

# WINDWISER 2

## Setup and user manual

(Version 1.7.1)



## Table of contents

<i>Introduction</i>	<i>3. page</i>
<i>1. The contents of the base package</i>	<i>4. page</i>
<i>2. Wiring and installation instructions</i>	<i>5. page</i>
<i>3. Front panel and data on screen</i>	<i>9. page</i>
<i>4. Using the menu system</i>	<i>9. page</i>
<i>5. The main pages of the instrument</i>	<i>10. page</i>
<i>6. Buttons and their meaning</i>	<i>13. page</i>
<i>7. Measured and calculated data</i>	<i>14. page</i>
<i>8. Stopwatch</i>	<i>16. page</i>
<i>9. Page editor</i>	<i>17. page</i>
<i>10. Race mode</i>	<i>17. page</i>
<i>11. Settings and calibration</i>	<i>18. page</i>
<i>Alarms and sounds</i>	<i>19. page</i>
<i>Display settings</i>	<i>20. page</i>
<i>Calibration</i>	<i>20. page</i>
<i>Units and timezone</i>	<i>21. page</i>
<i>Connectivity</i>	<i>22. page</i>
<i>Factory reset</i>	<i>22. page</i>
<i>12. Start line menu</i>	<i>23. page</i>
<i>13. Polar</i>	<i>24. page</i>
<i>14. Waypoint</i>	<i>25. page</i>
<i>15. Man overboard function</i>	<i>27. page</i>
<i>16. Bluetooth function</i>	<i>28. page</i>
<i>17. Software update</i>	<i>30. page</i>
<i>18. Additional modules</i>	<i>32. page</i>
<i>19. Technical data and specifications</i>	<i>35. page</i>
<i>20. Drilling and mounting instructions</i>	<i>35. page</i>
<i>21. Disclaimer</i>	<i>36. page</i>

## **Dear fellow sailors!**

Rethought and redesigned from the ground up, the Windwiser 2 boat instrument incorporates the knowledge and experience gained from years of using our instruments and from our users.

The new instrument is much more integrated than before. In addition to the GPS, which is now essential for navigation, it also includes a digital 3D compass and a Bluetooth module for wireless connectivity. This saves space, wiring and installation for future users.

A 72MHz ARM microprocessor is used for fast processing of the data measured by the instruments and for the generation of the calculated data.

The information is displayed on an 80 x 100 mm white LCD display for excellent visibility. This is more than double the previous size.

All this knowledge is packed into a sleek, custom-designed, UV-resistant, stylish, slim plastic housing that is weatherproof and waterproof to IP67. Available in black, grey and white.

The Windwiser 2 is backwards compatible with previously purchased wind and depth gauges, which can still be connected via the standard CAN connector. The package includes an UV and dust cap.

The WINDWISER team wishes you good wind for sailing and racing!

## 1. The contents of the base package



### **The base package contains the following things:**

Windwiser2Bmain display

Windwiser Performanceanemometer

Mounting base and screws for the head

1 db 2 m power cable

1 db20 m interconnect cable

1 dbuser and installation manual

### **The full package contains these additional pieces:**

1 dbWindwiser 120D depth gauge

1 dbSonar (glue-in or drill-through version)

1 db 5m interconnect cable

## 2. Wiring and installations instructions

Tools needed for installation:

### **Wind gauge installation:**

Drill  
M5 drill bit  
M8 wrench  
M2 allen key  
M3 allen key  
Sharpie for markings

### **Main display installation**

Drill  
M4 drill bit  
M2,5 Allen key

The installation starts by fixing the wind gauge head. Mark the holes for the base of the wind meter on the top of the mast, so that the wind meter bracket faces forward, towards the bow of the boat. Use an M2 Allen key to loosen the worm screw on the side of the base, then the aluminium bracket of the wind meter can be pulled out of the base.

Drill through the marked holes, and drill 1-1 12 mm hole in the top and bottom of the mast for the cable and connectors. Fix the wind meter head with the supplied M5X20 stainless steel screw, tighten the nut.

The instrument modules have the following CAN BUS connectors:

Windwiser 120 B central unit: CAN BUS papa - CAN BUS female  
Windwiser 120 H wind gauge head: CAN BUS male

The connecting cables of the set have the following connectors:

1 power cable of 2 m length: CAN BUS female  
1 power cable 20 m long: CAN BUS male - CAN BUS female

For a custom-made cable set, the following cables are included in the package:

1 power cable 2 m long: CAN BUS female  
1 connection cable from the display to the power supply: CAN BUS male- CAN BUS female  
1 connection cable from the masthead to the masthead: CAN BUS male- CAN BUS female

Thread the cable into the mast by tightening the hoisting ropes, so that the cable will not wrap around the ropes. Secure the wind gauge side end of the cable at the top end to the mast with a cable tie so that the cable's own weight is not supported by

the connector. When the head is ready to be fitted, connect it to the connecting cable. Thread the other end of the cable from the mast base through the boat to the central unit.

## Wiring systems

### Anemometer Package



### Sonar Package



## Complete package



## Double complete package



At the end of the installation, when you switch on for the first time, check that the wind gauge reads 0° in a headwind. If the AWA is not 0° in a headwind, the calibration can be done as described in the "Setup and Calibration" menu.

Continue with the installation of the main unit. Find the right place for the instrument, where the helmsman can see it clearly in all conditions. Mark the position of the M4 screw and the connectors. Drill a 4mm hole for the screw and a 12mm hole for the connectors. Before inserting and tightening the screws, fit the 4 sealing washers supplied between the boat and the instrument: two around the screw and two on the coupling.

Wiring the system:

Connect the free end of the power cable to the fuse board of the boat as follows:

Red wire = positive wire (+12V)

Blue wire = negative wire (-12V)

Connect the CAN BUS connector end of the power cable to the Windwiser 2 main unit. Connect the lower end of the 20 m connecting cable to the free connector of the central unit. If you have more than one module (2 or more display or depth gauge), connect them to the system. Once all the modules are connected, supply 12V power to the system. The modules will automatically switch on.

If a module has to be removed from the system during use, the free cable ends can be plugged together.

Watch out! The connectors can only be connected in one position! When connecting, the connector must not be turned, twisted or pushed perpendicular to the direction of connection.




