

SKYTRAXX 2.1



Manual Version 1.0

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We thank you for your trust. This flying instrument consists of the most modern components and latest technologies. The flying instrument has been specially tailored to the needs of paragliding and hang gliding. The company Skytraxx GmbH reserves the right to make changes to the contents of this manual as well as to its products at any time without notice.

Please visit the homepage of Skytraxx GmbH (www.skytraxx.eu) for up-to-date software and for additional information about this product.

Note

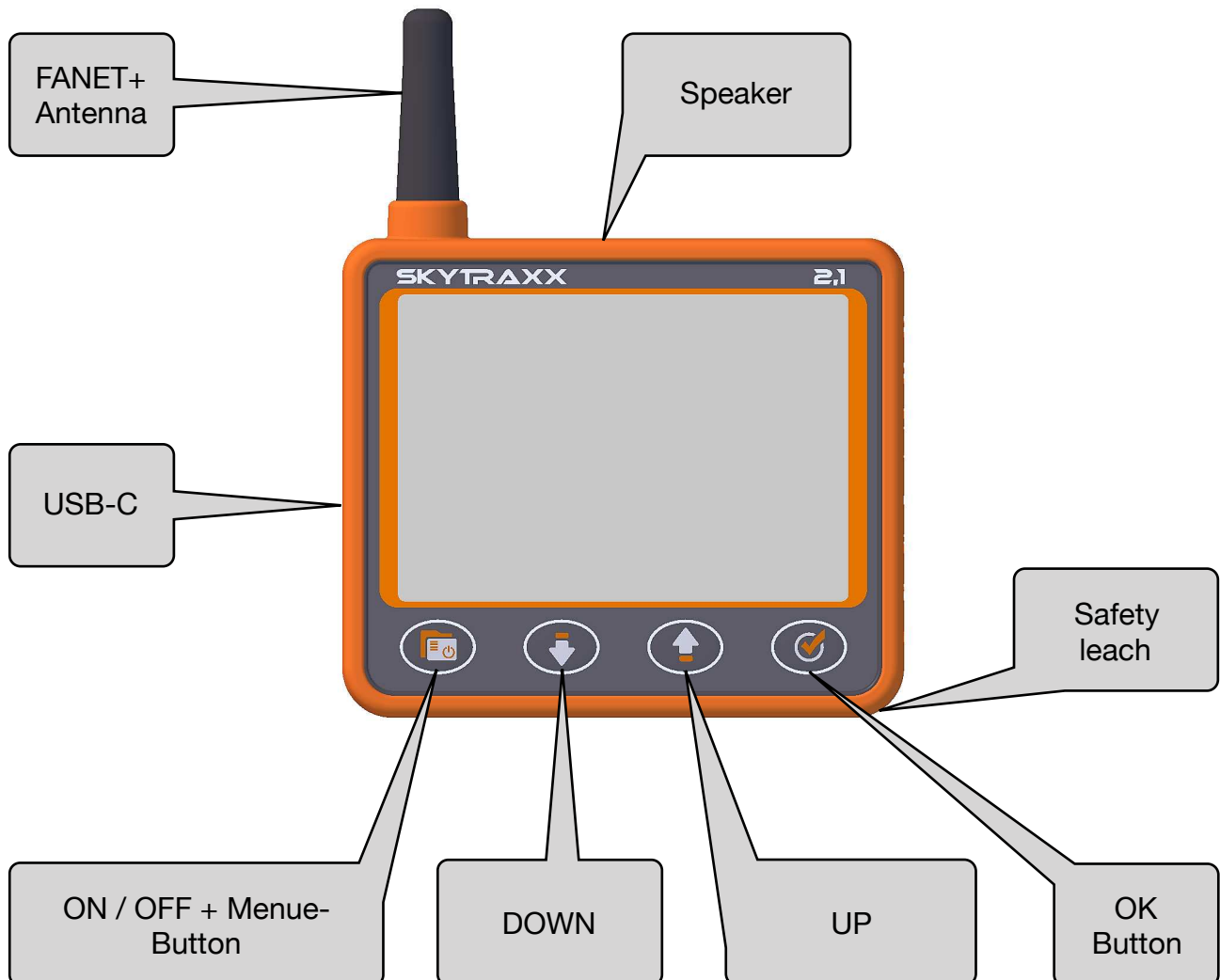
Skytraxx GmbH rejects any responsibility that may be caused by incorrect information on flight. It is the sole responsibility of the pilot to make correct flight decisions.

