SKYTRAXX 5

HowToUse - User Manual

SKYTRAXX

At SKYTRAXX, the pilot is at the centre of all developments. Our products are created from our own passion for flying and we work closely with a wide range of pilots, from beginners to top athletes at world-class level. Our aim is to achieve perfection in function and technology, while at the same time ensuring simple and intuitive operation. We always focus on the

needs of everyday flying in order to offer the best possible support when flying. In order to achieve this, we rely on sophisticated and flexible basic concepts as well as high-quality components. Our excellent team, creativity and the joy we get from our work also play an important role. We attach great importance to a healthy sense of proportion in order to find the balance between what is technically possible and what is practical in flight practice. At the same time, it is important to us to have short distances to our component manufacturers who guarantee fair production conditions in the region. We also maintain continuous contact with our customers.

foreword

We are pleased that you have chosen a flight instrument from SKYTRAXX and thank you for your trust in our products. The SKYTRAXX 5 is a

A state-of-the-art, universal flight instrument based on the groundbreaking SKYTRAXX concept, which has already proven itself in thousands of devices worldwide. It is characterized by comprehensive functions that are combined with maximum

Ease of use, high reliability, long battery life, compact dimensions and low weight. The operation of the SKYTRAXX 5 is simple and intuitive and offers optimal support in flight for a wide range of pilots. Both the functions and the display on the screen can be individually adapted to your own flying style, personal preferences, specific needs and the current conditions. We wish you lots of fun and happy flights with the SKYTRAXX 5.

Michael Blank, Managing Director, Dr.-Ing. Jürgen Eckert, Chief Developer SKYTRAXX GmbH.

About this guide

With the HowToUse Guide for your SKYTRAXX 5 we would like to give you practical instructions for the sensible use of your new flight instrument.

The focus is on which function you can best use when flying and how you can optimally adapt the SKYTRAXX 5 flight instrument to your personal flying requirements and preferences. The manual is written for pilots with no prior knowledge of flight instruments. It is intended to help you understand how your SKYTRAXX 5 works so that it can provide you with targeted and optimal support when flying. You will then immediately understand how operation and adjustment work for you without the respective configuration instructions (which you can of course also find here).

If you are already a crack user and some explanations seem too detailed, refer to the table of contents to find the answer to your question directly.

We hope you enjoy reading this manual and even more while flying with your SKYTRAXX 5.

Table of contents

main features

ÿ compact, lightweight device with integrated GNSS and logger

ÿ current airspace data, landing sites and take-off points worldwide ÿ automatic

updates via integrated Internet connection (GSM, WLAN)

ÿ Bluetooth connection to other apps ÿ instantaneous

variometer

ÿ large display with best contrast in sunlight

ÿ 32 gigabytes of memory

ÿ Running time up to 30 hours

ÿ Thermal assistant

ÿ FANET and FLARM* integrated, ADSL ready

ÿ Live tracking via mobile network and FANET+

ÿ customizable fields on every page

ÿ XC points and FAI triangle calculator in real time

quick start

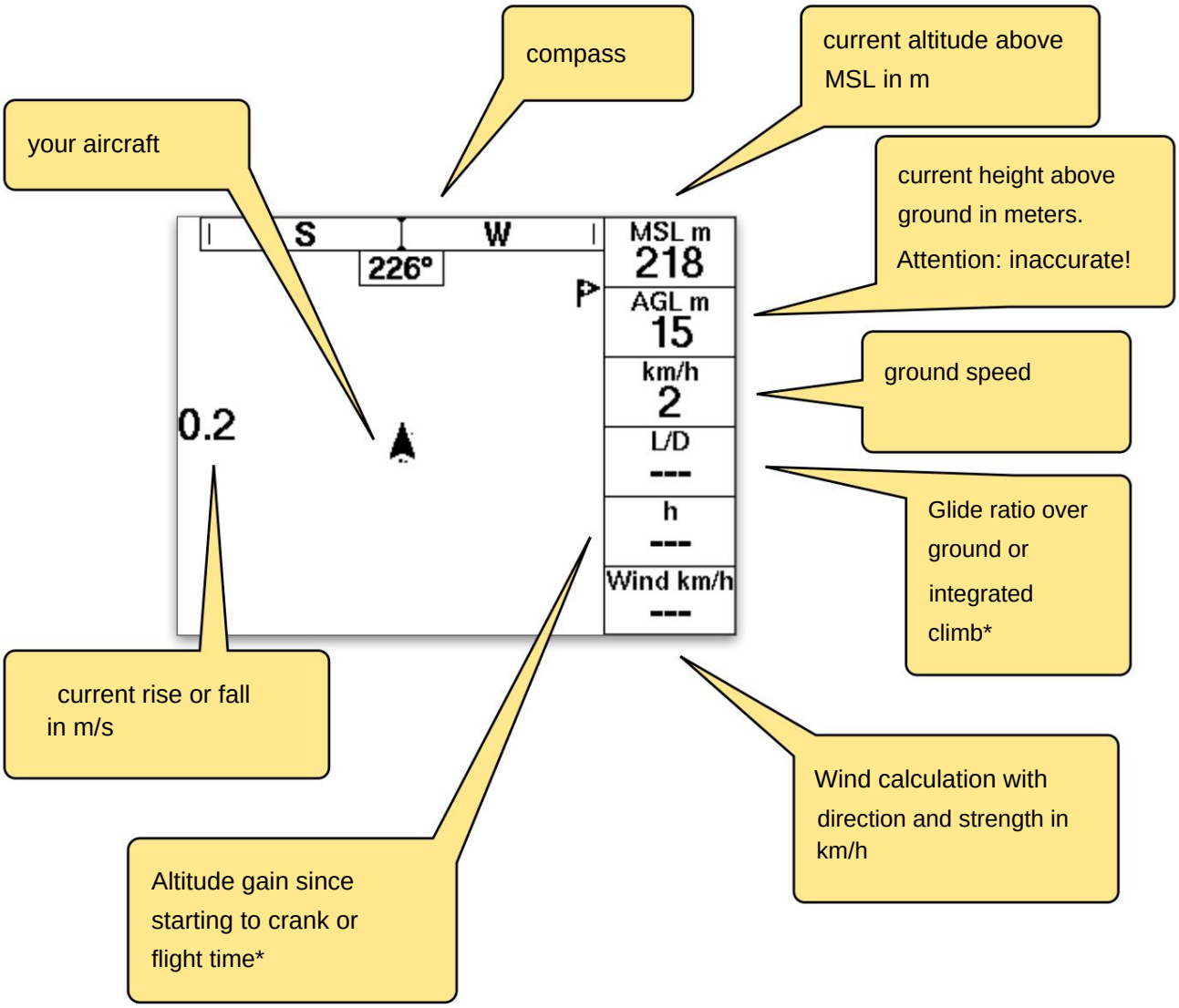
for SKYTRAXX connoisseurs, lazy readers and impatient people

We have pre-configured the SKYTRAXX 5 for you so that you can start flying straight away after unpacking it. The battery is already sufficiently charged and the scratch-resistant display does not need a protective film.

So let's get started! **Alternatively** to the following three pages, watch the video here >

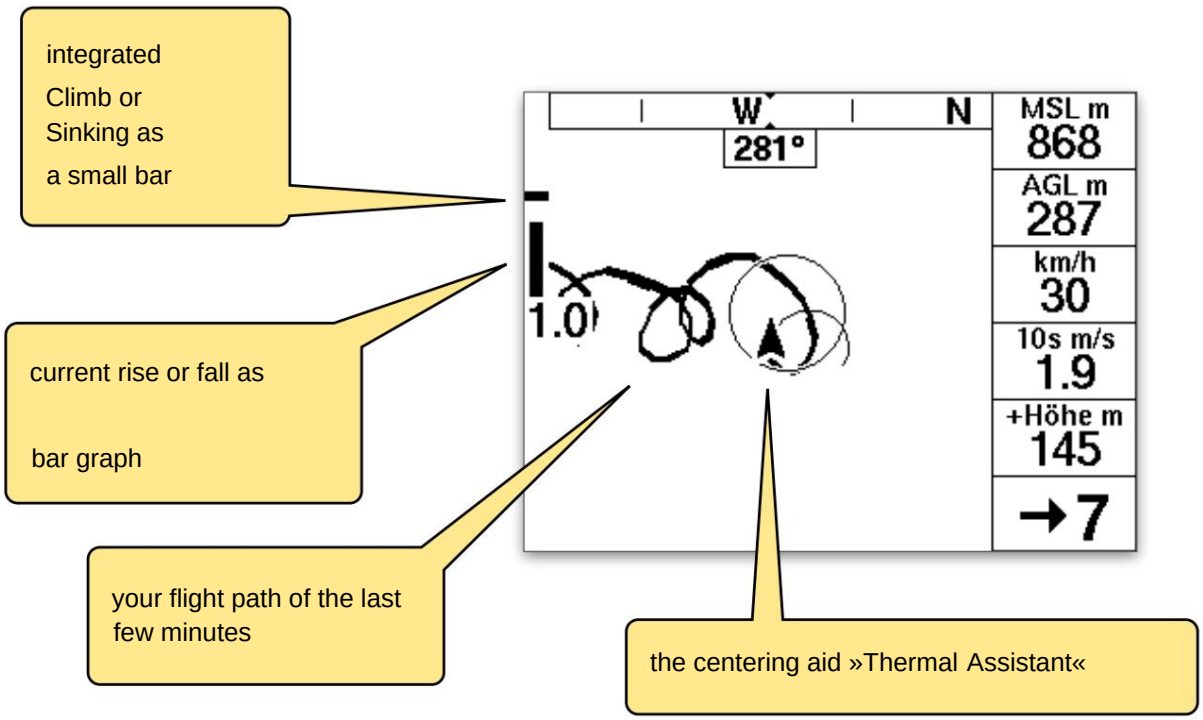
ÿ Briefly press the button on the left side of the device and then immediately press the button on the right: this is how you turn the device on.

ÿ you see the so-called main screen with various displays:



* The display changes automatically depending on the flight status (climbing / gliding).

During the flight you will see further information on the screen:



ÿ Flight track: the thicker, the stronger the climb ÿ Centering aid

Thermal assistant: a detailed explanation can be found in the **chapter thermal assistant**

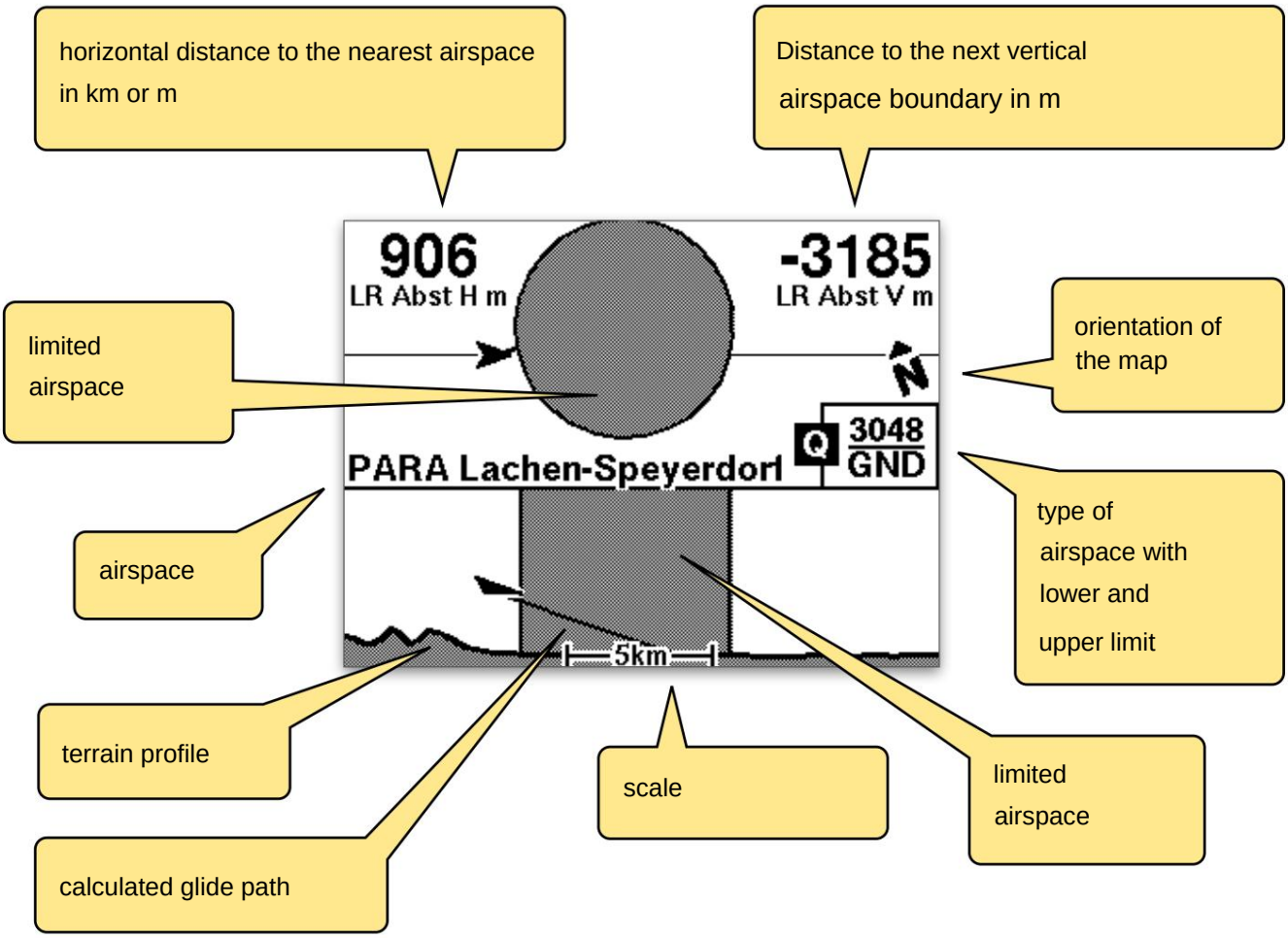
ÿ Other information may appear on the display. You can find out what it means and how to turn it on or off in the **chapter Defining flight screens.**

In the standard configuration, there is a second flight screen. It appears automatically when you approach a restricted airspace or when you click the rightmost button.

The display is divided:

ÿ the upper half shows a map view (view from above)

ÿ the lower half shows a side view

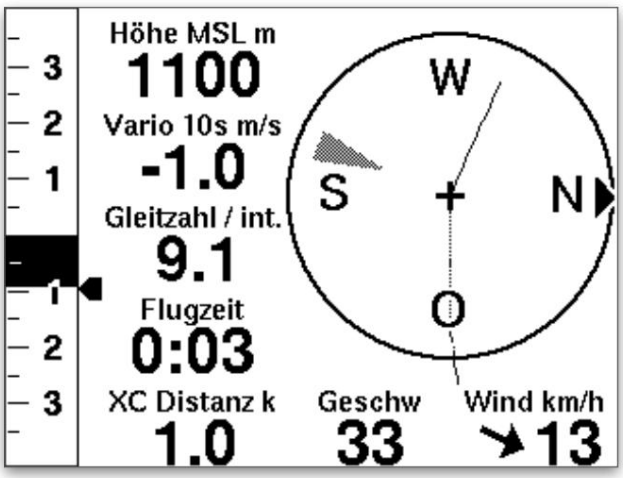


The two screens **switch automatically depending on the flight situation** (normal flight, approaching restricted airspace) or you can switch between the two with the right button (>OK).

If you get too close to an airspace, a warning screen will appear. Back to

You can return to the previous display using the >OK button.

For more information, see the chapters Defining **Airspaces** and **Flight Screens.**



If you miss the classic Skytraxx flight screen, read the chapters **Defining Flight Screens** and **Flight Screen Profile.**

Find out how to use the classic screen activated!

The SKYTRAXX 5 also has this screen display in keeping with good tradition.

SKYTRAXX 5 - Basic functions

Imagine you have a construction kit with different colored building blocks. Each of these building blocks has a specific function, such as a column, a window or a roof element. You can combine these individual building blocks in many different ways to build your very own house: plain, simple and clear, large and complex, colorful and playful.

You can imagine your SKYTRAXX 5 flight instrument as such a kit. The device provides you with the following basic functions:

ÿ **Variometer:** climb and descent values of the aircraft

ÿ **barometric altimeter:** altitude measurement via air pressure

ÿ **GNSS:** Position determination using satellite signals

ÿ **Compass:** GNSS and magnetic

ÿ **Airspace information:** airspace class and boundaries, approach information

ÿ **Terrain information:** Information about terrain shape and height as well as the current Altitude above ground (approximately!)

ÿ **Obstacle information:** Cable car cables, power lines and other exposed obstacles in the airspace

ÿ **Thermal Assistant:** Centering aid when flying in thermals

ÿ **FANET+:** Collision warning for other aircraft (FLARM) and complex information system

ÿ **Navigation information:** course, waypoints, route information, etc.

ÿ **Cross-country flight support:** Assistant for triangle optimization, calculation of XC-points, XC type, XC km, distance flown

ÿ **Flight log:** database of your flights and hiked routes, statistics

ÿ **Mobile connection:** Live tracking, live wind values, Burnair connection and SafeSky. Additionally, automatic updates and direct upload of flights from the device with premium connectivity (chargeable after free trial period).

ÿ **Administration:** menu language, pilot profile(s), OLC profile(s), units, etc.

We will explain the individual functions in detail in later chapters.

The concept of flight screens

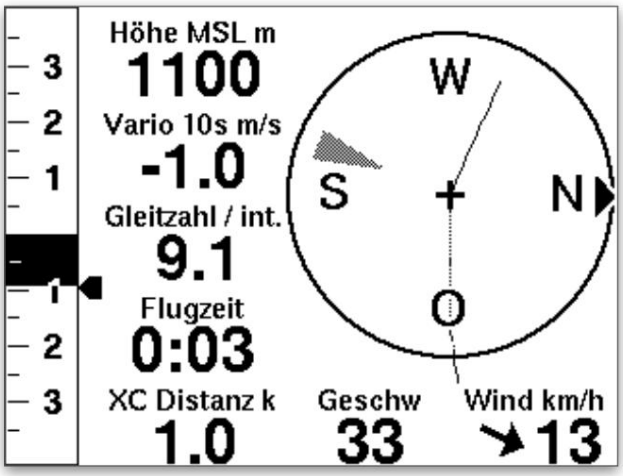
All of these functions are basically available to you. To make them quick and easy for you to access, there are predefined »assemblies«, i.e.
Compilations of building blocks that were developed on the basis of many years of practical flight experience of many pilots.

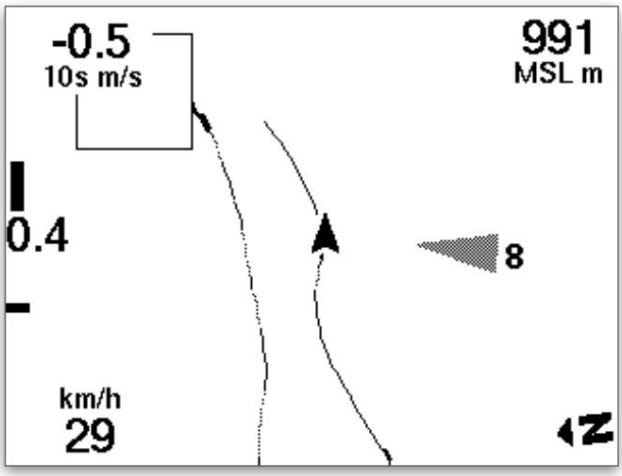
We call these function groups **“flight screens”** because they provide you with concentrated information on the display that is tailored to different flight situations.

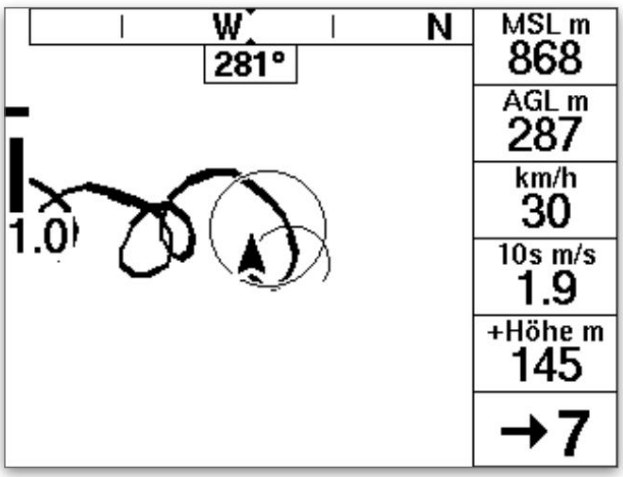
The motto is: less is more, the flight screens are designed in such a way that the information is available in a concentrated and clear manner, always only as much as you currently need or want to see.

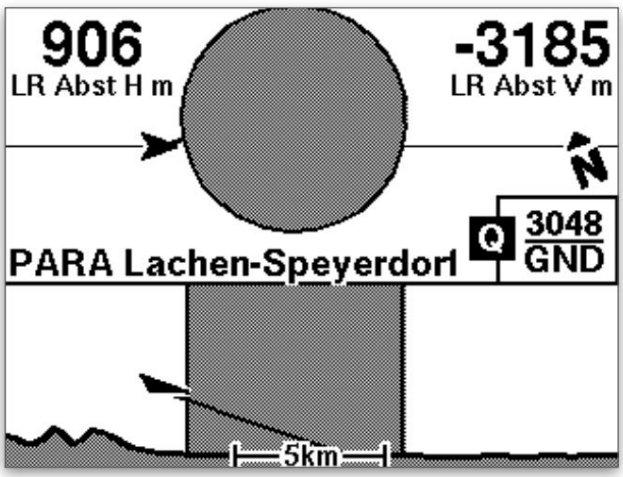
You can define as many of these flight screens of the same or different type as you like in any order and display them by pressing the OK button to switch to the next flight screen.

different flight screens on the SKYTRAXX 5:









The concept of "simple yet flexible"

You can start flying with your SKYTRAXX 5 immediately after unpacking without any configuration effort.

We provide you with a tried-and-tested standard configuration of various flight screens, on which the most important displays for different flight situations are predefined.

For example, you will find a flight screen with information on the climb and descent rates of your aircraft, with an altimeter, current glide ratio over ground, wind information and a thermal centering aid. Another flight screen shows the airspace information on a map, etc.

This compilation of flight screens is summarized in the so-called Classic Theme.

In the **>Main menu** under **>Settings >Flight Screens** you can add additional types of flight screens to your current configuration, change the order of the screens or delete individual flight screens.

On each flight screen you can also define display fields with desired information.

>Main Menu >Settings >Flight Screens

Select the flight screen and define the display of the fields.