### 3. Front panel and data on screen



### 4. Using the menu system

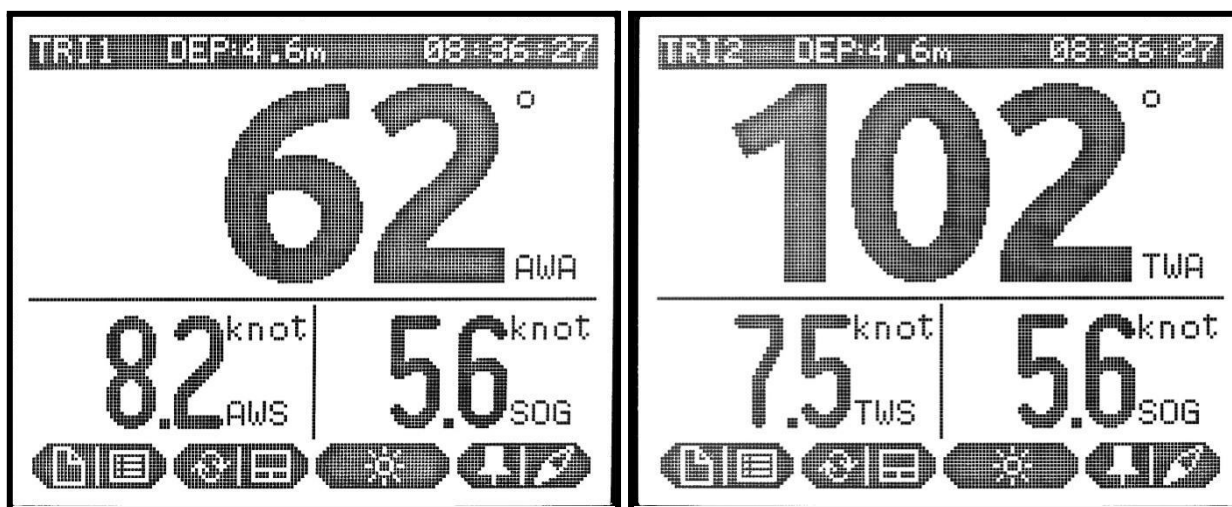
The instrument menu system can be navigated using the four function buttons. Above each function button, the meaning of the button is displayed in the form of a small pictogram (see Chapter 6). If a single logo appears above the button, a short press on the button will access the function. If there are two pictograms above the button, i.e. a double logo, a short press of the button indicates the left pictogram and a long press indicates the right pictogram (see also Chapter 6)

The device also features a key lock to prevent accidental key presses. The F1 and F4 keys long and simultaneously activates the key lock. The keys are then ineffective, but the display remains on. Unlocking the same procedure, i.e. pressing and holding the F1-F4 keys  simultaneously.

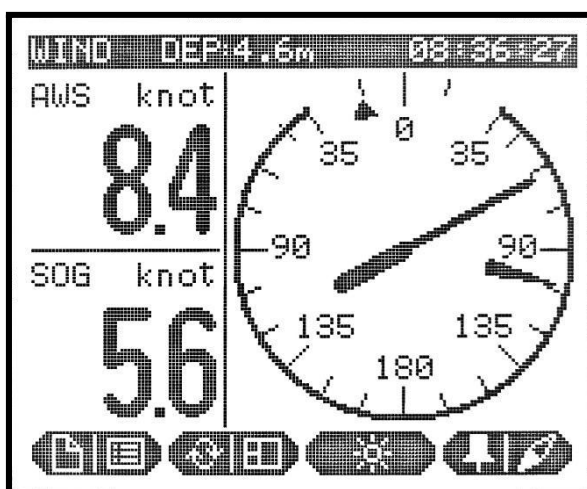
### 5. The main pages of the instrument

The device displays different data on 6 pages. These are, in order, TRI1, TRI2, WIND, COG, BTW, TIME. The pages can be edited at will.

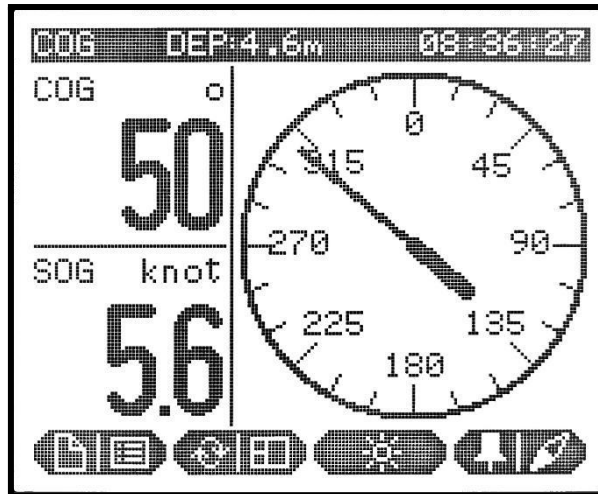
Pages 1-2: TRI1 and TRI2 pages. These pages can display any data from the available, measured or calculated data. These data can be AWA, AWS, TWA, TWS, TWD, SOG, COG, HDG, DRI, VMG, BTW, VTW, DTW, PSR, DEP. Pages are edited by long pressing the second function key (see Chapter 9 - Page Setup - Page editor)



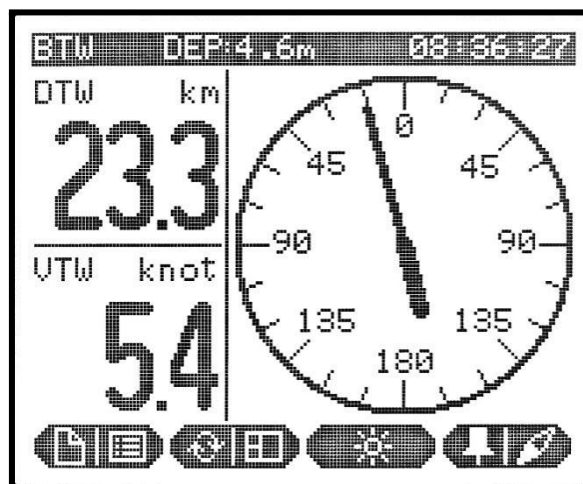
Page 3: Wind page. Apparent and true wind direction in vector format, Bearing To Waypoint in vector format, and 2 additional data in numeric format. The two numerical data can be selected and edited in the page editor (see Chapter 9 - Page Setup - Page Editor). Available data: AWA, AWS, TWA, TWS, TWD, SOG, COG, HDG, DRI, VMG, BTW, VTW, DTW, PSR, DEP.



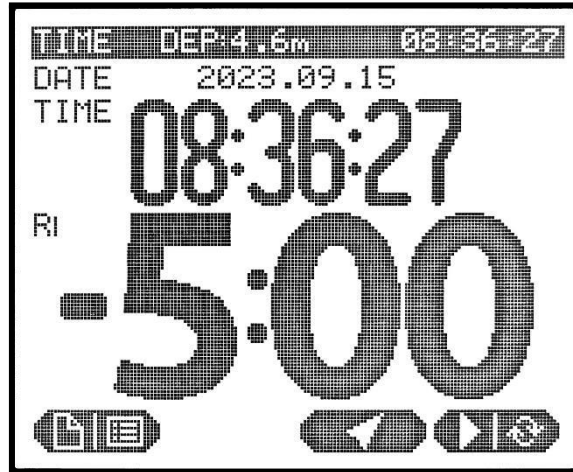
Page 4: COG (Course Over Ground) page. The page displays the heading measured by the instrument's GPS in vector form, and 2 optional numerical values. The setting is also done in the Page editor (see Chapter 9 - Page Setup - Page Editor). Available data: AWA, AWS, TWA, TWS, TWD, SOG, COG, HDG, DRI, VMG, BTW, VTW, DTW, PSR, DEP.



Page 5: BTW (Bearing To Waypoint) Shows the bearing of your boat in vectors, in degrees, relative to the set target. The setting (zeroing): see chapter 14. On this page, 2 optional data can be displayed numerically. The setting is also done in the Page editor (see Chapter 9 - Page Setup - Page Editor). Available data: AWA, AWS, TWA, TWS, TWD, SOG, COG, HDG, DRI, VMG, BTW, VTW, DTW, PSR, DEP.



