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1 The OWS5 App

RPR Ltd provide a free app to connect to your OWS5 to a mobile device (or tablet).

The OWS5 App is available for Android devices only.

Please request the OWS5 App from your RPR representative and install as normal for an Android device.

1.1 About the OWS5

The OWS-5 provides measurement of wind speed and direction relative to the ground from a moving platform such as a sailing or rowing coach boat (RIB), regatta committee boat, cycle race chase cars, wind turbine transfer vessels, ferries etc.

OWS-5 uses the solid-state ultrasonic Gill WindSonic wind speed and direction sensor. This 2-axis ultrasonic wind sensor is robust and maintenance-free making it the sensor of choice for harsh environments eliminating the problems associated with more conventional cup and vane sensors.

The orientation of the WindSonic sensor and its movement relative to the ground is measured using a Dual Antenna GNSS-Aided Inertial Navigation System, from which the ground wind speed and direction can then be calculated.

The RPR OWS Android App can be used to access the data using a suitable device over a wifi network, for immediate, on-the-spot, analysis. The data is also sent via the mobile cellular network to the ows.WeatherFile.com website where it can be viewed by any internet connected device from any location.

1.2 Related Documentation

025SL085, OWS-5 Operator Guide

025SL087, OWS Web Users Guide

025SL088, OWS-5 Communications Guide

025SL089, OWS-5 Datasheet

2 Starting the App

To start the app, tap on the icon as shown below.



The app will start and initially display a splash screen, followed shortly afterwards by the main landing screen.



Figure 1: Splash Screen

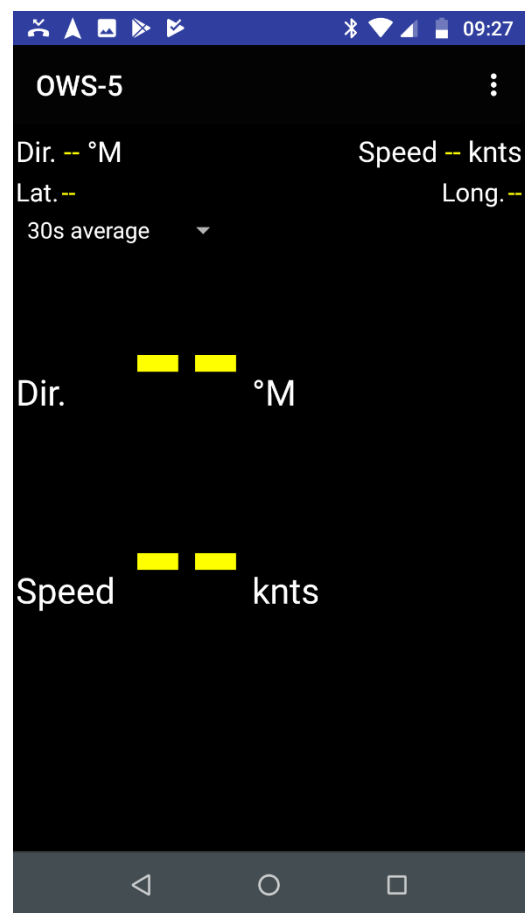


Figure 2: Landing Screen

2.1 App Menu

The main App menu can be displayed by tapping the three vertical dots in the top right hand corner of the screen as shown below.

The menu options displayed on most screens are:

- Configuration
This menu option will open a browser on the OWS unit, which can be used to configure the WiFi network to which the OWS unit will connect.
- Email export file
This will e-mail the file to the current day.
- Change OWS Unit
Selects from the available OWS units on the current WiFi network to which the Android device is connected to
- Disconnect from:
This feature is to allow the user to disconnect from the current OWS unit, so that the user can go out of WiFi range of the device. You can subsequently re-connect to the same unit.
- ows.weatherfile.com
This option will open a browser window to the OWS web site.

2.2 Changing the displayed screen

To change displays, swipe left or right on the screen. This works best if performed in the top quarter of the screen.

3 Connecting to an OWS Unit

3.1 Prerequisites

In order to connect to an OWS unit, it is necessary that the Android device is on the same WiFi network as the OWS unit. Typically, the WiFi network name will be OWS5###AP or OWS5###HS, where ### is a 3 digit number e.g. OWS5025AP.

It is also necessary that the OWS unit has been powered for ~2 minutes to ensure that it has booted up and is ready to make a connection.

