A-EFIS
User's Guide

Thank you for installing A-EFIS. Please spend some time to read this manual and get familiar with A-EFIS before using it in a flight. Although we have tried to make the interface of A-EFIS as simple and intuitive as possible, it is important that you know how to use it before you make the first flight.

ATTENTION: A-EFIS is not a certified aviation instrument. Do not rely on A-EFIS as your only navigation aid. Failure to comply to this warning may result in property damage, serious injury or death. You assume total responsibility and risk associated with using this application.

Contents

1 Short description

A-EFIS is an Electronic Flight Information System for airplanes, which runs right on your smart-phone/tablet. A-EFIS runs both on Android and IOS devices (smart-phones or tablets).

A-EFIS makes use of digital filtering methods and state-of-the-art stochastic models in order to track the attitude of your airplane with accuracy and robustness. For correct operation, the device must have access to data from (at least) the following sensors: three-axis gyroscope, three-axis accelerometer, three-axis magnetometer, GPS and/or airspeed sensor. If any of these sensors is not available, a notification is shown on the screen. The same notification appears if, during the flight, a sensor stops functioning e.g. the GPS. This is to let you know that you cannot trust the AHRS indication.

Depending on the available hardware, A-EFIS can either use the internal sensors of your mobile device (smart-phone or tablet), or the sensors of an external sensor box (AEOLUS-SENSE), or both (AEOLUS).

2 Versions and limitations

Table 1: A-EFIS versions and limitations

Version	Limitations
A-EFIS Free	Black & white EFIS screen, reminder every 20 min
A-EFIS for Android	none
A-EFIS Free for IOS	Black & white EFIS screen, reminder every 20 min
A-EFIS for IOS	none

A-EFIS comes in two different version (full and free) for two different platforms (Android and IOS). The free version is similar to the free version with the exception of the limitations summarized on Table 1.

All limitations of the free version are withdrawn when A-EFIS is connected to an AEOLUS or AEOLUS-SENSE sensos box. I.e. the free version becomes the same as the full version when using a Talos Avionics' external sensor box.

3 Features

- Artificial Horizon (AHRS)
- Ground speed
- Altimeter (via barometric pressure sensor, if available, or via GPS)
- Vertical speed (via barometric pressure sensor, if available, or via GPS)

- Turn coordinator
- Slip ball
- Compass
- True course indicator (via GPS)
- Deviation from true track indication
- Indicated Air Speed (via external sensor box: AEOLUS or AEOLUS-SENSE)
- True Air Speed (via external sensor box: AEOLUS or AEOLUS-SENSE)
- Outside Air Temperature (via external sensor box: AEOLUS or AEOLUS-SENSE)

4 Sensor Input

A-EFIS makes use of the following sensors: accelerometers, gyroscopes, magnetometers GPS, barometric pressure sensor, airspeed (via Pitot-Static system) and outside air temperature. Depending on the hardware, sensor data may either come from your smart-phone's or tablet's internal sensors or they can come from an external sensor box such as AEOLUS or AEOLUS-SENSE. Table 2 depicts the availability of each type of sensor on different types of hardware. A brief description of each type of sensor and how it is being used by A-EFIS is given in the following sections.

Table 2: A-EFIS Sensors

Sensors	Internal	AEOLUS	AEOLUS-SENSE
Three axes accelerometers	depends on device	no	yes
Three axes gyroscopes	depends on device	no	yes
Three axes magnetometers	depends on device	no	yes
GPS	depends on device	no	yes
Barometric Pressure	depends on device	yes	yes
Airspeed	no	yes	yes
Outside Air Temperature	no	yes	yes

4.1 Three-axis accelerometers

Accelerometers measure the linear acceleration of the device including the acceleration due to gravity. A three-axis accelerometer is required in order for the artificial horizon to work.

Accelerometer data can be provided either via the internal sensors of your smartphone/tablet or via an external sensor box (AEOLUS SENSE).

4.2 Three-axis gyroscopes

Gyroscopes measure the angular (rotating) speed of the device. A three-axis gyroscope is required in order for the artificial horizon to work.

Gyroscope data can be provided either via the internal sensors of your smartphone/tablet, or via an external sensor box (AEOLUS SENSE).

4.3 Three-axis magnetometer

Magnetometers measure the magnetic field around the device. A three-axis magnetometer can be used to locate the magnetic field of the earth. A three axis magnetometer is required in order for the compass function to work.

Magnetometer data can be provided either via the internal sensors of your smartphone or tablet, or via an external sensor box (AEOLUS SENSE).

