

SKYTRAXX 3.0



Short Guide

High-performance flight instrument
with real-time variometer technology

www.skytraxx.eu

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Foreword

We are pleased that you have decided to purchase a SKYRAXX flight instrument and thank you for the confidence you place in our products.

The SKYTRAXX 3.0 is the new top product developed on the basis of the revolutionary SKYTRAXX concept, which is already used in thousands of devices around the world to great success. It offers all the functions you could expect from a modern flight instrument and combines maximum usability, reliability, long battery life, very compact size and a reasonable weight.

We now hope to provide the top level of support to demanding pilots while in flight with easy-to-use, flexible customisation options, which can be adapted to your flying style, your preferences, requirements and current conditions.

We hope you have fun flying with the SKYTRAXX 3.0.

Michael Blank, Managing Director, Dr. (Eng.) Jürgen Eckert, Chief Developer at SKYTRAXX GmbH



SKYTRAXX

The pilot is at the centre of all advancements made at SKYTRAXX. Our products are the result of our own passion for flying and our continual contact with countless pilots around the world – from beginners to professionals at the top of their league.

We will accept nothing less than perfection in functionality and technology and make use of intuitive user interfaces, which are designed with the demands of day-to-day flying in mind. We intend for our products to provide the very best support mid-air.

Our high standards are achieved using flexible concepts perfected over time, only using top-quality components, an outstanding team, creativity and sheer love for what we do. Maintaining a good balance between what is technically possible and what is meaningful for real-life flying is just as important to us as close consultation with our regional component manufacturers and ongoing contact with our customers.

Main features

- > Very extensive functions
- > Exceedingly reliable and easy-to-use
- > Outstanding colour display with automatic brightness adjustment
- > Accelerometer-supported real-time variometer technology
- > Customisable display pages
- > Quick, precise and secure navigation
- > Extensive map functions
- > Highly-precise, latest generation sensor system and GPS module
- > Optimised power management
- > Enhanced airspace display in accordance with ICAO map
- > Pre-installed airspace data
- > Airspace information with current flying altitude
- > AGL function with altitude data
- > Integrated worldwide take-off/landing site database
- > File manager
- > Maximum compatibility
- > Music player

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Function buttons

All the device's functions and settings can be adjusted using the function buttons
– even when wearing gloves



The **far-left button** (**>menu**) offers the following functions:

- > Turn on/off (press and hold for a few seconds each time)
- > Menu (press to access the main menu)
- > Back (press to move back one menu level)

In some sub-menus, a small rectangle will appear above the >Menu button, which shows that an additional function is available. To access, press >Menu until the rectangle becomes shaded in. Additional options will then be available.

Functions offered by the **two central buttons** (**>up / >down**)

- > Browse through menu sections/adjust settings
- > Change scale in map mode

If small points appear in the top right-hand corner of the screen on menu pages, the current menu consists of several sub-pages (number of points = number of pages)

The **right-hand button** (**>OK**) offers the following functions:

- > Confirm selection
- > Switch between display pages

Up and away

SKYTRAXX 3.0 is operationally ready straight from the factory, however, you should charge the battery before your first flight (see Quick start on page 13).

There are a great number of individual configuration options offered by the SKYTRAXX 3.0 for the high-tech pilot of today.

New real-time variometer technology

For users of the SKYTRAXX 2.0 and other flight instruments, the first thing they notice with the new model is the quick reaction of the real-time variometers. After time, the other great advantages of the new vario technology within the SKYTRAXX 3.0 become clear and never before have thermals been so easy to navigate.

For more information, see the SKYTRAXX 3.0 online-manual on our website: **www.skytrax.eu** under »Operating instruction«.



Quick start

The SKYTRAXX 3.0 is preconfigured allowing immediate use.

Switch on: press the On/Off/Menu button >Menu until »booting...« appears on the screen. The device will be ready to launch after 30 seconds.

Record: data logging automatically starts after take-off and ends a few seconds after landing (or when Skytraxx recognises that there is no more aerial movement).

Switch off: press the On/Off/Menu button >Menu until the circle around the Switch-off button is complete and »Bye« appears on the screen.

