CALYPSO
ULTRASONIC Portable Mini
WIND INSTRUMENT AND DATA LOGGER

User manual

C E FC 0809

With just 40 mm diameter, the Ultrasonic Portable Mini is a fully portable, complete wind instrument. Get true and apparent wind speed and direction on your smartphone or Garmin watch. Track your navigations and log your wind data. With a tripod thread for limitless installations, use it as a conventional wind instrument or come up with your own application. The Calypso Ultrasonic Portable Mini brings astonishing technology to a wide range of users.

If you want to know more about our new ULTRASONIC PORTABLE MINI visit our website **www.calypsoinstruments.com.**

0. Index

1. Product overview

The Ultrasonic Wind Instrument and Data Logger is a wireless, Bluetooth (BLE) and battery-powered, pocket-sized ultrasonic anemometer, easy to install, simple to use and compatible with IOS, Android and Garmin watches.

2. Package content

The package contains the following:

· Ultrasonic Portable Mini Wind Instrument

· Wireless charging QI

· Serial number reference in the bottom of the packaging

· A quick user guide on the back of the packaging and some more useful information for the customer.

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3. Technical specifications

Ultrasonic Portable Mini has the following technical specifications:

3.1. Dimensions	· Diameter: 43 mm, 1.69 in.
	· Height: 47 mm, 1.85 in.

47 mm.

43 mm.

3.2. Weight	78 grams, 2.75 oz.

Dimensions and weight make the Ultrasonic Portable Mini a compact and easy-to-use product.

3.3. Bluetooth	· Version: 5.1 or beyond

The Ultrasonic Portable Mini incorporates Bluetooth Low Energy Technology (BLE).

BLE is the first open wireless communication technology, offering communication between mobile devices or computers and other smaller devices such as our new wind meter.

Compared to Classic Bluetooth, BLE provides considerably reduced power consumption and cost while maintaining a similar communication range.

Version
The BLE version is 5.1. It incorporates important developments for the user by facilitating the reconnection between their devices once they leave and re-enter the Bluetooth range.

Bluetooth Range
The coverage range is around 30 meters when it is an open space without electromagnetic radio interference.

3.4. Power	· Battery-powered
	· Battery life
	-150 hours with full charge
	- 2,000 hours on standby
	(advertising)
	· Wireless : charging QI

*In order to check the battery charge level, connect to the Anemotracker App and the battery level is given on the main screen inside the compass. If there is no battery level shown, the device is not connected. Please **charge the device upside down** (as shown in the picture above) and then retry connecting to it via Anemotracker App. If it is connected, it will always show a level of battery.

Not recommended to use any other wireless charger than the one provided from the manufacturer.

Charging should take around 3 hours. It is not reccomended to leave the unit charging for extended periods of time.

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3. Technical specifications
(continuation)

3.5. Sensors
· Ultrasonic transducers (4x)

· Sample rate: 1 Hz

Ultrasonic transducers (4x)

The Ultrasonic Portable Mini has been designed to avoid any mechanical parts to maximize reliability and minimize maintenance.

The transducers communicate between themselves two by two using ultrasonic range waves. Each couple of transductors calculate the signal delay and get information about both wind direction and wind speed.

Sample rate: 1 Hz

3.6. Wind information
· Wind speed

· Wind direction

Wind Speed
Range : 0.5 - 25 m/s, 1-56 mph
Accuracy: 0.3 m/s at 10 m/s, 0.67 mph at 22.37 mph
Threshold : 1 m/s

Wind direction
Range : 0-359 º
Accuracy : ± 1°

*For more information about how to get each value, please visit our website and download the latest complete manual of the Anemotracker App.

3.7. Protection grade
· IPX8 (10 meters)

The Ultrasonic Portable Mini has been certified by an approved independent laboratoty as IPX8. In order to get that IPX8 code certificacion, ULTRASONIC PORTABLE MINI has successfully passed a 30 minutes water immersion test at a depth of 10 meters (1bar) with no water ingress. We have also run more severe tests in house with successfull results (even though they are not certified).