Skytraxx GmbH is not responsible for any damage resulting from any erroneous or missing data of the flight instrument.

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1. Device view



2. First Steps

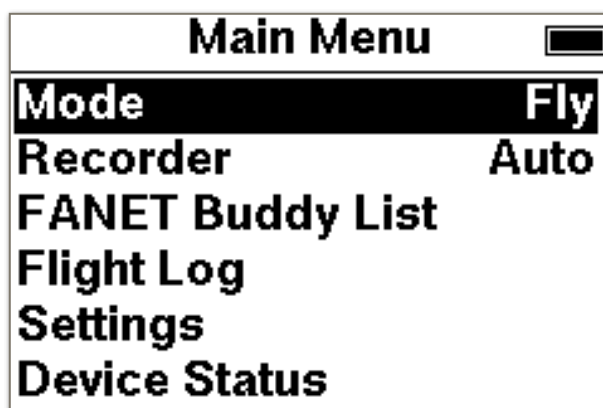
Please fully charge the instrument before first use. This can be done with the supplied USB cable and power supply. A loading on the PC is also possible. The charging time with the included power supply is the quickest. The USB-C charging socket is located on the left side of the device. The charging process stops automatically when the battery is fully charged. The charging time is about 5 hours. On the PC about 15 hours. An integrated charge / discharge protection protects the battery from damage. The SKYTRAXX 2.1 has a lithium polymer battery installed. A big advantage of these batteries is the low loss of charge during prolonged storage. There is virtually no memory effect. The charged battery lasts for about 40 hours of flight operation.

3. Switch on and off

By pressing the menu key the Skytraxx is switched on and a countdown is started. This should be confirmed within 10 seconds with the OK button. The Vario is now ready for use. To switch off, press and hold the menu button for 3 seconds. Again, a countdown begins. If the switch-off is confirmed with the OK button within 10 seconds, the Vario switches off.

4. Menu

Use the menu key to change to the main menu.



4.1. Mode

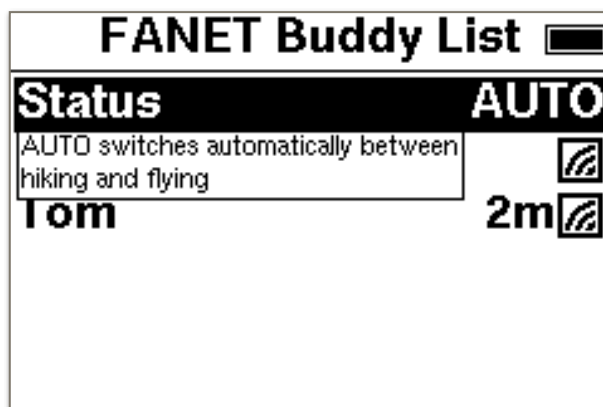
Here you can choose between hiking and flying.

If you choose Hike, the track is saved in the "hikes" directory. A later analysis or statistics of the routes can be retrieved. Be sure to switch back to fly mode before flying. When switching to walking, the logbook changes to a hiking book. There is a Hike screen and in the hiking book tracks can be imported and exported in GPX format. If a path is selected, there are several options: 1. Analysis: the basic data is displayed. 2. Show: the path is displayed graphically. 3. Use as path: the path is displayed and can be used as navigation aid.