Display brightness adjusts automatically according to surrounding light levels (can be set manually via the menu).

To **switch between the individual display pages**, use the >OK button. If the display shows a map, the **scale can be changed** using the >Up / >Down buttons.

After a few minutes (time interval can be set via the menu, if needed), the SKY-TRAXX will **switch to Standby mode** to save power. The display will go dark and a red LED will flash. Once the device is moved, it will automatically switch to display mode.

Battery charging: connect the charging unit to the USB port on the right-hand side of the device using the supplied USB cable. The red LED will continue to flash while the battery charges.

Red LED flashing: battery is charging, standby mode or request for attention, e.g. if you are navigating the menu and an airspace warning is issued.

Screen display

The SKYTRAXX 3.0 records all flight-relevant data using highly precise sensors and a GPS system. Clever software modules then evaluate this data and present it on the screen in customisable display fields and on maps. The climb and descent rate are also monitored and are conveyed via acoustic signals (vario beeps).

To improve usability and legibility, optical displays can be divided over several screens (**screens** can be **browsed through using >OK**).

Standard configuration (factory settings) cover a wide range of flying practices. The mode **Simple menu** is protected against accidental deletion or modification. In **Expanded menu** mode, you can change the **screen displays as you wish** and expand them. For more information on this, see the »Screen pages« chapter in the online manual on our website

It is preconfigured for the course to always be shown above on the display maps, i.e. the position symbol is set to **point upwards**; the map and tracked route move in accordance with flight trajectory.

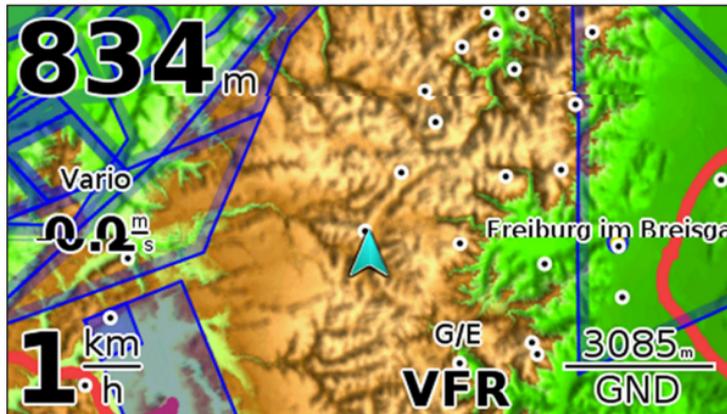
The **scale** of the map currently on display can be changed using the >Up / >Down buttons.

Screen brightness is preconfigured to adjust according to surrounding light levels but a parameter can be set manually via the menu.



Airspace

The SKYTRAXX 3.0 contains a database of all European airspace and a range of flight areas. The map display provides a clear view of various airspaces depending on the scale selected. The colours, hatching and details on airspace boundaries (lower/upper limit) correspond to the ICAO map. **Filled-in fields** refer to an airspace with restrictions for IFR flights below FL 100/125/130/145 (CTR, RMZ, EDR, EDD, TMA, TMZ).