Page 6: TIME. Here you will find the exact time, date and starting time. After switching on, the exact time is synchronized with the exact time sent by the GPS satellites. See chapter 8 for the use of the time clock.




## 6. Buttons and their meaning

Meaning of the buttons

 -Switching pages / Main menus

 -Data field rotation / Page editor

 -Brightness control


 -New waypoint / Navigation

 -Page editor

 -Enter function


 -Exit from function

 -Save data

 -Go back

 -Enter waypoint

 -Left-Right-Down button

 -Change bottom-left-top-left-bottom-right-top data field


 -Stopwatch start, stop, reset: See Chapter 8

### Double button function

The buttons are normally pressed briefly. If you press and hold, you will reach the secondary function of the button. Example:

 - Short press: rotate data fields / long press to set data fields (Page editor)

**Flips between pages:** Briefly press the  button for flips


**Brightness and contrast control:** Briefly press the  (brightness control) button. The contrast of the device changes in 4 steps and the backlight in 5 steps.

LCD displays that are heated by sunlight will, due to their technology, darken as a result of the heat. To counteract this, you can adjust the brightness of the instrument as well as the contrast. Thus the adjustment steps are as follows:

1 (low) contrast, without backlight  
2 (medium) contrast, without backlight  
contrast 3 (high), without backlight  
4 (very high) contrast, without backlight  
Contrast 4 (very high) with 10% backlight  
Contrast 4 (very high) with 50% backlight  
Contrast 4 (very high) with 75% backlight  
Contrast 4 (very high) with 100% backlight

Further button presses decrease the values, and after the lowest value, they increase.

The contrast adjustment option is only available from the September 2018 purchase date, instruments purchased before this date do not have this feature.

**Rotate data fields:** Briefly press  (rotate data fields). The device's 3 data fields rotate so that you can decide which data you think is important should be displayed at the top in large numbers and which two should be displayed in small numbers.

## 7. Measured and calculated data

**AWA:** Apparent Wind Angle

**AWS:** Apparent Wind Speed

**TWA:** True Wind Angle

**TWS:** True Wind Speed

**TWD:** True Wind Direction


**SOG:** Speed Over Ground, the speed of the vessel in km/h or knots. Caution! Within 2 minutes after switching on, the speed measurement will show an untrue value! The same is true for all data that require a speed signal to be calculated (TWA, TWS, VMG, VMC, TWB, etc.)

**COG:** Course over Ground

**HDG:** Heading

**DRI:** Drift, The sideway slip of the boat in degrees, i.e. the difference between HDG and COG.

**VMG:** Velocity Made Good, The windward speed, in too sharp a course, can be reduced, then the boat is too pressed, it is worth dropping angle.

**BTW:** Bearing To Waypoint, The  button shows the rotation of the boat in relation to the heading you have reset, either numerically or vectorially. Value: +/- 180°, when heading towards the target exactly 0°.

**VTW:** Velocity To Waypoint, Cruising speed in the direction of the set waypoint. If you are unable to move towards the set waypoint, the instrument calculates and displays the projection of your speed in the direction of the destination






**DTW:** Distance To Waypoint

**PSR:** Polar Speed Relative. The ratio between the boat speed saved by the polar diagram and the current percentage of your current speed. If our boat reaches the fastest speed ever the highest speed, you have ever travelled is 100%. If less, this is the value is proportionally lower.


**DEP:** Depth, Shows the depth of the water under the boat to the nearest tenth of a meter. (This function only works with systems equipped with a depth gauge.)

**TIME:** Your starting time. Countdown before the start, after the start it shows the elapsed time.

## 8. Stopwatch - Race watch - Exact time

The stopwatch function is displayed on page 6 of the menu, together with the date and the exact time. By pressing and holding the  button, you can set the start times (10-5-4-1-0 minutes). From here, the instrument will count down to the start. The  button is pressed briefly to start and stop the starting clock. When started, pressing the  button briefly will start the start timer and pressing it again will resume the countdown. In either the started or stopped mode, a long press on the  /  button resets the start time. After the countdown, the instrument will start counting forward to measure your running time.


The start of most sailing races is synchronised with the exact time sent by the GPS, so it's a good idea to check the exact time at the start.

**Sync function:** If you have started the stopwatch before or after the start, you can correct the mistake in the next full minute. When the  button is pressed, the clock automatically jumps to the next whole minute. This allows you to synchronise the starting time to the next sound signal of the race.

The sound of the stopwatch can be set in the setup menu (chapter 9). The countdown is accompanied by short and long beeps as follows:

9. minutes	Long Beep
8. minutes	Long Beep
7. minutes	Long Beep
6. minutes	Long Beep
5. minutes	Long Beep
4. minutes	Long Beep
3. minutes	Long Beep
2. minutes	Long Beep
1. minutes	Long Beep
50. seconds	Long Beep
40. seconds	Long Beep
30. seconds	Long Beep
20. seconds	Long Beep
10. seconds	Long Beep
9. seconds	ShortBeep
8. seconds	ShortBeep
7. seconds	ShortBeep
6. seconds	ShortBeep
5. seconds	ShortBeep
4. seconds	ShortBeep
3. seconds	ShortBeep
2. seconds	ShortBeep
1. seconds	ShortBeep
Start	Long Beep






## 9. Page editor






In the Page editor, you can display the measured data arrange your pages as you data that is important to and hold the  page screen will then appear:

configure how the device on each page. You can like, so you can display the you on each page. Press editor button. The following




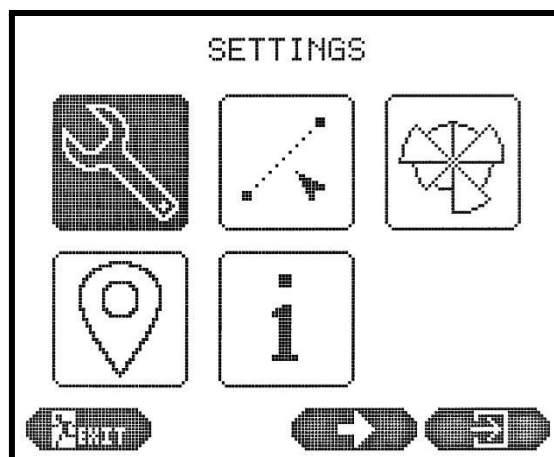


Select which data you want to be displayed in the bottom left data field , the bottom right data field  and the top big data field . Once set, save with the  button. After exit, a short press of the  button will rotate the data fields so you can change which data should be on top and which should be on the bottom.

On the vector page, the two numeric data can be edited in a similar way. Long press the page editor button  and select which data you want to put in the top  and bottom  data fields. Once set, save with the  button. After exit, a short press of the  button will change the position of the data fields, so you can change which data should be on top and which should be on the bottom.

