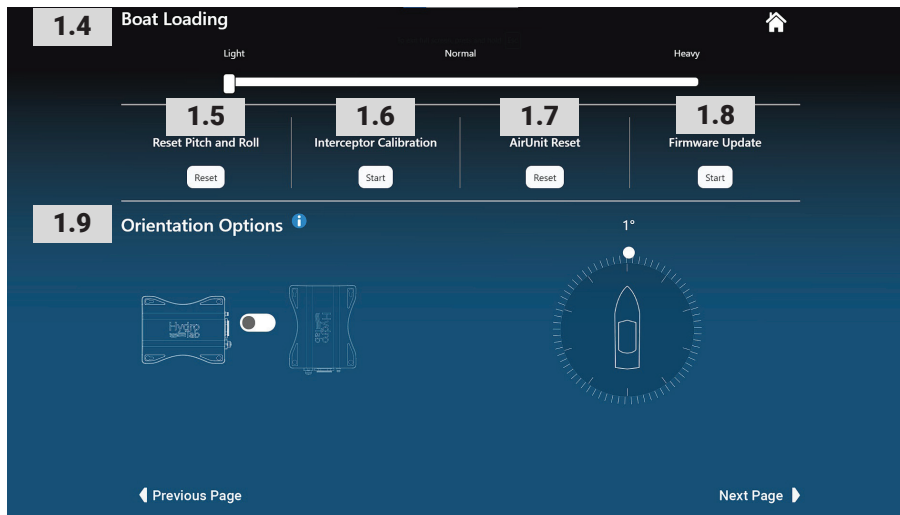
## THE HUB - MENU SCREENS OVERVIEW - SETTINGS



### 1. Settings

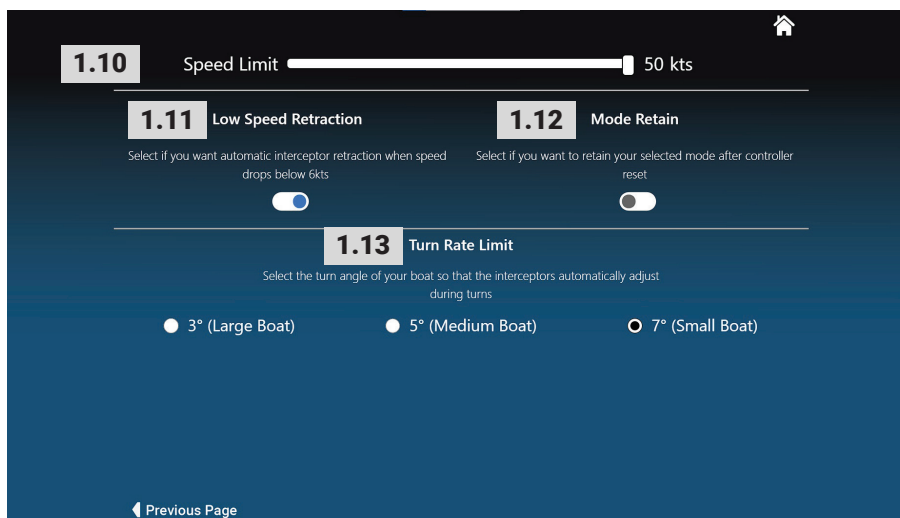
Page 1/3 contains:

- 1.1 Boat Specifications
- 1.2 Interceptor Series
- 1.3 Roll Sensitivity



Page 2/3 contains:

- 1.4 Boat Loading
- 1.5 Reset Pitch and Roll
- 1.6 Interceptor Calibration
- 1.7 Air Unit Reset
- 1.8 Firmware Update
- 1.9 Orientation Options





Page 3/3 contains:

- 1.10 Speed Limit
- 1.11 Low Speed Retraction
- 1.12 Mode Retain
- 1.13 Turn Rate Limit



## THE HUB - MENU SCREENS OVERVIEW - SETTINGS

Boat Specifications

Weight		1 tns
Length		6 m
Max Speed		41 kts

### 1.1 Boat Specifications

Includes *Weight*, *Length* and *Max Speed* of the vessel.

Drag the bar on the slider to adjust each value individually.

Interceptor Series


Select the Interceptor Series installed on your boat

☐ SR Series
 ☒ LS Series
 ☐ BT Series

### 1.2 Interceptor Series

Select the Interceptor Series, installed on the vessel.

Tap on the screen to select between SR Series, LS Series, or BT Series

Roll Sensitivity  2

Interceptor Extension percentage for each degree of roll. Higher values may instantly cause potentially dangerous roll and/or course change.