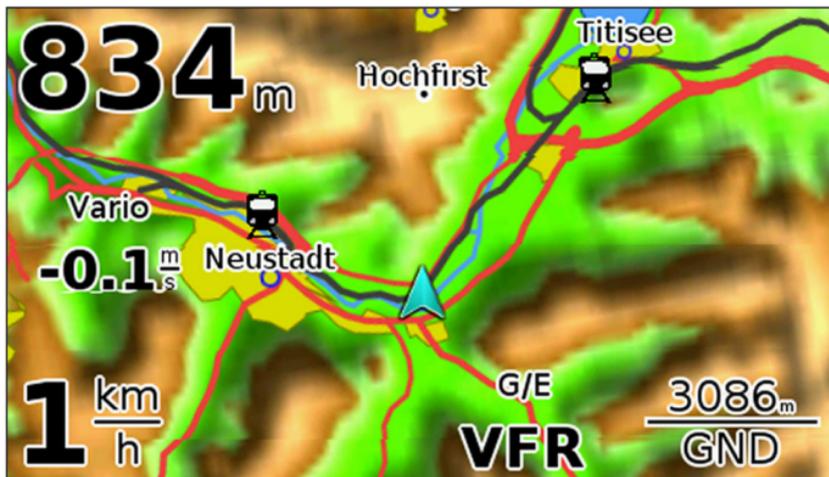


The **Airspace info** shows the **upper and lower limit as well as airspace classification** along with the corresponding rules (VFR / IFR) of the current airspace. This is generally G/E VFR (visual VFR flight permitted in accordance with the visual flight minimum of airspace G/E), as well as GND as the lower limit and current altitude of FL 100 (or FL 125/130/145) in meters above sea level.

The SKYTRAXX 3.0 provides a **proximity warning** for airspaces with restrictions on VFR flights with a corresponding screen on the display and warning tone. **Advanced menu mode enables** you to set the distances (horizontal and vertical) at which an airspace proximity warning is issued.

The device **automatically selects the airspace data** from the internal database (file manager) in accordance with your current position.

The airspace database will correspond to the the data available during the device's year of manufacture. Airspace data can be updated using the **File manager** (see the online manual on our website).



Airspace information on screen:

The visual flight rules of airspace classifications G/E with lower limit GND and current upper level at 3086m above sea level apply at the current position (currently attained altitude of FL 100).

Flight statistics / flight log

Flight data memory

The Skytraxx 3.0 saves recorded data from all flights in a device-based flight log. This can be analysed at any time, played back using an IGC player, or displayed as flight statistics. The memory capacity of the internal flight log is almost limitless and can record thousands of flights.

Flight statistics

To retrieve flight statistics in simple mode, select >Menu >Flight statistics; in the advanced menu, select >Programmes >Flight statistics. Select the desired year using the >Up / >Down buttons and confirm with >OK.

Internal flight log

To analyse flights in simple mode, select >Menu >Flight log; in advanced mode, select >Programmes >Flight log.

Select the data of the flight, then select >Analyse flight. You can browse through the logged data using the arrow buttons or have the flights displayed graphically.

Pilot profiles

The IGC files can also contain personal data, such as pilot name, aircraft etc. if you wish. This makes it easier to interact with the electronic flight logs on external computers and enter data for online contests, such as Leonardo (DHV-XC) or OLC.

Enter **personal data** using >Menu >Settings >Personal data.



The screenshot shows a 'Pilot Profile' screen with a dark blue header. Below the header, there are several rows of text. The first row has 'Pilot:' in blue and 'Thomas' in white. The second row has 'Your Name:' in white and '0000000' in white. The third row has 'Glider Brand:' in white and 'AirDesign' in white. The fourth row has 'Glider:' in white and 'Volt 2 SM' in white. The fifth row has 'Online Contest:' in white and 'DHV-XC' in white. The sixth row has 'Username:' in white and 'Thomas Latzel' in white. A small orange box highlights the 'Your Name:' label.

Pilot:	Thomas
Your Name:	0000000
Glider Brand:	AirDesign
Glider:	Volt 2 SM
Online Contest:	DHV-XC
Username:	Thomas Latzel

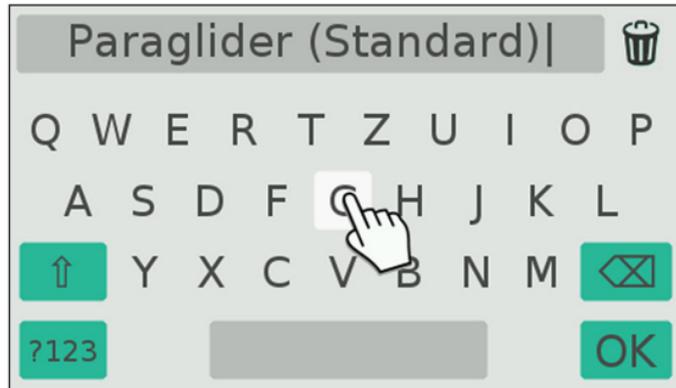
Several profiles can be created, e.g. for tandem or solo flights, or for a variety of pilots.