## 10. Race mode

To enter the instrument's race menu, press and hold the  button. The following screen will then appear on the display:



Menu items on the page:



### Settings

Settings required for the operation of the instrument



### Race menu

Start line recording and start functions



### Polar

Add and view polar diagram



### Waypoints

Recording waypoints



### Bluetooth settings

Wireless wind gauge



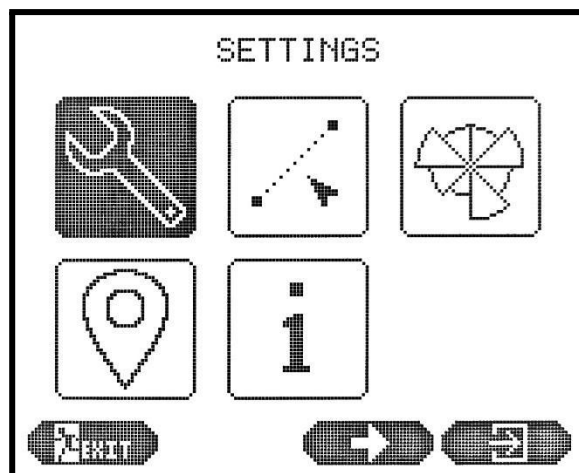
### Information

Information about the instrument

Use the and buttons to move between menu items and the button to access functions. For a detailed description of the functions, see chapters 11; 12; 13; 14; 15.









## 11. Settings and Calibration

The unit of measurement displayed by the instrument, the calibration of the head unit and the sound signals can be set in the Setup menu. Press and hold the button and the next menu will pop up:



Press the button to enter the "Settings" menu, where you will find the following submenus



Here you can move between submenus using the    buttons and exit using the  button. You can change the value of a submenu by using the , , or   buttons.

Here you can make the following settings:

### Alarms and sounds submenu



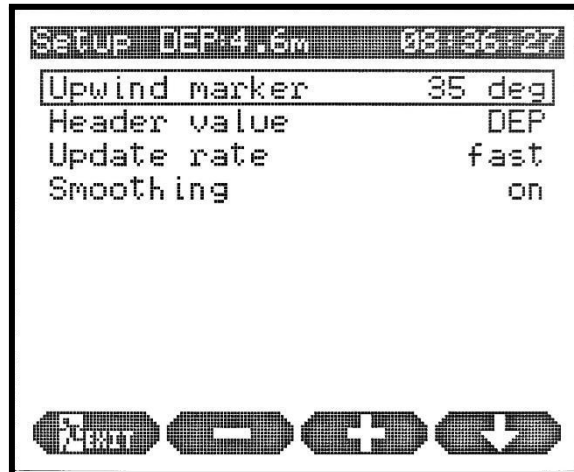
**Depth alert:** Sets the depth alarm mode. If the depth gauge measures a depth less than the depth set in the "Depth threshold" menu item, there are three ways the device can react: in "disabled" mode, no depth alarm; in "beep" mode, when a depth alarm is triggered, it will continuously emit a short, intermittent beep while the depth display in the upper information bar flashes; in "silent" mode, no beep, only the depth display in the upper information bar flashes.

**Depth threshold:** If the depth gauge measures less water than the set value, the device will give an alarm. The alarm is always set relative to the corrected (Dept offset) water depth. In the event of an alarm, the depth information in the information bar will flash and the unit will emit a short, intermittent tone. The sound alert can be switched off in the "Depth alert" menu.

**Button sound:** Adjusts the sound of the device's push buttons.

**Timer sound:** Adjusts the sound of the device's stopwatch.

## Display submenu



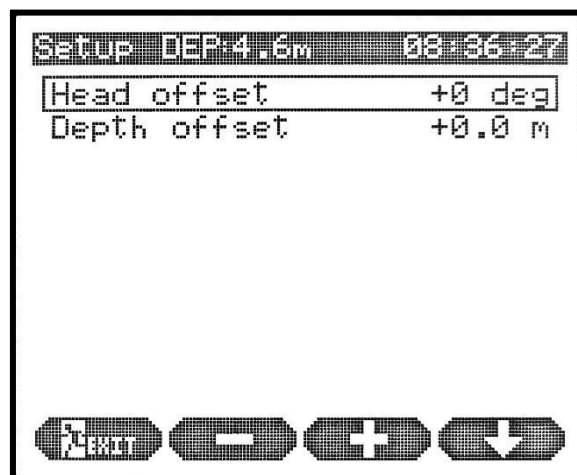
**Upwind marker:** The maximum quarter direction is indicated in the wind diagram on the Wind page. This is a convenience feature for optimum quarter turn. You can keep your boat sharp until the AWA indicator reaches this value.

**Header Value:** The data type that is displayed at the top in the always visible information bar

**Update rate:** a specify the refresh interval of the data on the display: slow-slow data refresh, normal-medium data refresh, fast-fast data refresh

**Smoothing:** Sets the averaging of the displayed data. The instrument averages the calculated and measured values to track sudden changes in the data. Off-no averaging, On-normal averaging, Strong-Strong averaging

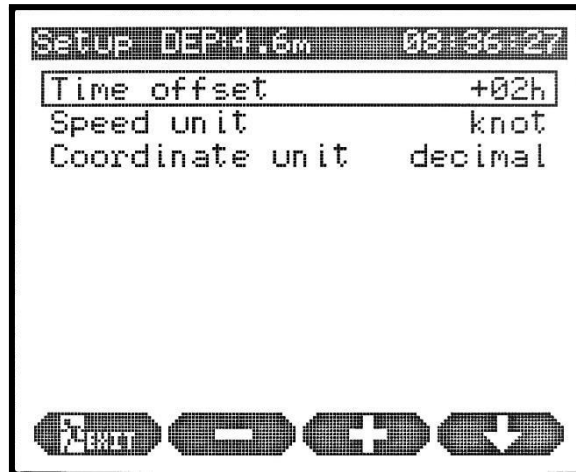
## Calibration submenu



**Head offset:** Windage (AWA) calibration. This should be done after installation so that the instrument reads  $0^\circ$  when the wind is blowing directly from the forward direction. The easiest way to adjust is to do it in calm, calm water, with the engine running straight ahead at maximum speed. At this point, check the AWA value. If it is not  $0^\circ$ , change the Head offset by the amount of the difference (i.e.  $+3^\circ$  for  $-3^\circ$ ).

**Depth offset:** Calibration of the depth gauge. The depth sounder always shows the distance measured from it. Since the depth gauge is installed below the waterline, it is advisable to correct this value. The Depth offset function allows you to calibrate the depth to within 10 centimetres. The measured value can be calibrated in the positive direction (e.g. depth to waterline) or in the negative direction (e.g. depth to bottom of keelwight).

### Units and time zone submenu:

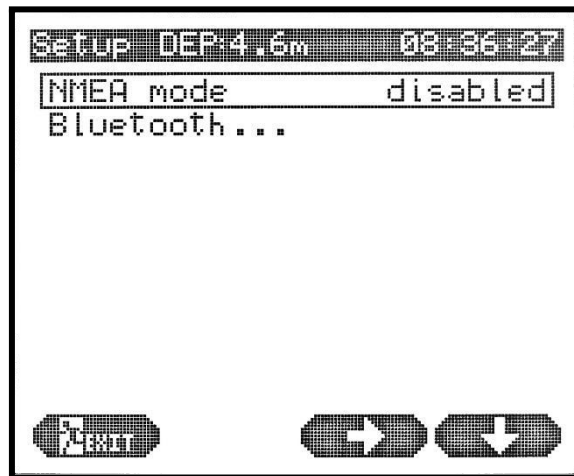


**Time offset:** You can perform a time calibration to set the exact time to GMT (Greenwich Mean Time).

**Speed unit:** Unit of measurement setting. You can choose between two units of measurement, km/h or kts. This will of course also change the log, so you can measure the distance in kilometers or nautical miles.