Ideally, for good GPS performance, the OWS Unit should be outdoors and with a clear view of the sky.

3.2 Connecting

To connect to an OWS unit, tap on the menu icon and select 'Change OWS Unit' as shown below. After a few seconds, the App will display a list of available units to connect to (there may be more than one available on the WiFi network).

Tap on the unit that you wish to connect to. After a couple of seconds, the App will display the current wind speed and direction.

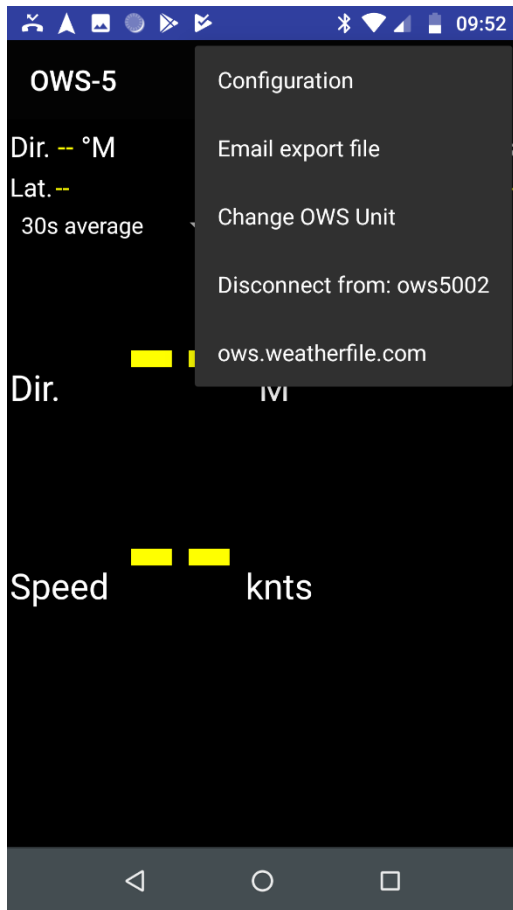


Figure 3: Main Menu

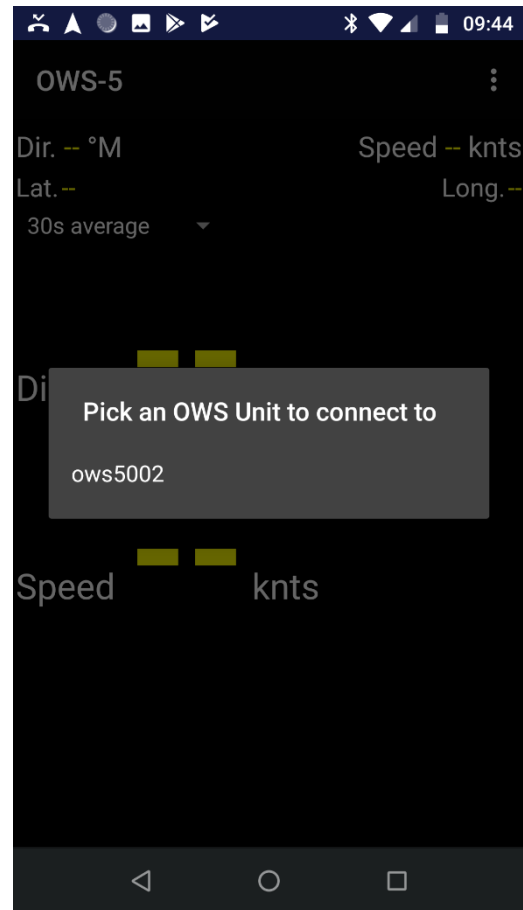


Figure 4: Unit Selection

4 Landing Screen

4.1.1 Averaging

On the landing screen it is possible to select the interval over which the raw data is averaged. This will reduce the “noise” on the observed wind data due to natural fluctuations in the wind speed, and give a better indication of the background average wind speed. The averaging interval is selectable from raw data, through to a 15 minute average. Note that the raw data is a 3 second vectored average from the wind sensor, and is corrected for motion of the sensor itself.