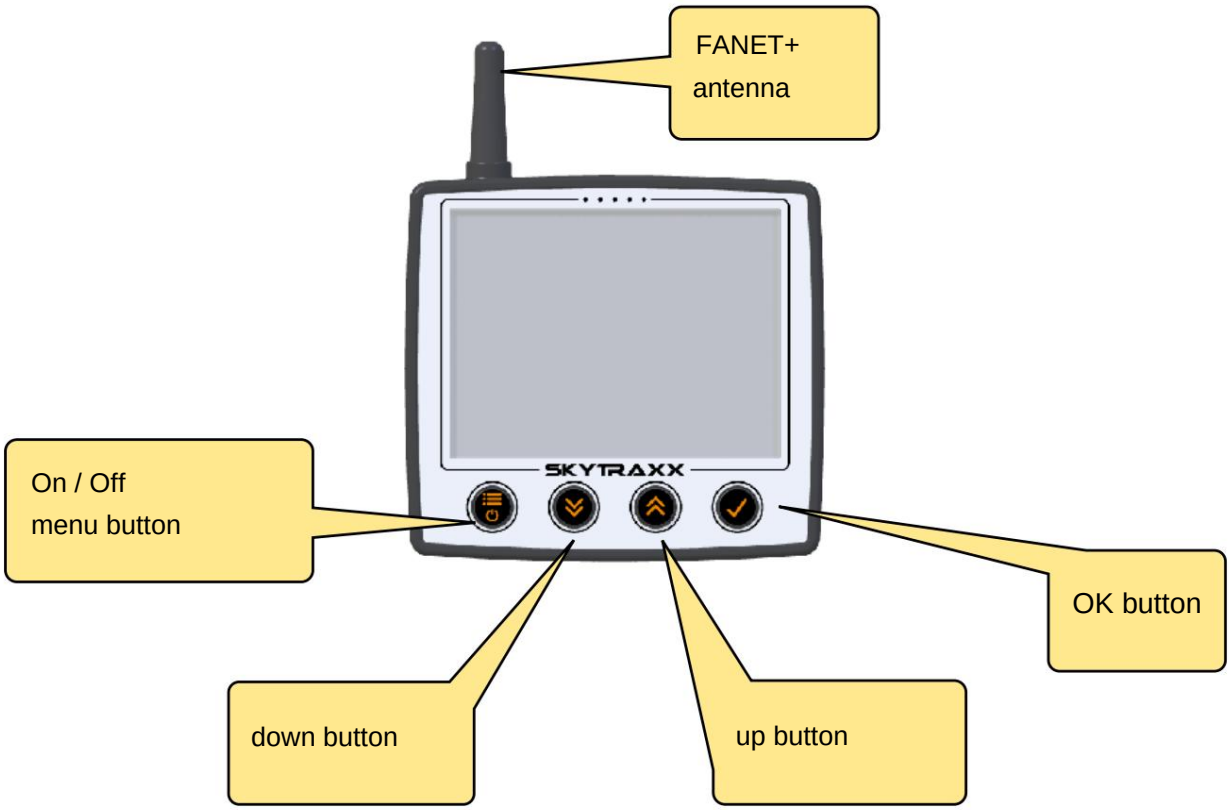
In addition, you can enable or disable certain functions on your individual flight screens. We explain these functions in the following chapters.

Detailed descriptions can be found in the chapter Defining flight screens.

You can also select other flight screen configurations via the **>Main menu** under **>Settings >Flight Screens .**

! Please note that your current configuration will be overwritten.

Overview



function keys

All functions and settings can be controlled using the four function buttons. They are easy to operate even when wearing gloves.

The **button on the far left** (>Menu) has the following functions:

ÿ Switch on (press briefly and confirm with >OK)

ÿ Switch off (press for a few seconds, then confirm with >OK)

ÿ Menu (press briefly to go to the main menu) ÿ Back (press briefly to go back one level in the menu)

ÿ Reset: Press and hold the button for 10 seconds, the device will restart. This does not delete any data.

Functions **of the two middle buttons** (>up / **>down):**

ÿ Browse through individual menu items or change the setting values

ÿ Change volume (classic page) or scale (map pages)

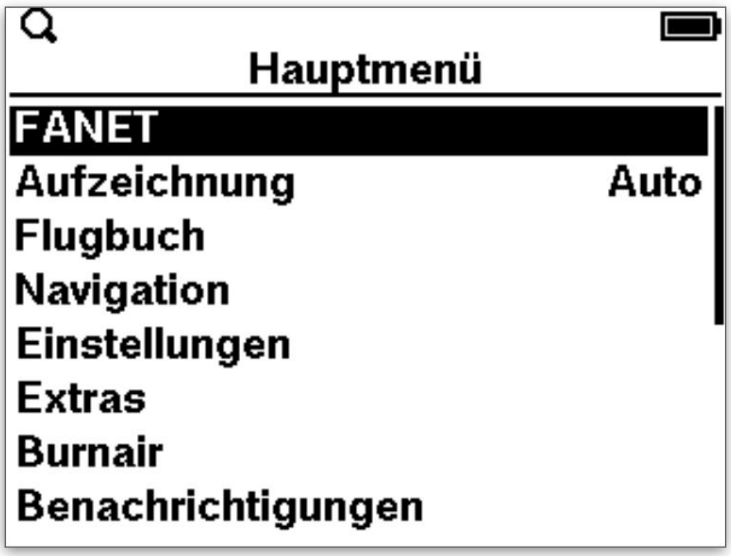
The **right button** (>OK) has the following functions:

ÿ confirm your selection

ÿ Switching between screen pages

main menu

The main menu gives you access to the individual modules (basic functions) of your SKYTRAXX 5, for example to configure your screen displays, call up your flight log or make general settings. You can access the main menu using the **button on the far left of your device** (>On / Off / Menu).



Use the arrow keys to select the desired menu item and confirm with the button on the far right of your device (>OK).

Press **>OK** to go one step further in the menu, and press the **>Menu** button to go back one step.

You have the following choices in the main menu:

ÿ **FANET:** Shows currently active FANET users, FANET wind or ground stations.

ÿ **Recording:** Switch between automatic recording after startup or manual recording. Long press prevents recording.

ÿ **Flight log:** Contains the saved data sorted by year and month as well as day and start time.

ÿ **Navigation:** Management of waypoints and routes, competition functions. ÿ **Settings:**

Individual adjustments. ÿ **Extras:** Device status,

change log after software updates.

ÿ **Burnair:** Access to your Burnair services.

ÿ **Notifications:** Information about automatic downloads (airspace, obstacles) as well as active airspace and obstacle warnings.

ÿ **Turn off**

status bar

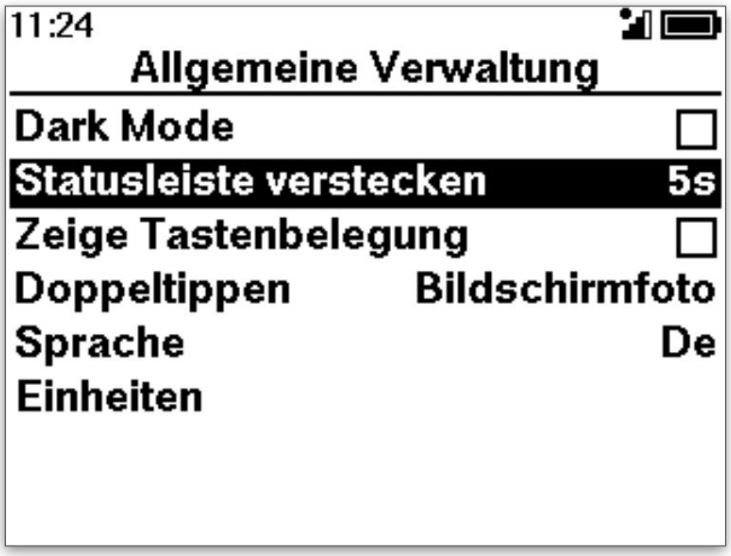
A status bar at the top of the screen provides information about:

The individual symbols have the following meaning:

	data connection active
	Search for update information
	USB connection active
	update active
	GNSS fix (sufficient GPS reception)
	quality of the mobile connection
	Airspace warning temporarily deactivated
	playback (flight log)
	Bluetooth active
	battery charge level
	battery is charging

The status bar is visible in all menus and for a few seconds when switching screens. You can set how long the status bar appears on the flight screens when switching at

>Settings >General management >Hide status bar



basic settings

The SKYTRAXX 5.0 is **ready to fly straight from the factory without any changes to the settings.** The pre-configuration is based on the years of practical experience of many pilots.

The **mobile connection** is already **active.** This means you can **use online services immediately.** We also recommend setting up WiFi access and the pilot profile. How you can further adapt the device to your specific preferences and habits is described further down in this manual.

online services and premium connectivity

Skytraxx provides **extensive online services** via its own server .
You can use **for free :**

ÿ live tracking via OGN and 2 sec. premium tracking in conjunction with Burnair

ÿ live wind values directly on your SKYTRAXX 5

ÿ the Burnair flight log

ÿ SafeSky

ÿ additional Burnair services with a Burnair subscription

premium connectivity

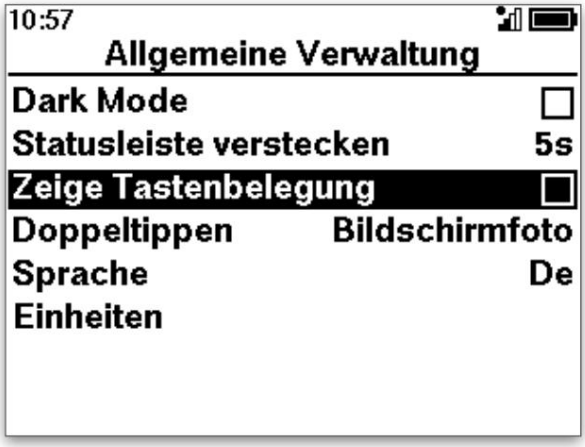
You need premium connectivity for **automatic** updates of the databases and firmware via cellular connection (alternatively, manual updates via WLAN are possible at any time) as well as the ability to upload flights directly from the SKYTRAXX 5 to various XC Online servers.

After initial activation, you can use it for **three months free of charge** and without any further obligation. If you would like to continue to have updates for airspace, terrain, obstacles and firmware **automatically** downloaded directly to your SKYTRAXX 5, purchase the **premium connectivity** via the Skytraxx shop.

Premium connectivity is valid for one or five years and does **not** renew automatically and is **not a subscription.** 30 days before the end of the Premium Connectivity term, the device automatically **reminds** you of the possibility of renewal.
All you need to do is follow the instructions on the screen.

General Administration

In the **main menu** under **>Settings >General administration** you will find the settings for the language, the units of measurement in the display and the duration of the status display.



The individual options are:

ÿ **Dark Mode:** light font on a dark background

ÿ **Hide status bar:** after the selected time, the status bar on the bottom of the screen

ÿ **Double tap:** determines what happens when you double tap the device's case knock.

ÿ **Language:** Choice between German, French, English, Polish and Italian

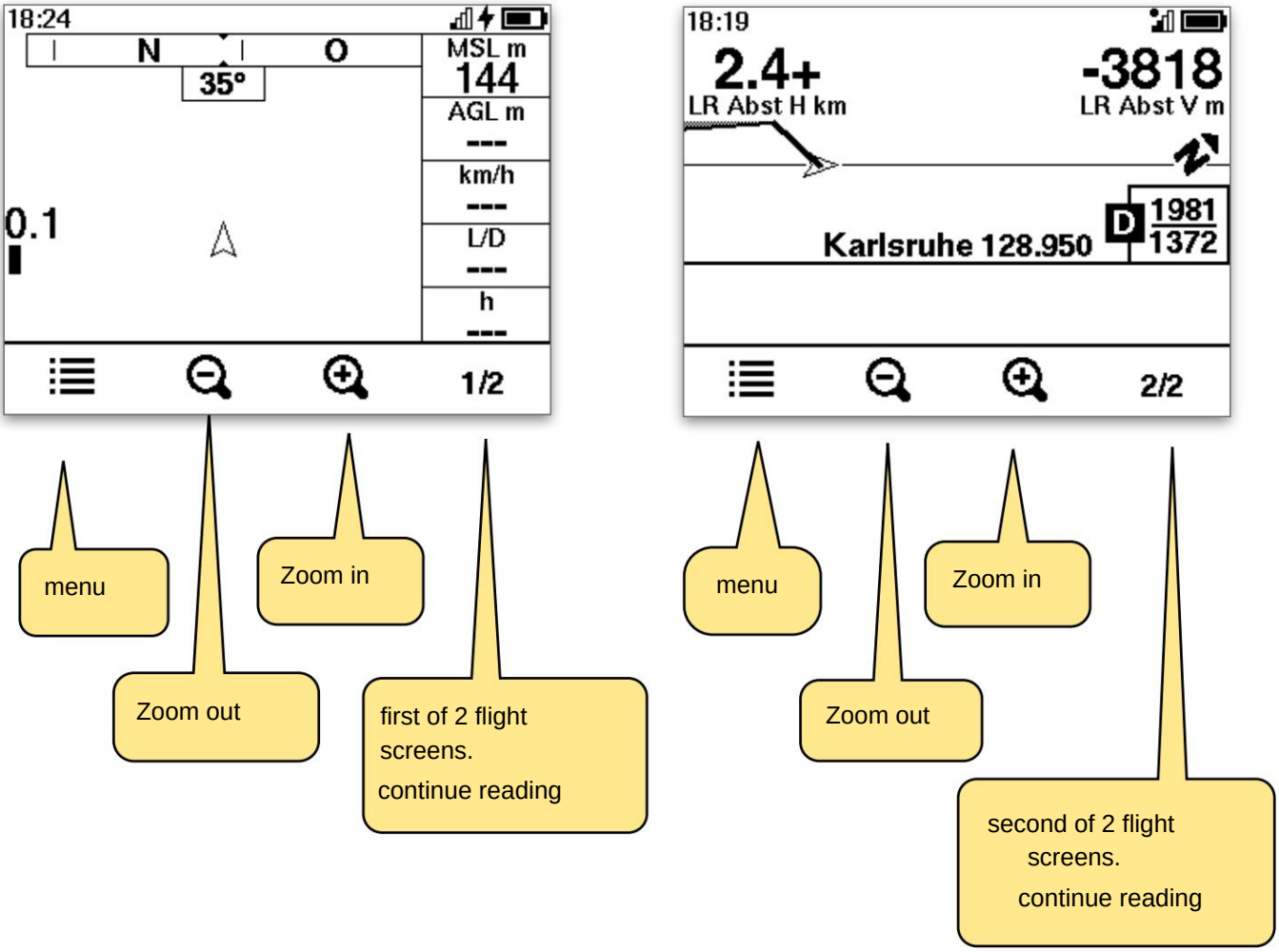
ÿ **Units:** Selection of units for speed, distance and coordinates System.

ÿ As a rule, you do not need to change any of these settings.

flight screen info

When switching between flight screens, the

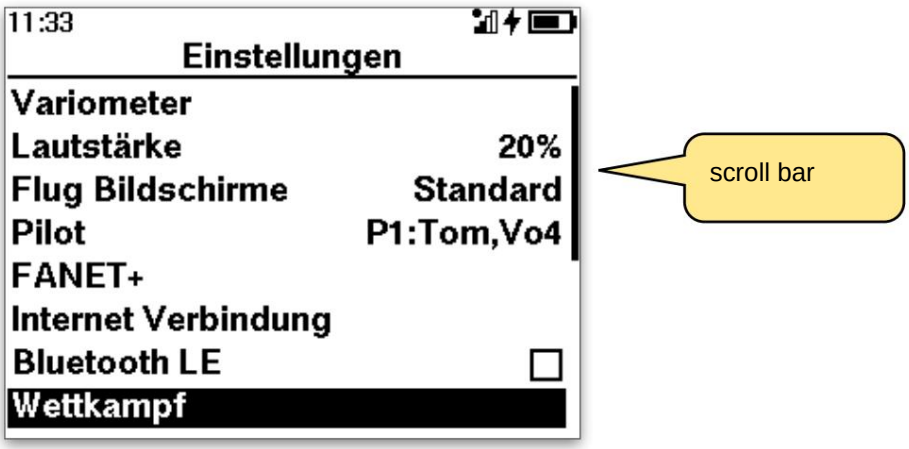
Information about the current meaning of the four buttons on the device:



scroll bar

The gray bar on the right edge of the screen indicates that a menu has multiple pages.

Scroll up or down using the arrow keys.



Personalize your SKYTRAXX 5

Your flight instrument can communicate with other pilots via **FANET+ ,** transmit the current flight data for **live tracking** and, after the flight, transfer the IGC file in which your flight is recorded directly to an **online server** (DHV-XC, XC-Contest, XCglobe ...).

If you enable the corresponding options, the device will also transmit your name and aircraft.

It is therefore best to save your pilot data in the **pilot profile** on the SKYTRAXX 5. They are then available for the communication functions if required.

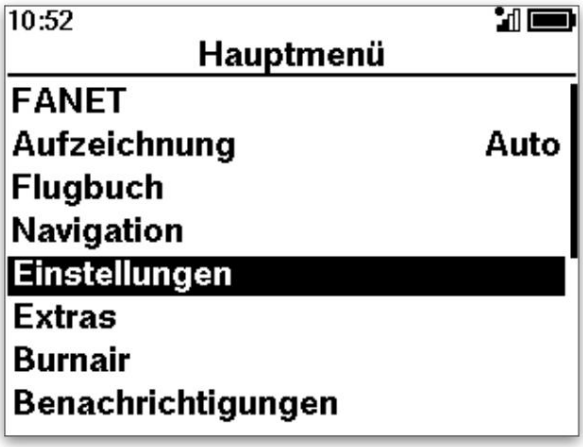
If you have multiple wings or different pilots fly with the flight instrument, you can also create multiple pilot profiles and select them accordingly for each flight.

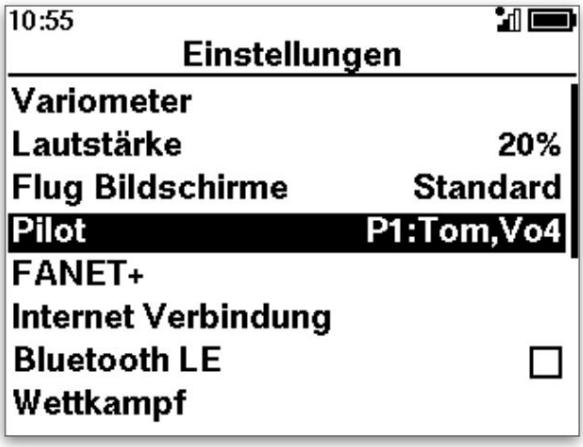
If desired, the SKYTRAXX 5 also stores the access data for one or more online servers in the so-called OLC profile (OLC stands for OnLine Contest).

This makes it possible **to upload** flights **directly from the SKYTRAXX 5.** This requires an activated mobile phone or Wi-Fi connection. For more information, see the **Data Connection** and **Online Contest chapters.**

pilot profile

Use the **left button** (>On/Off / Menu / Back) to open the main menu on your device and then use the arrow keys to select **Settings** and **Pilot.**



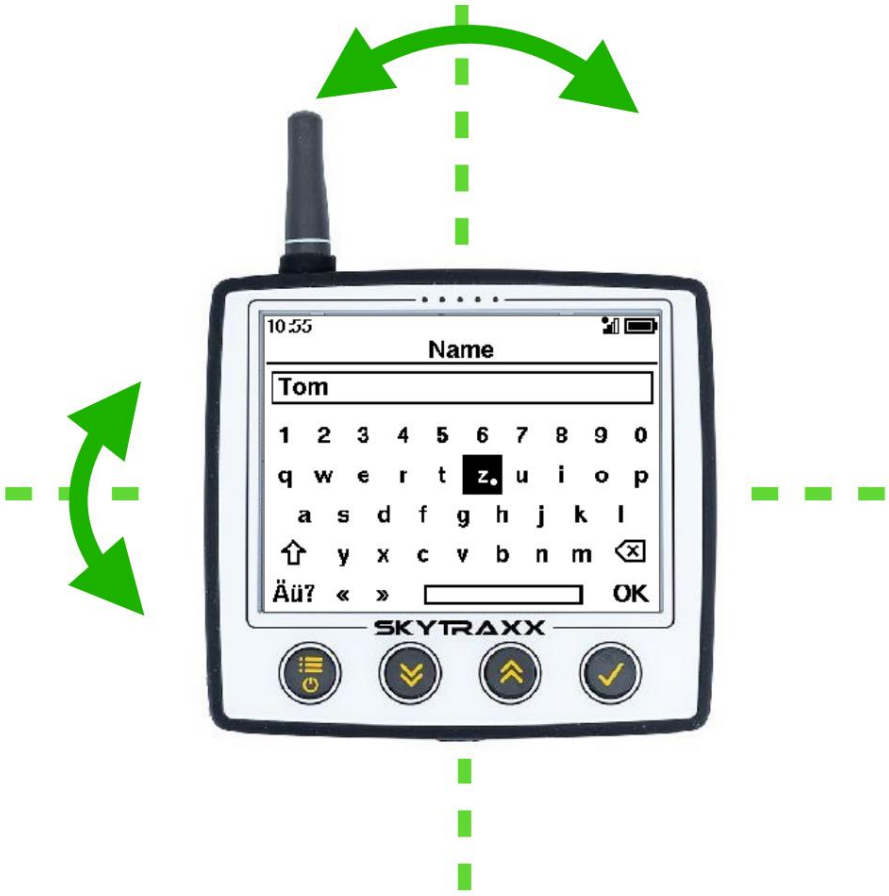


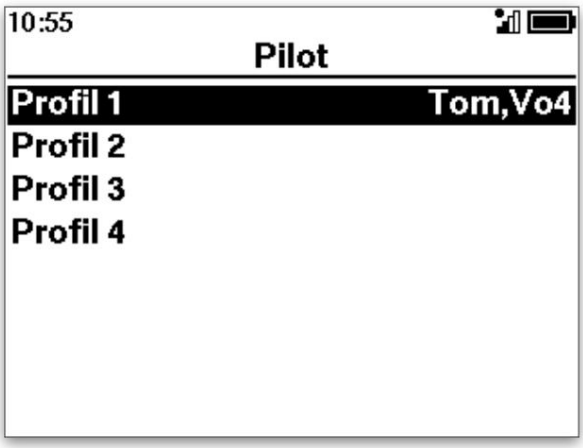
editing mode

! Hold your device **horizontally** before selecting one of the input fields. A screen similar to a computer keyboard will now appear.

Tilt your device **slowly** sideways and longitudinally to move the cursor and confirm the selected letter with the **>OK button.**

Finally, confirm your entry with **OK on the on-screen keyboard.** Do this for each input field.

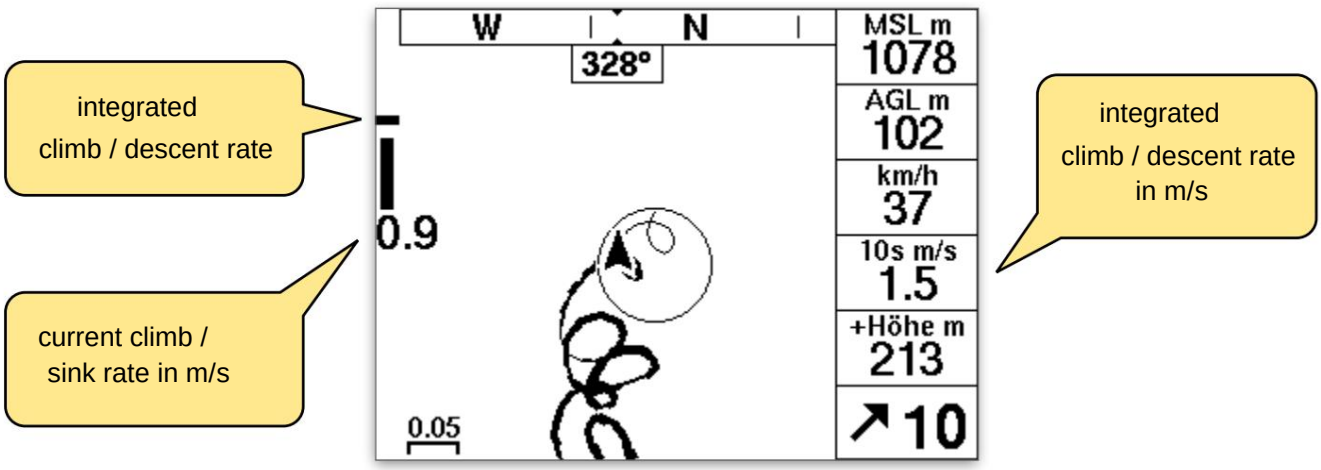




The basic functions of the SKYTRAXX 5

variometer

The most important component of your flight instrument is the variometer. It tells you whether your aircraft is climbing or descending. How strong the climb or descent is depends on the speed of the aircraft. The device can indicate to you as an acoustic signal or on the display if the water is sinking.