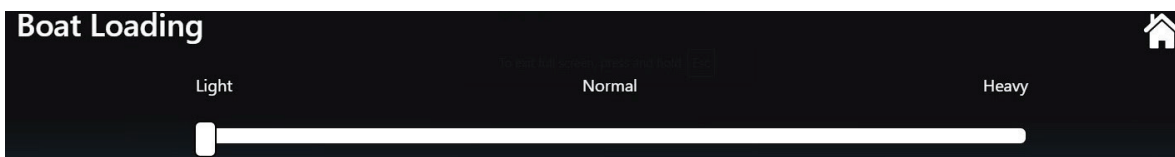
### 1.3 Roll Sensitivity

Adjusts the deployment percentage of interceptors for each degree of roll inclination. The higher the sensitivity, the higher the deployment of interceptors, for every degree of roll inclination. Drag the bar on the slider to adjust roll sensitivity.

**NOTE 1:** High Roll Sensitivity may abruptly affect the vessel's course and stability, especially in higher speeds.

**NOTE 2:** If you set the sensitivity at max value, it may cause overheating of the Air Unit, which will disable the Auto-Roll function, until the system cools down.

## THE HUB - MENU SCREENS OVERVIEW - SETTINGS



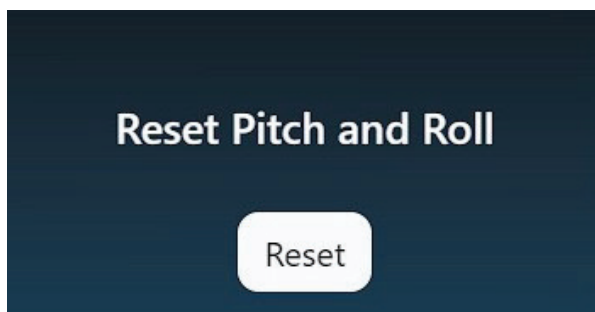
### 1.4 Boat Loading

Select between three available modes:

**Light:** When load is below Normal weight

**Normal:** Standard vessel load

**Heavy:** When the vessel is fully loaded



### 1.5 Reset Pitch and Roll

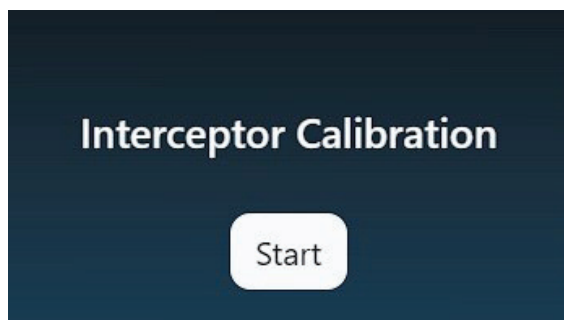
Sets Pitch and Roll value to zero, according to the actual vessel position, at that time.

Reset must be done, when the boat is in calm sea, with load evenly distributed onboard, so the plane defined by waterline is parallel to the sea plane.

#### **Useful Tips for “Reset Pitch and Roll”:**

In case the vessel is slightly unbalanced (due to uneven weight distribution), follow the procedure bellow, for more accurate stability during **Full Auto Mode**:

In calm sea, go to Manual Mode, adjust your boat position in order to be aligned with the horizon and then press **Reset Pitch and Roll**. This procedure will make your interceptors extend in an uneven position, in order to maintain the boat's balance during **Full Auto Mode**.



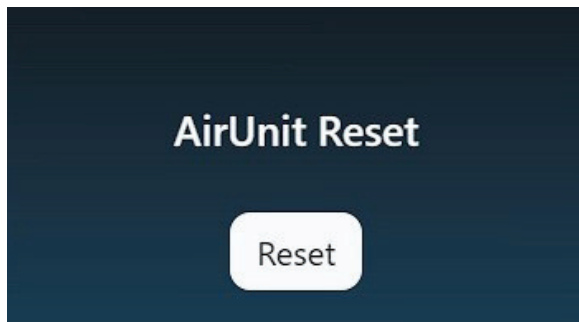
### 1.6 Interceptor Calibration

It calibrates both interceptors' air pressure vs. extension.

It should be executed after the initial installation, or after service works, when any of the interceptors is disconnected from the Air Unit.