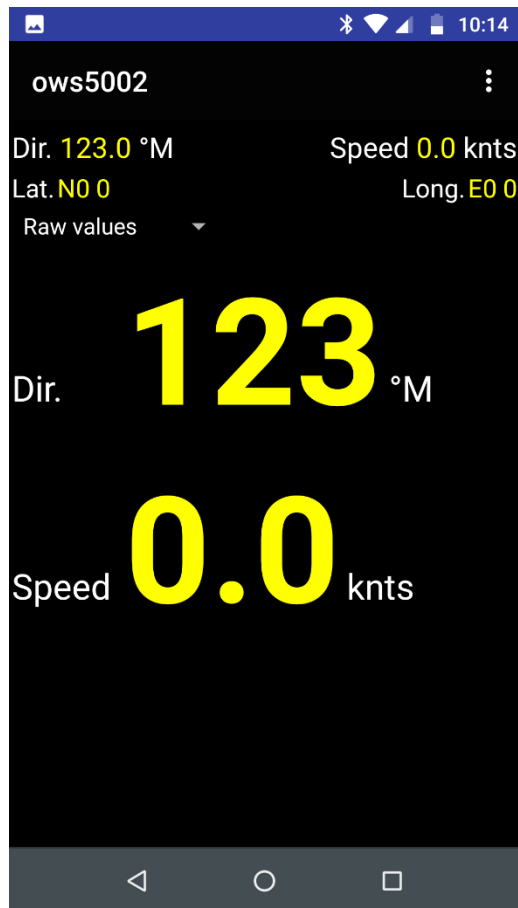


Figure 5: Connected to the OWS

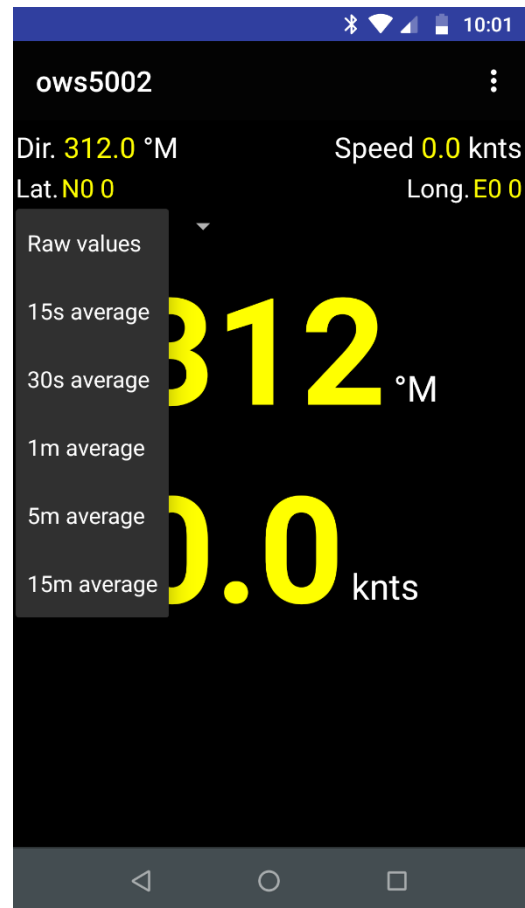


Figure 6: Selecting Average Interval

5 Graphs Screen

From the main screen, swipe right to navigate to the graphs screen. This screen provides a 'waterfall' style display of the wind speed and direction which can be adjusted to suit specific needs by changing the selection in the drop down menus as shown below.