Optical display on the display

The bar shows the current climb or descent value determined by various sensors. If the value exceeds +4 m/s or -4 m/s, the scale automatically changes to
higher values.

The small horizontal bar shows the value averaged over a freely selectable time interval:
Settings > Variometer > Vario integration time.

ÿ We recommend a value between 7 and 10 seconds. A thermal circuit lasts in
usually between 15 and 20 seconds. If you have an average climb over half a circle, it is worth
turning and re-centering (default setting: 10 seconds).

The main screen also shows the current **climb/descent value as a number** in the middle of the display bar for the Vario. The **integrated value** is shown in a **separate display field.**

This display field can also be configured on all other flight screens.
For more information, see the Flight Screens chapter.

Acoustic signal (beep)

The acoustic Vario signal helps you to concentrate on your surroundings when thermalling without having to look at the display.

When configured correctly, it gives you immediate and very accurate information about the thermals and your flight status.

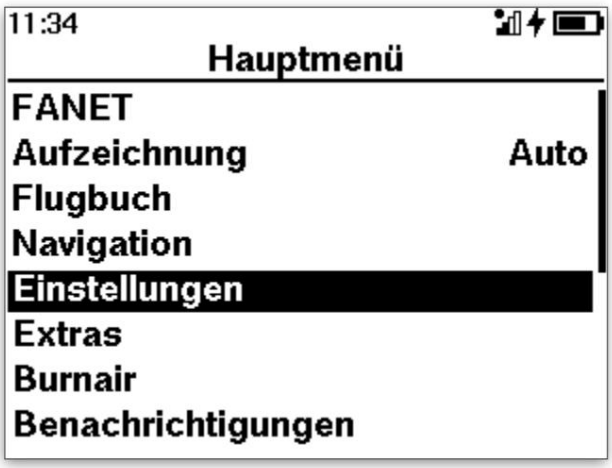
Many pilots will be fine with the standard setting. However, you can also adjust the acoustic signal very precisely to your preferences and the conditions at the flying site.

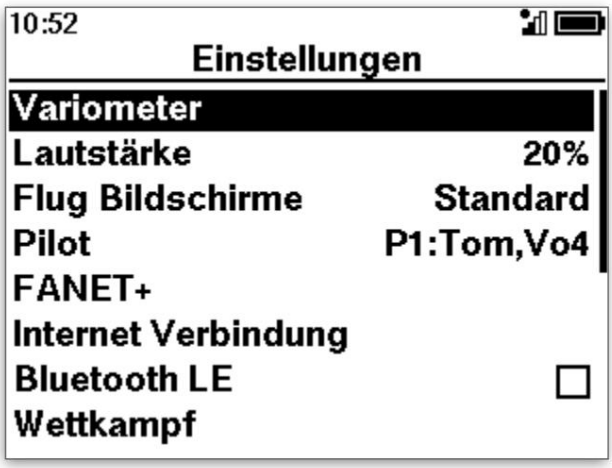
Settings for the variometer

rising tone

The climb tone setting defines at what point your aircraft climbs the vario starts to beep. However, the thermals in which the aircraft is located are already rising significantly more than the value of the climb tone setting (aircraft climbing in updrafts = air mass rise - aircraft sinking).

ÿ As a rule, it is recommended to use a climbing tone at 0.2 m/s (>Settings **>Variometer >Climb tone).** You will then receive acoustic information, if it really rises.





If you already have some experience with thermal flying, using a climb tone from -0.3 m/s can also be helpful. Because if your sink rate is lower than the natural sink rate of your aircraft (approx. -0.8 to -1 m/s), you are in a rising air mass.

sink tone

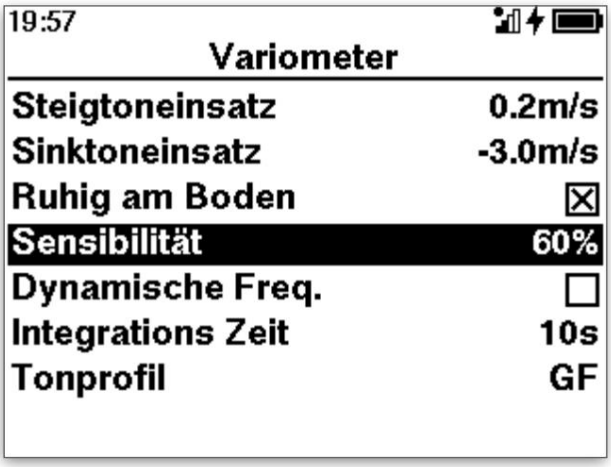
The sink tone can inform you about a strong sink. It is usually set so that the load (see above) is at 100%, ie it is a continuous tone (so you can clearly distinguish it from the climb tone).

ÿ If you are in a strong descent, you should change your flight path (approx. 45°) and accelerate against the wind.

Whether you want to use the sink tone is a matter of taste.

Adjusting the sensitivity

The sensitivity determines how immediately the Vario reacts to changes in climb or descent. Sinking. The built-in sensors are extremely precise and respond without delay. With a high sensitivity setting, your SKYTRAXX 5 will communicate every tiny change in the flight position with a display and a beep.



ÿ For pilots with a lot of thermal experience, a sensitive vario setting is helpful.

ÿ If you have little experience with thermal flying, we recommend a sensitivity of 50-60%, otherwise the strong fluctuations in the acoustic signal will confuse you rather than benefit you.

Further setting options for the Vario

ÿ **Quiet on the ground:** the Vario only beeps during flight. ÿ

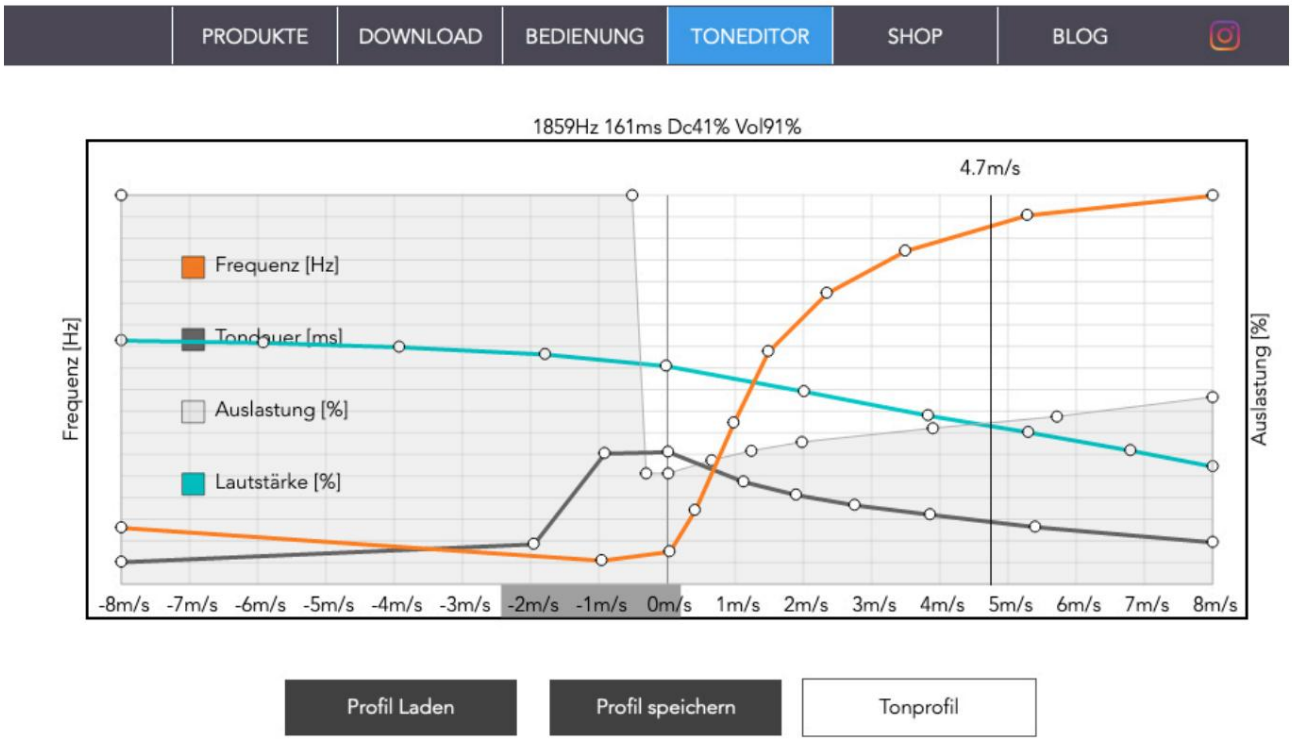
Dynamic frequency: the tone frequency adapts immediately to the climb or descent values, ie even a single beep can vary in pitch.

ÿ The Vario settings of the SKYTRAXX 5 are preconfigured to suit many requirements in flight practice.

sound profile

You can adjust the acoustic Vario signal to your needs using four parameters
adjust:

1. **Frequency:** pitch depending on the climb or descent value
2. **Tone duration:** Duration of each beep
3. **Utilization:** Duration of the pause between the beeps. High utilization = short break, low utilization = long break
4. **Volume:** depending on the climb or descent rate



All these parameters are configurable using the sound editor on the Skytraxx website.

Link to the sound editor on the Skytraxx website >

ÿ Choose the sound profile and vario sensitivity depending on the flight conditions. Settings can be changed quickly.

volume

ÿ Set the volume as low as possible, ideally so that you can just about hear the beep during flight. This way you can use the beep to support thermal flying, but at the same time train your instinct.

Recommendation for the sound profile settings

ÿ **Flat land,** rather low climb rates in thermals and rather difficult entry or exit.
difficult centering:

ÿ Choose a **significant increase** in the tone frequency in the range of +0.2 m/s to approx. 2 m/s. Then let the frequency curve gradually flatten out. If you have very strong climb values, a difference of +/- 0.2 or 0.3 m/s is of little relevance.

ÿ In the area of weak climb, however, it is very advantageous for centering if you have **small differences** displayed via the Vario acoustics.

ÿ **High mountains** or generally strong climb and descent values, rather easy centering

ÿ Choose a **flatter curve** for the rise of the **pitch** depending on the climb rate.

ÿ Tone duration and utilization: a **short tone duration** in combination with a **high utilization** transmits even the smallest changes within a short time.

ÿ Volume: the human ear perceives the higher vario tones more strongly than the lower ones. If the high tones annoy you when climbing strongly, reduce the volume in this range.

Once you have configured all parameters to your liking, save your sound profile as a file. Then upload this file to the **»vario-tones«** directory on your

SKYTRAXX and **select the sound profile** on the device under

>Settings >Variometer >Sound profile .

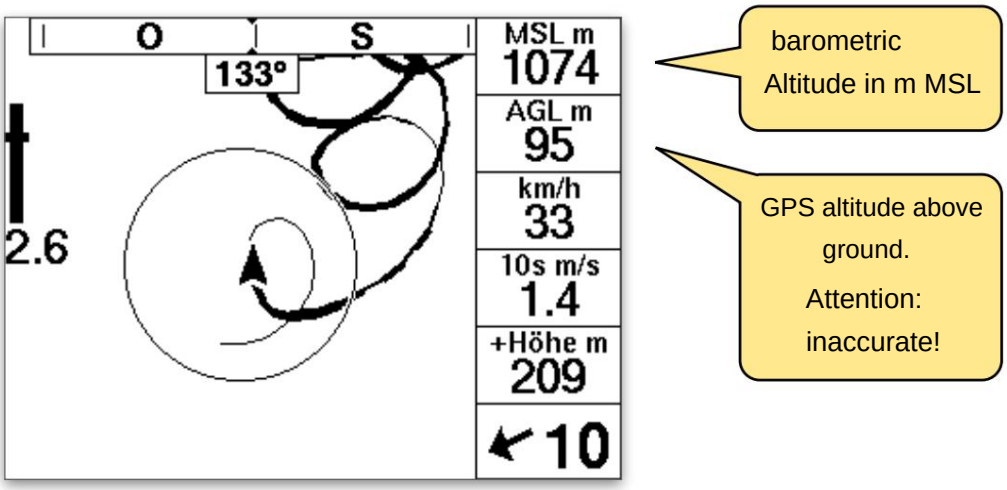
The sound profiles are compatible and interchangeable between devices in the 2.1, 3.0, 4.0 and 5 series.

ÿ You will already find a number of predefined sound profiles for different flight conditions on your device. Try them out!

altimeter

The SKYTRAXX 5 basically determines the flight altitude using air pressure (this is a legal requirement under aviation law). However, since this fluctuates, the device calibrates itself at takeoff using the determined GPS position and its altitude information.

This means that **regardless** of the weather conditions (or air pressure) after take-off, you will always see the correct (and only relevant barometric altitude under aviation law) altitude in the MSL (Main Sea Level) display field.
get.



Since air pressure can change during flight, the displayed altitude may differ slightly from the correct altitude (even more so the longer the flight).

ÿ Therefore, always use the visual altitude for landing bearings!

The SKYTRAXX can also show you an approximate height above ground level (AGL). The device calculates this height based on an internal database for the terrain height and your current GPS position.

! CAUTION: the AGL display **only approximates** the actual height above ground and can deviate considerably from it . This display is useful for navigation in airspaces where there are limits to the height above ground (eg RMZ). **Never** use AGL for landing bearings!

Since your SKYTRAXX 5 compares the barometric altitude measurement with the determined GPS position, the altitude converted to normal air pressure (1013.25 hpa) is also available **(altitude QNE).**

What are QFE / QNE / QNH / QFF?

For an explanation, see the article on the Q groups at the DWD >

airspaces

The SKYTRAXX 5 offers excellent support for navigating airspace thanks to its very clear display on the screen.

Your SKYTRAXX flight instrument contains a database of airspace worldwide. The data for this is provided by the XContest.org platform .

If the data connection on the SKYTRAXX 5 and the online services are activated, the device automatically updates the airspace data on an ongoing basis.

Many airspaces are **only active temporarily.** The activation times or the periods in which the temporary airspaces are not active are also stored in the device's internal airspace database.

In the menu under **>Settings >Airspace >Activation time** you can choose whether you want to be warned when approaching (activation time OFF) or only when the airspace is active (activation time ON).

! Please note that in exceptional cases, short-term changes are possible which the airspace database cannot take into account. Only the activation times published daily in the relevant NOTAMs are legally binding.

The SKYTRAXX 5 can **display airspace in all map views**
(>Settings **>Flight Screens** - Select Flight Screen, then option
>Airspace ON)

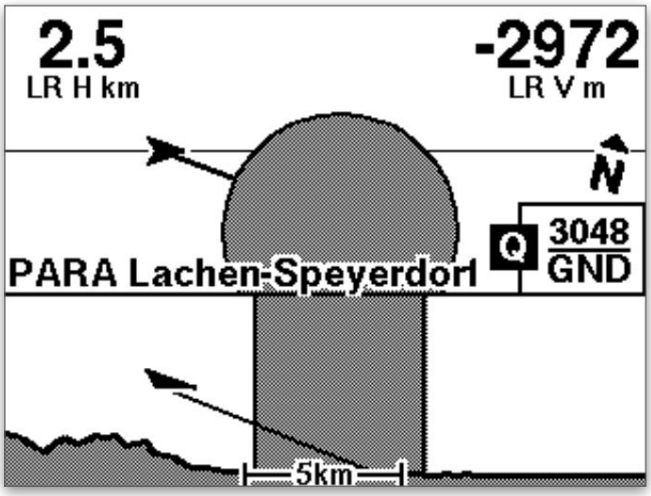
The SKYTRAXX 5 displays the horizontal limits as on the ICAO map and the vertical limits **as altitude MSL.** The device calculates the AGL altitudes as well as

the flight levels **are adjusted to the current air pressure** at MSL altitude.

If an airspace boundary is marked with 2980, for example, then according to the current air pressure at the airspace boundary, the **altitude MSL** display field will also show exactly 2980m.

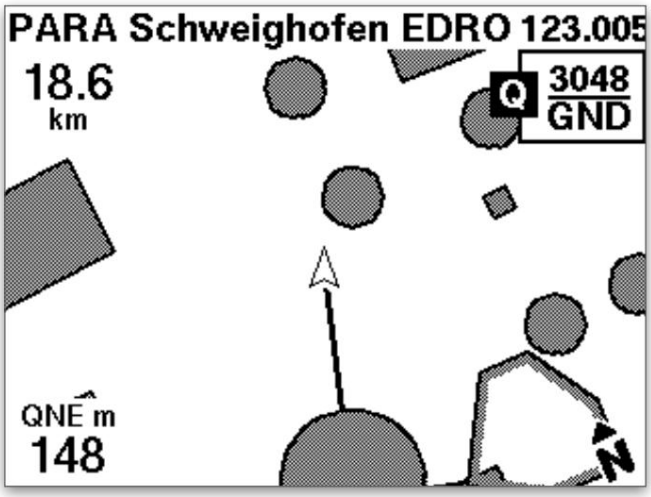
flight screen landscape view

In the basic configuration of the SKYTRAXX 5, you will find the "Cross View" flight screen next to the main screen "Home Page". This will **automatically be visible** as soon as you approach an airspace for which restrictions apply.
You can also switch between the two flight screens manually with **>OK .**



The **landscape view** makes it easier for you three-dimensional orientation.

flight screen airspaces



The **Airspace flight screen** also shows you detailed information about individual airspaces.

You will see **a connecting line** on the screen between your position (arrow in the middle of the screen) and the currently selected airspace . It initially points to the airspace closest to your position.

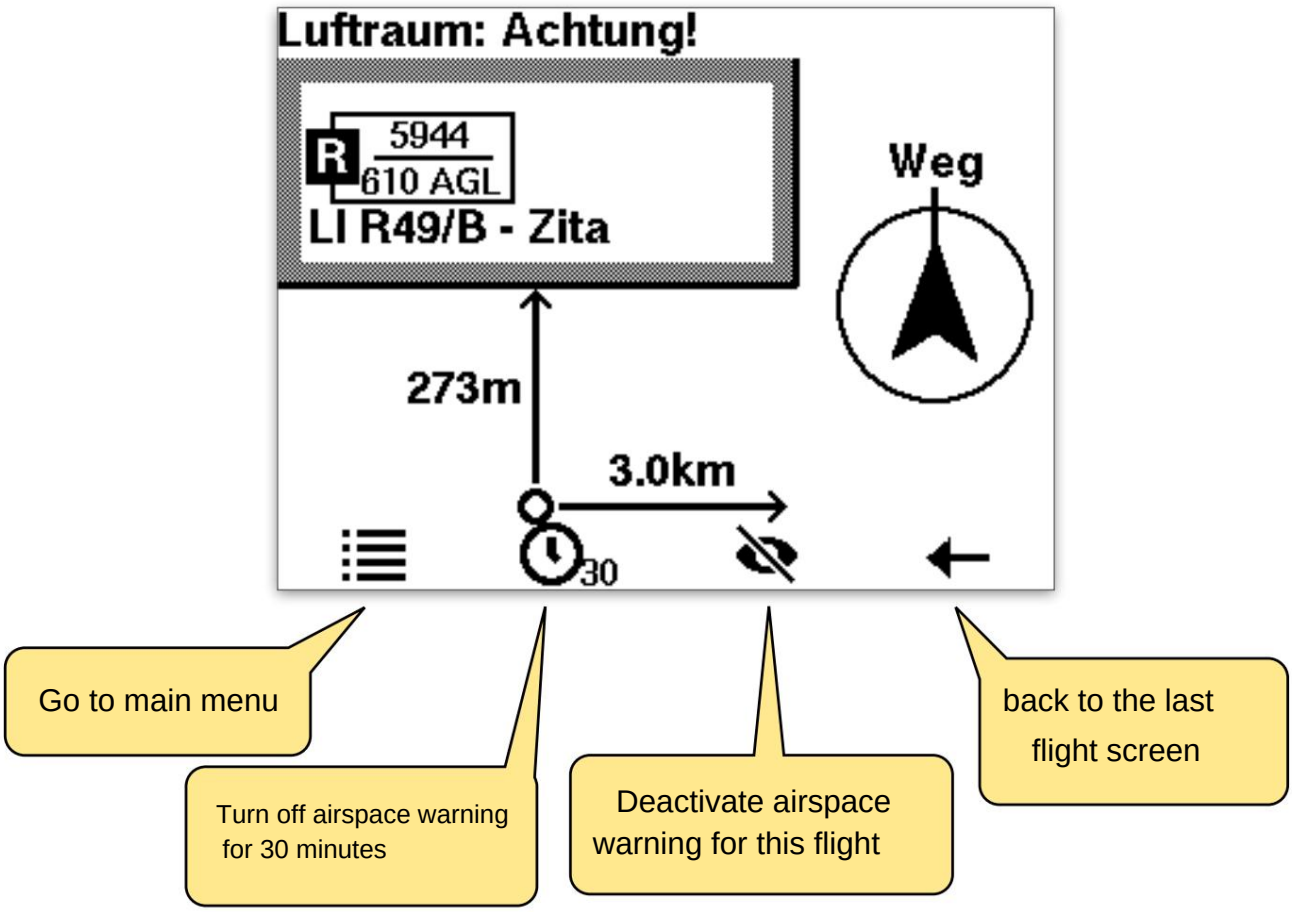
Use the **arrow keys** to access information about the **next airspace.**

Airspace Warning - Warning Distances

If you **approach a restricted airspace or a danger zone,** the SKYTRAXX 5 will warn you in good time. You can set both the horizontal and vertical distance at which you will receive a warning from the device.

(>Settings **>Airspace >Warning distance** …)

If the warning distance is exceeded, you will hear a clear acoustic signal and a warning screen will appear:



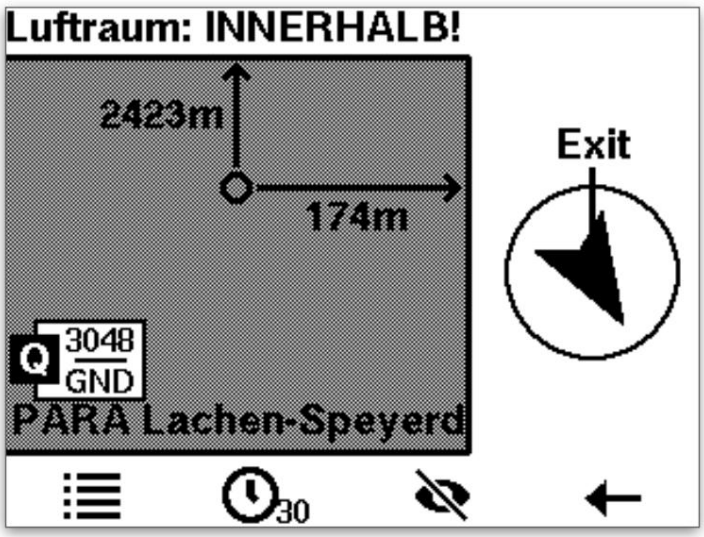
On the right side of the screen you will see an arrow pointing in the direction of the shortest way out of the approach area.