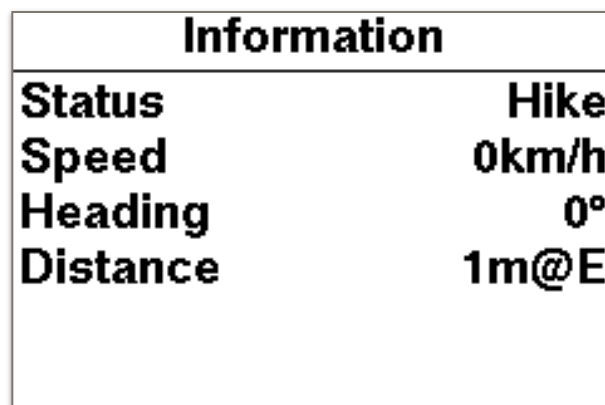
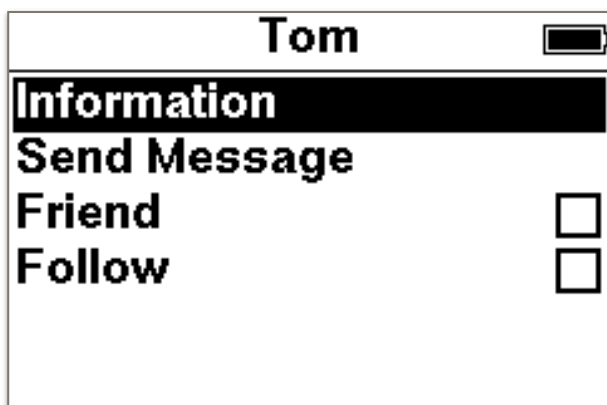
4.2. Recorder

Recording is by default Auto. The recording starts automatically after the start detection and ends automatically at the landing detection. The recording can also be started manually with the OK button. A long press on the OK button locks the recording.

4.3. FANET Buddy List



AUTO status is preset and automatically switches between walking and flying. Manually, the status can be changed from a list. After selecting a user, there are further options. Under Information you can see the details about the user.



In addition, the friend and follow option can be set. With option Follow a line is dragged from your position to the user, so the user can be tracked.

4.4. Flight Log

Now you can go through the data structure (year, month, day) in a particular flight. If the flight is confirmed with the OK button, there are further options.

4.5. IGC Options

4.5.1. Analysis

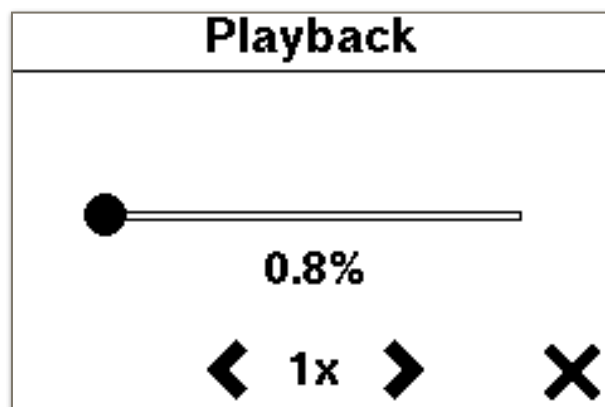
The basic data of the flight are displayed over several pages.

4.5.2. View

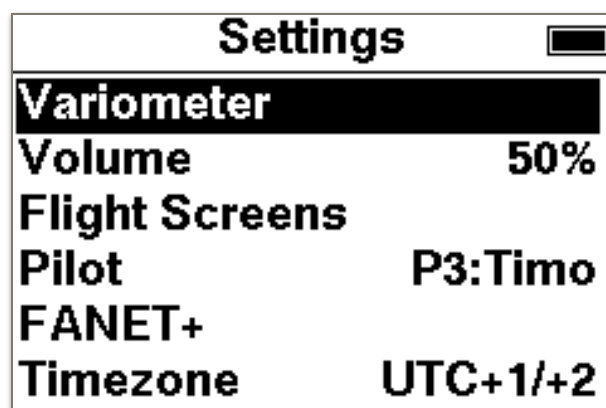
The track track with altitude profile is displayed. With the up and down button it is possible to go through the flight.

