UNS20500

Sailing Support System

Quick User Guide

Rev. 1.4 - 17/03/2021

The **SAILING SUPPORT SYSTEM** is an integrated wind analysis system specifically designed for regattas. It helps the definition of tactics indicating true wind direction and speed, prevailing wind speed and direction (5-15 min) and vector speed and direction. All data collected are displayed on portable devices using Wi-Fi connection and recorded for post regatta analysis.
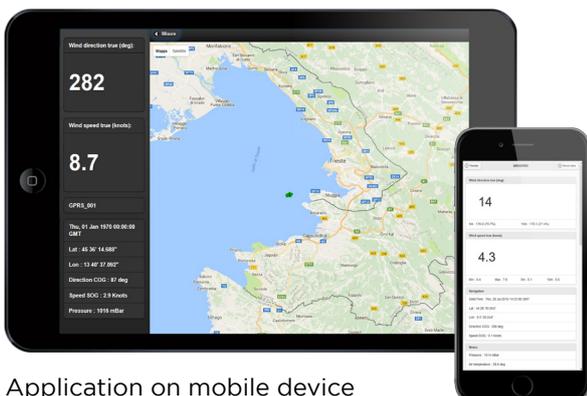
Application on mobile device
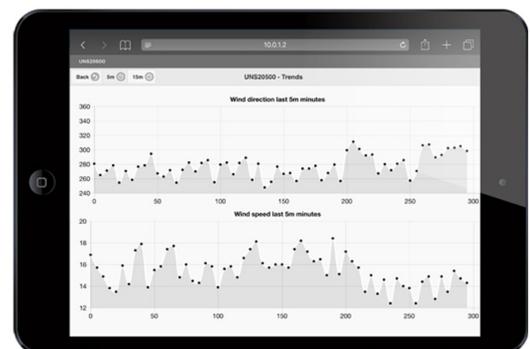
Graphics interface

VSG40065/2

Adapter for Airmar sensor fixing on pole in PVC material

VSG40065
Weather and navigation sensor

The package includes four mounting brackets

ON/OFF

⏻ GPS GSM

SGS TRACKING

Sailing Support System

www.sgstracking.com - www.sangiorgiosein.com

130mm

180mm
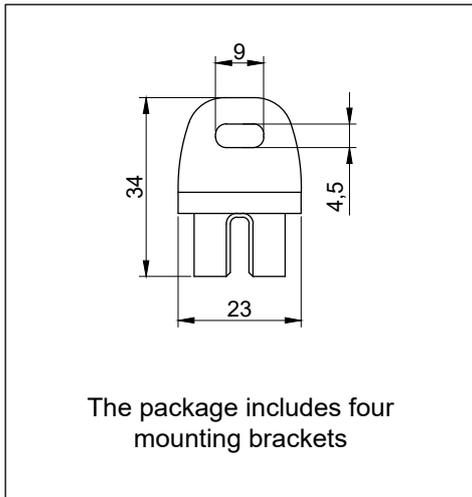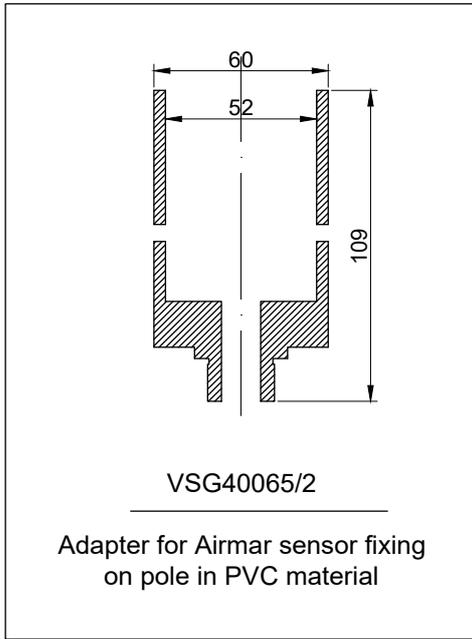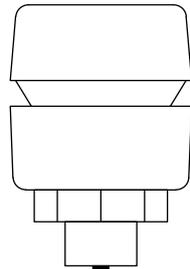
M12-5pin

Micro USB

M12-5pin Female

Micro-USB connector, female, panel mounting. Available with Cap and lanyard.
IP67 protection grade

VSG40065/1 - Cable 10m for VSG40065

TECHNICAL FEATURES

Case Material:	Polycarbonate
Dimensions:	130x180x77mm
Power Supply:	12-24V - <500mA
Connections:	M12-5pin
	Micro USB
Operating Temp.:	0..+55°C
Protection Grade:	IP66