ÿ To leave the critical area, fly so that the arrow points upwards! This is the current flight direction!

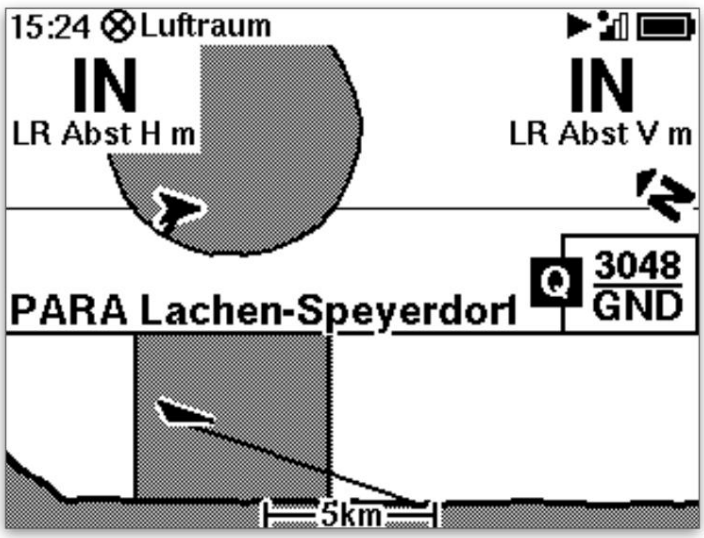
You can switch off the airspace warning for a period of 30 minutes or for the duration of the entire flight, e.g. if it is a temporary airspace

and you are sure that it will not be activated or if it is a danger zone (e.g. skydiving zone).

If you are already **within** a restricted airspace or danger zone, the following screen appears:



For the escape route and the temporary deactivation of the warning so



GPS functions

Your SKYTRAXX 5 flight instrument has a built-in satellite navigation module (GPS). After switching on, the device needs about 1-2 minutes (in rare cases up to 10 minutes) until it receives enough satellite signals to determine the exact position.

ÿ Always switch on your SKYTRAXX 5 a few minutes before flight.

The barometric altimeter is then automatically compared with the GPS altitude.

By determining the position in space, the GPS module can perform numerous functions for provide:

ÿ Ground speed

ÿ Glide ratio over ground

ÿ Wind direction and speed

ÿ Navigation functions such as GoTo, route, competition tasks, etc. ÿ

Cross-country flight calculations such as distance covered, rated distance according to Competition rules, XC points, XC km, XC speed, triangle optimization

ÿ Warning before approaching an airspace

ÿ Warning of approaching an obstacle (cable car cable, high-voltage line, wind turbine, etc.)

ÿ Time and flight time

You can view the GPS module's calculations **on the various flight screens .**

Some displays are preset depending on the flight screen, others you can configure yourself. See the chapter Defining flight screens.

glide ratio over ground

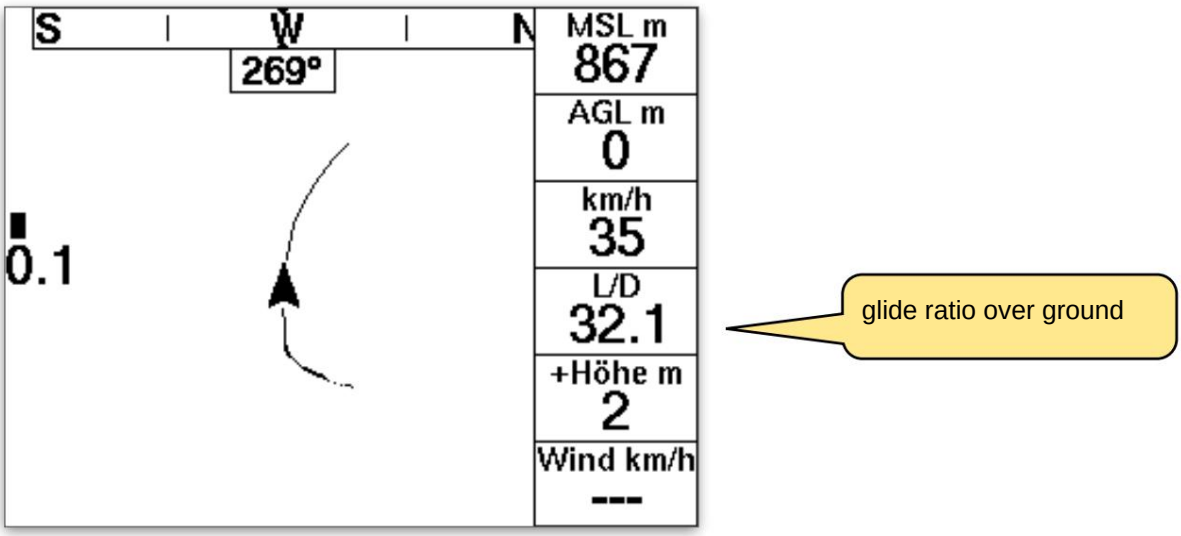
The Skytraxx calculates your glide ratio over the ground based on the distance covered and the simultaneous loss of altitude. In calm air without thermals, it is typically in the range of 8 to 10.

If the glide ratio is (significantly) lower, it may be worth using the speed bar.

ÿ You can use the glide ratio display to determine whether accelerated flight is worthwhile.

ÿ If you have a very high glide ratio, you have a tailwind or are in increasing air mass.

ÿ When climbing, the integrated climb value appears instead of the glide ratio.



wind direction and speed

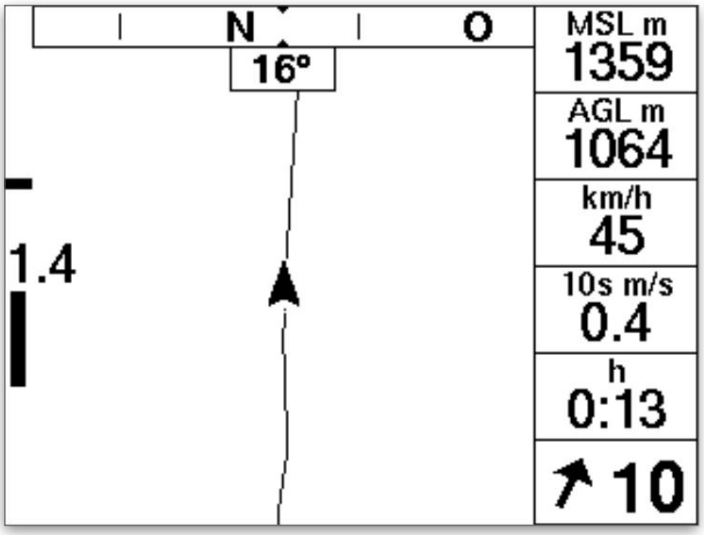
Skytraxx calculates the wind data from the different speeds in different flight directions. The calculation is most accurate if you have flown one or more even circles, e.g. in thermals.

At the beginning of the flight there is therefore no reliable wind calculation, even if the device shows something.

! The wind calculation is only an **indication** and the actual wind values may vary, especially at different heights.

ÿ Therefore, pay particular attention to possible wind indicators on the ground before landing (windsocks, flags, smoke plumes, trees, grasses ...)

ÿ The most reliable wind information for landing is the windsock at the landing site!



Wind display:
current wind on

Altitude 10 km/h from
the southwest

information on the surface wind

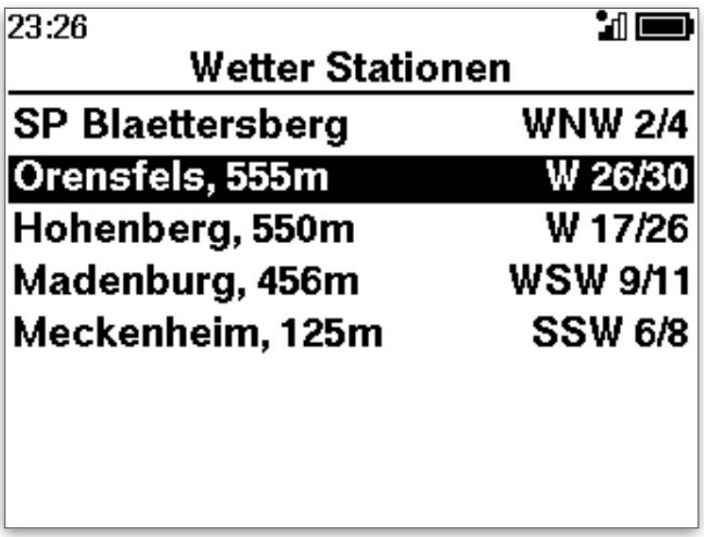
There are now numerous wind stations at take-off or landing sites as well as at relevant positions for assessing the current weather situation.

You can receive all wind data sent via **FANET** directly with the SKYTRAXX 5:

ÿ on a **map page** if you have activated the **Wind stations** option (>Menu >Settings >Flight Screens)

ÿ via the **FANET** user list (>Menu >FANET >Wind stations)

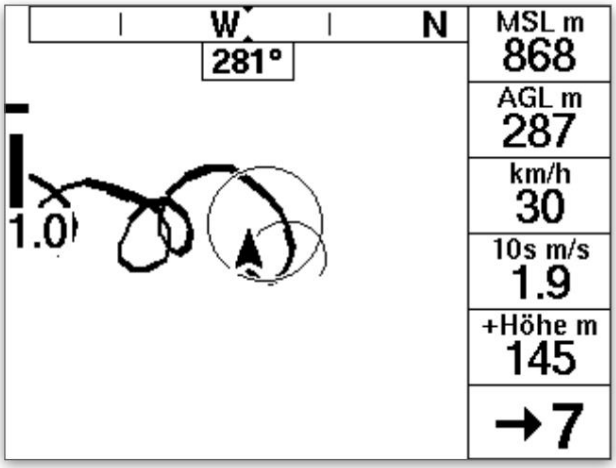
The data from many other wind stations are available via the **connection to burnairMap .** See the Burnair chapter.



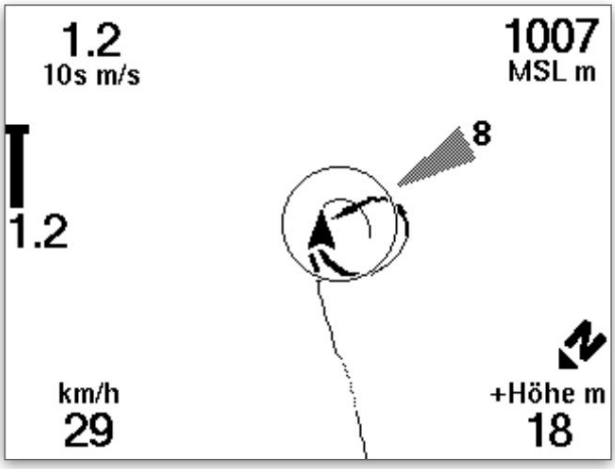
thermal assistant

The SKYTRAXX 5 provides you with a sophisticated **centering aid .** It is available via different flight screens:

Flight Screen **Main Page**



flight screen **thermal assistant**

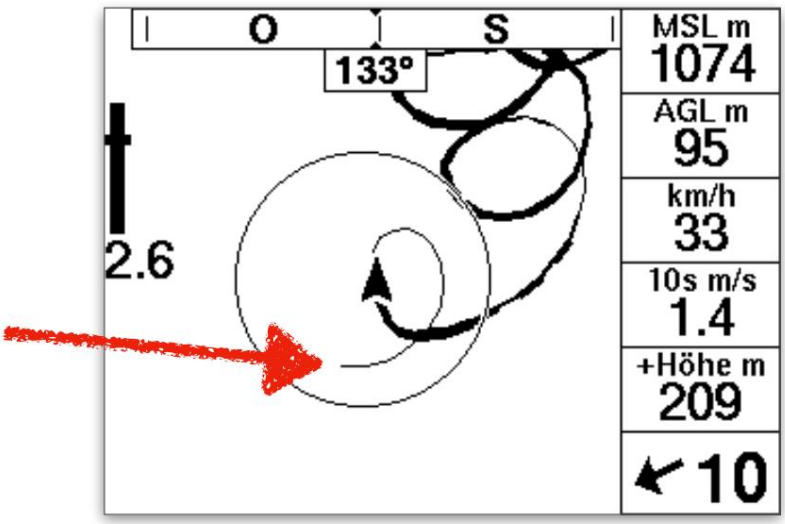


ÿ The **arrow keys** change the zoom factor of the view

Flying with the Thermal Assistant

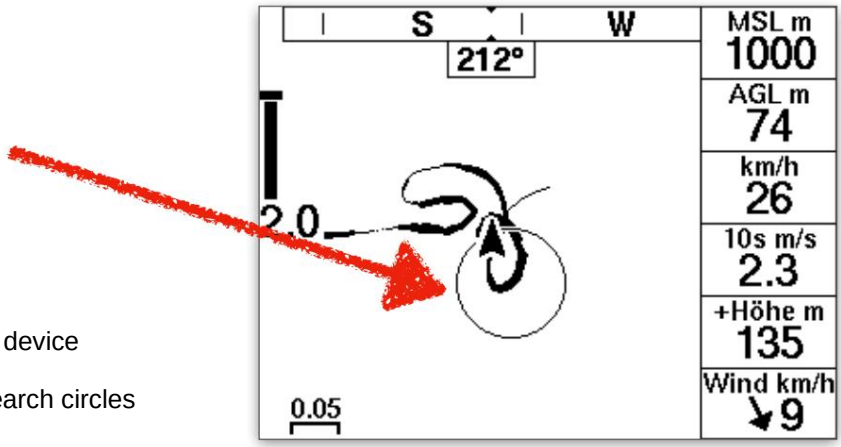
The SKYTRAXX 5 shows your **flight path** on the screen . The thicker the dots on the flight path, the stronger the climb.

The **thin line** shows the expected flight path for the next few seconds, i.e. the flight path if you continue to fly with a constant turn radius as you are now.

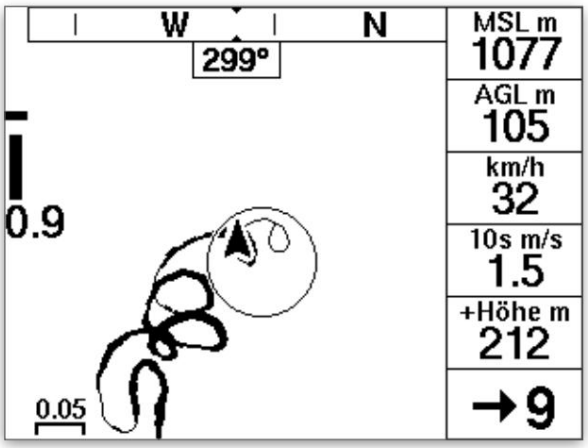


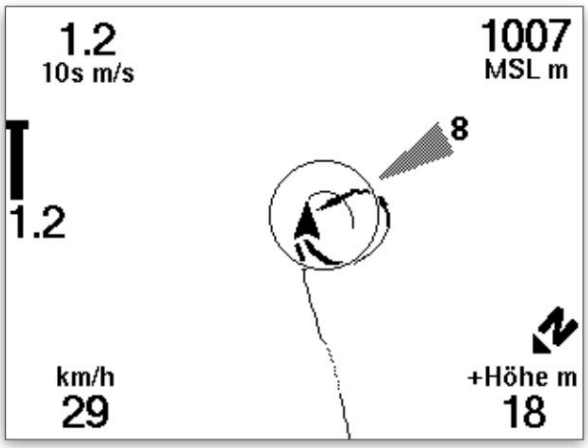
As soon as you have made the first circles or loops in the updraft, the device recognizes the area of best climb. The Skytraxx now calculates the **area of best climb** (thermal center) from the climb rate, wind offset and the aircraft's own sink rate . A **circle appears on the screen:**

calculated thermal center

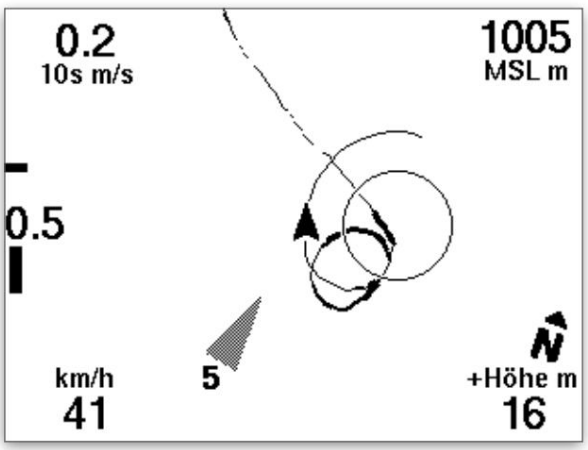


The updraft center calculated by the device can also be outside your previous search circles or loops.





ÿ Now fly so that the **thin line always stays in the calculated thermal circle remains.**



ÿ **Correct** your curve radius or trajectory if the thin line leads out of the circle.

If you have switched on the **automatic activation of the thermal assistant** in the configuration of your flight screens (for more information, see the chapter "Configuring flight screens") , the screen display will automatically switch to the thermal assistant flight screen when usable updraft is detected and back to the previous flight screen **when you leave the updraft .**

ÿ Use either the Main Flight Screen **OR** the Thermal Assistant Flight Screen as a centering aid.

Altitude gain / flight time display field

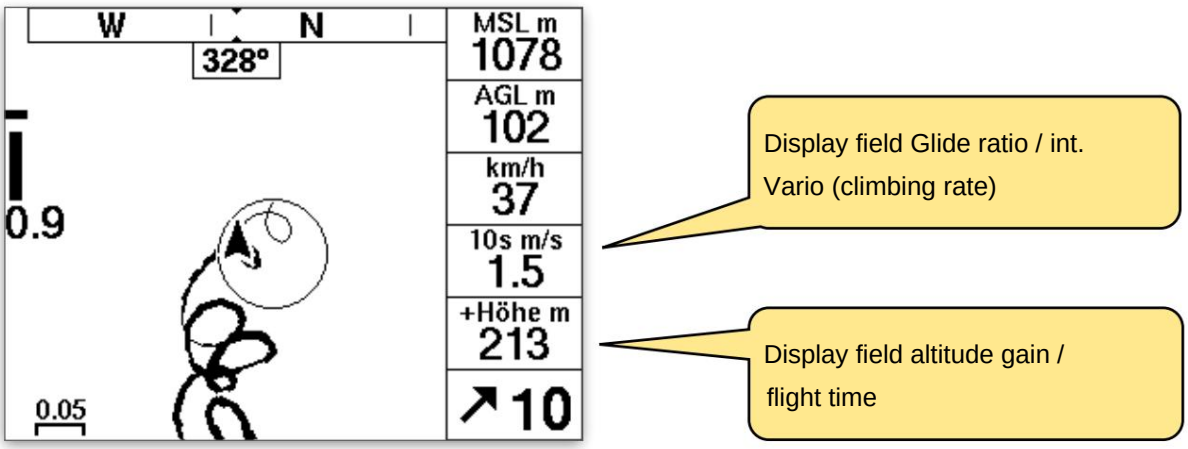
On the **main page** there is the **display field for altitude gain/flight time.** The device calculates the altitude gain (or loss) from the moment the thermal assistant detects cranks in the updraft.

Display field glide ratio / int. Vario

The SKYTRAXX 5 shows the glide ratio over ground or the integrated climb (see variometer, integrated climb) in another display field on the main page.

The content of the two display fields **switches** between the respective parameters depending on whether you are **climbing** or **gliding.**

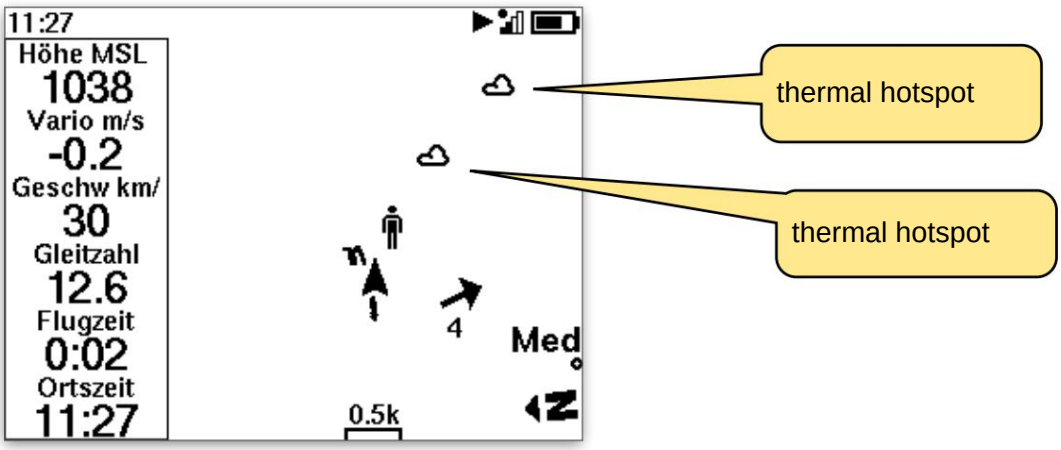
You can also enable these indicators on the Thermal Assist flight screen and on **other screens .**



thermal aid kk7 hotspots

The kk7 hotspots are places where you are very likely to find thermals. You can activate the display of the hotspots on the flight screens with map display, eg on the main page.

The kk7 hotspot database stored internally in the device stores the locations where pilots have already successfully found thermals and then uploaded their flight to one of the online servers. The database is therefore based on the experiences of others with thermal searches and is independent of the current weather conditions.



Activating the display of kk7 hotspots

In the main menu, go to **Settings -> Flight Screens**

ÿ select the desired flight screen

ÿ more active kk7 hotspots

ÿ The thermal hotspots are based on experience. Many pilots have already successfully turned up here

ÿ The thermals can also be elsewhere ÿ In

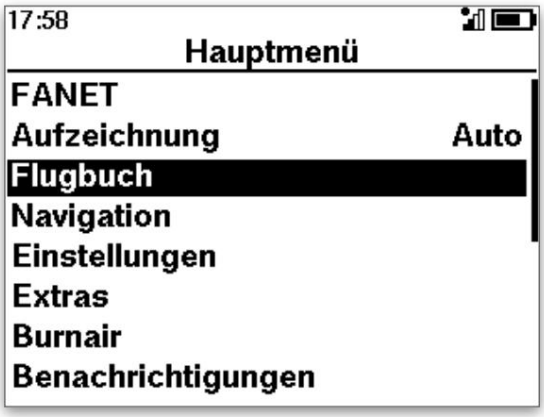
areas where no hotspots are displayed, there can still be good thermals.
It's probably just that no one else has turned up the volume yet and uploaded their flights to an OLC server.