4.5.3. Play-back

The selected flight is played on the display The playback speed can be controlled via the up and down buttons.



4.6. Settings

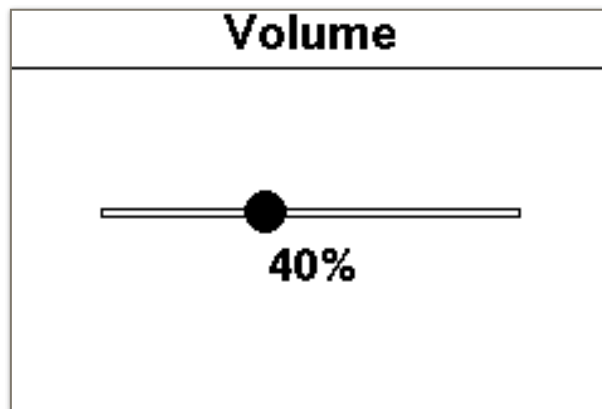


4.6.1. Variometer

- **Climb Threshold:**
Rate at which the vario will start beeping
- **Sink Treshold:**
Rate at which the vario will start beeping
- **Silent on Ground**
Vario is enabled after takeoff
- **Sensitivity:**
10% = inertially, 100% = agil
- **Integration Time:**
Averages the vertical speed over the period
- **Tone Profile:**
Changers the acoustic behavior

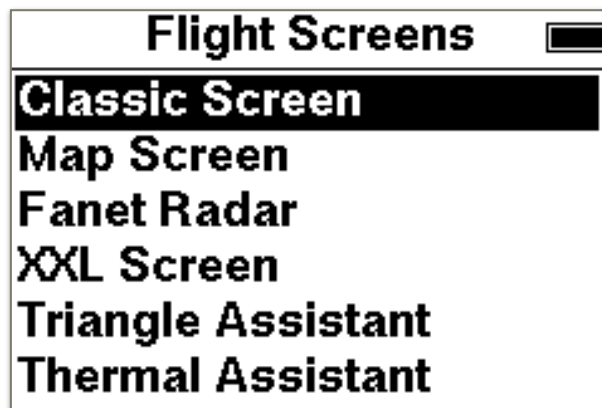
4.6.2. Volume

The volume can be changed in 10 steps. At 0 the sound is switched off.

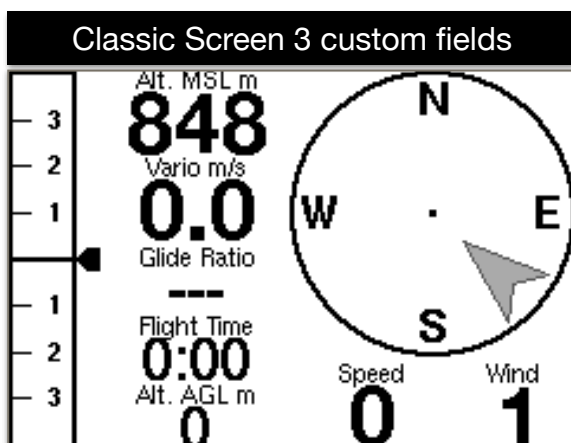


4.6.3. Flight Screens

Here you can edit existing pages or add more pages.