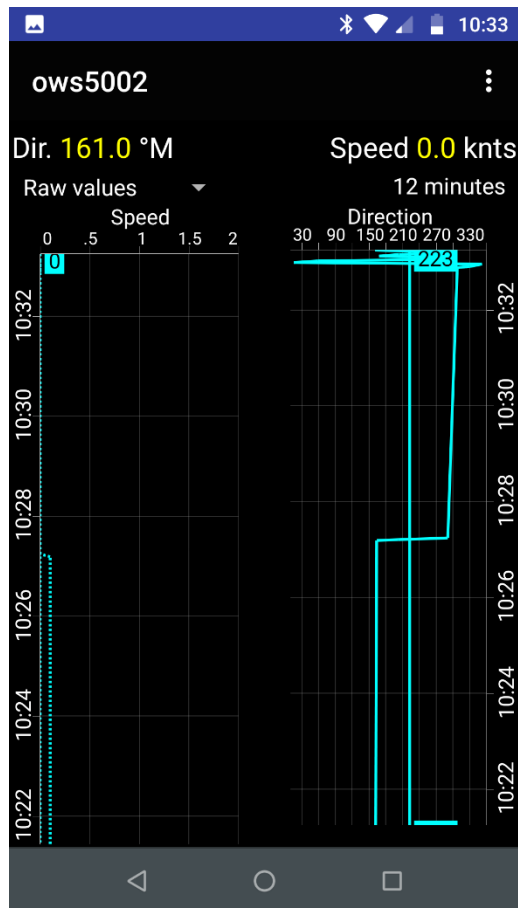


Figure 7: Waterfall Graph Display

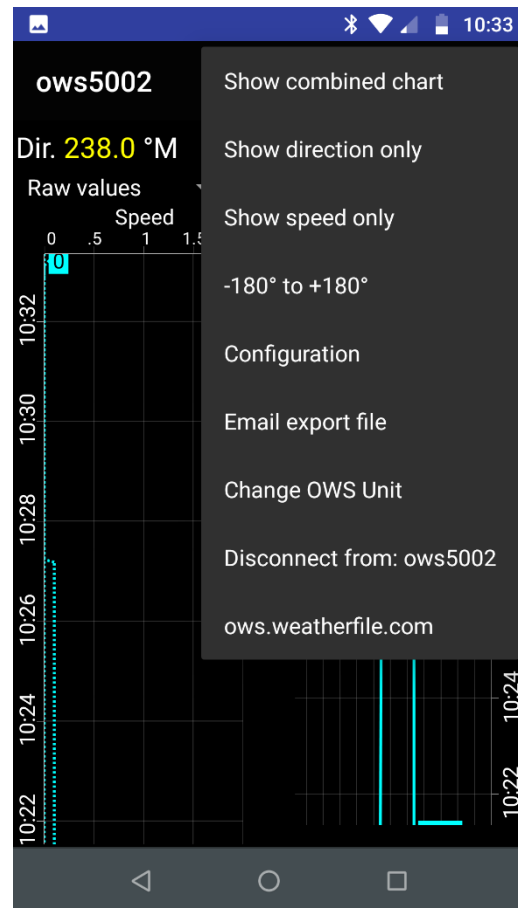


Figure 8: Graph Menu Options

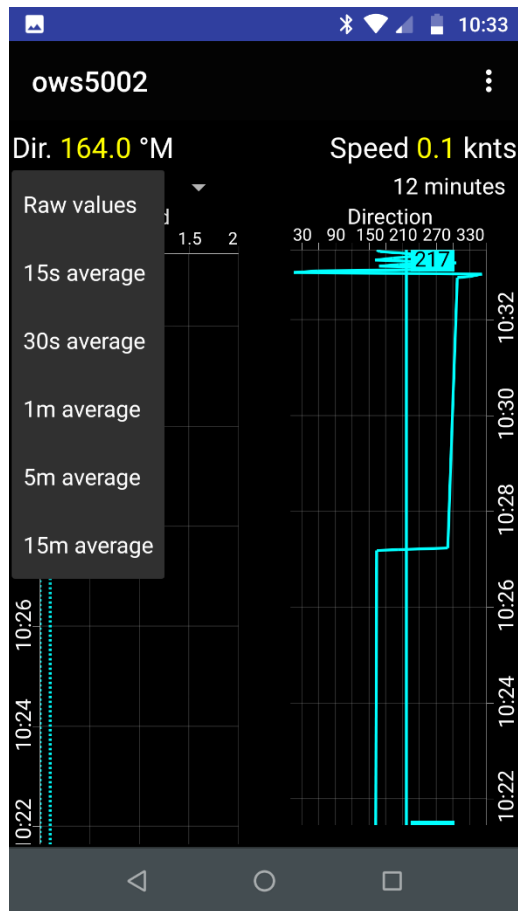


Figure 9: Averaging Interval

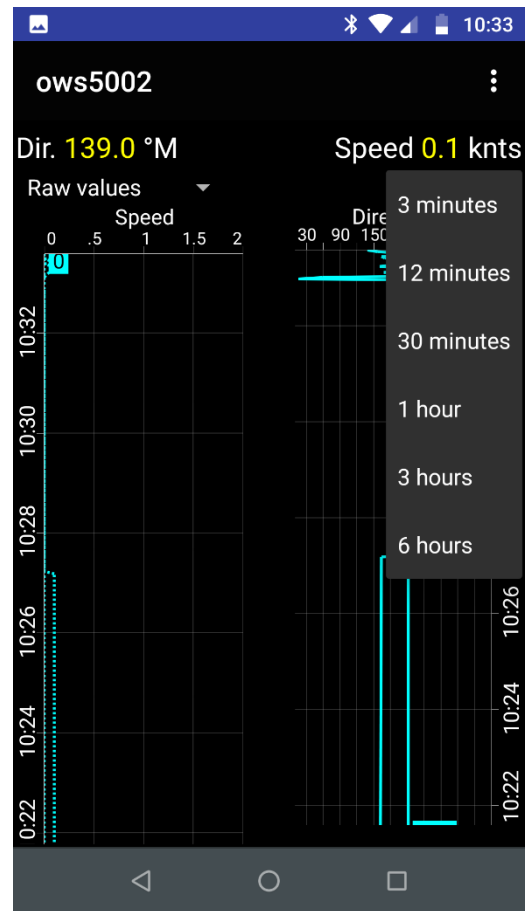


Figure 10: Graph Duration

5.1 Graph Screen Options

The graphs screen has a number of menu options to change the waterfall display, in addition to the general options available on most screens.

- Show combined chart, displays both direction and speed
- Show direction only
- Show speed only