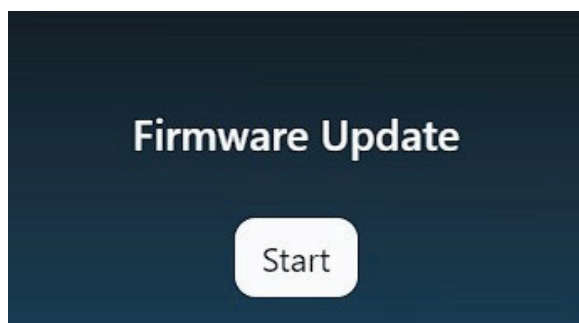
Calibration starts automatically. A pop-up screen appears, when the process is finished.

## THE HUB - MENU SCREENS OVERVIEW - SETTINGS



### 1.7 Air Unit Reset

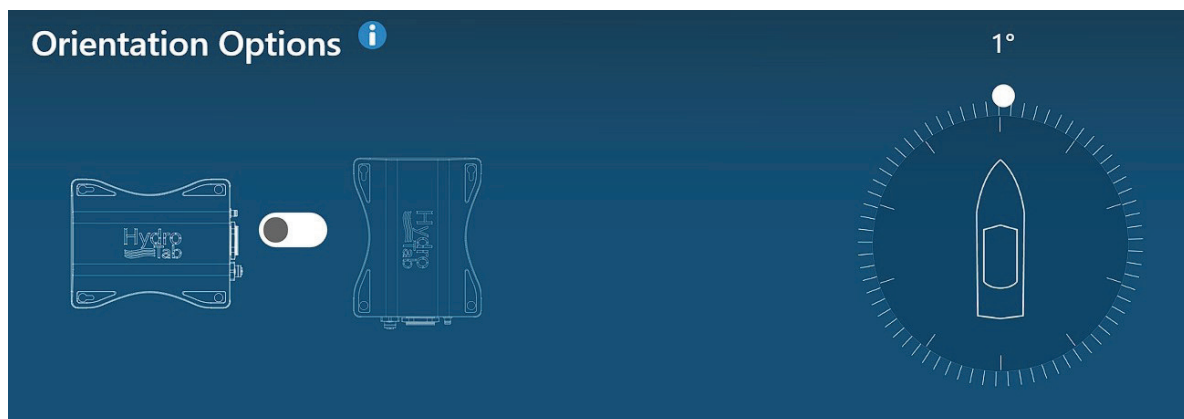
Resets the Air Unit



### 1.8 Firmware Update

Tap "Start" to initiate the Firmware Update process.

**NOTE:** Make sure you are connected to a WiFi Network, before starting the Firmware Update. (See Pg. 11)



### 1.9 Orientation Options

The HUB must fulfill two main orientation options, that the operator must enter after the initial installation:

- 1) Horizontal or Vertical Mounting Position (Left)
- 2) Mounting Angle, based on the vessel's forward direction (Right)

Setting these values as accurately as possible is extremely crucial to The HUB's optimal function.

## THE HUB - MENU SCREENS OVERVIEW - SETTINGS

Speed Limit  50 kts

### 1.10 Speed Limit

Defines the maximum speed limit, after which the interceptors will retract.

**NOTE:** *Speed Limit is applied in ALL MODES.*

### Low Speed Retraction

Select if you want automatic interceptor retraction when speed drops below 6kts



### 1.11 Low Speed Retraction

**Enabled (Default):** Retracts interceptors, when the vessel's speed is lower than 6 knots.

**Disabled:** Interceptors are retracted manually.

**ATTENTION!** By disabling Low Speed Retraction, the interceptors will remain extended, and they can brake during haul out.

### Mode Retain

Select if you want to retain your selected mode after controller reset



### 1.12 Mode Retain

It retains the operation mode, in which the device was set, during its most recent use.

### Turn Rate Limit

Select the turn angle of your boat so that the interceptors automatically adjust during turns

☐ 3° (Large Boat)