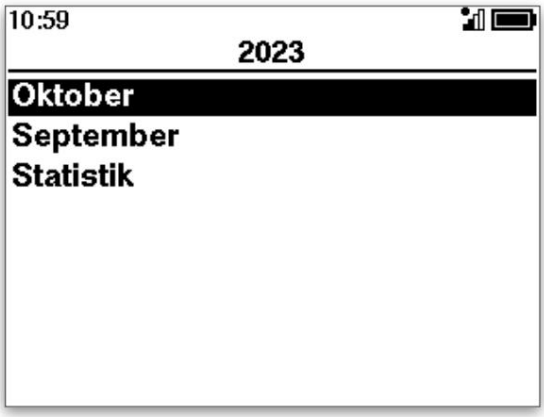
flight log

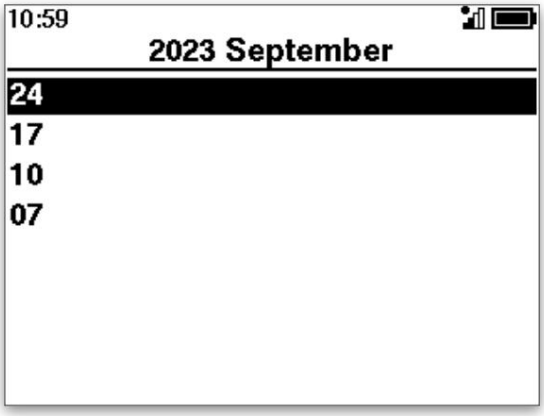
The SKYTRAXX 5 saves the recorded flight data in the device's internal flight log as an IGC file (optionally also as a KML file for Google Earth).

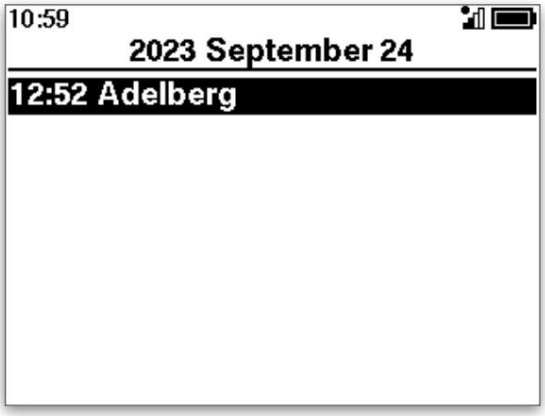
Call up with **>Menu >Flight log**

The stored records are sorted by year, month, day and start time.



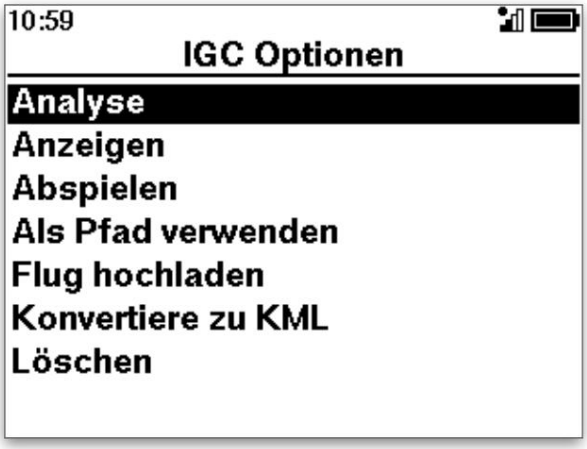


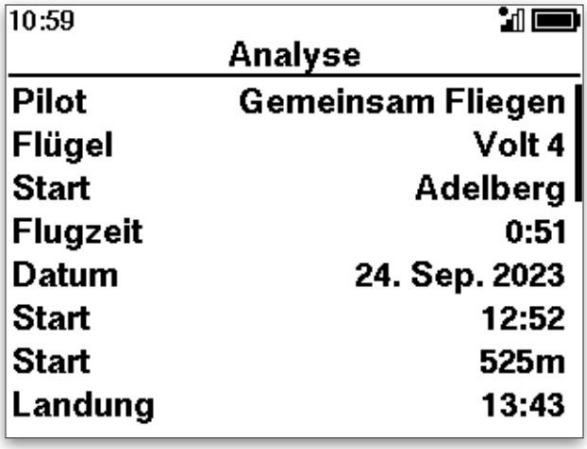


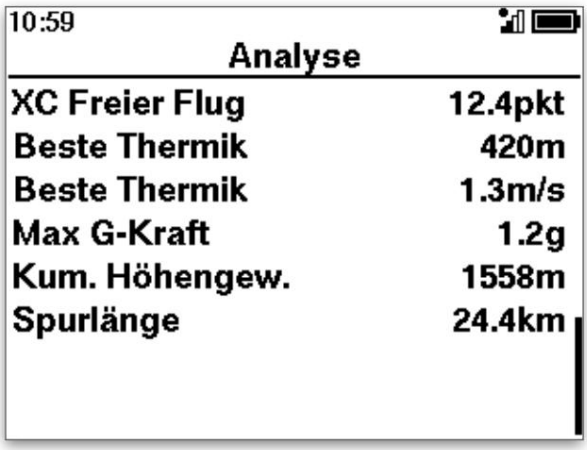


flight analysis

Find the desired flight from the flight log and then select **>Analysis**



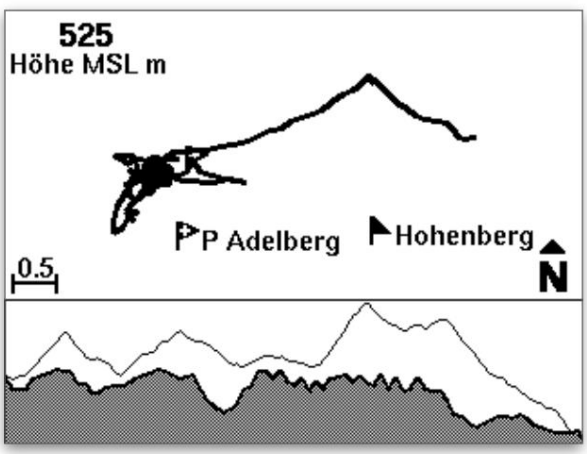




Switch between the **individual pages** with the **arrow keys >up >down.**

Show flight

You can also view the flight on a shared map page with the elevation profile of the
View flight details:

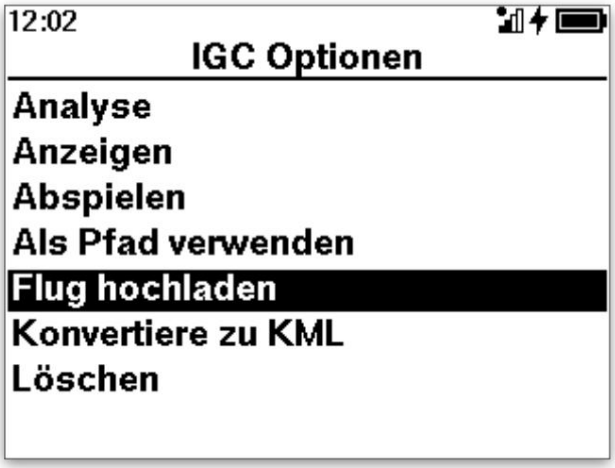


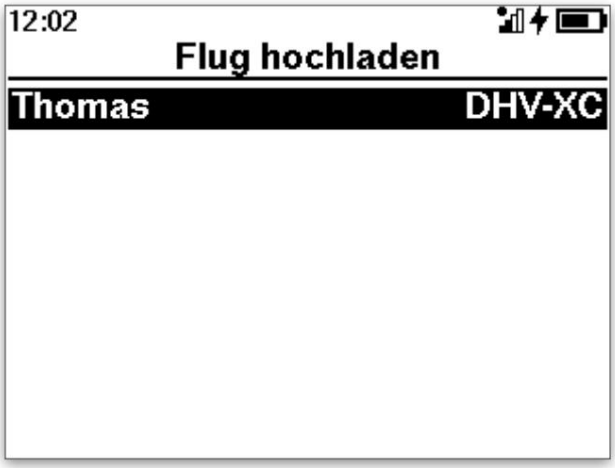
Use the arrow keys to scroll along the flight path.
The small circle on the map marks the current position,
and the vertical line on the elevation profile
marks it.

Upload flight

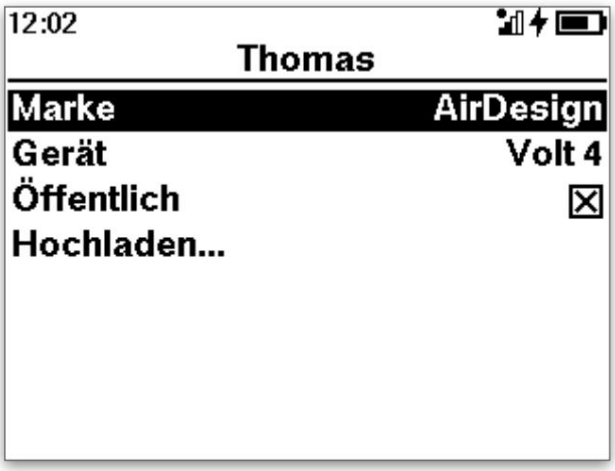
If you have created an OLC profile (see chapter Online Contest), you can upload a flight from your flight log from SKYTRAXX 5 directly to an OLC server:

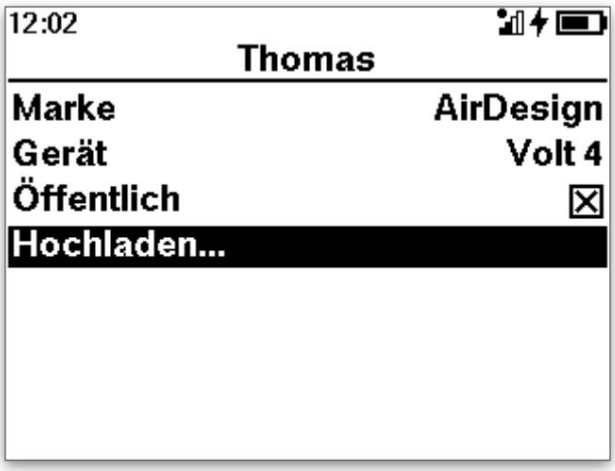
To upload a flight, select it in the **flight log** (see chapter Flight log) and under IGC options select **>Upload flight** and the corresponding **OLC profile.**





To check, the SKYTRAXX 5 shows you the parameters to upload again: manufacturer of the aircraft (brand), wing (device), should the flight be publicly visible or only saved in your online flight log on the server?





Click **>Upload** to start the upload to the OLC server.

Play flight

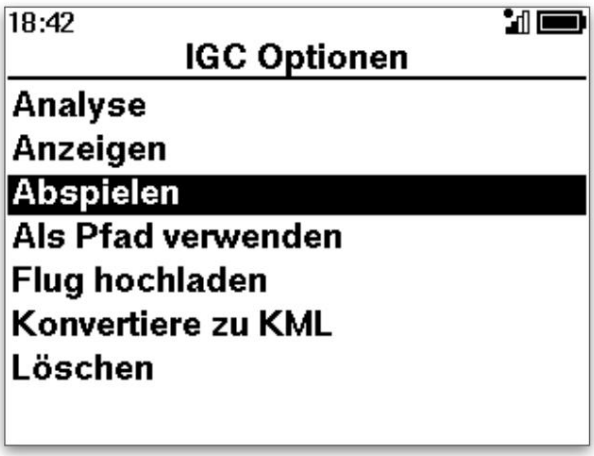
If you wish, your SKYTRAXX 5 will show you a flight from the flight log in real time or in acceleration (2x, 4x, 8x, etc.) on the display, just as in the flight itself.

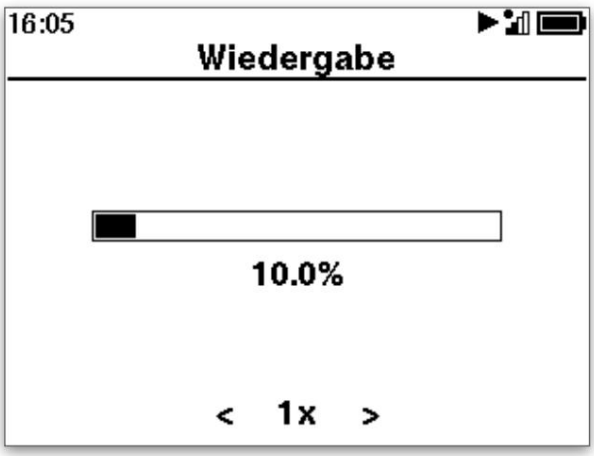
To do this, select the flight by year, month, day and start time and then select IGC Options **> Play.** You will now see all the screen displays exactly as they would be in the flight itself, including the airspace and obstacle warnings.

ÿ Playing back flights is a great way to test your **flight settings.**
to test flight screens.

You can change flight screens during playback, make changes to their configuration (display fields, parameters for the map display) or their order, add or delete flight screens (>Menu >Settings >Flight Screens).

You can change the **playback speed** with **>Menu >Play** and then with the **arrow keys.** Confirm and return to the flight with **>Menu.**





To stop **playback ,** select **>Menu >Play** and then use the left button (>Menu / back) to exit the playback dialog.

Confirm that you **want to cancel** playback by selecting **Yes .**

FANET+

FANET is a sophisticated radio network-based **communications system** for the exchange of information between aircraft.

FANET+ also sends position data in a form that can be evaluated by FLARM receivers.

FLARM is a system for **avoiding collision accidents.**

FLARM receivers evaluate the position data of the FANET signal and calculate whether a collision could occur if both aircraft continue on their flight path unchanged. If this is the case, the FLARM warns the pilot of the aircraft at a greater distance and suggests an evasive course.

By **linking FANET+ and FLARM,** our fast-flying colleagues such as gliders, motor aircraft or helicopters can detect us early and avoid us in good time.

Paragliders are so slow that an electronic collision warning is not absolutely necessary; we can react to each other and avoid each other based on sight.

data transmission with FANET

FANET+ continuously transmits **position data,** speed, course (direction of flight), climb or descent rate, the type of aircraft (paraglider, hang glider, glider, etc.), a status and a unique identifier (FANET ID).

Optionally, you can have your name transmitted in **plain text .**

You specify the data for the name, type and kind of aircraft in the SKYTRAXX 5 pilot profile (see chapter Pilot profile).

Other FANET participants, FLARM receivers and numerous FANET and FLARM compatible ground stations can receive this data as long as they are within radio range.

FANET devices also function as relay stations, i.e. they forward signals from others that may not be within direct reception range.

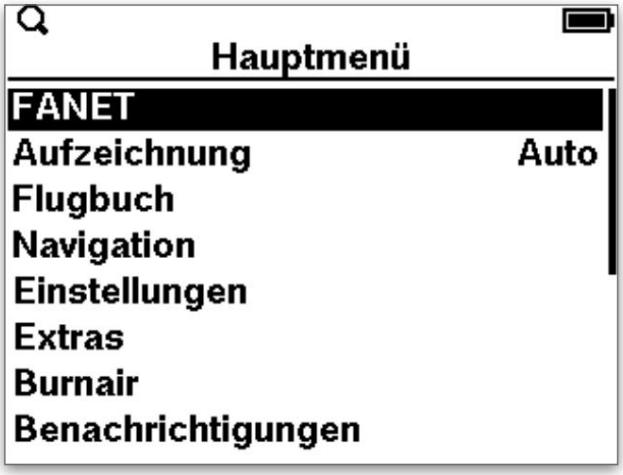
This results in a range of the FANET signal in the air and in good weather of 10 km to over 150 km.

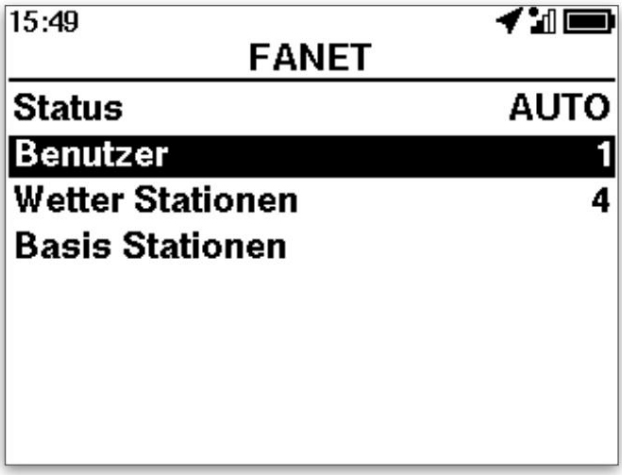
! Attention: if you have activated FANET or FLARM on your device (default setting), your position data is **public,** i.e. visible on numerous online platforms for live tracking and of course for other FANET and FLARM participants.

ÿ If you do not want to transmit your name in plain text, **deactivate** the option Submit names at **>Main menu >Settings >FANET**

FANET status

The SKYTRAXX 5 automatically detects whether you are flying or moving slowly on the ground or whether your position remains constant and it sends the corresponding FANET **status flying** or **walking.**





You can also send additional status messages via **>Main menu >FANET .**

FANET Status list

ÿ Auto - automatically detects whether you are flying

ÿ Hiking - automatically set if you are not flying

ÿ Vehicle - traveling with rapid movement, but not in flight.

ÿ Take me with you

ÿ Landed safely - Safety feature: the SKYTRAXX 5 asks after landing whether it status. This allows others to see that if the device remains switched on and the position does not change, no accident has occurred. ÿ Need technical help

ÿ Need medical help

ÿ SOS call - **all** FANET participants in the reception area are **informed** and can continuously see the SOS signal in the user list and in the FANET radar (flight screen). The SOS status also appears in live tracking (if the online platform recognizes it as such). With another FANET device, you can easily find the SOS transmitter using the **follow function .**

ÿ After landing, **confirm** the status **“landed safely”.** ÿ In case

of **emergency,** set the status to **SOS.**

live tracking

Hybrid live tracking from FANET (if enabled) and GSM (if active).

>Main menu >Settings >FANET - activate online tracking.

This results in almost seamless live tracking in almost real time.

There are now numerous Internet portals through which live tracking can be followed with more or less time delay and comfort, e.g.

ÿ www.burnair.cloud - currently the best optimized system for paragliders with numerous additional features. See also www.burnair.ch and the **Burnair** chapter in this manual

ÿ openglidermap.org

ÿ glidertracker.org

Safety plus with FLARM reception and ADS-L

FLARM reception

SKYTRAXX devices with FANET+ continuously send position data that can be evaluated by FLARM receivers (if this is activated in the FANET+ settings). This means that we can be identified by many other aircraft - especially those flying faster - before they even have visual contact. However, FANET+ cannot receive FLARM signals, so a FANET+ device cannot detect FLARM signals from other aircraft.

This is possible with the **FLARM reception** option , i.e. your SKYTRAXX device can **show** you **helicopters, gliders and motor aircraft** in the area at an early stage and thus help to avoid unpleasant encounters in the air.

ADS-L

As part of the establishment of so-called U-Spaces for drones (special airspaces), the EASA (European Aviation Safety Agency) has introduced ADS-L, another system for the mutual early detection of possible collision courses. It is based on the ADS-B standard, with which all professional aircraft (such as commercial aircraft and commercially used drones) are equipped. As of December 2024, it is still unclear whether ADS-L will also be made mandatory for paragliders and hang gliders.

In any case, **FLARM reception and ADS-L transmission** mean great safety advantages depending on the flight area .

ÿ FLARM reception and ADS-L transmission require paid licenses. You can activate the functionality for your device in the Skytraxx shop.

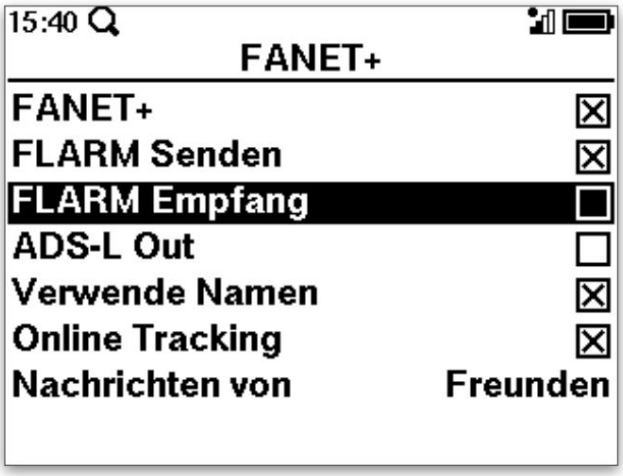
ÿ You can also find a good **explanation on the topic** here on the Skytraxx website.

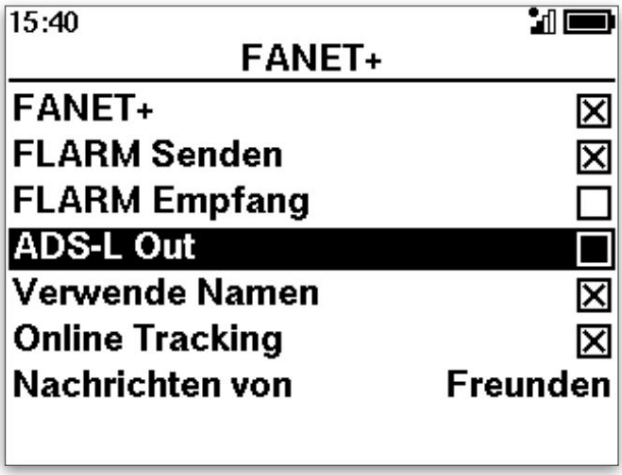
Activating FLARM (receive) and ADS-L (transmit)

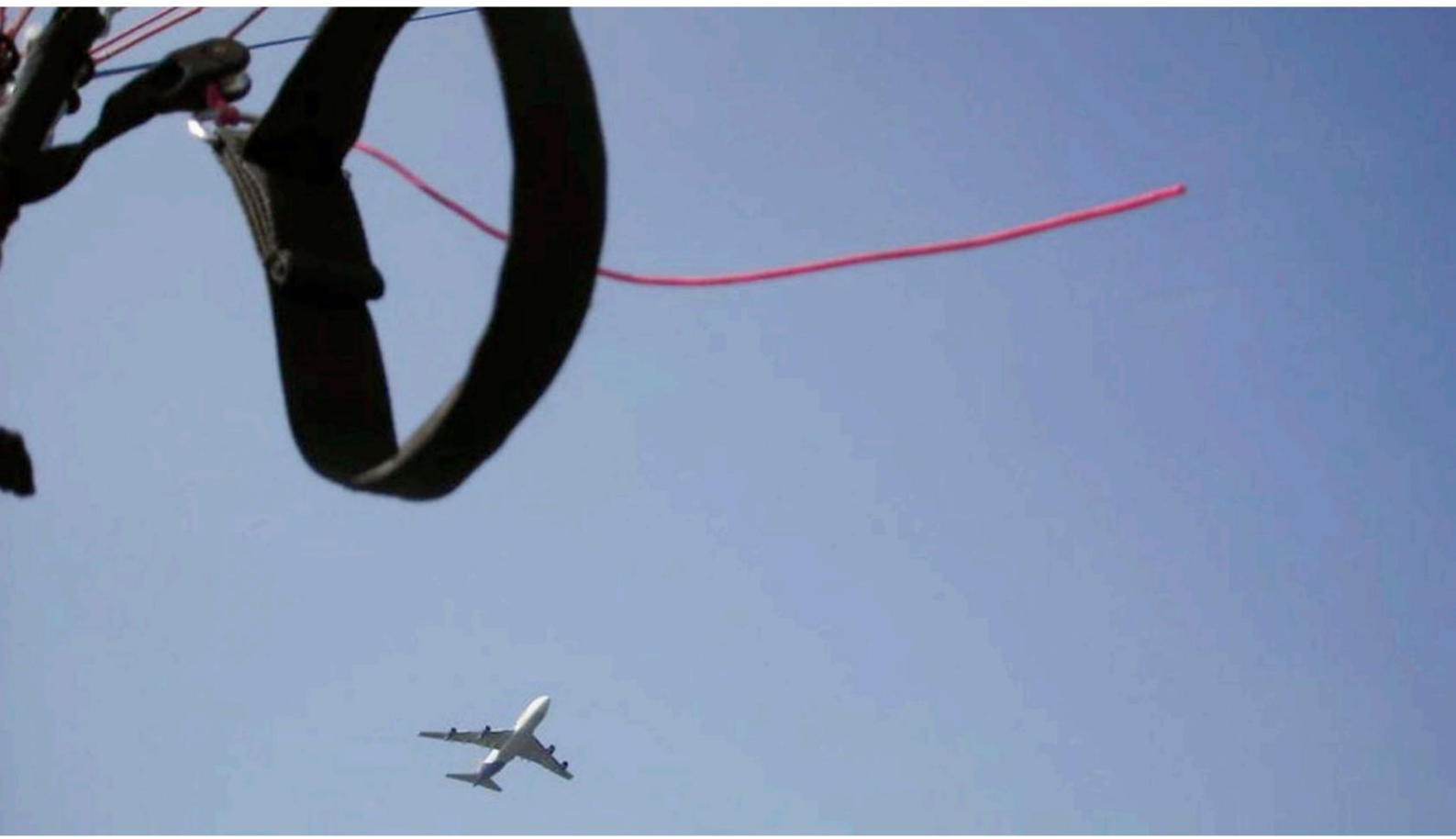
ÿ Visit the shop on the Skytraxx website

ÿ You need your FANET ID to activate it (you can find it in the device status)

ÿ activate the corresponding options in the **Settings > FANET+** menu







FANET Thermik

The SKYTRAXX 5 can evaluate the flight data of other FANET participants to detect when they successfully gain altitude in the updraft.