- -180° to +180° or 0° to 360°. This enables the wind direction chart to be adjusted by 180°, which can avoid having wind direction changes wrap around the scale.

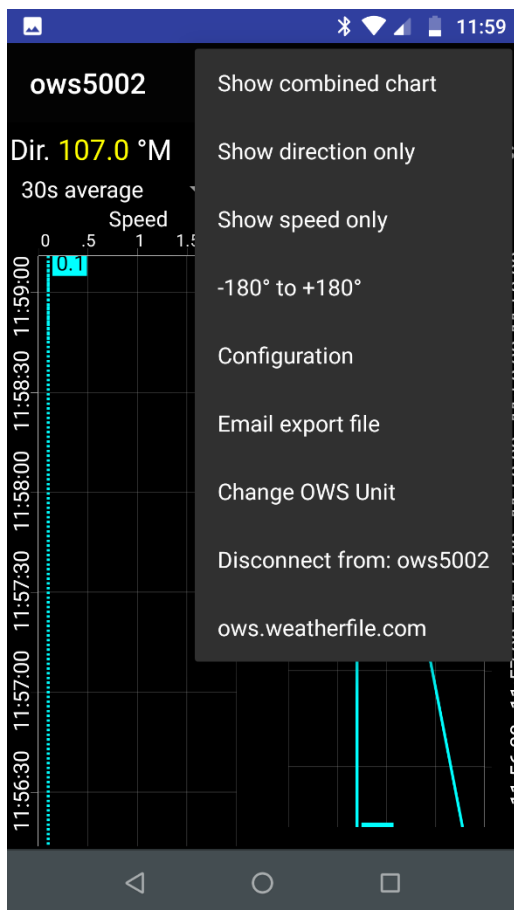


Figure 11: Waterfall display options

6 Min, Mean & Max Screen

This screen displays the Min, Mean and Max of the wind speed and direction. As usual, it is possible to adjust the averaging interval using the left hand drop down menu.

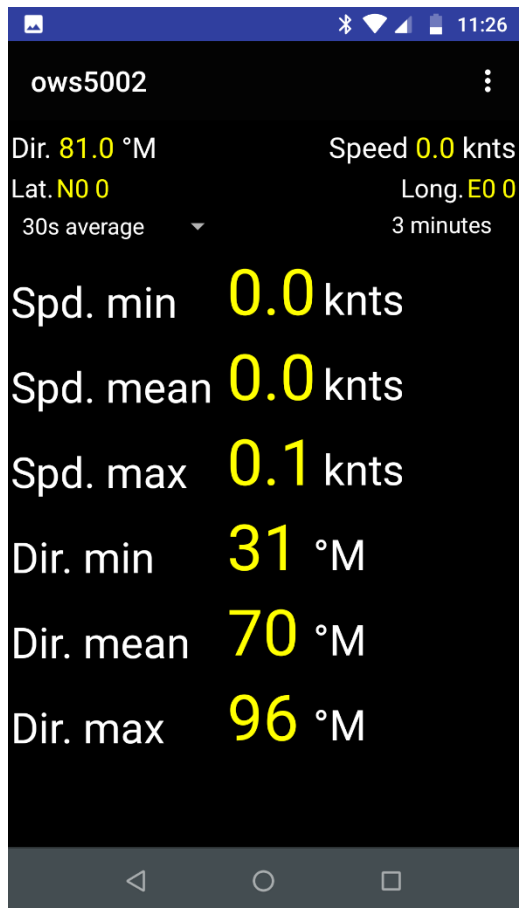


Figure 12: Min, Mean and Max

7 Tide Screen

The Tide screen allows tide measurements to be taken using a tide stick. The minimum interval for a valid measurement is 90 seconds.