**Coordinate unit:** Form of coordinate display. There are three coordinate display modes to choose from: decimal, DM, and DMS. In the first "decimal" mode, the coordinate is displayed in degrees and fractional degrees separated by a dot (e.g.: 47.10000°). In the "DM" mode, the coordinate is displayed in degrees and minutes (e.g.: 47° 6.000'). In 'DMS' mode, the coordinate is displayed in degrees, minutes and seconds (e.g. 47° 6' 0").

### Connectivity submenu



NMEA mode: in the case of a multi-display system, this menu item allows you to select which display should control the others: "Disabled" mode means no communication between the displays, "Master" mode means the display acts as a controller and all devices set to "Slave" mode will follow this display.

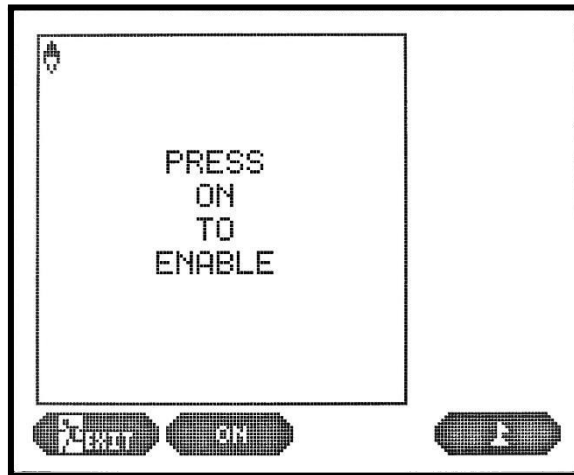
Bluetooth: The device is equipped to communicate with a wireless wind meter. Here you can connect to the wireless wind meter.


### Factory reset submenu





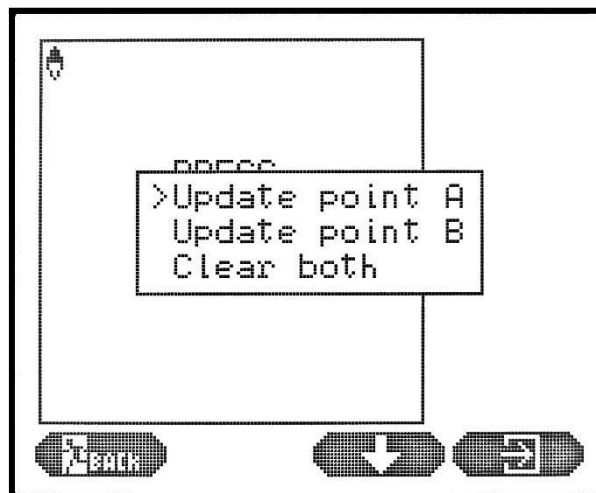
Restores the instrument to factory settings. Press  to reset the settings.

## 12. Start line menu



You can access the start line menu from the start clock by pressing the  button.

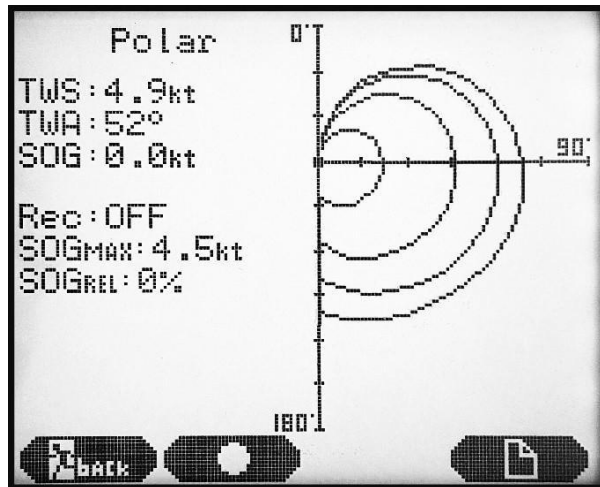
The start line menu indicates the exact time and place of the start. On the page you will see a map with the two ends of the start line and the position of your boat. Use the  button to activate the function. Let's go to the start boat. Press  "Update point A", go to the other end of the start line. Record this location as the other coordinate "Update point B".



The map will automatically show the start line and your position relative to the line. On the map, North always points upwards. Therefore, it is a good idea to record the start line with the west end of the start line at coordinate A and the east end at coordinate B. Otherwise, the map will show your boat opposite the start line.


If you do not want to look at the chart, you have the option of displaying the distance from the start line and the speed to the start line on any of the main pages. If the start function is active, BTW-Bearing To Waypoint, DTW-Distance To Waypoint and VTW-Velocity To Waypoint are also displayed numerically on the main pages.


### 13. Polar



A polar diagram describes the speed curve of a ship in different wind directions and at different wind speeds.


The polar diagram of a sailing ship can be calculated on the drawing board, but it is slow and difficult to record it in real life. It is useful to know the polar curve because it allows us to decide whether our boat is performing at its maximum in a given race or whether we are slower than the theoretical maximum.

With Windwiser2 we are able to record polar curves. To do this, enter the Polar menu and start the "record" on the first page by pressing the  button. During this time, the instrument collects the following information: what was the maximum boat speed (SOG) reached by the boat at a given wind direction (TWA) and the corresponding true wind speed (TWS). This information is continuously saved or overwritten by the instrument when recording is active. During your sailing, this data is displayed as a percentage. If the maximum is reached, the value will be 100%. If you are slower than this, the percentage will be proportionally lower.

The record is stopped by pressing the  stop button. The instrument will ask you to save the record. Only save the record if you have been in a clear wind while recording the polar.

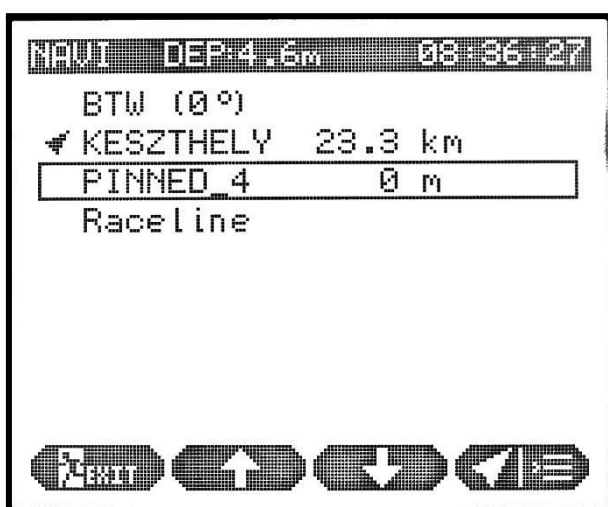
The saved values can be transferred to the Windwiser Tools application and copied back. Caution! Navigating with engine power will falsify the polar data. In this case, the record must be stopped or not saved.