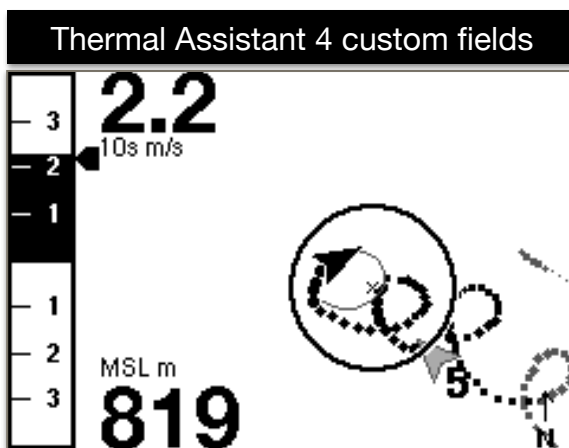
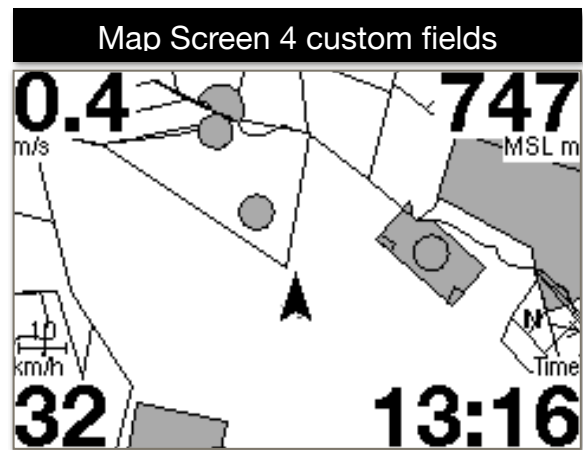


The following pages are available:



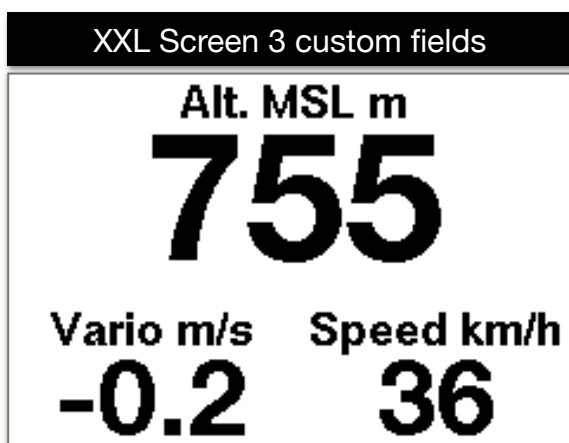
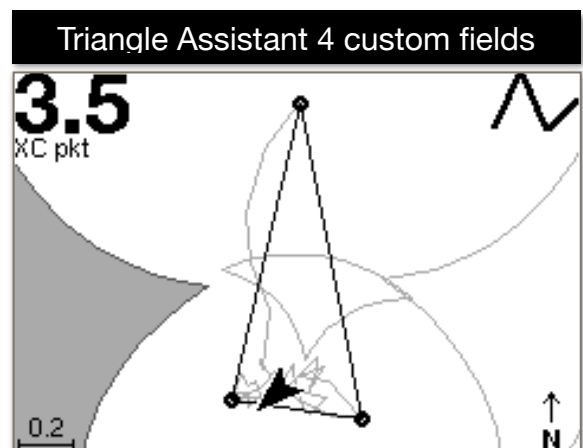
The compass is aligned in the direction of flight. The gray arrow indicates where the wind comes from. In this case, the wind comes from behind. The indicator on the Variobar displays the average rise over the integration time.

All airspaces as well as take-off and landing sites in the zoom area can be seen. The names of the waypoints are only displayed if they are not overwritten by others. The arrow shows your own position. If the recording is started, the own flight track is drawn. The FAI Triangle Wizard fades in as soon as enough data is available for the calculation. The zoom range is changed via the middle buttons.



