Flytec SensBox
SW Release Notes

English

File Naming Convention

The version number is xx.xx, currently 03.02, with 03 as major update and 02 as minor update.

FSfw0106.upg	A "small" Firmware upgrade without CC2540 Firmware
FSfc0106.upg	A "big" upgrade incl. CC2540. This is the general update.
FSfb0241.upg	A "big" upgrade including boot loader update. This upgrade needs special handling which is described in the release note
Cfw0106.upg	A special firmware for internal hardware tests and adjustments.
FSforce.upg	A version which overwrites all previous versions.

Only one *.upg file must be present in the folder \system. Otherwise Error 1 occurs.

EEPROM upgrades are related to the serial number
EEPROM dump from SensBox to the computer

FSe00031.upd	Current EEDump serial number #31

Writing back the EEPROM from the computer to the SensBox EEPROM

FSe00031.upg	Writing back to the serial number #31
FSeeforce.upg	with flexible EEPROM container for Factory reset

Configuration files are either tied to a specific instrument, or can be applied to all devices:

FSc00031.cfg	Configuration file for SensBox with serial number #31
FScforce.cfg	General configuration update. Will be deleted after reading
FLc00031.cfg	Flytec Logger configuration for serial number #31 (obsolete after version 3.02)
FLcforce.cfg	General configuration update. Will be deleted after reading (obsolete after version 3.02)

How to load a new firmware into the Sensbox ?

Copy the new firmware to the SD card into the system folder \system of the SD card. Warning: it may only be one firmware (*.upg) in the system folder, otherwise the error message "Err 1" appears. After, re-insert the SD card into the SensBox and press the **FUNC / OK button** along with the **power button.** The display will show UPG with the loading bar. Once the firmware update is completed, the device switches off.

FSfc0302 from 3.11.2014

- Combines Vario and Logger modes: Right after starting the SensBox, chose "FLY" for Vario mode, or "LOG" for Logger mode. In Vario mode, the output is an IGC file in the \tracks directory. In Logger mode, the output is a CSV file in the \logs directory.
- Configuration file (FScxxxxx.cfg) is now automatically created if missing.
- Bug fix: Now barometric altitude is updated at up to 8 Hz in Logger mode (was only 1 Hz before)

FSfb0245 from 08.05.2014

- Magnetic compass zero point calibration. By external magnetic fields, magnetic components can be magnetized in the vicinity of the magnetic field sensor. Thus, the zero point and the compass shift is no longer correct. Version 2.45 offers the possibility of re-calibration.
  Procedure:
  - Select the magnetic compass function with the OK / Func function key.
  - Go to a place with an undisturbed earth's magnetic. So as far as possible (min. 5 to 10 m) of iron-containing structures such as buildings, cars, walls, etc. Remind, that also a smartphone is changing the magnetic field due to the loudspeaker.
  - Long press on OK / Func. The unit starts to beep rapidly.
  - Now rotate the SensBox in all directions until the SensBox stops beeping.
  - Check the compass. If there is still a large difference can, repeat the procedure possibly at another location.
- IGC file is no longer divided at midnight
- When the flight memory is full, the user is alerted visually. The flight memory can store about 24 hours of recording time at 1 second recording rate.

FSfb0242 from 01.05.2014

- This upgrade installs a new bootloader to solve the problems with the upgrade with Mac computers. For this upgrade, a special procedure is necessary. (See also our instructions on the website)
  - Copy this update from our website directly to the SD card, preferably with a Windows PC. If you are unable to make the update with a Mac, you can order a SD card from us. If you get this SD card, place it directly into the SensBox, without looking at it previously on a computer.
  - Press the Ok key and switch the device on with the power button. The display will show UPG- and a character is running around down in the right corner, in a circle. This first upgrade goes fast. The unit turns off itself.
  - Turn the unit on again with the power button. It reappears UPG - . This upgrade is of medium length. The unit turns off itself
  - Turn the unit on again with the power button. It appears UPG- . This upgrade is long. The unit turns off itself.
  - Turn the unit on again with the power button. It starts normally and you need to press OK, to bring it up properly.
  - The settings have now been resetted to factory settings. You must re-enter

your settings with our SensBox Config Tool.
- The old settings have been saved under the name FSc00XX.cf_ in the folder \system If you need these settings, you can rename it to FSc00XX.cfg and delete the other file. We do not guarantee that the Sensbox with these old settings is still running clean.

- Added syslog logging "syslog.txt" in the folder \system. In case of support needed from Flytec, please send us this file together with an IGC file for further analysis

- Various AHRS algorithms selectable. Without special settings, a simple tilt-compensated compass is selected. For the other algorithms (Mahony, Madgwick) please contact Flytec for more information

- Adjusted default parameters for AHRS Mahony

- In the IGC file now the altitude above geoid is logged. Before it was according to the IGC specifications the altitude above ellipsoid. But this is not usual in paragliding and hang-gliding sports

- IGC Headers reordered according IGC specifications

- Typo in some IGC Headers fixed

- Use SIU==0 in a B record as limit for lat/long buffering. When SIU ==0 the last coordinate is repeated until a valid fix occurs

- Set SIU=0 when no valid fix. In this case the coordinates are wrong and should not be used for flight analysis.

- If the validity flag in a B record is V this B record is not valid. But if the SIU is bigger than 3, then the 2D position could be valid.

FSfc0120 SVN504 from 29.10.2013

- Bugfix with the original Galaxy Android. The Update Request Parameter will be omitted while connecting BLE.

- New Parameter AudioAutoMute. Can be 0 or 1. With AudioAutoMute = 1 audio will be muted while the BLE connection is established. (Identical to BLE_MuteAll)

- New Parameter AudioSteadyMode. Can be 0 or 1. With AudioSteadyMode = 1 the variosound will be hold steady during a beep like in the 6030/6020/IQ-Compeo+/IQ-Competition series.

- New parameter QNHAutoAdjust. Can be 0 or 1. With QNHAutoAdjust = 1 The altitude will be adjusted to the GPS Altitude until a flight recognition occurs, or the user sets the altitude manually on the SensBox or remote via BLE.

FSfc0111 SNV477 from 31.07.2013

- Automatic adjustment of the QNH according to the GPS-Altitude. Can be deactivtated with QNHAutoAdjust=0. Default is QNHAutoAdjust=1. (will be added to the Config tool soon)

- Bugfix with setting data. When changed via USB they won't be overwritten anymore.

- New "BLE_MuteAll" setting. This value can be set to =1 set all audio on mute. If the audio volume is changed manually "mute" will be deactivated.

- FAT time is now in local time
- Bugfix, user interface will be updated when audio volume is changed from BLE
- New display of the firmware version. The format is "FS.01.11"

.FSfc0110 SNV466 from 10.05.2013

- IGC new values added to the B record
- Additional 1 digit for Lat/Long
- Vario
- Acceleration (x,y,z)
- 8Hz Vario to BLE.

.FSfc0109 SNV463 from 05.04.2013

- BugFix of saved tracks without start in auto mode. Additionally, a new track starts when recording in auto mode is started manually.
- Small imporvements in the communication between NXP and CC2540. (Needs a full update)

.FSfc0108 SNV455 from 27.03.2013

- Key up down in compass mode brings up the Acceleration. This information is also stored in the settings:
- "CompassDisp" set to 0/1. 0=Kompass, 1=Acceleration
- The Acceleration is the length of the acceleration vector, which means that negative accelerations don't exist.