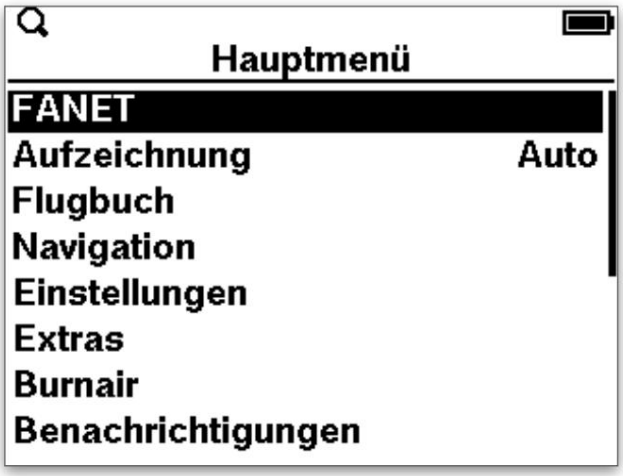
With the **FANET Thermals** option (activate with **>Main menu >Settings >Flight screens,** then select the corresponding flight screen), these participants are visible on flight screens with map display as well as on the Thermal Assistant flight screen as points (map) or circles (Thermal Assistant and map at high zoom).

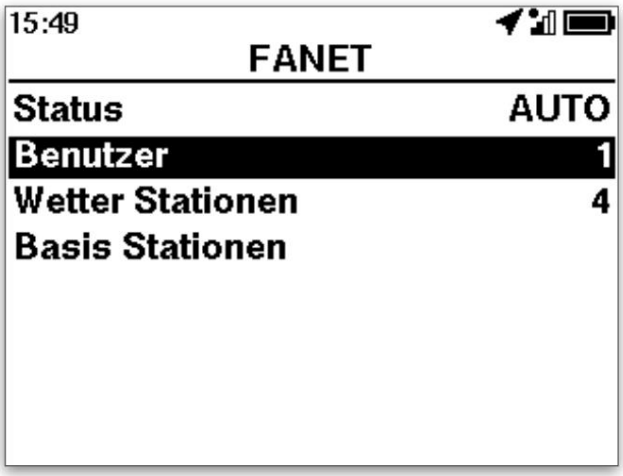
If you are looking for thermals, **simply fly to the nearest FANET thermal circle.** The SKYTRAXX 5 calculates and uses the circle to mark the spot where you need to enter the updraft to catch the thermals.

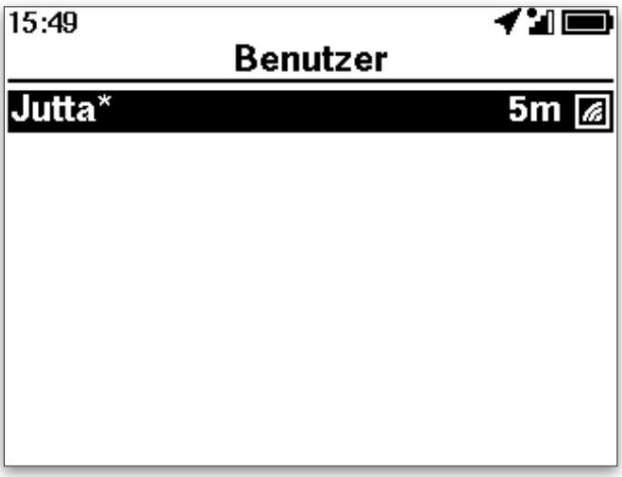
The device takes into account both the wind offset and your current sinking or climbing rate.

FANET users

You can display other FANET users on your flight screens (see options on the flight screens) or get information about the users via the menu: **>FANET >Users.** Select the desired user from the list and then **>Information.**







FANET friend

If there are many FANET users active in a flying area such as Bassano, a map display can quickly become confusing due to all the FANET displays.

You can therefore **limit visibility** to those you want to see (FANET friends).

In order to define a **FANET friend** as such, they must be **active in your reception area once .** They will then remain your friend until you remove them from the friends list.

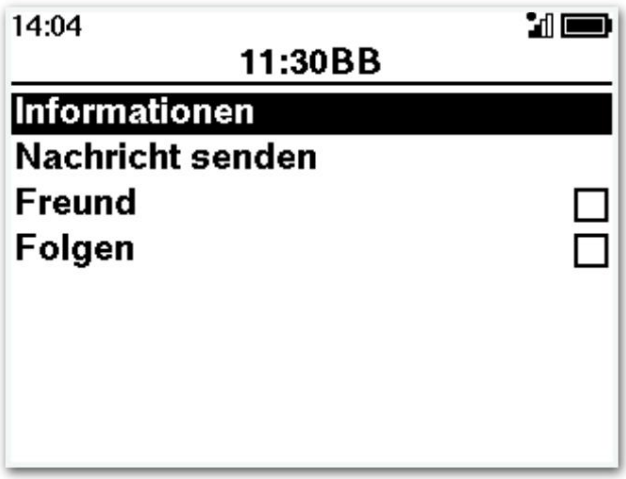
Set **FANET friend :**

ÿ >Main menu >FANET >User

ÿ then **select** the desired **participant** from the list of active users

ÿ Activate **Friend** option

FANET participants who are defined as **friends** appear in the user list **in green** (default: yellow).



follow function

Flying together is a special flying experience. FANET offers an interesting option to stay connected even when you are out of sight: the follow function.

In the same way as defining a friend, you can **activate following.** On every map display, you will now see a **straight line** between your position and that of the other FANET participant (regardless of whether they are a FANET friend or not).

You can also display your partner's altitude MSL, distance, climb rate, etc. in the freely definable fields of the flight screens (see chapter Configuration of flight screens).

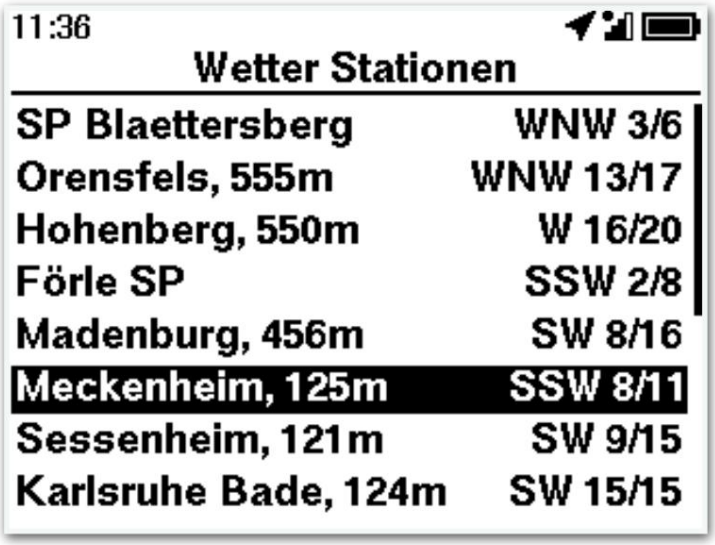
Information from ground stations (e.g. weather stations)

There are already weather stations in numerous locations, mostly launch sites, that send their data via FANET. These values are usually available on the Internet at the same time.

The SKYTRAXX 5 **detects weather stations** and displays them **as a windsock** on flight screens with map display when the option (wind meter) is activated .

(See also the chapter Flight Screen Configuration)

With **>Main menu >FANET** you can access the list of active users / weather stations / Base stations. Select Weather Stations or Base Stations to access the information the individual stations.



short messages

Send short messages to other FANET participants:

ÿ >Main menu >FANET >User

ÿ Select user

ÿ Select **Send message**

You can select the message from a list of predefined texts or use the

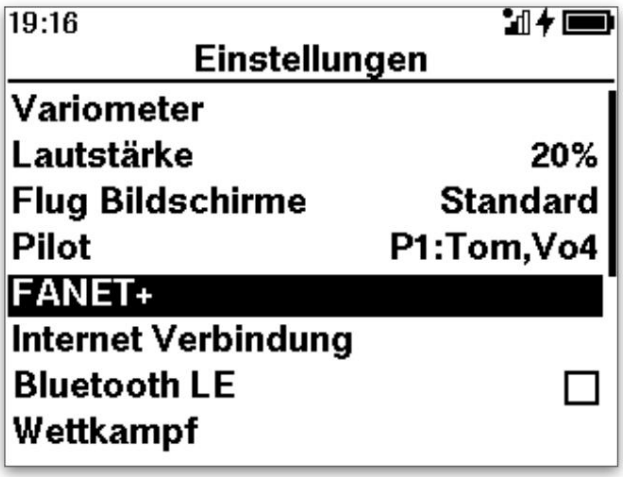
Edit input function.

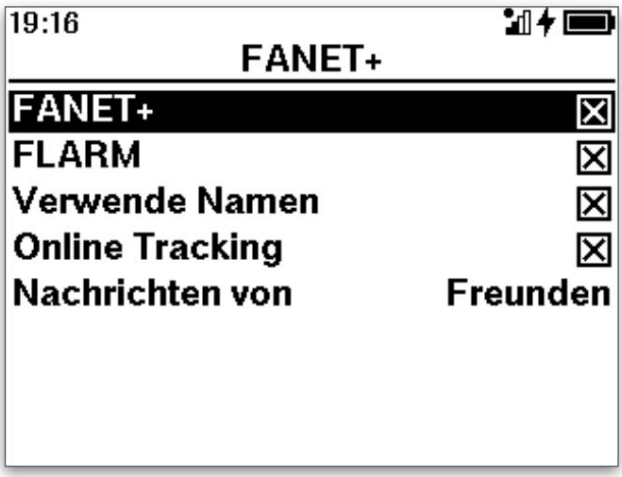
ÿ In the SKYTRAXX 5 file directory there is the file **fanetMsg.txt.** Edit this
File with any text editor (note: pure text without formatting!) to quickly and easily create your own message templates.

FANET settings

You can configure the general settings for FANET via **>Main menu**

>Settings >FANET+





ÿ **FANET+** - basic activation or deactivation of the FANET functions

ÿ **FLARM** - send FLARM signal to avoid collision with other

ÿ **Use names** - Publish names from the pilot profile in plain text. If deactivated, only the FANET ID is displayed to others.

ÿ **Online Tracking** - If deactivated, the position will not be publicly available on the Internet displayed.

ÿ **Messages from** - receive messages from all participants or only from FANET friends

In addition to the general settings for FANET+, there are FANET **options on the flight screens:**

ÿ **Display fields** with information about other participants, e.g. altitude MSL, climb rate, distance, course, etc.

ÿ FANET **users** - show all or only FANET friends

ÿ FANET **thermals** - see chapter FANET thermals above.

Configuration with **>Main Menu >Settings >Flight Screens**

Then select **the desired flight screen ,** then the **display field** and finally the **desired content.**

SafeSky

SafeSky is an **advanced collision warning system.** It integrates all common types of flight data transmission (transponder, FLARM, FANET+ ...) and thus almost all motorized and non-motorized aircraft, including drones, that are equipped with flight data transmitters.

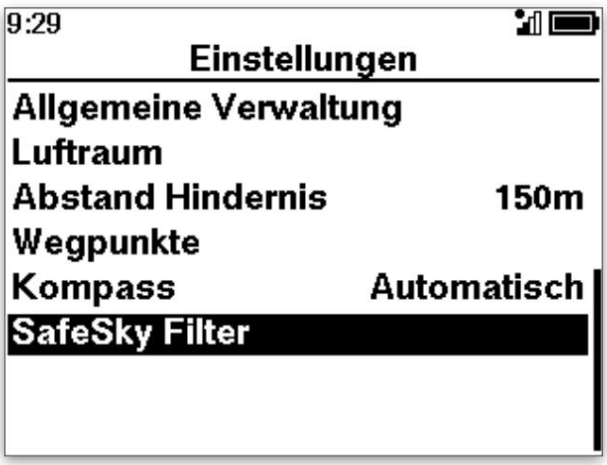
In concrete terms, this means:

ÿ When **the SafeSky option is activated** in SKYTRAXX 5, all aircraft equipped with transponders, FLARM or FANET+ can »see« us and, if necessary, adjust their flight path to **avoid a collision.**

ÿ The SKYTRAXX 5 also displays the corresponding aircraft on **flight screens with map display** if the option is activated.

ÿ The monitored area can be defined on the SKYTRAXX 5 in **radius and height range to** limit the information on the display to the safety-relevant area.

Configure SafeSky



The observation radius determines the area from which air traffic participants are displayed, the max. relative height determines the vertical range starting from your current position.

If "Aircraft on the ground" is activated, aircraft on standby are also displayed (e.g. **rescue helicopters on the ground** in action)

Define flight screens

You now know how your SKYTRAXX 5 flight instrument and its individual function modules work and can decide which calculations your SKYTRAXX 5 should display in which flight situation and how.

We have already put together appropriate screen displays for many flight situations with the preconfigured flight screens. You can simply use these 1:1 or adapt them individually.

The idea behind it is to focus the screen display clearly and intuitively on what you specifically need, **depending on the situation .** This way, you get the information you need with just a few glances at the device and have a clear view of the airspace and to enjoy the landscape.

In the standard configuration of the SKYTRAXX 5 you will find two predefined flight screens (main page, landscape view), which cover the requirements for most flight situations.

Via **>Main Menu >Settings >Flight Screens**

you can **insert** additional flight screens into the predefined row , **change** the order and **delete individual flight screens.**

You can use each type of flight screen **as often as you like ,** for example if you want to use multiple map or navigation pages for better overview when navigating.

To **change flight screens** during flight, use the **>OK button.**

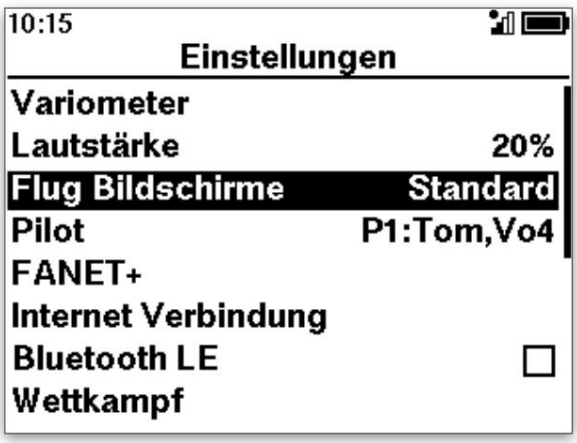
Each press of the button takes you one flight screen further in the order you specified.

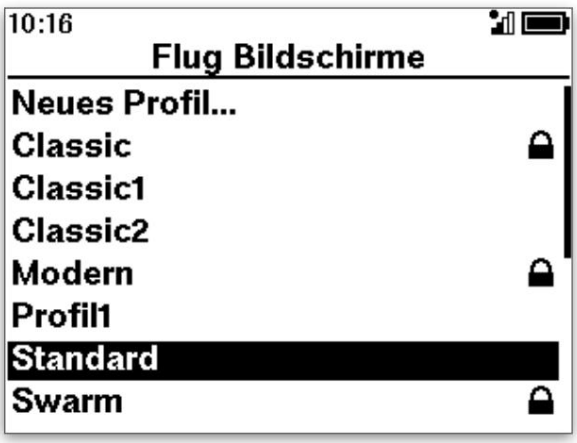
The **arrow keys** change the **volume** (classic side) or have **zoom function** (Pages with map display)

flight screen profile

You can combine flight screens into so - **called profiles** summarize and save as such.

You will already find some **predefined profiles** on your device for different flight situations, tastes and preferences. If you already know a Skytraxx 2.0 or 2.1, you will find your usual screen display in the Classic profile.





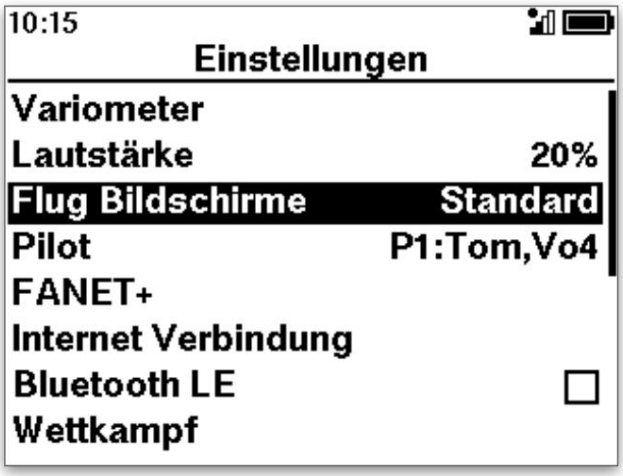
The default profile is **Modern** with **main page** and **landscape view.** On the **main page** There is a map display, the thermal assistant, compass, vario with bar display and numeric display as well as further display fields for MSL, AGL, speed, over ground, glide ratio over ground or integrated climb, altitude gain or flight time and wind. The screen also shows your flight path for the last few minutes.

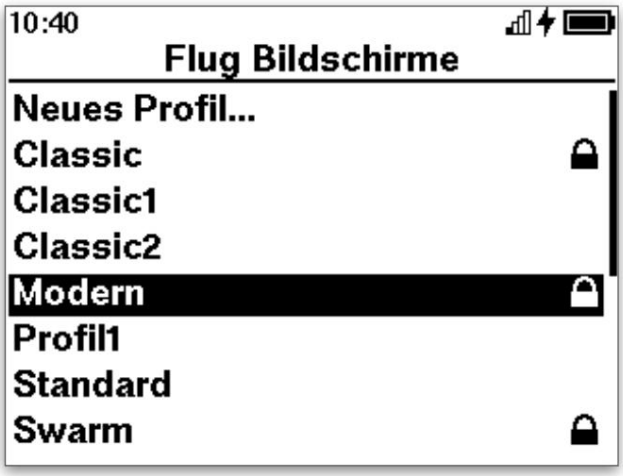
On the **landscape view** you can see a map with **airspace representation** in the upper part and in the lower half of the screen a side view also with

Airspace display. Additional display fields provide information about the horizontal or vertical distance to the next airspace.

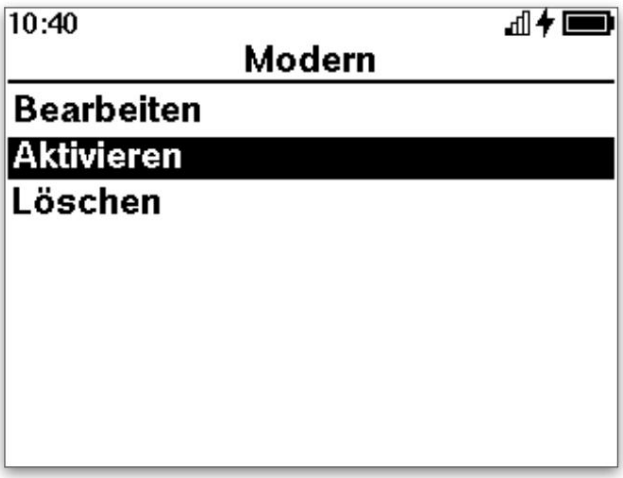
The two flight screens **switch automatically** depending on the flight situation, but you can also switch manually using the >OK button.

Select or change your profile using **>Main Menu >Settings >Flight Screens.**



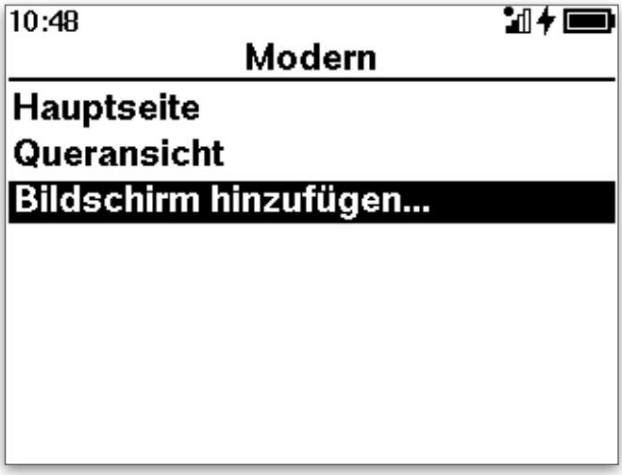


and then **>Activate** to select or **>Edit** to make it your needs.