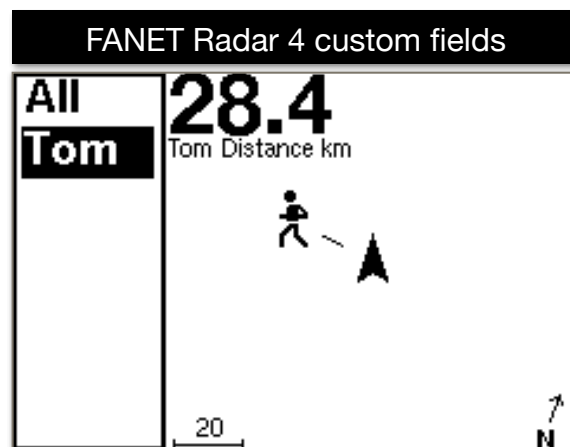
With the Thermal Assistant a very powerful feature has been implemented. The assistant detects thermal and calculates the thermal center and displays this with a circle. The flight symbol displays a forecast of the lane so it is easy to circle in the thermal center. In the thermal calculation, the wind offset is taken into account. If no reasonable data are available for the calculation, the circle becomes a square or disappears completely. The arrow indicates the wind direction with strength.

The Triangle Assistant automatically calculates the XC distance and its shape every minute. (Free Range, Flat Triangle, FAI Triangle). Graphically, sectors are drawn. The grayed-out sector is preferable to control. For an FAI triangle, a greyed out segment indicates where the target point for the triangle lies. Only after reaching the triangle is closed.



Very large and clear presentation of 3 freely selectable fields.

In the FANET Radar, all FANET devices are visible in the reception area. In the left list a pilot can be selected. It can be seen if the pilot is on the ground, needs help, or is flying. Via the display fields one can e.g. to show the details like altitude or distance.

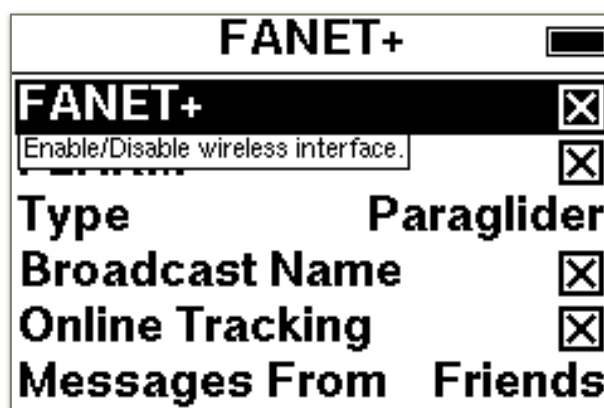


4.6.4. Pilot

Here the pilot name can be entered, this will be entered in the IGC file. By pressing the OK button for a long time several profiles can be entered. This is only necessary when flying with different aircrafts.

4.6.5. FANET+

- **FANET+** Enable / Disable wireless interface
- **FLARM** FLARM is only available for Paraglider and Hangglider
- **Type** FLARM only works for Paraglider and Hangglider
- **Broadcast Name** If disabled, data gets anonymized
- **Online Tracking** If disabled, base stations will not forward any data to the internet
- **Messages From** Determine who's messages are displayed



4.6.6. Timezone

Here the time zone can be set. Summer and winter time is automatically changed.

4.6.7. Language

Switching the language. Currently German, English and French are available.

4.6.8. Units

For altitude, distance, climb rate, speed and coordinate, the corresponding unit or format can be set.

Units	
Altitude	m
Distance	km
Climb Rate	m/s
Speed	km/h
Coordinate	d.ddd°

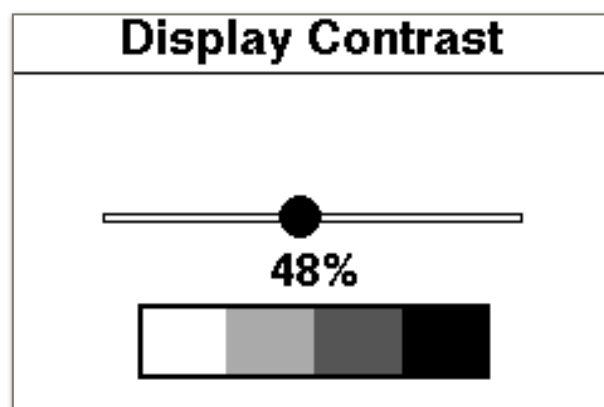
4.6.9. Airspace

- Horizontal Distance. When falling below those distances a warning will be displayed.
- Vertical Distance. When falling below those distances a warning will be displayed.
- Max Altitude. Lower border of controlled airspace C.)