To start a measurement, tap on the start button.

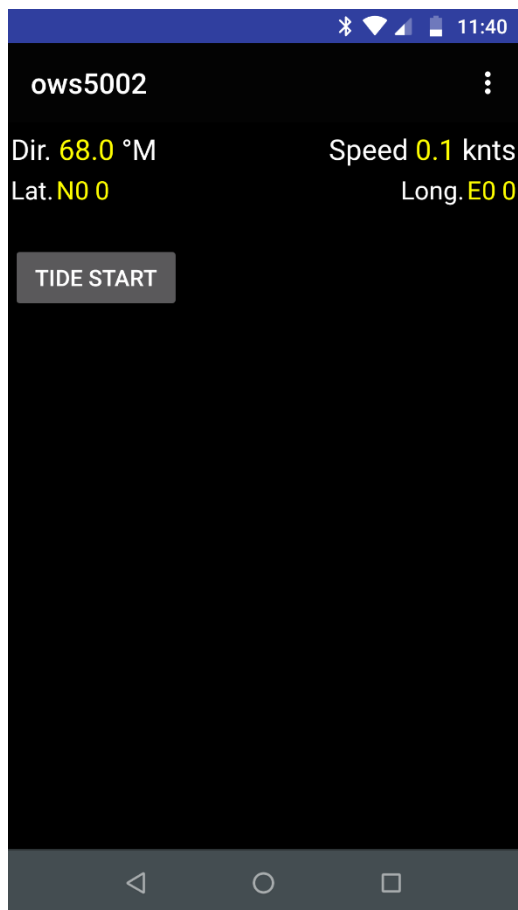


Figure 13: Tide Screen

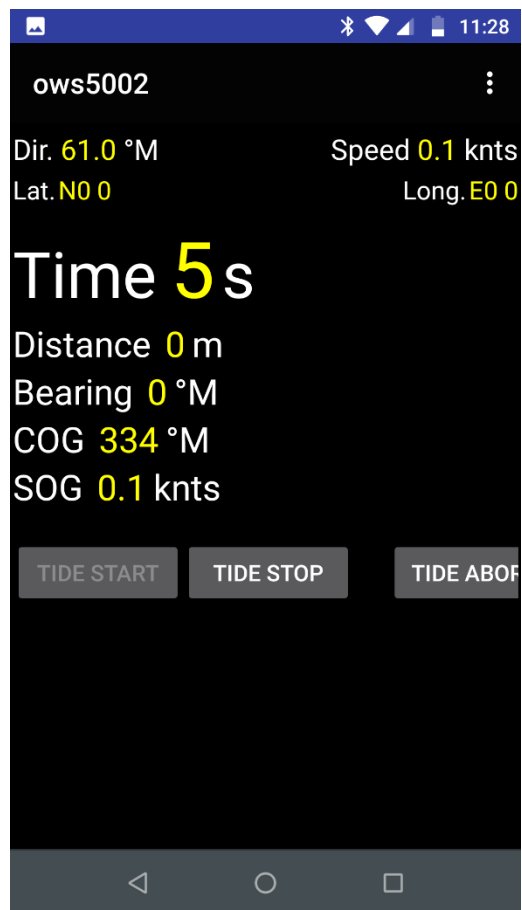


Figure 14: Tide Measurement in progress



Figure 15: Completed Tide Measurement

8 Notes Screen

The Notes screen allows the entry of textual notes as aid memoirs.

To add a note, tap on the add note button, and then tap in the dialog window to bring up the soft keyboard.

Type in your Note, and then click on OK. The note will then be displayed on the screen together with the date, time and position at which the note was taken.

The full text of the Note can be reviewed at a later time by tapping on the Note to show the full text.