M12-5pin Connector

NMEA CONNECTOR

Pin	Color	Function
1	White	Nmea 0183 TTL In
2	Red	+12/24V Power Supply NMEA
3	Black	GND
4	-	0..32V Analog Input
5	-	0..32V Analog Input

Components list

UNS20500

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VSG40065

Combined electronic sensor that allow the measures of true and apparent wind speed and direction, barometric pressure, air temperature, vessel speed and direction

VSG40065/1

10m cable for VSG40065 weather and navigation sensor with M12-5 pin female connector to be connected to UNS20500

VSG40065/2

Support that must be inserted on the pole and fixed by 4 screws. In the upper part you will need to screw the cable cap VSG40065 / 1
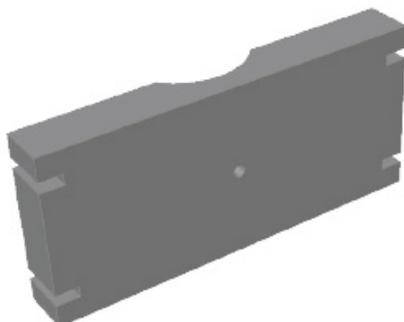
UNS20500/S

Fixing support with 155.5x70x20mm dimensions to fix the UNS20500 box to the boat pole

ON/OFF button power supply

If the icon on the power button is lit, regardless of the position pressed or not pressed, the control unit is powered and in transmission.

If the device is not charging (internal battery power):

ON BUTTON (PRESSED)   LED = ON System powered

OFF BUTTON (RELEASED)   LED = OFF System not powered

If the device is charging (power supply from external source):

ON BUTTON (PRESSED)   LED = OFF System not powered (battery charging)

OFF BUTTON (RELEASED)   LED = ON System powered up (battery charging)

If the device is disconnected from the charge when:

the **ON BUTTON (PRESSED)**   LED = REMAINS OFF (turn off and wait 4 seconds before pressing the
                                                                          ON button to turn on)

the **OFF BUTTON (RELEASED)**   LED = TURNS OFF (system not powered)

Calibration the compass

WARNING: The internal compass may need to be calibrated after the WeatherStation Instrument is installed for maximum accuracy. Perform the pretest below to determine if calibration is necessary.

CAUTION: Boat—The Pretest and AutoCalibration Procedure must be done in calm seas in a 0.8 km (0.5 mile) open area away from other boats and ferrous objects such as structures and aids to navigation. Avoid congested areas and waters with strong currents as calibration will be difficult and possibly hazardous.

Pretest
Go to an appropriate site.
• Boat—In calm seas, navigate to an open area of water, 0.8 km (0.5 mile) of open space away from other boats and ferrous objects.
While making a full circle, compare the WeatherStation heading data to another compass. Check all headings. If the data agrees, there is no magnetic influence on the WeatherStation Instrument. The compass does NOT need to be calibrated. If the data does not agree, continue with the calibration instructions below.

How to Calibrate
Calibration can be done in one of two ways.
• Calibrate the compass using the WeatherCaster™ software and a PC.
• Follow the AutoCalibration Procedure below.

AutoCalibration Procedure
IMPORTANT: Calibration requires the boat to complete 2 to 3 circles.
IMPORTANT: In the event of a calibration failure, repeat the procedure.

1. At the site where the pretest was performed, select the display page on the NMEA Instrument that shows Heading.
2. Shut OFF and then turn ON the DC power that is connected to the WeatherStation Instrument.
3. Within 2 minutes of cycling power to the WeatherStation Instrument, start the vehicle/boat in a slow [4.5 to 7 MPH (4 to 6 knots)] circular turn that takes about 2 to 3 minutes to complete.*
   If the vehicle/boat completes 1.5 circles within 3 to 4.5 minutes, AutoCalibration will begin. Heading will stop being reported on any NMEA 0183 or NMEA 2000 display until the calibration is finished.
4. Keep turning in the same circle for 1 to 2 more complete circles.
   Do not change the speed or rate of turn through the circle.
5. When calibration is completed successfully, Heading will return to the display.
   If calibration fails, the display will flash Heading ON and OFF in 10 second intervals for 60 seconds. (Display times may vary by manufacturer.)

*The optimum rate of turn is 180°/ minute: 3°/second, 30°/10 seconds, 45°/15 seconds, and 90°/30 seconds.