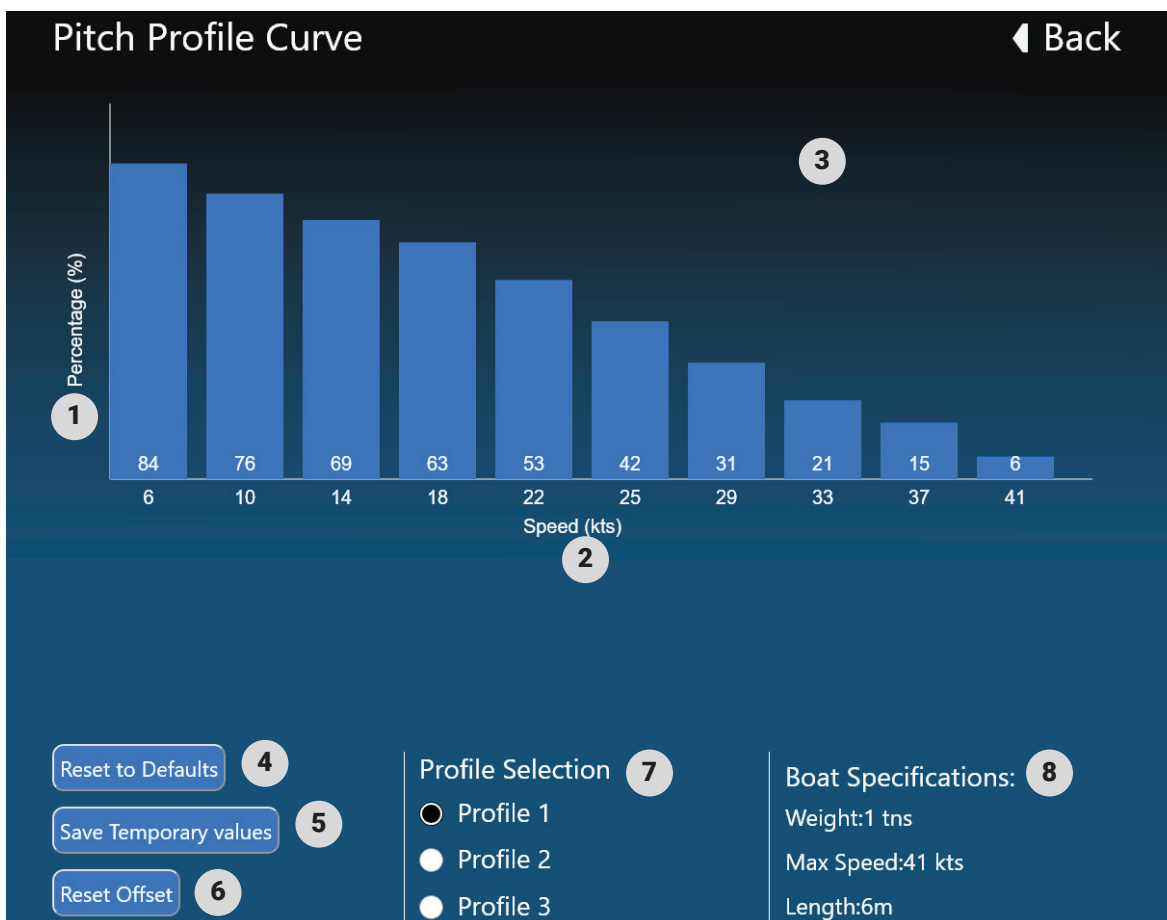
☐ 5° (Medium Boat)

☒ 7° (Small Boat)

### 1.13 Turn Rate Limit

This is the turn rate (in degrees per second), after which the system will stop using the full auto function, and balance the interceptors, in order not to affect the turn radius of the vessel.

## THE HUB MENU SCREENS OVERVIEW - PITCH PROFILE



The HUB Pitch Profile Curve		
1	Interceptor Stroke (in %)	Each column in the Curve Edit Area (3) shows the percentage of the Interceptor Stroke ( <i>Deployment</i> ), according to different speeds.
2	Speed (in kts)	10 segments of Total Speed Range, where the operator can set different percentage of interceptors' deployment.
3	Curve Edit Area	Tap and hold the column to adjust the percentage.
4	Reset to Defaults	Applies to for all Profiles: Initializes the values, according to a selected vessel's specs.
5	Save Temporary Values	Stores the temporary ( <i>Offset</i> ) values as default values.
6	Reset Offset	Deletes the temporary ( <i>Offset</i> ) values.
7	Profile Selection	Tap to select the desired profile. ( <i>up to 3 different options</i> )
8	Boat Specifications	Displays the vessel's specifications. ( <i>see Pg.9</i> ).

### ! IMPORTANT NOTE:

After successfully entering all the necessary values in "Boat Specifications" screen, The HUB sets automatically a Pitch Profile Curve, which is stored in "Profile 1". The vessel's operator can create their own pitch profiles, or edit the already existing ones, through this menu screen.

## THE HUB - WIFI SETUP

To access the WiFi Setup, tap the WiFi icon on the MFD Main Screen, which will lead to the following screen:

- 1) Tap the WiFi Network bracket, to drop down the list of the available WiFi networks.
- 2) Select the desired network.
- 3) Type the password, and then tap the Connect button.