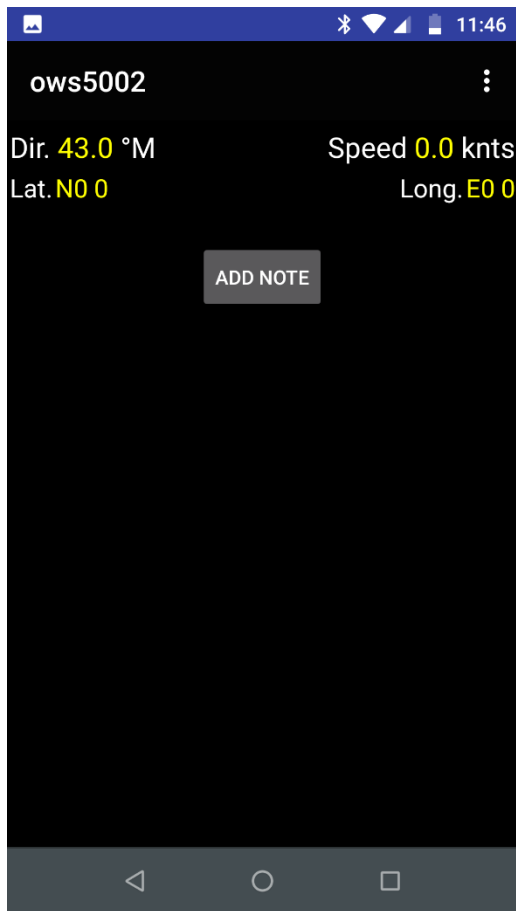


Figure 16: The Notes Screen

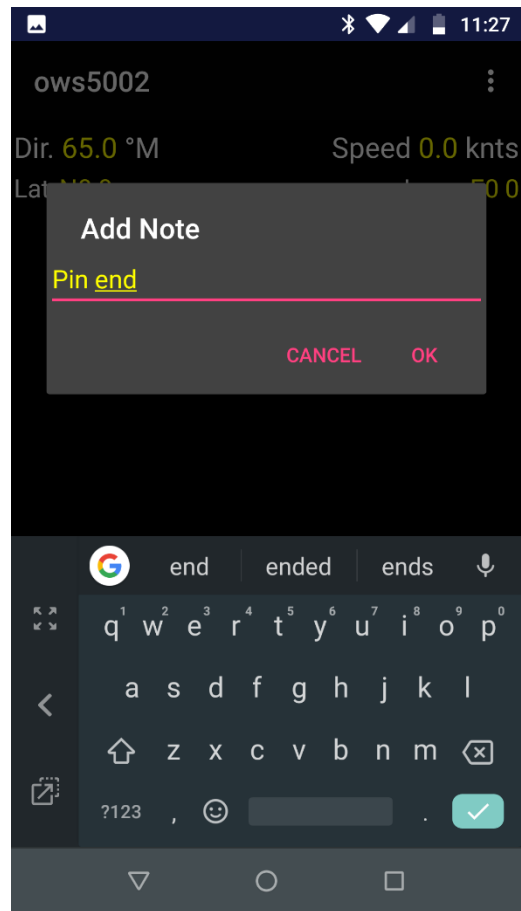


Figure 17: Adding a Note

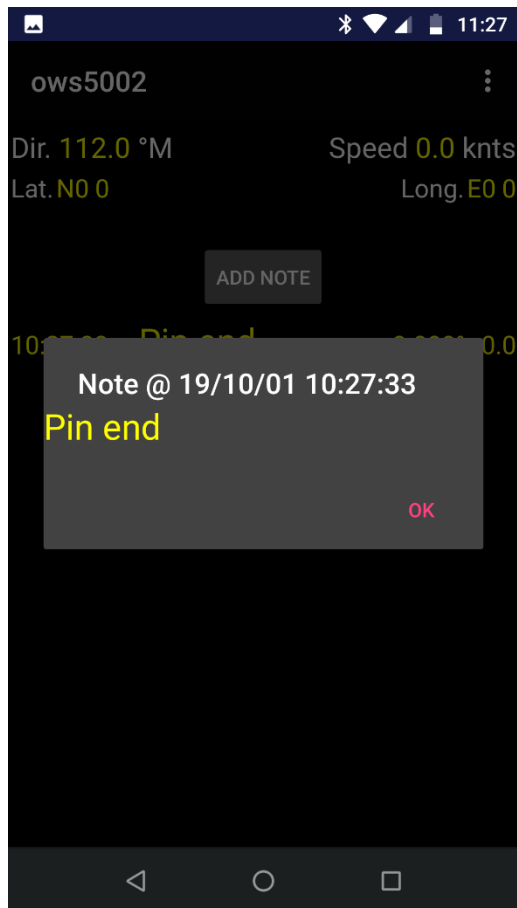


Figure 18: Reviewing a Note

9 Miscellaneous Screen

The miscellaneous screen displays some additional data from the OWS unit.