Airspace	
Horizontal Dist.	500m
When falling below those distances a warning will be displayed.	100m
Max Altitude	FL100

4.6.10. Display Contrast

Here you can set the contrast for the display.



5. Device Status

In the device status there are 2 pages with information about the device.

Device Status	
GNSS Fix	3D (#13)
Latitude	N 47.92121°
Longitude	E 8.18814°
Altitude	844m
Pressure	924.25hPa
Battery	100%

Device Status	
Local Time	16:50
Date	6.12.2018
FANET	11:000E
FLARM until	
Capacity	7.9GB
Available	7.8GB

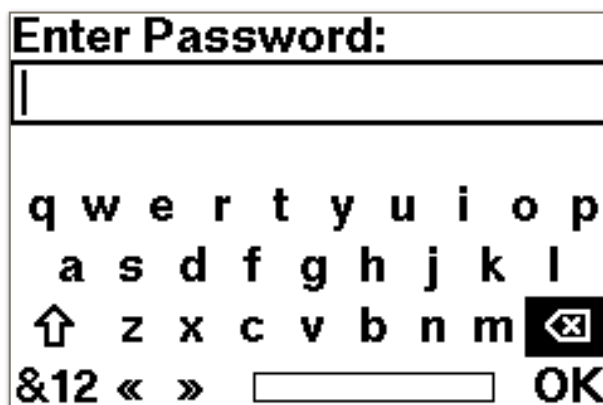
The third page displays the version.

6. Online Update

After successful connection with an access point, the firmware and airspace updates can be carried out automatically. First, it must be connected to an access point. A list of available access points is displayed.



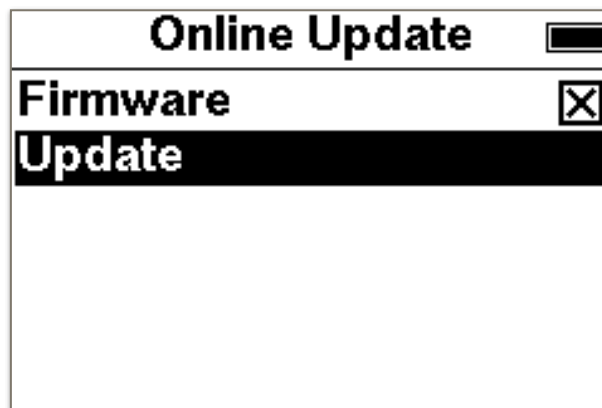
After selecting the desired access point, the password must still be entered



Now the connection to the Internet is established.



If new data exists, this will be displayed. Individual data can be activated / deactivated.



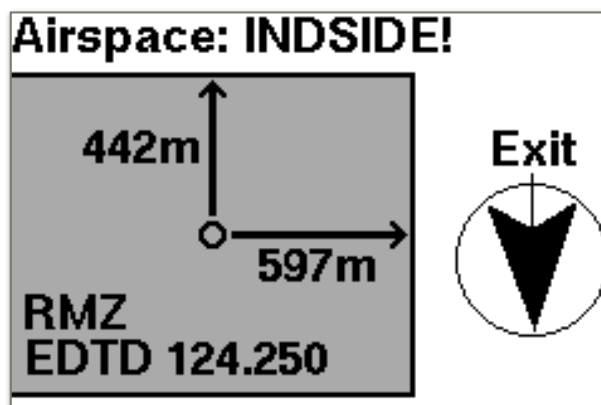
After selecting "Update" the download starts.