A) Turn on UNS20500 and wait 30s

B) Check for WiFi connection "UNS20500" but don't connect immediately, press instead the "Info" button on the right of the connection name and enter the following data :

Select "**Static IP Address**" and enter the following data in the "IP Address" group :
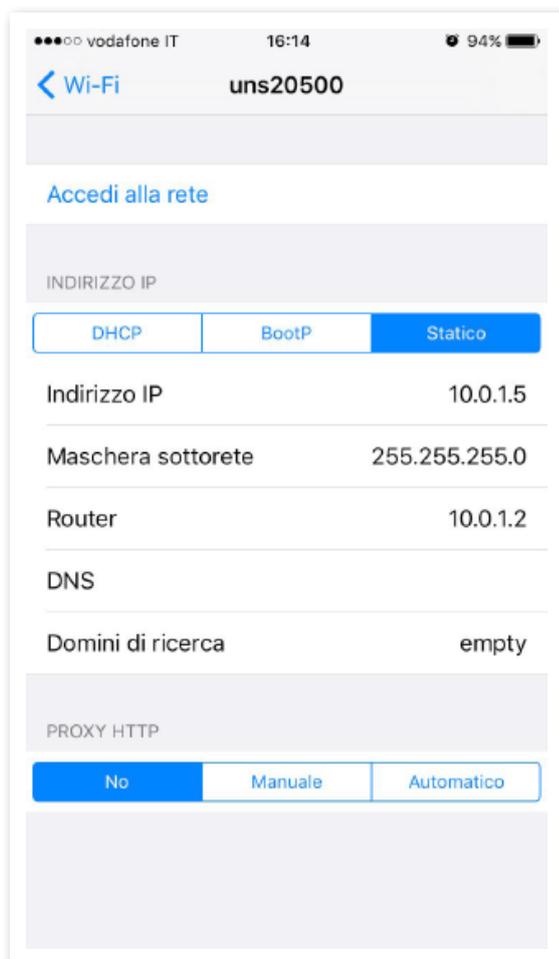
Select "**Static IP Address**" and enter the following data in the "IP Address" group :

IP Address : 10.0.1.5 (*)

Subnet mask : 255.255.255.0

Router : 10.0.1.2

DNS : (empty)

Search domain (domini di ricerca) : (empty)

Select "**No Proxy HTTP**"

(*) Please use a different IP address for any device You want to connect, for example use "10.0.1.6" for an additional IPad. Don't use the same number on two different devices otherwise there will be a conflict and connection will not be possible.

Press "Connect to network" (accedi alla rete) and enter password "**winnerwind**".

The phone will warn You about not having internet on this connection, this is normal because the UNS20500 device in not connected to internet.

Please note that if You don't explicitly remove this connection the mobile phone will automatically reconnect next time without requiring to re-enter this setup.

C) Select Safari "Browser" and enter the address : "**10.0.1.2/livedata.php**"

It is now possible to use the UNS20500 device as explained in this manual.

Connection to Android generic device

A) Turn on UNS20500 and wait 30s

B) Check for WiFi connection "UNS20500" but don't connect immediately, press instead the "Show Advanced options" (mostra opzioni avanzate) and enter the following data, use scroll to access each parameter as follows :

Password : **winnerwind**

Show advanced options : Yes

Proxy : None

IP settings : Static

IP Address : 10.0.1.5 (*)

Gateway : 10.0.1.2

Network prefix length : 24

DNS 1 : (default)

DNS 2 : (default)

Security : WPA2 PSK

(*) Please use a different IP address for any device You want to connect, for example use "10.0.1.6" for an additional IPad. Don't use the same number on two different devices otherwise there will be a conflict and connection will not be possible.

Press "Connect" on the bottom right.

The phone will warn You about not having internet on this connection, this is normal because the UNS20500 device in not connected to internet.

Please note that if You don't explicitly remove this connection the mobile phone will automatically reconnect next time without requiring to re-enter this setup.

C) Select Chrome "Browser" and enter the address : "**10.0.1.2/livedata.php**"

It is now possible to use the UNS20500 device as explained in this manual.