To do so, press and hold the >Menu button for a few seconds and set up a new profile.

Entering letters and numbers

Personal data and other options will require you to enter letters and numbers. An on-screen keyboard will appear for this purpose. The cursor can be moved over the keyboard by tilting the device back or forward, left or right. Each letter/number is confirmed using >OK.

To finish, you save the characters entered by selecting »ok« on the displayed keyboard.



USB connections / internal memory

The SKYTRAXX 3.0 comes equipped with a large, internal flash drive, which can be simply connected to Windows, Mac (OSX 10.7 and above) or Linux-based systems as an external hard drive using the **USB port on the right-hand side** of the device.

To do so, insert the USB cable provided to the right-hand side of the device and connect it to a USB port on a computer. The red LED will start to flash, which shows that the SKYTRAXX battery is being charged by the computer via the USB lead.

The SKYTRAXX screen will display the message »Connect as USB mass storage device?«. If you confirm the message using >OK, the SKYTRAXX will then be connected to your computer as an external hard drive.

If neither of the buttons is pressed, the SKYTRAXX will automatically connect to the computer as an external mass storage device after approx. 20 seconds.

SKYTRAXX's file manager features a folder called »Flights«, which contains flight data as IGC/KML files in sub-folders sorted by year and month – the file name consists of date, time and flying area.

The file formats are compatible with all prevalent programmes for analysing flight data.

If the SKYTRAXX is no longer required on your computer as a mass storage device, the connection to the computer should be disconnected by clicking »Eject drive«. This will ensure no data is lost or damaged.

The front of the device features a **second USB connection**. This enables external devices to be connected to the SKYTRAXX 3.0, e.g. a **Wi-Fi dongle** for automatic operating system updates or a keyboard to make it easier to enter data.

Configuration

We supply the SKYTRAXX 3.0 in a flight-ready, basic configuration. It is set up in this way to ensure that a wide range of needs are covered.

However, the SKYTRAXX 3.0 can be individually adjusted to preferences and requirements during flight. Configuration can be easily be performed via the device itself, or via external computers.

The factory settings restrict configuration options to the most essential ones to enable a better overview. If required, the device can be switched to a mode enabling advanced settings (see page 25).

Advanced settings mode enables you to configure displays pages as you wish, amongst other options. There are also a range of pre-defined variometer profiles on offer.

For **detailed information on configuring** the SKYTRAXX 3.0, see the **online-manual** on our website **www.skytraxx.eu** under »operation«.

Easy menu

- > **Settings**: for setting up and saving various parameters (see Simple Menu >Settings on the following pages)
- > **Flight statistics**: graphical display of recorded flight time and number of flights per year organised by month. Select the desired year using >Up / >Down and >OK. Then use >Up / >Down to switch between total flight time and number of flights.
- > **IGC Flight log**: contains saved flight data sorted by year and month, as well as day and take-off time. After selecting the corresponding flight, you will be shown flight data such as duration, max. climb, max. flying altitude, etc. as well as a graphical display of flight path and flying altitude above the flying time.
- > **Update** operating software (firmware). See Updating software on page 28.
- > Switch between **Easy Menu** and **Advanced menu**
- > **Shutdown**

Easy menu >Settings

The following settings can be configured for the SKYTRAXX 3.0 in Simple Menu. The settings on offer cover a very wide range of needs from normal flying practice:

- > **Volume:** sets the volume of vario beeps and warning sounds. Select the desired volume level using >Up / >Down button and confirm using >OK. The device then saves the selected volume.
- > **Climb tone Threshold:** this setting determines what climb rate will initiate the vario beeps. In general practice, parameters between 0.2m/sec and 0.5m/sec are adequate.
- > **Map:** manual selection of the map.
- > **Display Brightness:** sets display brightness. This can be set manually using a fixed value or it can automatically adjust the brightness in accordance with light conditions.
- > **Pilot profile:** enables entry of personal data for the flight log. See Pilots profiles on page 20.
- > **Language:** enables selection of the menu language.

