



Operation Guide

Altimeter for Boxfish ROV



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1 Overview

The Boxfish ROV altimeter accessory allows you to view the altitude of your ROV, and the Altitude Hold function gives you the option to keep the ROV at a constant altitude if you wish. Note that altitude means height from the bottom (in contrast to depth which is height from the surface).

1.1 Specifications

The Altimeter is an **Airmar 200m Mini Altimeter** which is rated to a depth of 1000m, and can provide altitude measurements at a height of up to 200m from the bottom.

2 Installation

The altimeter accessory will already be installed and ready for use on the underside of your ROV. You will not need to do any additional installation.

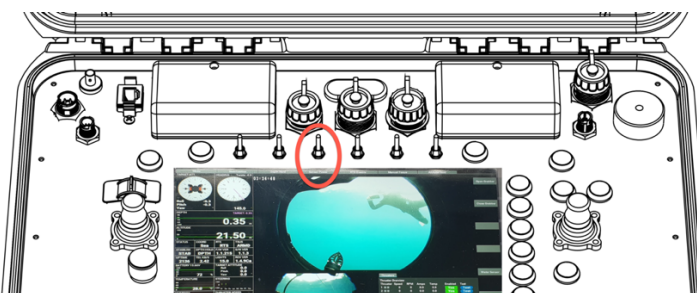


Altimeter accessory installed on the underside of the ROV body

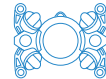
3 Using the altimeter accessory

3.1 Power on the altimeter

To use the altimeter, turn the Sensor Power switch on the Control Station to the ON position. This will send power to the altimeter and allow data to be transferred back to the Control Station.

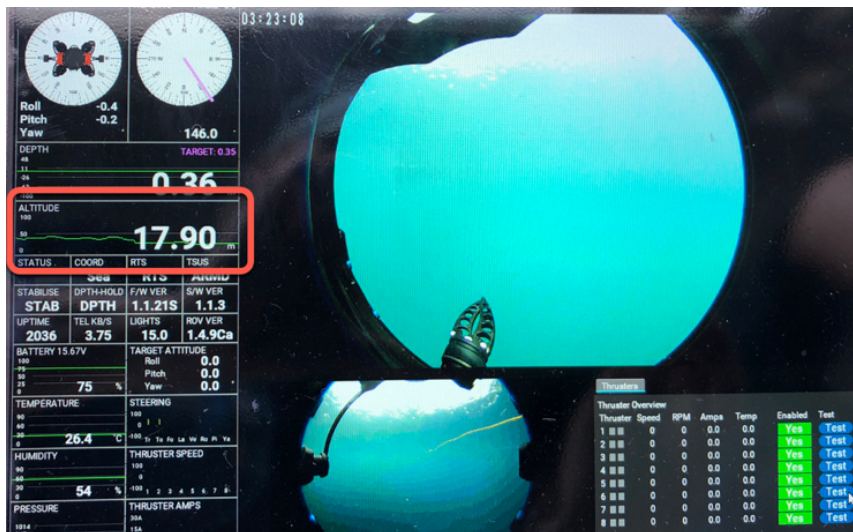


Sensor Power switch is third from the left above the telemetry screen



3.2 Altitude reading

On the Control Station, view the current altitude in metres (and a trend line over time) on the telemetry screen 'Altitude' area.



Altitude reading on Control Station telemetry screen

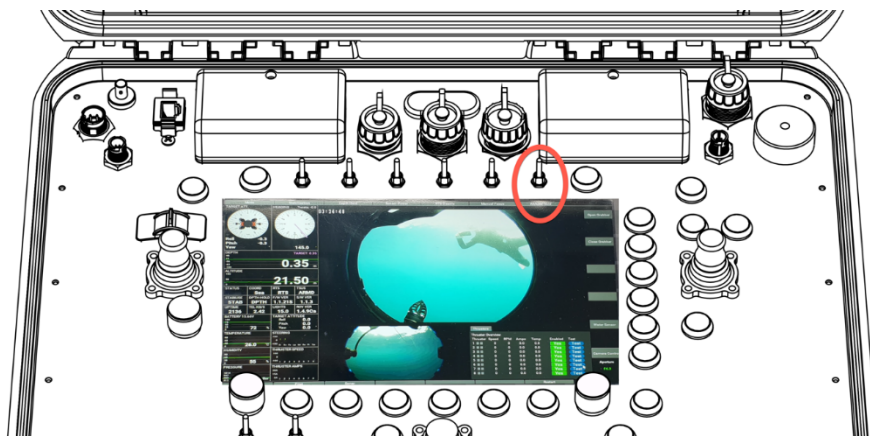
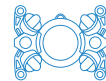
3.3 Set constant altitude using Altitude Hold

IMPORTANT!

Altitude Hold will attempt to keep the ROV at a fixed height above bottom, but it will not prevent the ROV from running into boulders, reefs, vertical surfaces or uneven bottom surfaces, particularly at low altitudes (less than 5m).

In low altitudes we recommend using Altitude Hold only if the bottom is relatively flat.

When the ROV is at your desired altitude, set the Altitude Hold switch to the ON position. The Altitude Hold function will attempt to keep the ROV at a fixed altitude above the bottom.



Altitude Hold switch is on the far right above the telemetry screen

3.4 Change desired altitude for Altitude Hold

To change the altitude you require for Altitude Hold, move the left joystick to move the ROV up (toward surface) or down (toward bottom). The new altitude after moving the ROV will be the new constant altitude.

3.5 When not to use Altitude Hold

We do not recommend using Altitude Hold in the following conditions:

- Less than 5m altitude in rapidly changing bottom conditions.
- When the bottom is very uneven or has large, sudden changes in altitude, for example large boulders or structures on the bottom.
- If the altitude does not update frequently or the reading on the Control Station is frequently turning red (indicating no signal).

3.6 Factors affecting Altitude Hold

3.6.1 Altitude Hold vs Depth Hold

- The ROV will prioritise Altitude Hold over Depth Hold. This means that if the Depth Hold switch is also turned on, the current altitude will be maintained instead of the depth.
- If both Depth Hold and Altitude Hold switches are ON, and the altitude signal is lost for any reason, Depth Hold will take over and keep the ROV's current depth from the surface.



3.6.2 Roll and pitch of the ROV

The altimeter has a limited 15 degree wide beam, and therefore pitch and roll can affect the ROV's actual height above bottom, or prevent the altitude signal from being returned to the Control Station.

Check the altitude reading on the telemetry screen when piloting the ROV to ensure pitch and roll settings do not affect the altitude.





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