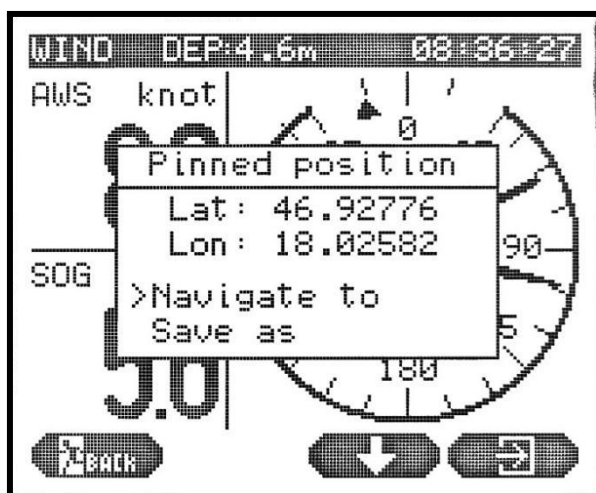
A long press on the F4  function key reveals two more polar pages. On these pages you can see the maximum speeds per 20 degrees and per 5 knots. Since the instrument display does not show the polar values in great detail, it is advisable to transfer them to the Windwiser Tools application.

## 14. Waypoint

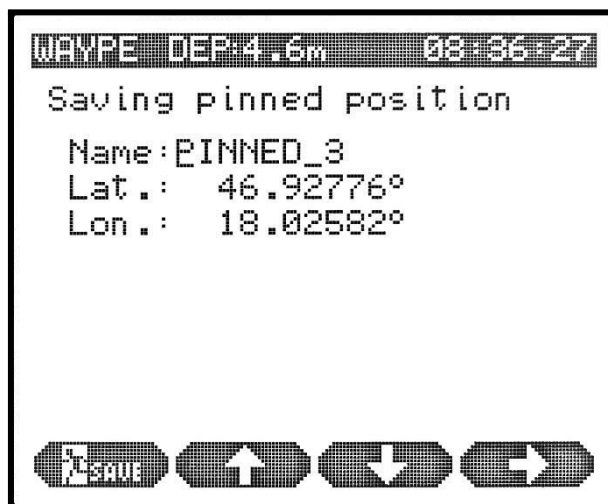
In the Waypoint menu, you can define waypoints and the two endpoints of the start line. The instrument displays the distance to the destination in km or miles and the +/- deviation from the heading in degrees. These data can also be displayed numerically on the main pages BTW-Bearing To Waypoint, DTW-Distance To Waypoint, VTW-Velocity To Waypoint.








Set waypoint: Press the  button briefly to see the next page:



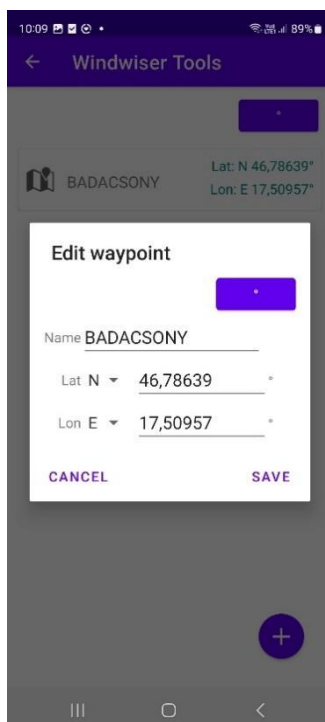
Here you can select "Navigate to", in which case the current coordinate will be the destination, or "Save as" to save the current coordinate. The next page is then displayed:






Use   the buttons to select the letter or number you want. Use the  button to switch characters. When you long press , the cursor jumps a whole line. Press the  key to save the waypoint.


### Uploading waypoint from application

Waypoints can be easily entered using the Windwiser Tools app. Connect the app to the Windwiser instrument as described in step 17. Then select the Waypoints menu. The application will list the waypoints saved in the instrument. Use the + button to enter a new coordinate. On the page you can choose the format in which you want to do this. This can be Decimal, DM, or DMS. Once you have entered the new waypoint, you can save it by clicking on the Save button. The coordinate will then be automatically uploaded from the application to the Windwiser instrument.




## Navigate to waypoint

Navigate to waypoint: use the   buttons to select the waypoint you want to navigate to, then press the  button briefly.

If you want to navigate to a visual target, use the navigation to BTW on the Waypoint page. Select BTW and long press the  button. The instrument will record your heading at the moment you press it and show the deviation from it in vector degrees. In this case, the instrument does not show "Distance to Target" and "Speed to Target", as it only navigates you to a given heading.


## 15. MOB – Man Overboard

The man in the water function is done by pressing  twice briefly. That pins an instant coordinate. The instrument will then automatically switch to the BTW page, so you can immediately follow the direction of the person in the water. On the BTW page, it is worth displaying DTW (Distance To Waypoint), as this shows distance from the pinned coordinate.

## 16. Bluetooth function

The Windwiser 2 wind meter also includes two Bluetooth modules. The Bluetooth Low Energy 4 standard bluetooth module is used to connect to a wireless wind meter. The Bluetooth version 2 module allows you to update the firmware of your instrument and to transfer the measured data to the Windwiser Tools application or even to the tactical program Iregatta.

### Connection to the wireless wind gauge

In the "Connectivity" sub-menu of the "Settings" menu, you can connect to your Windwiser wireless wind gauge under "Bluetooth". If the Windwiser2 instrument detects a Bluetooth wind meter, it will be listed on the following page. You can connect to it by pressing the  button. If the BLE Auto Connect function is also activated, the instrument will automatically connect to the Bluetooth wind gauge when switched on. Caution, the connection to the wired wind gauge overrides the connection to the Bluetooth wind gauge.

### Connecting to Iregatta

The Windwiser 2's Bluetooth module converts your system's measured data (AWA and AWS) into a standard NMEA 0183 signal stream and transmits it via its Bluetooth module. The signal is displayed on a Bluetooth channel that can be received by devices with Android operating system. Once switched on, the Windwiser2 transmits the data continuously, so all you need to do is set up the mobile app.

## Setting up the app:

Open the Bluetooth settings on your phone/tablet. Find your Windwiser device, pair it with your phone/tablet. Open the Iregatta app. Within the app, go to Settings/Settings.