- > **Time zone:** adjusts the local time of the current flying area in terms towards UTC. In Central Europe, this is UTC+1 in winter and UTC+2 in summer.
- > **Units:** choice between °C/m and °F/feet.



Updating the software

We continually adapt the SKYTRAXX software in line with the requirements of our pilots. We expand upon them based on practical experiences and rectify any weaknesses.

If you insert a **Wi-Fi dongle** into the **front-side USB port** of the device, the SKYTRAXX 3.0 **automatically updates** the operating software once you select **>Menu >Update**.

When establishing a Wi-Fi connection for the first time, the device will ask for the Wi-Fi access data.

Alternatively, you can download the latest versions of the operating software, maps and airspace data at any time from our website and apply it to your device.

- > **Open www.skytraxx.eu/download** on your computer using an Internet browser
- > Search for the **latest firmware** version for the SKYTRAXX 3.0
- > Click on the **download symbol** and save the file to your computer.

- > **Connect** your flight instrument **via USB** to your computer (see USB connections/internal memory on page 22) and confirm „Connect as USB mass storage device“ with >OK. Your flight instrument will then appear on your computer as an external mass storage device.
- > **Copy** the downloaded file to the „Update“ directory on the SKYTRAXX.
- > **Disconnect** the the SKYTRAXX mass storage device from your computer (eject).
- > Select **>Menu >Update** and then **>Unzip archive**. Select the recently downloaded file and confirm using >OK. Software updating will then start automatically. **Wait** until your device displays the usual screen.

Warranty

We grant a warranty of 24 months for our devices starting from the purchase date, which covers materials and manufacturing faults. Mechanical damage, such as to the housing or a broken screen, is not subject to the warranty obligation.

For warranty claims, please contact your retailer or get in touch with the manufacturer directly.

Opening the device housing invalidates any warranty claims.

Disclaimer

In rare cases, the flight instrument may not supply any data or only erroneous data. The SKYTRAXX GmbH company will reject any claims for damages which arise through improper use of the device.

The pilot bears full responsibility for safely performing their flights.

Environmental protection / disposal

To dispose of your device, simply send it back to the manufacturer. This ensure it will be disposed of properly and you will receive a voucher for 25 Euros.

The SKYTRAXX 3.0 contains a battery which requires special disposal. As an end consumer, you are legally obliged to return all used batteries (Battery Act). Disposal in domestic waste is prohibited!

You can drop off your used batteries for free at your municipal waste collection centre, or wherever batteries are sold.

This will ensure you meet your statutory obligations and play your part in protecting the environment.

Technical data

- > CPU: ARM Cortex-A5 @ 500Mhz
 - > Memory: 8 GB
 - > USB host + client (OTG)
 - > Wi-Fi and Bluetooth via USB
 - > Global navigation satellite system
 - > G-force sensor
 - > Pressure sensor
 - > ACC sensor
 - > Gyro
 - > Light sensor
 - > Magnetic compass
- Power supply: lithium ion battery 3.7 V – 6.800 mAh
Dimensions: (LxWxH) 110 mm x 120 mm x 27 mm
Weight: 300 grammes

Safety notices

Use of the SKYTRAXX flight instrument is at your own risk. The manufacturer assumes no liability for damage and data loss which may arise through use of the PC software provided.

Furthermore, the manufacturer explicitly rejects liability for dangerous flying situations, which arise through erroneous data being provided by the device concerning altitude, position and speed.

Reading the instrument display must only take place if permitted by the current flying situation.

We hope you enjoy many amazing flights with your SKYTRAXX 3.0

Support

Most questions on how to operate the device can be found in this manual. The latest version of the manual you find online on our website at www.skytraxx.eu.

If your SKYTRAXX 3.0 becomes damaged through a crash, water landing or other factors, or functional errors occur, please contact our support team via

support@skytraxx.eu by email

or send your device – including a precise description of the error – to: SKYTRAXX GmbH, Im Bildstöckle 5, 79822 Titisee-Neustadt, Germany

We will strive to address your issue as soon as possible.



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