WiFi connection to PC Windows

A) Check the activation of the WiFi network card, right click on the icon in the Windows taskbar
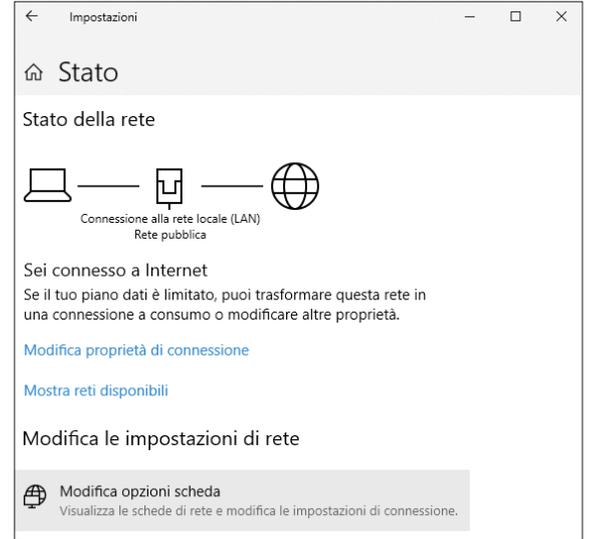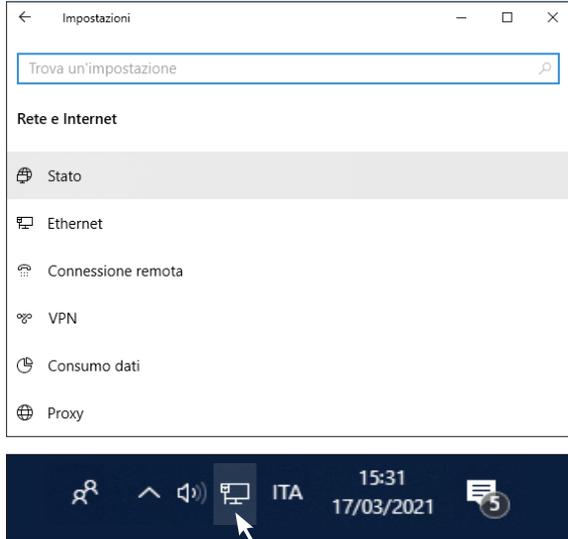
B) Select properties internet version 4 (TCP IPv4), they must be "Obtain IP address automatically"
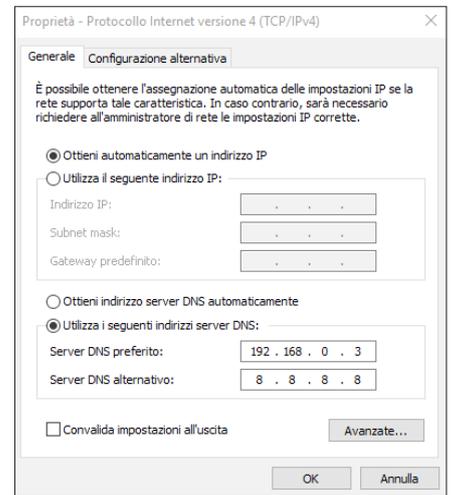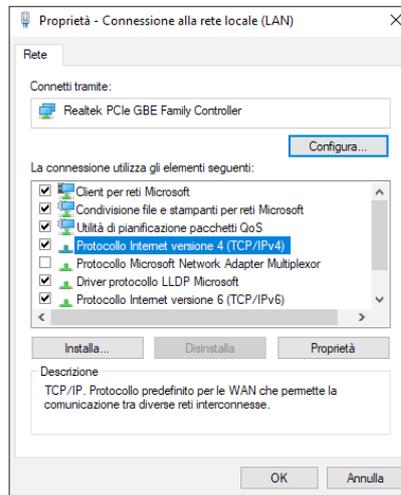
C) Turn on the UNS20500 device and check the SSID network "**UNS20500-XXXXXX-XX**"

Connect with password: "**winnerwind**" and ignore any reports of no internet connection
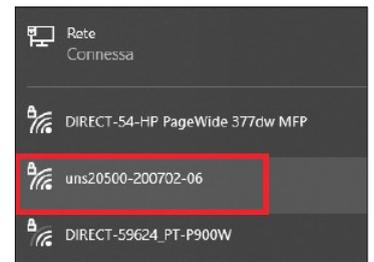
D) Connect with Chrome or Edge browser at:
10.0.1.2/livedata_tablet.php
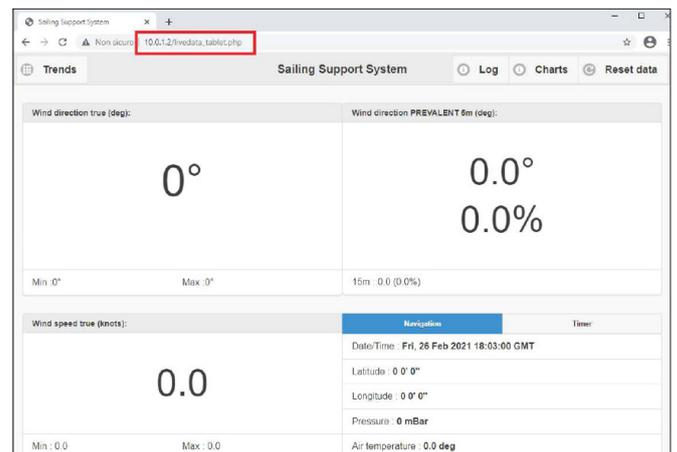
The main wind monitoring page shows the current true wind direction and speed combined with several statistics.