7. Update device without WiFi

Download the file "skytraxx21.tar" from our website. Connect the SKYTRAXX to the PC with the USB cable. As soon as the SKYTRAXX drive appears on the PC, copy the file to the "update" folder. Eject the drive and restart the SKYTRAXX. The update will now be executed automatically.

8. Airspace Warning

An airspace warning has the following content:



The horizontal and vertical distance is displayed. The name of the airspace as well as the direct direction to the fastest exit is on the screen as further information.

9. FLARM



In the SKYTRAXX 2.1 FLARM is integrated. FLARM is a traffic information and collision avoidance system for general aviation, light aircraft and drones. The SKYTRAXX 2.1 has a passive FLARM installed. That means aircraft with built-in FLARM see you and are warned accordingly. On the SKYTRAXX screen, the aircraft are not displayed.

10. Shut Down

After selection with the OK button, the Vario switches off completely.

11. RESET

If it happens in very rare cases but once that the device hangs and no longer respond to buttons, can be triggered by a long press (> 10 seconds) of the menu button a reset. By resetting the SKYTRAXX is switched off and it can then be restarted. It will not erase any data on the device.

12. Technical Data

Power supply:	Lithium Ionen Battery 2700mAh 3,7V
Memory:	8GB
Display:	240 x 160 Pixel Monochrom 4 grayscales 3,2"
Connection:	USB-C
Runtime:	40hours
Weight:	160Gramm
Dimensions:	90mm x 114mm x 20mm

13. Waterlanding

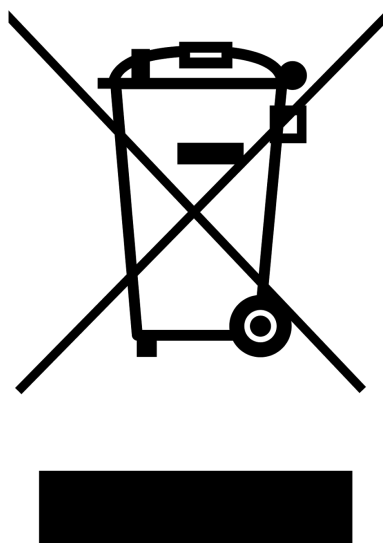
In the event that you land with your SKYTRAXX in the water and this penetrates the device, the device should be dried with a hair dryer. Be sure to return the dried device to SKYTRAXX GmbH for verification. The warranty will be forfeited after improper use, e.g. Water landings, its validity.

14. Warranty

In rare cases, the flight instrument may not provide any data or incorrect data. We grant a warranty period of 24 months from the date of purchase for material and manufacturing defects on our devices. Mechanical damage, such as housing or broken glass, is not covered by the warranty. Opening the case invalidates any warranty.

15. Disposal

You as the end user are legally obliged to return all used batteries and accumulators (Battery Ordinance). Disposal via household waste is prohibited! Contaminated batteries / rechargeable batteries are marked with the symbol below, indicating the prohibition of disposal of household waste. The designation for the crucial heavy metal are Cd = cadmium, Hg = mercury, Pb = lead. You can return your used batteries / rechargeable batteries free of charge to the collection points in your community or wherever batteries / rechargeable batteries are sold. Please do not dispose of the device by yourself, but send it back to the manufacturer. This ensures proper disposal. You thereby fulfill the legal obligations and make your contribution to environmental protection!



WEEE-Reg.-Nr. DE 97761594

The company SKYTRAXX GmbH is connected to the dual system.



16. Disclaimer

The free and freely accessible data such as airspaces and starting places as well as elevation data were created with the greatest possible care. However, the company SKYTRAXX GmbH assumes no responsibility for the accuracy and timeliness of the provided free and freely accessible data. Just by downloading the free and freely accessible content, no contractual relationship between the user and the provider is concluded, insofar as it lacks the legal binding will of the provider.