However, reaching IPx8 30 min-10 m does not yield warranty of waterproofness at 10 m. The same rationale applies to swimming watches; a watch needs to be tested at 30-50 meters depth to be considered water-resistant at a swimming depth of around 1 meter. For going deeper than (snorkeling, diving) watches are individually tested up to 200-500 m.

Several factors might affect Ultrasonic watertightness: rubber seals and plastics wear and tear, drastic temperature changes (hot air then cold water), previous impacts, pressure increase rate (immersion velocity), water density and temperature, under-water speed and acceleration, ... This is why we do certify that our Ultrasonic is IPX8 30 min-10 m but we cannot guarantee that it is waterproof at 10 m.

3.8. Easy mount
· Tripod mount (tripod thread (UNC1/4"-20)

A wide range of accessories can be used with the device.

* Please, visit our website and check all the accessories available and their possible combinations.

You can update the Ultrasonic Portable Mini firmware via Bluetooth, from the Calypso Upgrader App. Please see the Technical page on our website for the latest firmware available.

4. Functions

The Ultrasonic Portable Mini will allow you to perform a great variety of operations adapted to your needs.
It will provide you information about everything that is shown below through our application Anemotracker App, but the most important aspects that facilitates the unit are:

- The Apparent Wind is a value that is given by the Ultrasonic Portable Mini.

- The Real Wind is a value that is shown through the application thanks to the data collected by the anemometer and the crossing with the GPS of the connected device .

- All the collected data can be stored in the memory of the application.

* For more information on How to use the Anemotracker App, please visit our website and download its latest user manual version.

5. Installation

5.1. Installing the unit
The Ultrasonic Portable Mini has to be oriented to the bow taking as reference the mark that appears on the side (as shown in the image below).

5. Installation
(continuation)

It can be used with a tripod and even with a phone adapter.

5.2. Installing the App and testing the unit
Follow the next steps:
1. Make sure your device is BLE compatible*.

 Ultrasonic Portable Mini works with BLE 5.1.

2. Download and install the *Anemotracker App* on your device from Google Play, Apple Store or Garmin Watch.

It is a standard measure, great variety of accessories in the market adapt to it.

*Please check our available accesories on our website.

5.2. Installing the App and testing the unit
Follow the next steps:
1. Make sure your device is BLE compatible*.

· Ultrasonic Portable works with Android 4.3 and beyond or iOS devices (4s, iPad2 or beyond).

2. Download and install *Anemotracker App* on your device from Google Play or Apple Store.

3. Once the App is installed start it and open the settings menu by sliding the screen to the rigth.

4. Press the" Scan" button and all Ultrasonic Portable Mini devices within the range should show up at screen.

5. Select your device and connect.
If your device connects with the Ultrasonic Portable Mini correctly, continue with the normal installation.

If not, please read the following lines.

Your device is compatible but you can not connect?
1. Make sure BT (Bluetooth) mode is running on your smartphone, Tablet or PC.

2. Make sure Ultrasonic Portable Mini is not in Off mode. It is in Off mode when the unit does not have sufficient battery level. There will be no battery level shown when trying to connect to the device in Anemotracker App.

4. Make sure no other device is linked to your Ultrasonic Portable Mini.

Each unit can only be connected to **one** device at a time. As soon as it gets disconnected, Ultrasonic Portable Mini is ready to link to any other device with the Anemotracker app installed.

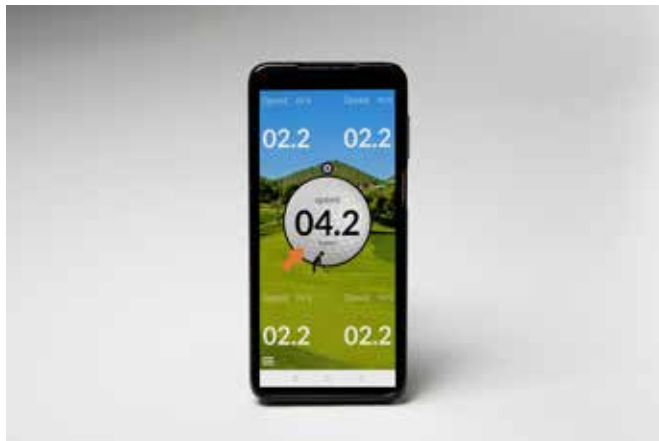For further information please contact Calypso Technical Support.