COG and SOG are as reported from the OWS which relate to the craft on which the OWS unit is attached.

OWS HDG is the direction in which the OWS unit itself is pointing, not the craft heading.

Temperature is the external ambient temperature being recorded by the OWS unit's temperature sensor. This is mounted on the base of the unit in a thermal shield.

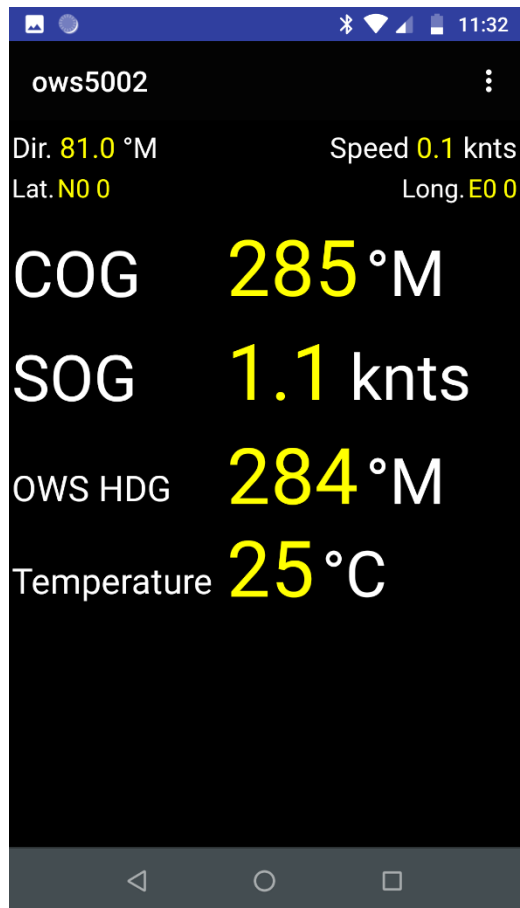


Figure 19: Miscellaneous data

10 Support Information

The support information page displays some basic information about the App, including the support email address.

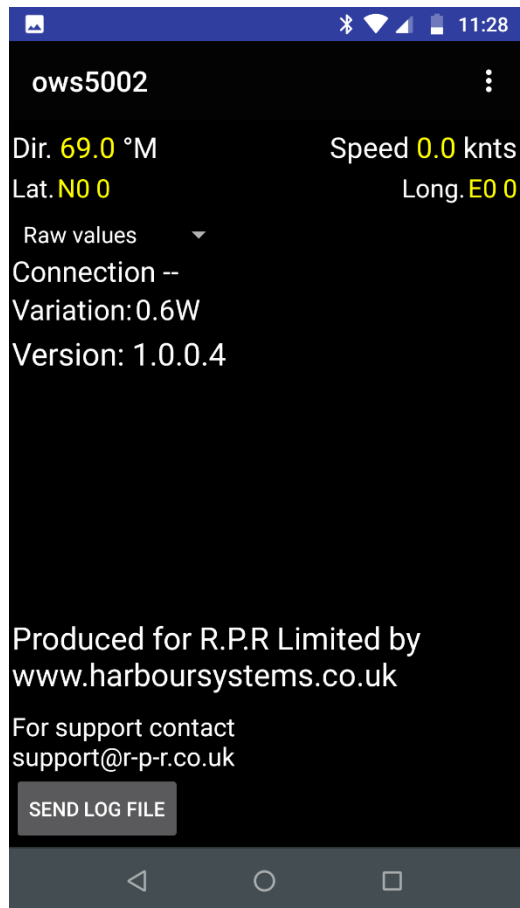


Figure 20: Support information

11 OWS Web Site

Data from the OWS-5 unit is directly sent to ows.weatherfile.com, provided the OWS-5 unit is connected to a WiFi network with access to the public internet. Historical data can be downloaded from ows.weatherfile.com for later analysis. Please refer to 025SL087 for further details.

12 Document History

Issue	Date	Description
025SL086/1	01-Oct-2019	Initial release, for version 1.0.0.4

Our products are in continuous development and therefore specifications may be subject to change and design improvements may be implemented without prior notice. Please visit our web site www.rpr.co.uk for the most up to date information on our products.