Press "Trends" to view trends of prevalent wind direction and speed of the last 5m and 15minutes.

Press "Reset data" to delete memory samples of the last 5m and 15m to be used for prevalent calculation.

This line shows the calculated prevalent wind direction based on the measurement of the last 5m or 15minutes : the value inside parenthesis represents the confidence of measurement, the higher the better

Please scroll the page to view additional information related to navigation and device status.

Wind speed and direction trends
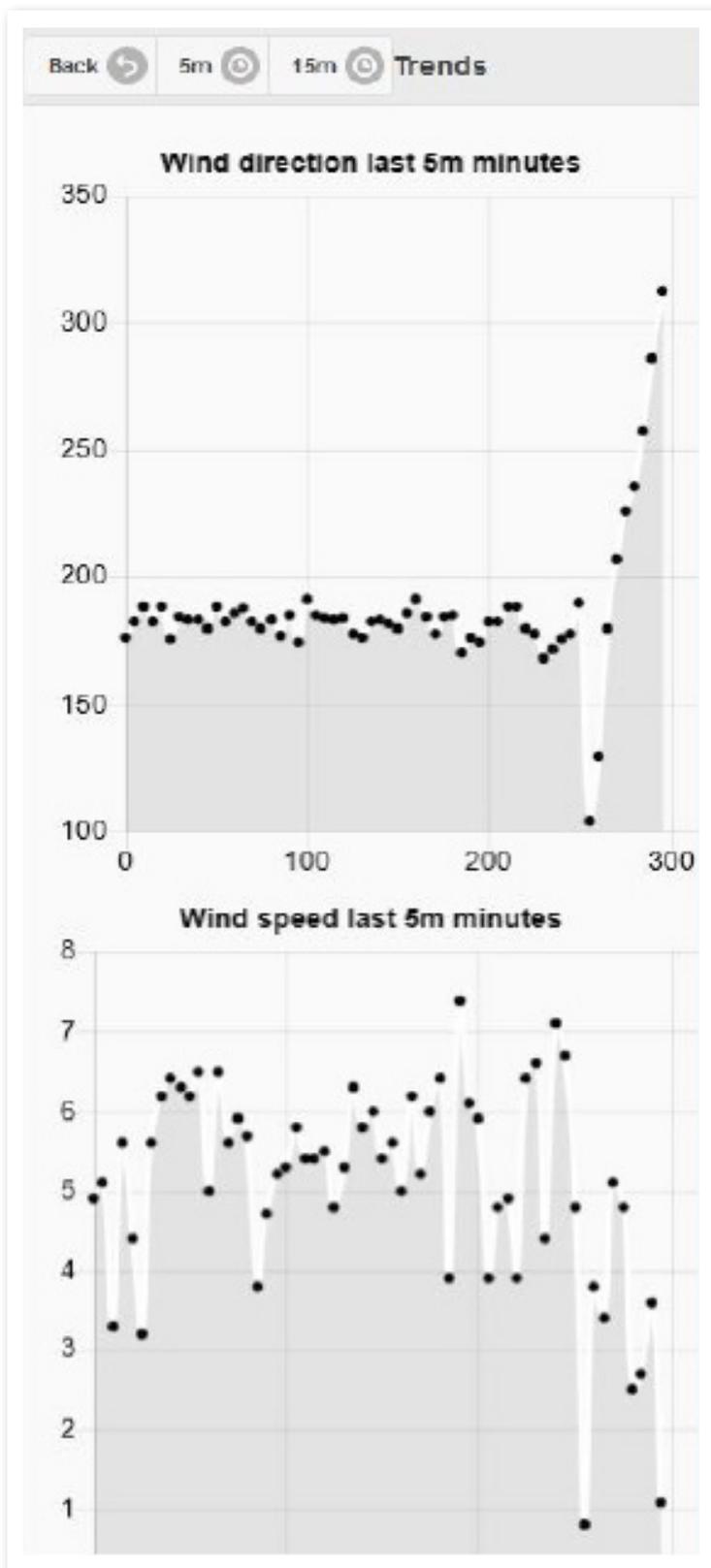
The trends page shows charts of the prevalent wind direction and speed of the last 5minutes and 15 minutes.

Samples on the left (0 seconds in X axis) are newer : range scale is automatically adjusted.

Press "Back" to return to main monitoring page, press "5m" to view last 5minutes or "15m" to view last 15 minutes.