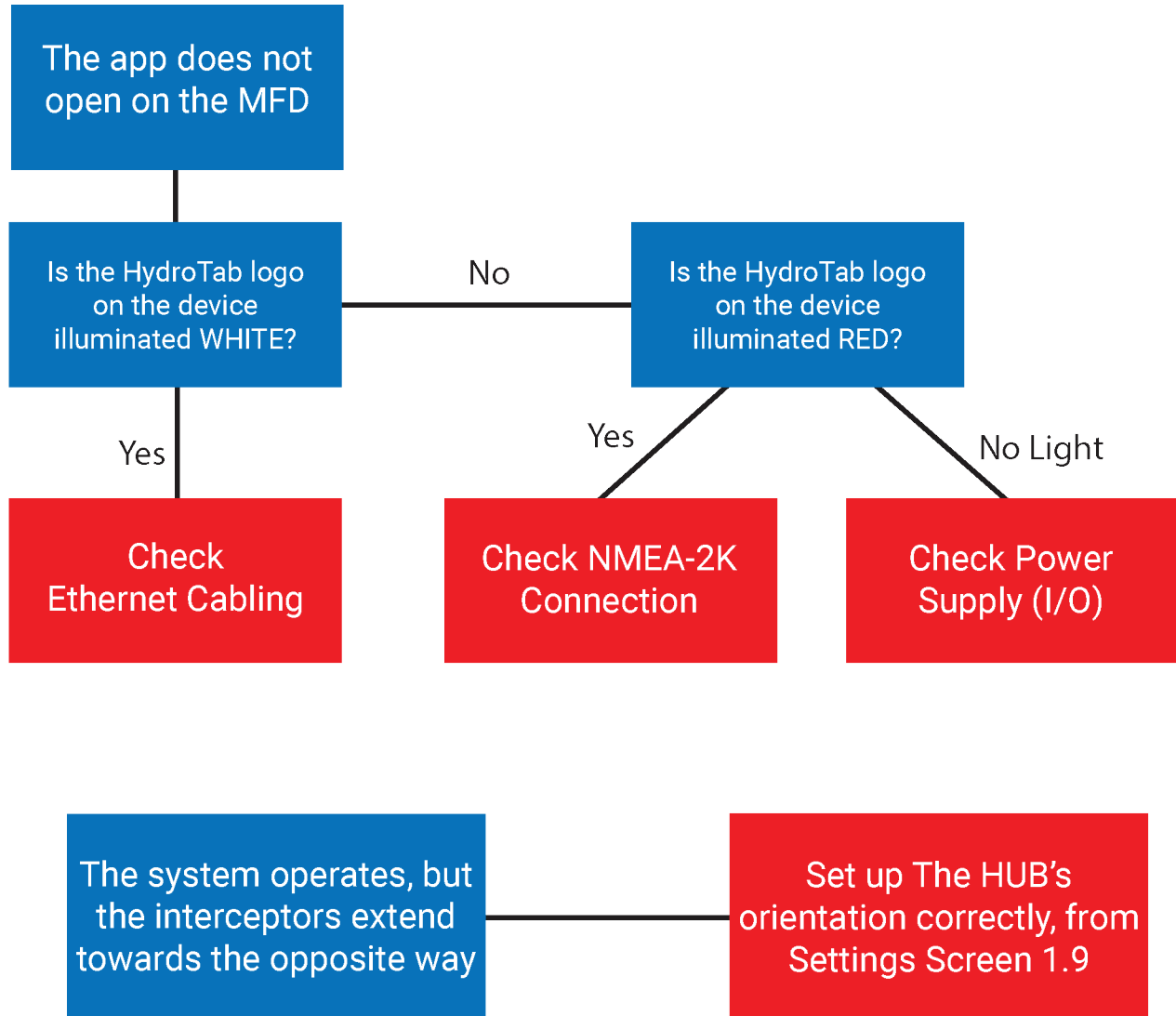
A highlighted text will appear after the (un)successful connection.

An established WiFi connection is necessary, if you wish to update the device's firmware (see. Pg. 11)

### **IMPORTANT NOTES**

01. After the successful connection to a WiFi network, The HUB saves this network, for a quicker future connection, without having to type again the password.
02. TheHUB does not connect automatically to any WiFi Network. Always connect The HUB to trusted networks.
03. Keep your network passwords in a safe and accessible place.

## TROUBLESHOOTING



If you are still having issues with The HUB, please contact HydroTab's Technical Support Dpt.  
**[support@hydrotab.gr](mailto:support@hydrotab.gr)**



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GR-17778 Athens  
Greece  
email: [info@hydrotab.gr](mailto:info@hydrotab.gr)  
website: [www.hydrotab.gr](http://www.hydrotab.gr)