6. Anemotracker App

The Ultrasonic Mini Portable is designed to be used with the Anemotracker App which provides data such as apparent and true wind speed and direction. The app offers a variety of interfaces for different uses.

Ballistics

Golf

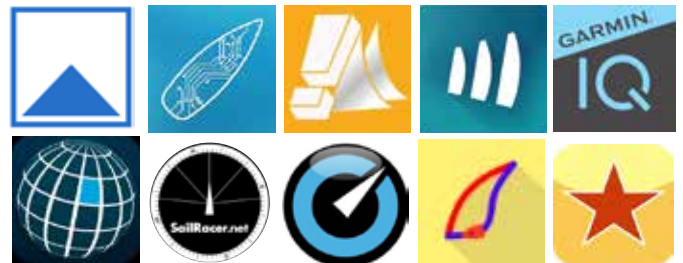

Sailing

Meteorology

For more information about Anemotracker App and allt hat it offers, please see the latest app manual on our website.

7. Compatible Apps

We constantly work on making the product compatible with a great diversity of Applications.
The list below shows some apps that got to be compatible with our products. We are not responsible of third party bugs, updates, new releases, etc...Therefore, please check with each app developer current compatibility.

·Anemotracker App
·Sentinel Marine Solutions
·iRegatta
·eStela
·SailRacer
·SailGrib
·EDO sailing instruments
·Weather4D
·Among others...

*These Apps are compatible, however, pease check current compatibility and features on their websites.

7. Compatible Apps

Our hardware is open source.
We are a hardware firm but we developed and maintain Sailing Anemotracker App to be used with our products. We realize that our users' diverse needs require tailored solutions beyond our imagination and that's why we decided from minute one to open our hardware to the world.

We encourage third party software and hardware firms to integrate our hardware on their plattorms at their will.

Here you learn how to connect to our hardware. You can replicate the product signal so you don't need to get one to start playing right away.

We made communication as simple as possible; however, if you need support, do not hesitate to contact us either by email (**info@calypsoinstruments.com**) or phone (+34 876 454 853).

8. General information

8.1. General recommendations
The Ultrasonic Portable MINI has been calibrated with accuracy, following the same calibration standards for each unit.

Regarding mounting the unit, as we have described before , the mast head has to be prepared for the mechanical installation. Align the North mark of the Ultrasonic Portable Mini, in order to have it pointed towards the bow. Make sure to install the sensor in a location free from any object that can disturb the flow of the wind to the transducers in a 2 meter radius of the wind sensor, for example, on the top of a mast.

Other important aspects:

- **Do not attempt to access the transducers area with your fingers;**
- **Do not attempt any modification to the unit;**
- **Never paint any part of the unit or alter its surface in any way**.
- **Do not charge with any other wireless charger than the one that comes directly from the manufacturer.**

If you have any questions or doubts, please contact us directly.

8.2. Maintenance and repair
The Ultrasonic Portable Mini does not require great maintenance thanks to its streamlined design.

Transducers must be kept clean and aligned. Impacts or incorrect impulsive handling may lead to transducers misalignment.

The space around the transducers must be empty and clean. Dust, frost, water, etc... will make the unit stop working.

The Ultrasonic Portable Mini can be wiped clean with a damp cloth making sure to avoid touching the transducers.

8.3. Warranty
This Warranty covers the defects resulting from defective parts, materials and manufacturing, if such defects are revealed during the 24 months after the purchase date.

Warranty is void in case of non-following the instructions of use, repair or maintenance without written authorisation.

This product is for leisure purposes exclusively. Any wrongful use given by the user will not incur in any responsibility of Calypso Instruments. Therefore, any harm caused to the Ultrasonic Portable Mini by a mistake will not be covered by the guarantee. Using assembly elements different from those delivered with the product will void the guarantee.

Changes on transducers position/alignment will avoid any warranty.

For further information please contact Calypso Technical Support through **info@calypsoinstruments.com** or visit **www.calypsoinstruments.com**.

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