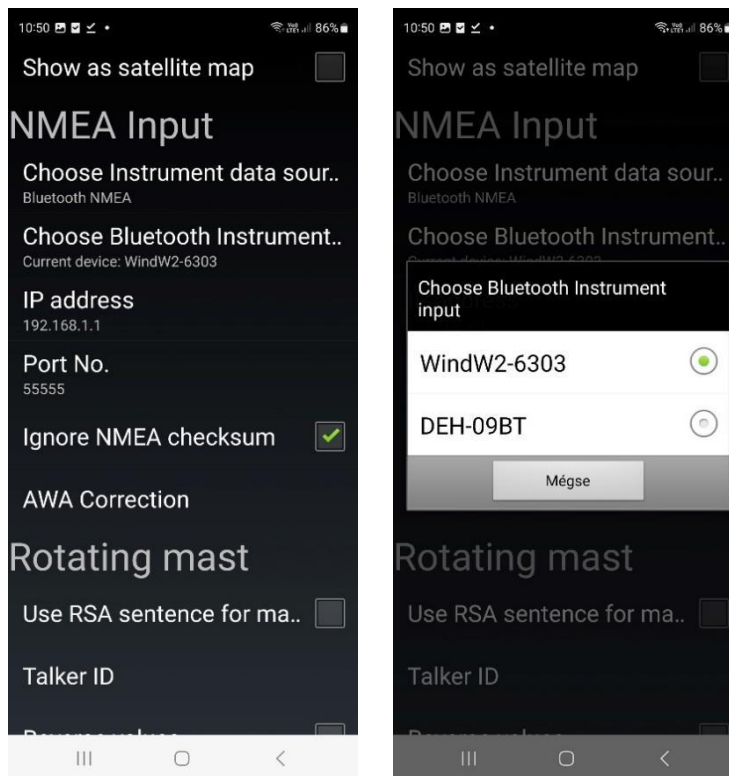


Open the Iregatta app and press Settings

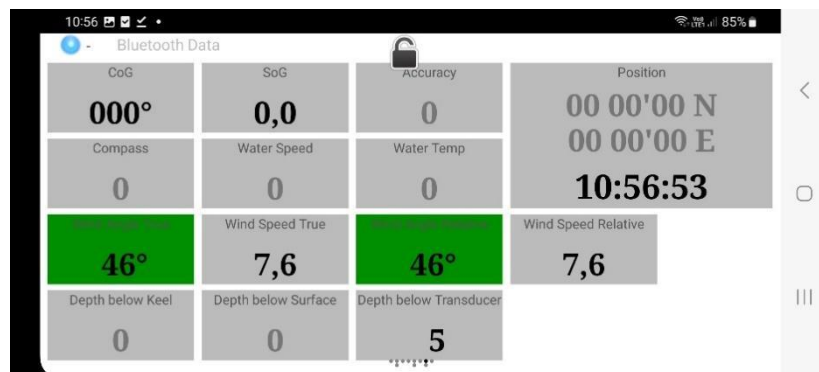


Set the following:

Choose Instrument data source: **Bluetooth NMEA**  
Choose Bluetooth Instrument input: **WindW2-xxxx**  
Ignore NMEA checksum: **ON**



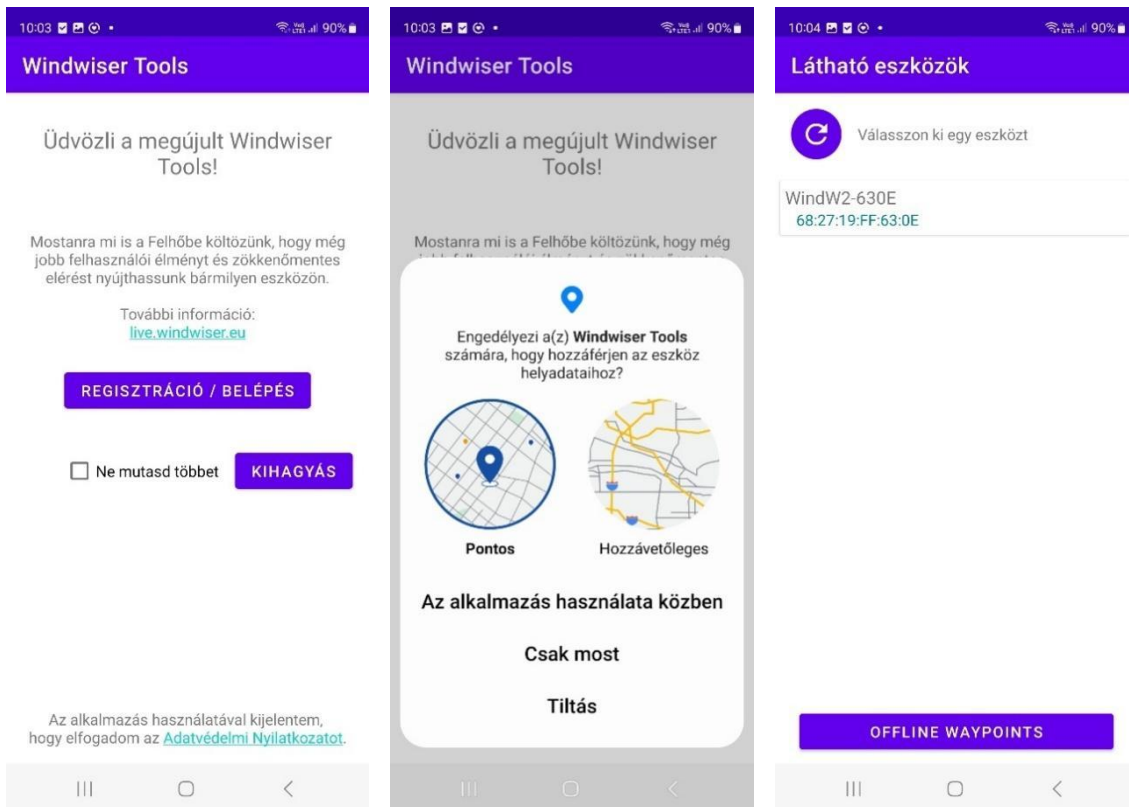
Once you exit the settings, the application will work automatically. The device receives and displays wind data from our Windwiser instrument. If you turn on the GPS unit of your mobile device, the application calculates the real wind speed and direction, displays them numerically and vectorially. In addition, the program can also display maps or even draw polar diagrams.