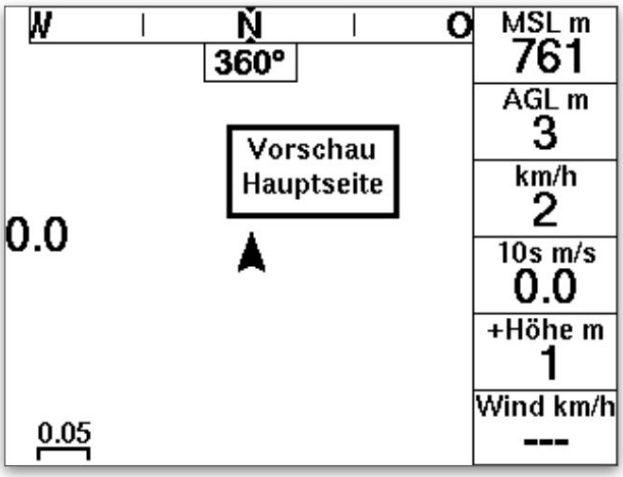


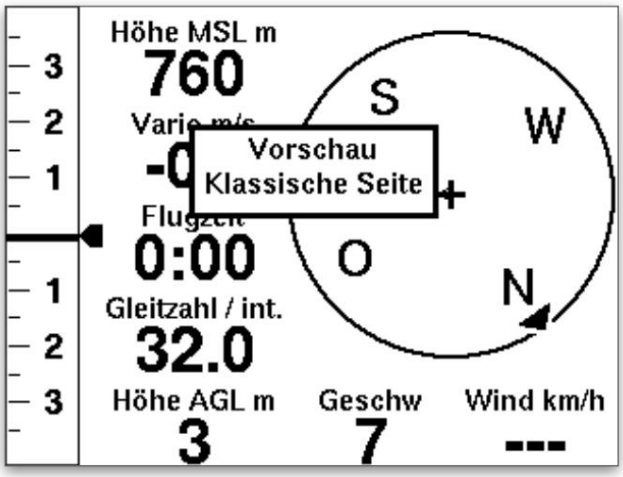
Editing Flight Screen Profiles

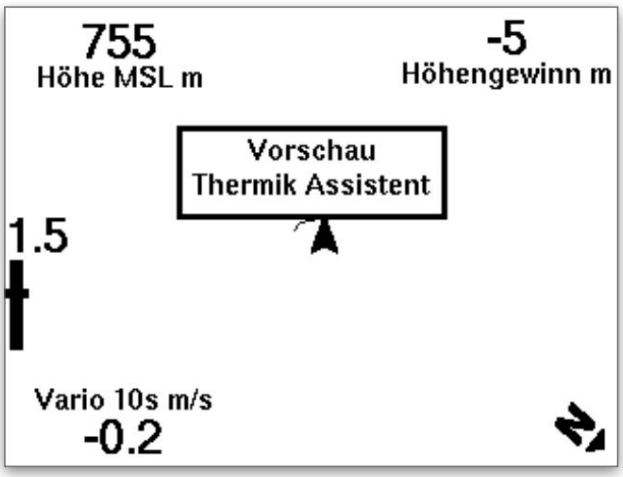
Create a new profile, add flight screens to an existing one or delete
Flight screens from a profile:

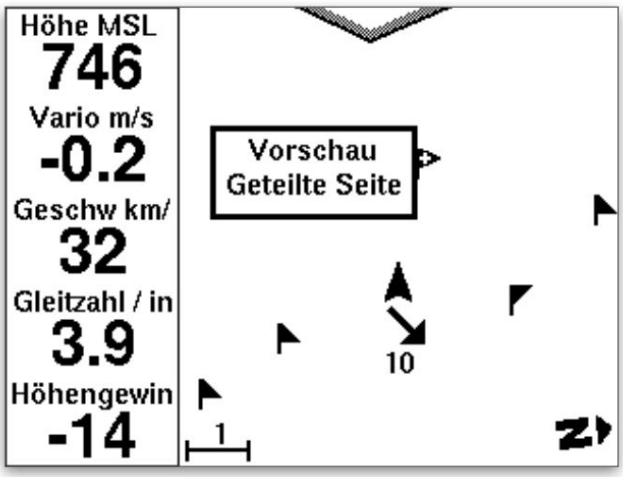


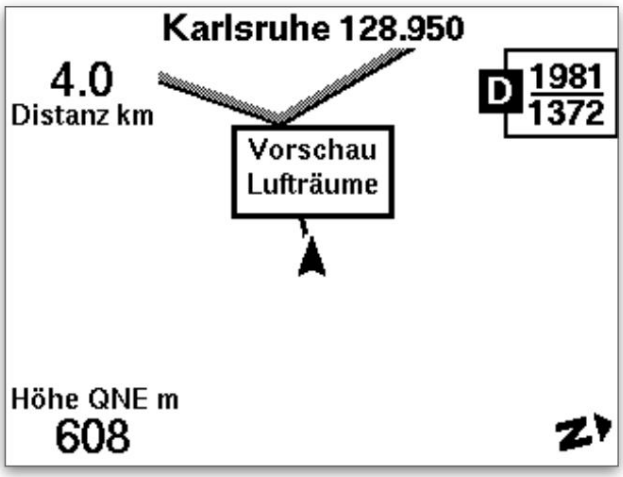
If you select Add Screen, you can choose from the following predefined
flight screens and then customize them if necessary:

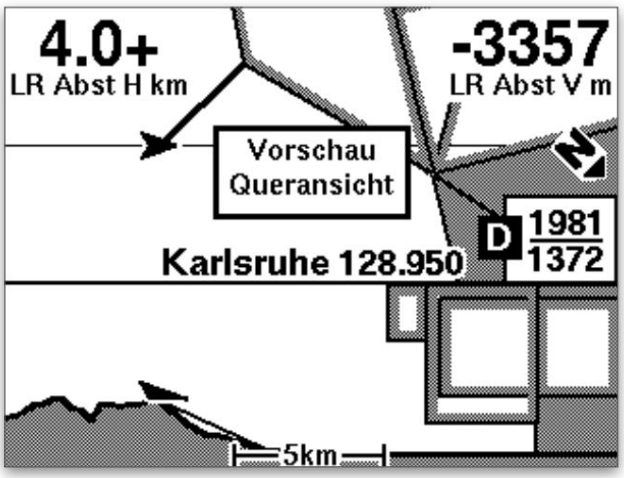


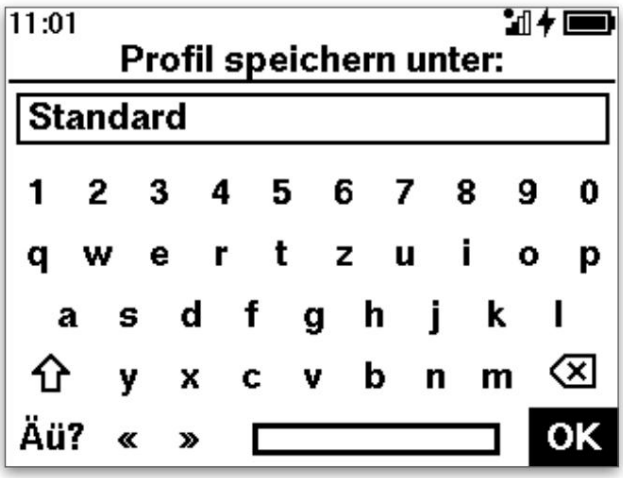






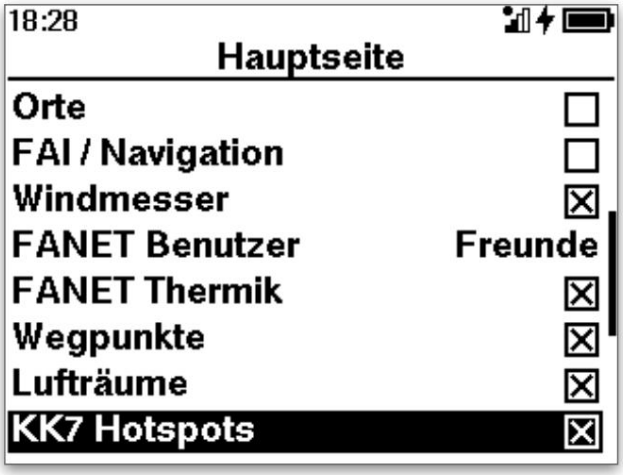






! Then save the finished flight screen profile under the same name (the previous one will be overwritten) or a new name.

To change the **order** of the flight screens in the profile, the **content** of the individual display fields and the display **options ,** select the corresponding flight screen from the list in the profile and confirm the selection with >OK.



The following display options are available:

ÿ Orientation: Heading or North up

ÿ Field 1 … Field 6 - see below: Define display fields

ÿ Places - shows the place names in the map display

ÿ FAI / Navigation - Display of triangle calculation, routes, competition cylinders

ÿ Wind meter - shows wind direction and strength from wind stations

ÿ FANET user

ÿ FANET Thermik - shows where other FANET users are currently successfully cranking

ÿ Waypoints - take-off and landing sites, own waypoints

ÿ airspaces

ÿ KK7 Hotspots: Display of the KK7 thermal hotspots

ÿ Gliding range: area that can be flown at the gliding angle above the current landscape depending on the current altitude and the current gliding angle above ground

ÿ Display of other aircraft via SafeSky

ÿ Thermal Event - Screen appears automatically when thermals are detected

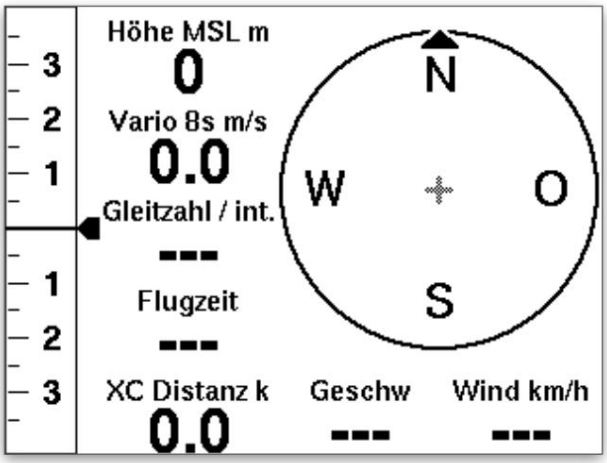
ÿ Auto-pop up - the screen appears depending on the current Flight situation: climbing / gliding / approaching airspace

ÿ Turnpoint Event - the screen appears when the turnpoint is reached ÿ SSS Open - the screen appears when the Start of Speed Section is entered may be

ÿ Thermal track - line or dots. The thicker, the more climbing or sinking (empty points)

Define display fields

In addition to the defined content, several display fields can be freely defined on each screen page: **>Main menu >Settings >Flight screens**



You have the following options for the contents of the display fields:

ÿ Vario - current or integrated value

ÿ MSL - Main Sea Level - Height above mean sea level ÿ AGL - Height Above

Ground Level / above ground (Warning! Inaccurate due to the system!)

ÿ QNE - QFE expressed as altitude value, calculated according to ICAO standard atmosphere

ÿ QFE - Air pressure at current position

ÿ Flight level

ÿ Ground speed

ÿ Glide ratio over ground / int. Vario - changes automatically depending on the flight situation

ÿ local time

ÿ UTC local time

ÿ flight time

ÿ Flight time / altitude gain - changes automatically depending on the flight situation

ÿ Wind arrow - Wind indicator with direction arrow and wind speed

ÿ Wind texts - Wind display with wind speed and wind direction

ÿ Windsock - Wind display as windsock symbol and wind speed

ÿ Follow: Distance - Distance to the flight partner (defined in the FANET settings) ÿ Follow: Course -

Course to the flight partner ÿ Follow: Altitude -

Altitude MSL of the flight partner

ÿ Consequences: climb rate - climb / descent of the flight partner

ÿ Consequences: Speed - Speed of the flight partner

ÿ XC points - Calculation according to the rules of the online contest

ÿ XC distance - calculation according to the rules of the online contest

ÿ XC Type - free course, flat triangle, FAI triangle according to FAI rules ÿ XC Speed -

average speed on the XC course

ÿ Airspace Distance Horizontal

ÿ Airspace Distance Vertical

ÿ Altitude gain - cumulative altitude since the start of the last cranking

ÿ WP Distance - Distance to the next waypoint

ÿ L/D to Tpt - required glide ratio to the next turnpoint

ÿ AGL@WP - estimated arrival altitude at the next waypoint

ÿ Nav Distance - distance traveled on the active route

ÿ Start - Distance to the starting position

ÿ Task Timer - Time until or time since StartOpen (competition)

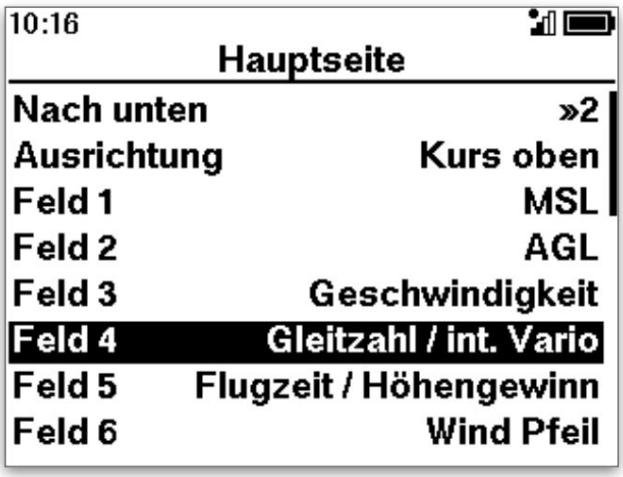
ÿ Course

ÿ Friend 1 … Friend 8 - F Information about a FANET member defined as a friend.
Participant

ÿ g-sensor - acceleration value

ÿ Barogram

To configure the display fields, first select the flight screen and then
the corresponding display field.



Navigation, cross-country flying and competition

The SKYTRAXX provides you with extensive functions for navigation, to support cross-country flying and for competitions:

Navigation:

ÿ Flight screens with map display

ÿ GoTo: Destination flight to a selected waypoint

ÿ Route: Navigation to a destination via any number of waypoints

Cross-country flying:

ÿ In-flight calculation of XC kilometers, XC points, XC speed and XC type with selectable OLC factors

ÿ Triangle Assistant to optimize FAI triangles during flight

Competition:

ÿ complex competition routes with TakeOff, Start of Speed Section, Waypoints, End of Speed Section and Goal according to current FAI competition rules

ÿ Approach calculator for required glide ratio / departure altitude to the next waypoint, AGL at Arrival at the waypoint, time calculation

ÿ Task Timer

Navigation - Map

The classic and simplest tool for navigation is the map. Various flight screens on the SKYTRAXX 5 therefore offer you map displays:

ÿ Main page

ÿ Map page

ÿ Shared Page

ÿ airspace

ÿ Landscape view

To orient yourself in the terrain, you can choose whether **north points upwards** (as with the classic paper map) or whether the map display is aligned with the direction of flight **(course up).**

Navigation - Waypoints

For orientation during cross-country flying, prominent fixed points in the terrain (peaks, towers, small lakes, bridges, etc.) have proven useful.

You can also use virtual fixed or **waypoints** in addition to or instead of these .
If these are stored in your flight instrument with their **geographical coordinates ,** you can fly to them using the navigation functions of the SKYTRAXX 5.

Your SKYTRAXX 5 already contains a **database with the coordinates and names** of the

Take-off and landing sites for almost all **airfields worldwide.** The device updates this database automatically if you have activated the online services. You can also update the file manually (see chapter Update).

Additional waypoints can be entered on the device or **imported as a file.**

See also the chapters Importing waypoints via file and USB connection / internal memory.

Use current location as waypoint

In the >Main menu you will find under >Navigation **> Waypoints**

Select **>Add…**

The geographical **coordinates** correspond to your current **location.** You can edit the individual parameters (name, coordinates, altitude).

With >Menu / back (left button) the entry is saved as a waypoint.

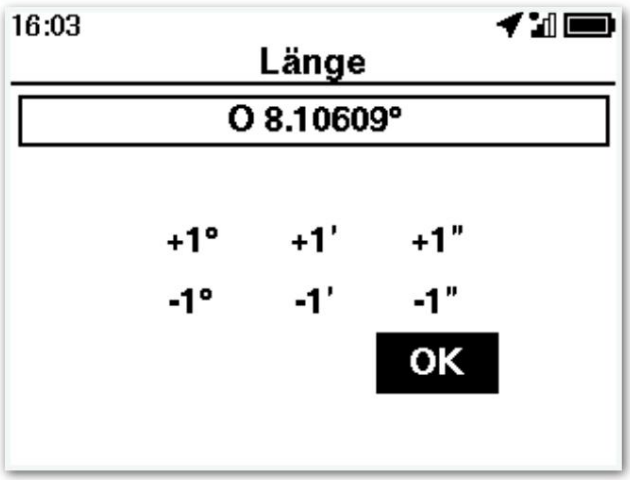
The SKYTRAXX 5 internally creates the file **user.gpx** in the **waypoints** directory for its own waypoints .

Enter waypoint with coordinates

Create a new waypoint as described above with

>Menu >Navigation >Own waypoints >Add…

Edit the name or coordinates, confirm with OK and exit the input menu with >Menu / back.



Import waypoints via file

Connect your SKYTRAXX 5 to a computer using a cable via the USB-C interface.
Copy your **waypoints file** to the **waypoints** directory on the SKYTRAXX 5.

The file must be saved in CompeGPS format as .wpt or in GarminGPX format as .gpx .

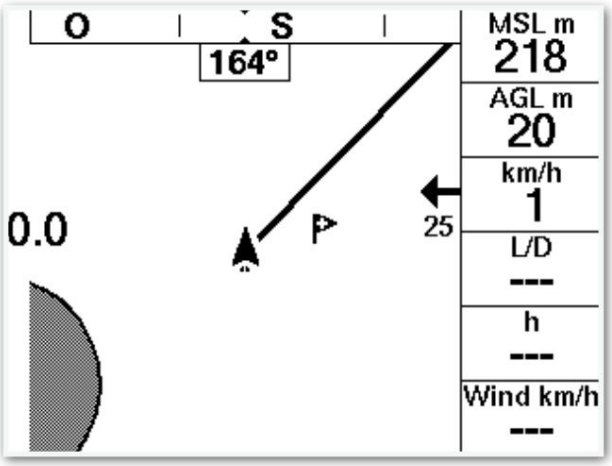
ÿ If you want to save the imported waypoints **all and always** on your
If you want to see map representations, use the file name on the SKYTRAXX 5 **user.gpx**

ÿ If you use other file names for the file(s), the
Map displays only **show the waypoints of a currently active route**
(see below, destination flight and route).

ÿ This way you can avoid having your map display with the names of the
waypoints that you do not need for the current navigation

Navigation - GoTo (target flight)

When flying to your destination, a permanent guideline on the map shows you the shortest route between your current position and the destination.



ÿ Define a flight screen for destination and route flights with the display fields
Dist WP (distance to waypoint / destination), **AGL@WPm** (expected arrival altitude at WP / destination under constant conditions) and **L/D to Tpt** (glide ratio required to reach the WP / destination).

For more information on configuring the display fields, see the Flight Screens chapter.

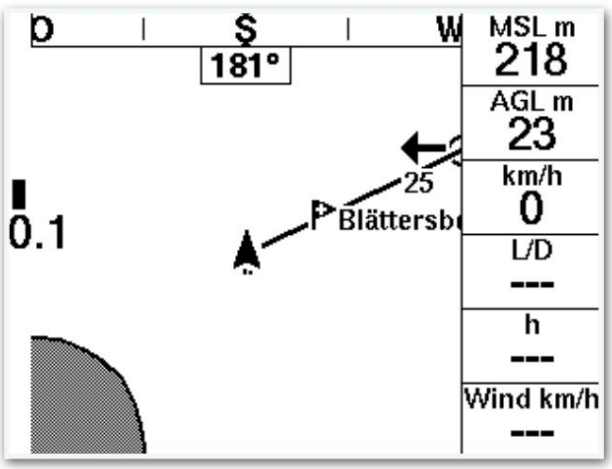
Select destination

Select the destination for your flight from your current **surroundings** (shows a list of waypoints near you) or from a special **file** that you have previously loaded onto your device or using the so-called **map flyover.**

After selecting the desired waypoint, navigation is activated.

It remains active until you reach your destination or until you deactivate it using >Menu >Navigation **>End navigation .**

Turning off your SKYTRAXX 5 also deactivates navigation.



The **line** describes the shortest path to the destination

The **arrow** with the number indicates a wind station (display option »Anemometer«).

The wind direction is west, the wind speed is 25 km/h.

Navigation - Route

Analogous to a direct flight, you can also navigate to a destination along a flight route via waypoints (turnpoints).

Waypoints (turnpoints) on routes

Waypoints determine the **course of the route.** Strictly speaking, the term "waypoint" is somewhat misleading, because they are vertical **virtual cylinders.** The waypoint or turnpoint, defined as a pair of coordinates, is the intersection point of the central axis with the earth's surface.

Each cylinder is therefore defined by its **geographical coordinates** and a **radius** defined: This varies between a few meters and a few kilometers in size.

Entering a route on the SKYTRAXX 5

ÿ Select >Menu >Navigation **>Route**

ÿ to add a **new route** select **>Add…**

ÿ to **edit** an existing route, select it with the **arrow keys** and **>OK**

For each new route, you first give it a name, then enter as many waypoints or turnpoints as you like.

For each turnpoint you define the cylinder radius (default: 500m). With the menu item **>Overview,** the SKYTRAXX 5 shows you the route with a map display.

Activate the route in the route menu with **>activate.**

The route remains active until the last turnpoint is reached or until the device is switched off. You can deactivate it early with >Navigation **>End navigation**

Fly route by waypoints

When a route is activated, a **line points from the current position to the next waypoint.** When this is reached, an acoustic signal sounds and the waypoint disappears from the display.

Cross-country flying with the SKYTRAXX 5

Cross-country flying is a very popular variation of our sport. In addition to the pure joy of discovery and amazement, the sporting challenge is also attractive.

Cross-country flight scoring according to points system

A points system was developed as a "yardstick" for cross-country flight performance. The points are calculated from the distance flown (km) multiplied by a rating factor. This depends on the general rating system (DHV-XC, XC Contest ...) and the type of distance flown:

- **free route:** between take-off and landing, a maximum of 3 additional waypoints count. (smallest scoring factor)
- **flat triangle:** route around three waypoints, if take-off and landing are max. 20% of the total distance from each other (medium rating factor).
- **FAI triangle:** like a flat triangle, the length of the shortest leg is at least 28% of the total distance (largest scoring factor).

The points for cross-country flights are calculated using evaluation software. To do this, you upload the track log of your flight (IGC file) into an electronic flight log or onto an online platform (Online Contest, OLC). For more information, see the Flight Log and OLC chapters.

Cross-country flight calculations for the SKYTRAXX 5

The SKYTRAXX 5 **continuously calculates during the flight:**

- **Distance to the start**
- **XC kilometers** (according to FAI cross-country flight classification)
- **XC points** (depending on the scoring factors set in the OLC profile)
- **XC type** (free course, flat triangle, FAI triangle)

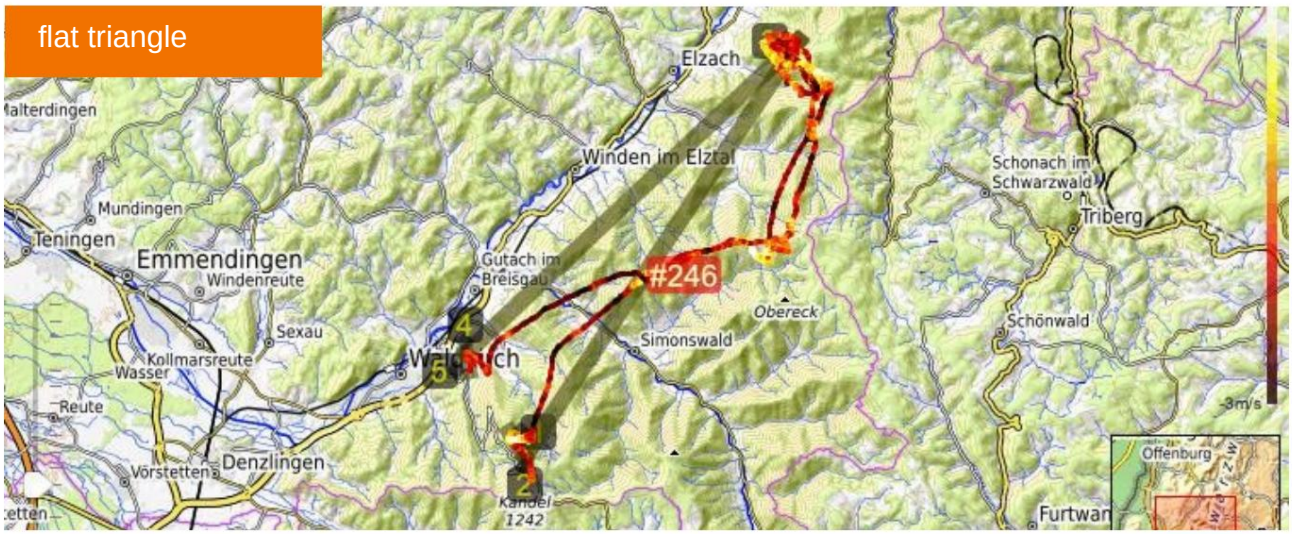
You can **view** these **calculations** on the flight screens (for Configuration see chapter Flight Screens)

We will add more details about this to this guide soon.

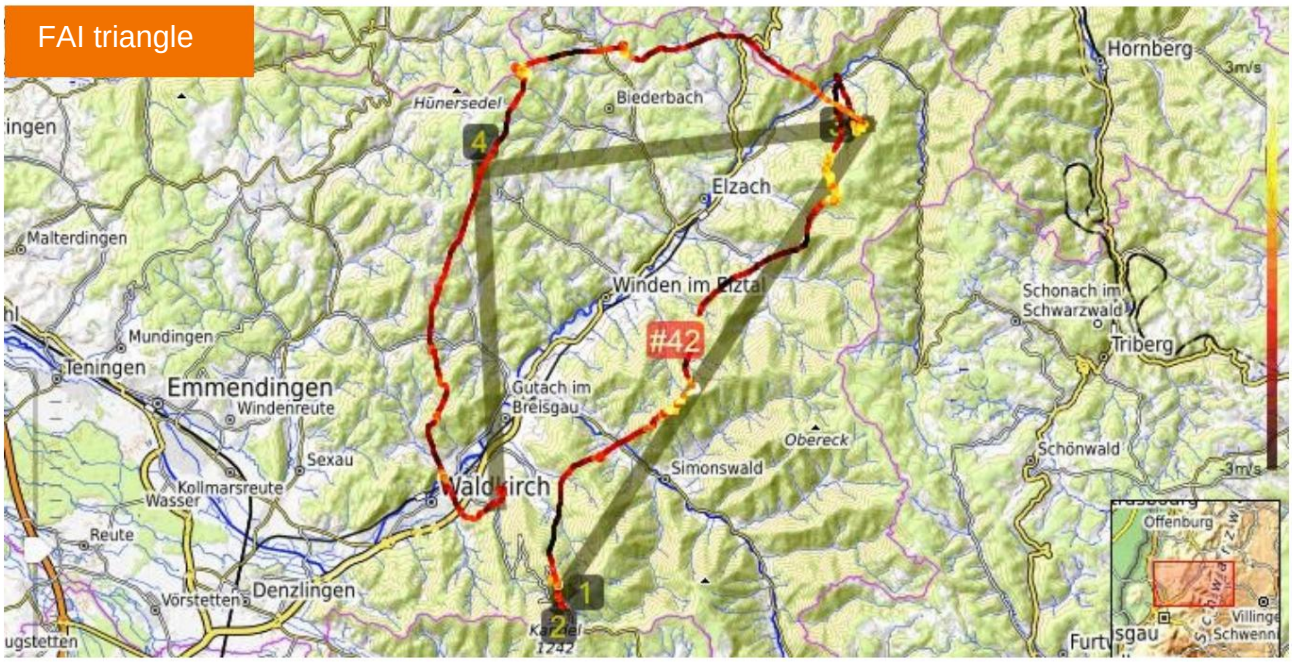
Examples of distance flight calculations

open road

flat triangle



FAI triangle



Navigation - Triangle Assistant

In the FAI triangle, the **maximum number of points** is determined in relation to the distance flown. It is considered the supreme discipline in free cross-country flying, because it places high demands on navigation in the terrain and is only successful in favorable flight conditions (influence of wind!).

We cannot influence the weather, but the SKYTRAXX 5 provides an excellent assistant for navigation. The triangle assistant enables **optimal route finding for FAI triangles** during the flight.

ÿ The display of the FAI triangle sectors is **available on all flight screens with map display.**

ÿ The **Triangle Assistant** flight screen also shows the **XC course** visible as a line and always the **complete calculated triangle** (zoom inactive).

We will add more details about this to this guide soon.

competition flying

There are now a whole range of different competition formats. The "classic" variant is **timed cross-country flying.** The aim is to fly a predefined course (flight route) in the shortest possible time.

Between takeoff and landing, a flight task usually passes through several **fixed waypoints or turning points.** You can imagine these like buoys in a sailing regatta. However, these waypoints (turnpoints) are usually three-dimensional virtual **cylinders** with different radii, the central axis of which is defined by geographical coordinates. Navigation from point to point is done using GPS.

We will add more details about this to this guide soon.

Burnair

Burnair is a very comprehensive flight information system. It is available on a web basis via the Internet browser or as an app for mobile devices.

You can find all information on www.burnair.ch

Some of Burnair's services are also available on the SKYTRAXX 5 if you have booked and activated a corresponding subscription with Burnair and activated the mobile connection. You also have to register your SKYTRAXX 5 in your Burnair account with the device ID.

You can find the device ID (FANET identifier) under **>Menu >Tools >Device Status.**

Activate the Burnair services on the SKYTRAXX 5 at **>Menu >Burnair.**

Currently, the services **Premium Tracking, Wind Stations, Live Favorites , XC Flights** and **My XC Flights** are available.

ÿ **Premium tracking** allows you live tracking every 2 seconds on the Burnair map ÿ **Wind stations** shows you all the stations available on the Burnair map within a radius of approx. 30km via mobile phone connection, even if they do not send their data directly via FANET.

ÿ **Live Favorites** shows you your Burnair favorites within a 30 km radius. ÿ With **XC Flights** you can download waypoints for proven cross-country flight routes for some well-known flying areas.

ÿ With the Burnair Map or the Burnair App you can plan cross-country flights and download the waypoints to your SKYTRAXX 5 via **My XC Flights .**

For further information please contact the website www.burnair.ch

Online Contest (OLC)

For many years, countless pilots have valued the various online competition platforms as a sporting incentive or simply as a convenient, readily available flight log.

Using the integrated data connection (if activated), you can upload your flights directly from the SKYTRAXX 5 to an online server. The device transfers the **flight data** as well as **your pilot data** that you have defined in the pilot profile.

To do this, first create an access profile for the corresponding OLC server:

ÿ Select **>Main Menu >Settings >Competition**

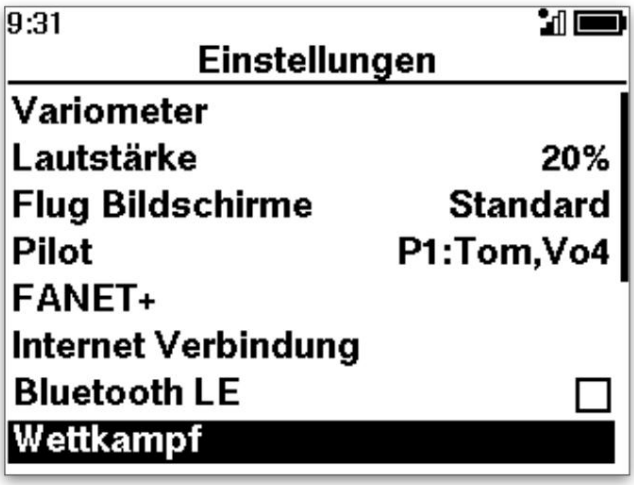
ÿ Then select the desired **OLC server** and then **>Profile(s)**

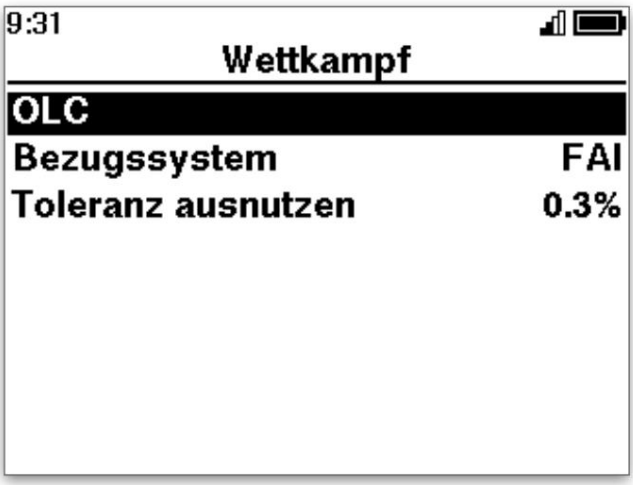
ÿ Create a new profile with any name

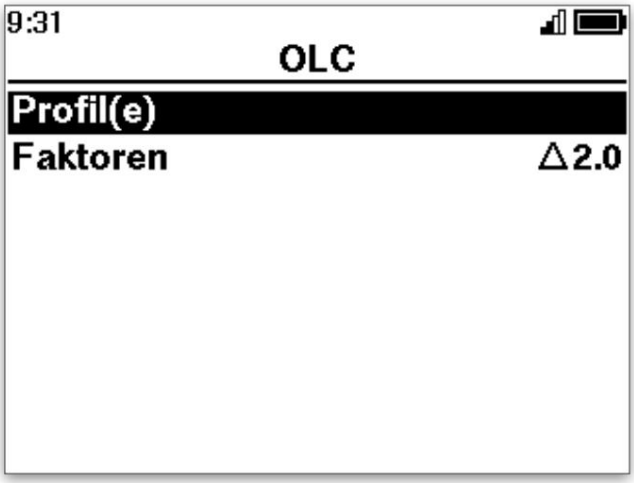
ÿ Follow the on-screen instructions to enter your login details (user name and password) for the online service.

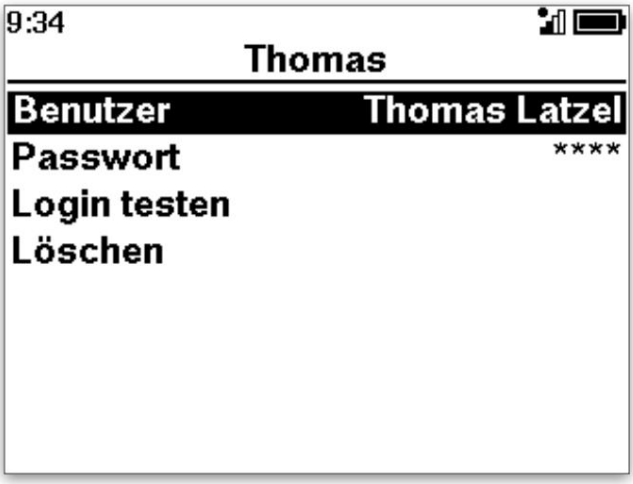
ÿ Save the profile.

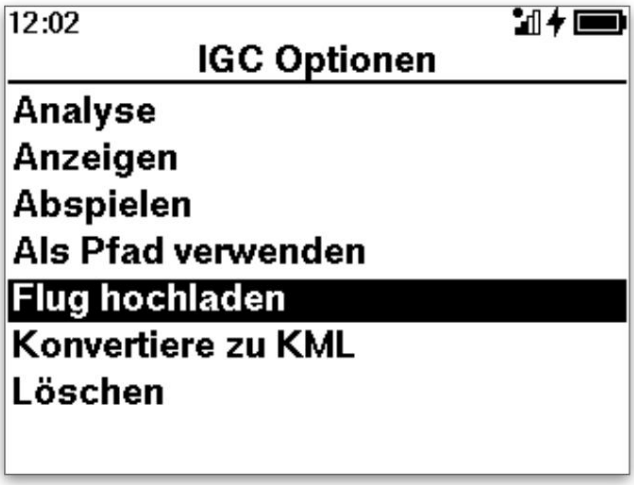
ÿ If necessary, create a separate profile for each online contest.

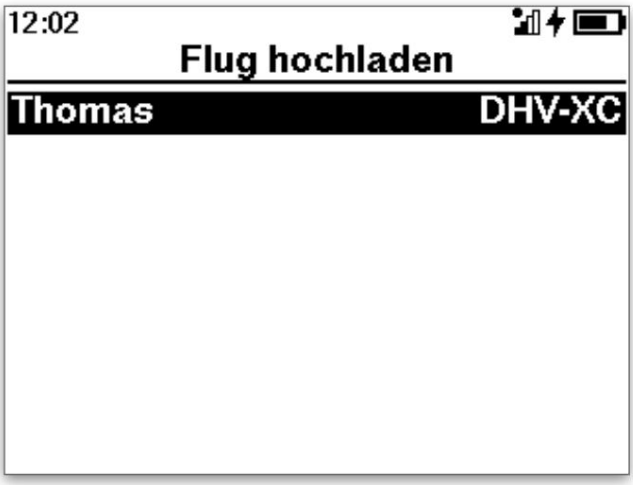












Upload flight to OLC server

To upload a flight, select it in the **flight log** and under IGC options select **>Upload flight** and the corresponding **OLC profile.** Done!

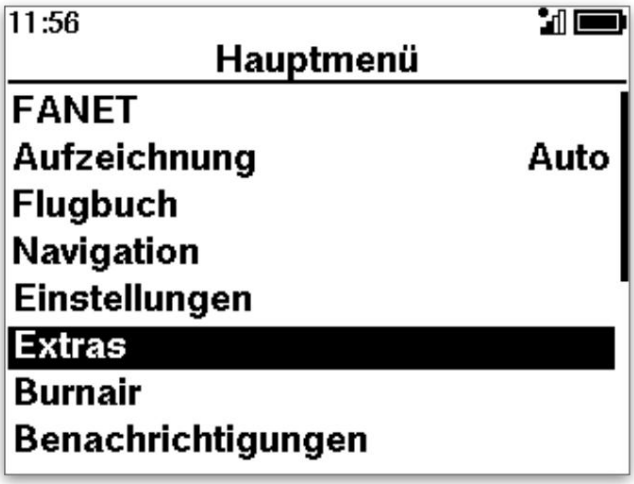
See also the chapters **Flight log** and Upload flight.

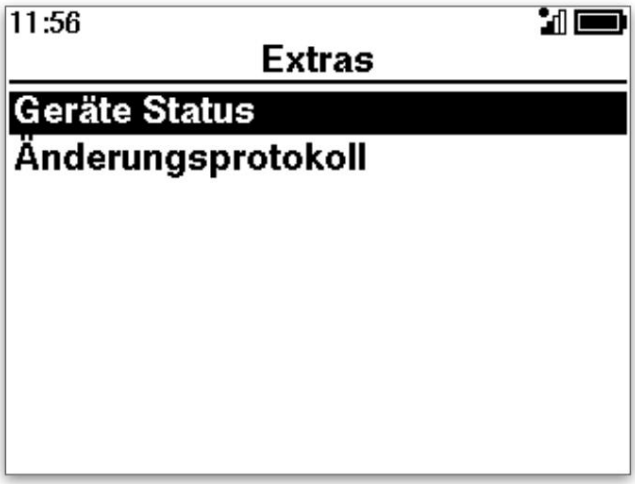
extras

Some setting options for your flight instrument can be found in the main menu under "Extras":

ÿ **Device status:** Shows various information such as geo-position, battery status, etc. ÿ **Change log:**

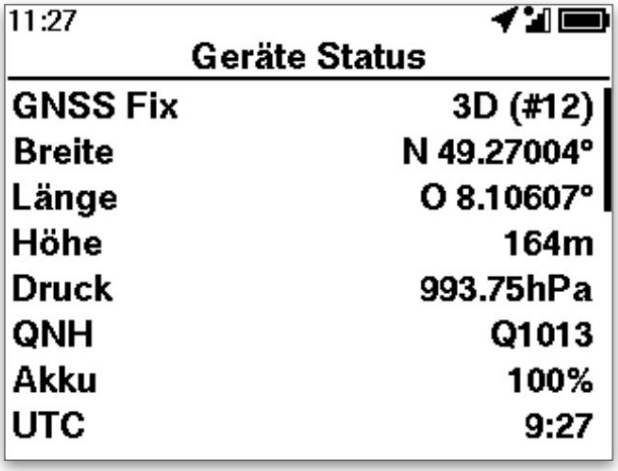
Changes with the last firmware update

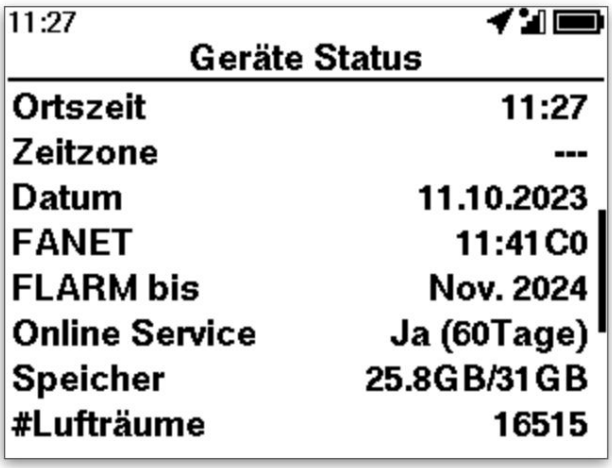


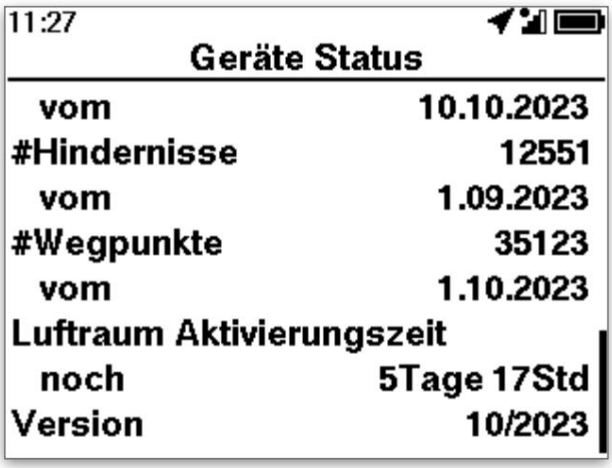


device status

Use the arrow keys to go to the next or previous screen.







ÿ In case of emergency, you can quickly find the coordinates of your current location ready.

ÿ The coordinate format is set under >Settings >General administration > Units defined.

USB port / internal memory

The SKYTRAXX 5 is equipped with a large internal **flash memory .** This memory can be easily connected to Windows, Mac (from OSX 10.7) or Linux-based computer systems as an external drive via the **USB-C port** on the bottom of the device.

To do this, plug the supplied USB-C cable into the bottom of the device and connect it to a USB port on the computer. The symbol for a USB connection will now appear on the display.

The **SKYTRAXX file directory** contains the folder »flights«. The flight data is stored as IGC files in subfolders sorted by year and month; the file name consists of the date, time and flight area.

If the SKYTRAXX is no longer needed as an external mass storage device on the computer, you should disconnect the connection from the computer by **selecting “Eject drive” .**
This ensures that no data is lost or damaged.

update

We are constantly adapting the SKYTRAXX 5 software to the requirements of our pilots, supplementing it with practical experience and correcting any weak points.

With the integrated data connection, the SKYTRAXX 5 continuously updates the system software, the airspace data and the terrain database automatically when you use the online services activated.

To update manually, download the system software or the airspace and terrain data from the Downloads / SKYTRAXX 5 section of the website www.skytraxx.eu.
Then connect the device to a computer via the USB port and copy the files into the appropriate directories (»update«, »airspaces«, »waypoints«).

system reset

By pressing the >Menu button for a longer period (10 seconds), the SKYTRAXX 5 performs a system rest out.

Disclaimer

In rare cases, the flight instrument may not provide any data or may provide incorrect data. SKYTRAXX GmbH declines all claims for damages caused by the malfunction of your device.

The free and freely accessible data such as airspace[1], take-off and landing sites[2] and altitude data were created with the greatest possible care. However, SKYTRAXX GmbH does not guarantee the accuracy and timeliness of the free and freely accessible data provided. Simply downloading the free and freely accessible content does not create any contractual relationship between the user and the provider, insofar as the user does not have the intention to be legally bound.
provider.

The pilot alone is fully responsible for the safe conduct of his/her flights.

[1] Airspace data provided by: https://airspace.xcontest.org

[2] Take-off and landing sites provided by: http://www.paraglidingspots.com/default.aspx

safety instructions

The use of the SKYTRAXX flight instrument is at your own risk. The manufacturer assumes no liability for damage or loss of data.

Furthermore, the manufacturer expressly assumes no liability, in particular for dangerous flight situations caused by possible incorrect displays of altitude, position and speed.

The instrument display may only be read if the current flight situation permits it.

Environmental Protection / Disposal

The SKYTRAXX 5 contains a battery that requires special disposal. As an end user, you are legally obliged to return all used batteries and rechargeable batteries (Battery Ordinance).

Disposal via household waste is prohibited by law!

Removing the battery:

Loosen the 4 screws on the back of the device.

Lift the cover and remove the battery by pulling on the battery socket.

The battery and the device can now be disposed of separately.

You can return your used batteries free of charge to the collection points in your community or anywhere where batteries are sold.

You thereby fulfil your legal obligations and make your contribution to environmental protection

WEEE Reg. No. DE 97761594

The company SKYTRAXX GmbH is connected to the dual system.

Technical data

Power supply: Lithium ion battery 2700 mAh 3.7 V, running time up to 30 hours.

Memory:	32 GB
Data connection: GSM (SIM card integrated) WLAN	
GPS:	Global Navigation Satellite System (GPS, Galileo, GLONASS, BeiDou)
Sensors:	pressure sensor, magnetic sensor, gyro
Display:	4.4" QVGA monochrome TFT reflective
Interface:	USB C
Weight:	200 grams light
Dimensions:	115 mm x 106 mm x 15 mm

guarantee

We provide a 24-month guarantee on our devices from the date of purchase for material and manufacturing defects. Mechanical damage, such as broken casings or displays, is not covered by the guarantee.

For warranty claims, please contact your dealer or the manufacturer directly.
Opening the case will void any warranty claim.

Support

You will find most of the answers to questions about how to use your device in the detailed operating instructions on the website www.skytraxx.eu under “Operation”.

If your SKYTRAXX 5 is damaged by a fall, water landing or other influences or malfunctions occur, please contact our support by email:

support@skytraxx.eu

or please send your device with a detailed description of the error to: SKYTRAXX GmbH, Im Bildstöckle 5, 79822 Titisee-Neustadt

We will endeavour to process your request as quickly as possible.

Simplified EU Declaration of Conformity

Skytraxx GmbH hereby declares that the SKYTRAXX 5 device complies with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: https://www.skytraxx.org/skytraxx40/eudecl40.pdf

Frequency bands and maximum transmission power of the SKYTRAXX 5

Frequency
802.11b/g/n, WiFi (2412 MHz to 2472 MHz) FANET+, ISM (868.0 MHz to 868.6 MHz) M1 & NB-IoT LTE eFDD 1, 3, 8, 20, 28

Transmitting power 19.9 dBm, 13.6 dBm, 17.6 dBm

Simplified EU Declaration of Conformity

Herewith, Skytraxx GmbH declares that the device SKYTRAXX 5 complies with directive 2014/53/EU. The full text of the EU Declaration of Conformity is available at the following internet address: https://www.skytraxx.org/skytraxx40/eudecl40.pdf

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Transmission power 19.9 dBm, 13.6 dBm, 17.6 dBm

Finally

We hope that this manual will provide you with a good guide to the effective use of your SKYTRAXX 5 flight instrument.

We strive to keep this guide up to date and to supplement it if necessary.
If you have any constructive suggestions for this guide, please send us an email to thomas@gemeinsam-fliegen.de

We wish you many nice flights with the SKYTRAXX 5

Photos (unless otherwise noted): Jutta Reiser, Thomas Latzel