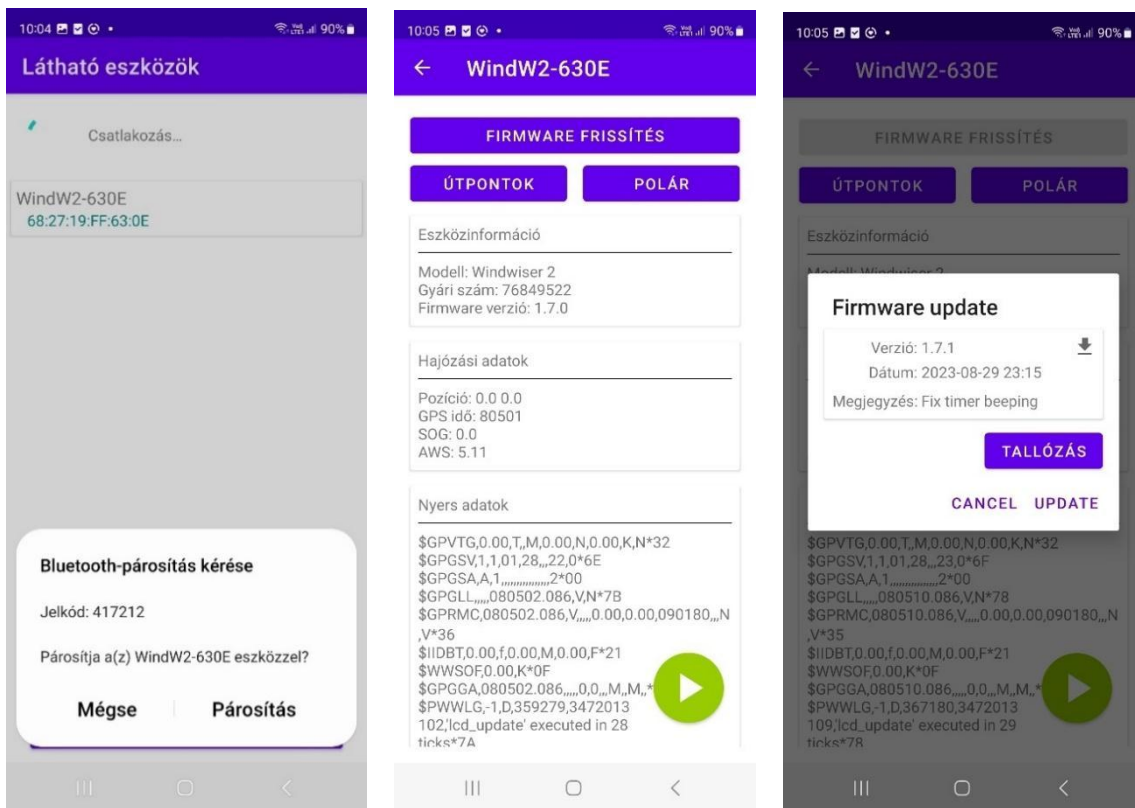
## 17. Software update

The software (firmware) in the instrument can be updated via Bluetooth. Using an Android mobile phone, download the free Windwiser Tools app from the Play Store and install it. The connection and update procedure is as follows:

To update without registering, press the skip button. Allow the location data. Connect to the visible Windwiser device.



Pair your device with your phone. Continue the update by pressing the Firmware update button. The application will automatically offer the latest version. If you want to stick to an earlier version, you can select it by pressing the Browse button. You can start the update by pressing the update button.



The update will start. In the meantime, the Windwiser screen will show flashing lines, which is normal. The update takes about 2 minutes. Do not exit the application or move your mobile device away from Windwiser. At the end of the process, the Windwiser display will come back on and the Update Complete message will appear in the app. If any problems occur during the update and the process is aborted, start the process over again.

## 18. Additional modules

We sell the following additional modules for the instrument

### 18/1. Windwiser 120 D depth gauge module with accompanying sonar.



The Windwiser 120 D depth sounder module uses sonar to emit ultrasound into the water, which is reflected off the bottom and processed to show the depth below your

boat. The device works at depths of 0.9 to 100 metres. The module can be easily connected to your existing system. The sonar can be glued in the hull, so it can be installed without craning and drilling it. Caution! The glued-in depth gauge module does not work on sandwich construction vessels, only on solid laminated hulls. For sandwich construction vessels, the hull must be drilled through and only a drill-through sonar can be used.

The depth gauge module is connected to the CAN bus of the instrument as the display. Connect the depth transducer to the CAN bus chain and connect the sonar to it. The sonar measures the depth between itself and the seabed below. It is advisable to calibrate the sonar to the bottom of the keel or to the waterline (see menu item 11-Settings / Depth threshold)

#### Gluing procedure:

Find a suitable location for the sonar. The optimum location is where there is no object, such as a bulb or protrusion, below the depth gauge at an angle of +/-30 degrees. The depth gauge can be either in front of or behind the keel. Try to ensure that the sonar is not facing sideways. Do not stick the sonar in the exact centre line of the boat, as this is where the laminate is thickest. It is therefore advisable to keep a distance of at least 200mm from the keel.

Once the optimum position has been found, sand the surface to be glued with 400-500 grit sandpaper. Dust the surface. Remove the protective film from the sonar. Press 3ml of glue paste onto the surface of the sonar and glue the sonar to the prepared part of the boat. Stabilize the sonar with adhesive tape until the adhesive paste sets

Tip: If you want to make sure the sonar is in the right place in the hull, pour a glass of water on the desired surface and put the sonar in the water. If the depth gauge gives a good reading, stick the sonar in place.

When everything is done, connect the sonar to the Windwiser depth gauge module.

#### Drilling procedure:

Crane out the boat. Find the right place for the sonar. The optimum location is where there is no object, such as a bulb or protrusion, below the depth gauge at an angle of +/-30 degrees. The depth sounder can be either in front of or behind the keel. Try to ensure that the sonar is not facing sideways. Never drill in the exact centre line of the boat, as this is the keel and the boat may be damaged statically. It is therefore advisable to keep a distance of at least 100mm from the keel.

Once you have found the optimum position, drill the boat out with a thin drill bit of about 5mm. This hole will be the centre of the depth gauge sonar. Drill out the location of the sonar with a 52mm core drill. Use the 5mm hole to centre the coring drill.

Deburr the bore and clean the area around the hole of any dirt. Sand off the algae inhibitor, ensuring the seal has a clean, grease-free surface.

Press sealing paste onto the edge of the sonar. Insert the sonar into the hole, then tighten the retaining nut inside the vessel so that the paste fills the hole evenly. Do not over tighten the nut.

When everything is done, connect the sonar to the Windwiser depth gauge module.

## **18/2. Windwiser 120 W Wi-Fi module**





The Windwiser 120 W Wifi module is a simple unit to integrate into the CAN communication system of the device. It converts the measured data into a standard Wifi signal and transmits it as a NMEA0183 message. The signal can be received by a mobile device or tablet and displayed using Android or iOS applications. The data from your boat is saved by the apps so it can be viewed later. The apps can even display the polar diagram of your boat.

The unit is recommended for those who want to transmit the signal measured by the instrument via Wifi standard to mobile applications such as Iregatta or Sailtracker.

## 19. Technical data and specifications

### Windwiser 2 central unit

External dimensions: 143x143x35 mm  
Display size and type: 80x100 mm monochrome LCD  
Voltage and power requirements: 12V @ 300 mA (max)  
Lighting: white LCD backlight and red button backlight  
Water resistance rating: IP67  
Material: UV resistant ABS plastic

### Windwiser Performance wind gauge

External dimensions: 233x190x120 mm  
External dimensions with console: 430x370x120 mm  
Voltage and current requirements: 12V @ 80 mA (max)  
Water resistance rating: IP44  
Material: UV resistant ABS plastic and aluminium  
Weight: 220g

### Windwiser 120D Depth Gauge

External dimensions: 125x56x30 mm  
Voltage and current requirement: 12V @ 150 mA (max)  
Water resistance rating: IP44  
Material: ABS plastic

### Gluing Sounder

External dimensions: 65 x 51 x 46mm  
Water resistance rating: IPx8  
Cable length: 5m  
Material: ABS plastic

### Drilling Sounder

External dimensions: 76 x 76 x 75mmmm  
Water resistance rating: IPx8  
Cable length: 5m  
Size of hole: 52 mm  
Boat thickness: 55mm maximum  
Material: ABS plastic

## 20. Drilling and installation guide

You can see measuring and drilling drawing on the [windwiser.eu](http://windwiser.eu) / products menu

## **21. Disclaimer**

The device is an instrument for navigation and sailing. In all cases, it is the captain's responsibility to monitor and assess the conditions at all times, and the device is not a substitute for the captain. The manufacturer is not able to supervise the correct use of the instrument at all times and therefore accepts no liability for any damage resulting from its use.

**Fair winds and following seas!**