4.4 GPS receiver

A GPS receiver is required in order for A-EFIS to know the coordinates of the airplane and the direction of travel. If a compass (a three-axis magnetometer) is not available or is not reliable (e.g. due to magnetic interference), the GPS signal can be used to provide the bearing of the airplane. The GPS signal is also used in order to provide ground speed, altitude and vertical speed if an external sensor box with a pitot-static system (i.e AEOLUS or AEOLUS-SENSE) is not available. Please note that if airspeed is not available via an external sensor box, then a GPS receiver is required in order for the artificial horizon to work.

GPS data is provided either via the internal GPS receiver of your smartphone/tablet or via an external sensor box (AEOLUS SENSE).

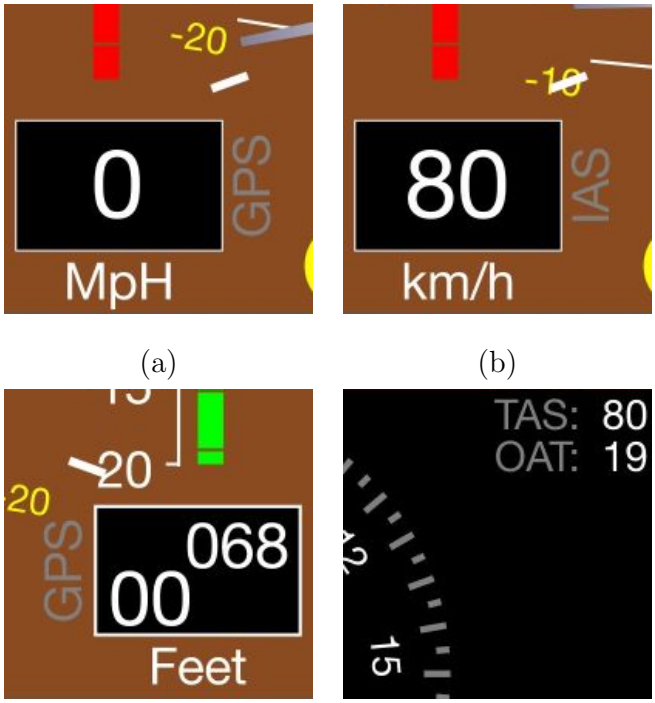
4.5 Barometric pressure sensor

Barometric pressure is used in order to compute the altitude of the airplane and the vertical speed. To compute the altitude the pilot needs to enter the pressure at sea level (see Section 8.2).

Some high-end mobile phones do have an internal barometric pressure sensor. If your smart-phone or tablet does not have a pressure sensor, an external sensor box (e.g. AEOLUS or AEOLUS-SENSE) is needed in order to provide the required pressure data. Alternatively, if no barometric pressure sensor is present and no external pressure sensor is available, the GPS receiver is used in order to provide altitude and vertical speed. In this case a gray "GPS" indication is shown on the left side of the altitude indication (Figure 1a, b).

4.6 Airspeed sensor

Indicated Air Speed (IAS) is provided via a Pitot-Static system. An external sensor box (AEOLUS or AEOLUS-SENSE) is needed in order to provide IAS. If no external sensor is available, the indicated speed of the airplane is provided by the GPS (ground speed). In this case a gray "GPS" indication is displayed on the right side of the speed indication (Figure 1c).



(a) (b)

(c) (d)

Figure 1: (a) Ground Speed: The gray "GPS" besides the speed indication means that there is no Airspeed sensor. Thus, the displayed speed is the ground speed. (b) Indicated Air Speed: The gray "IAS" means that the displayed speed is the Indicated Air Speed provided by the Pitot-Static system and the external sensor box. (c) The gray "GPS" besides the altitude indication means that there is no barometric pressure sensor. Hence, altitude is provided by the GPS. (d) True Air Speed (TAS) and Outside Air Temperature (OAT), if available, are displayed on the top right corner of the HSi display.

4.7 Outside air temperature sensor

Outside Air Temperature (OAT) is necessary in order to adjust the Indicated Air Speed (as given by the Pitot-Static system) and to compute your airplane's True Air Speed (TAS). An external temperature probe connected to the external sensor box (AEOLUS or AEOLUS-SENSE) is used in order to provide the Outside Air Temperature (Figure 1d). If there is no external sensor box, True Air Speed cannot be computed and thus it is not displayed. Similarly, Outside Air Temperature is not displayed.

5 Application layout

The main application interface consists of seven screens: Main display, Menu, Options, Responsiveness, Sensor status, Waypoints and Top View (Figure 2). You can switch between screens by swiping left to right and right to left.

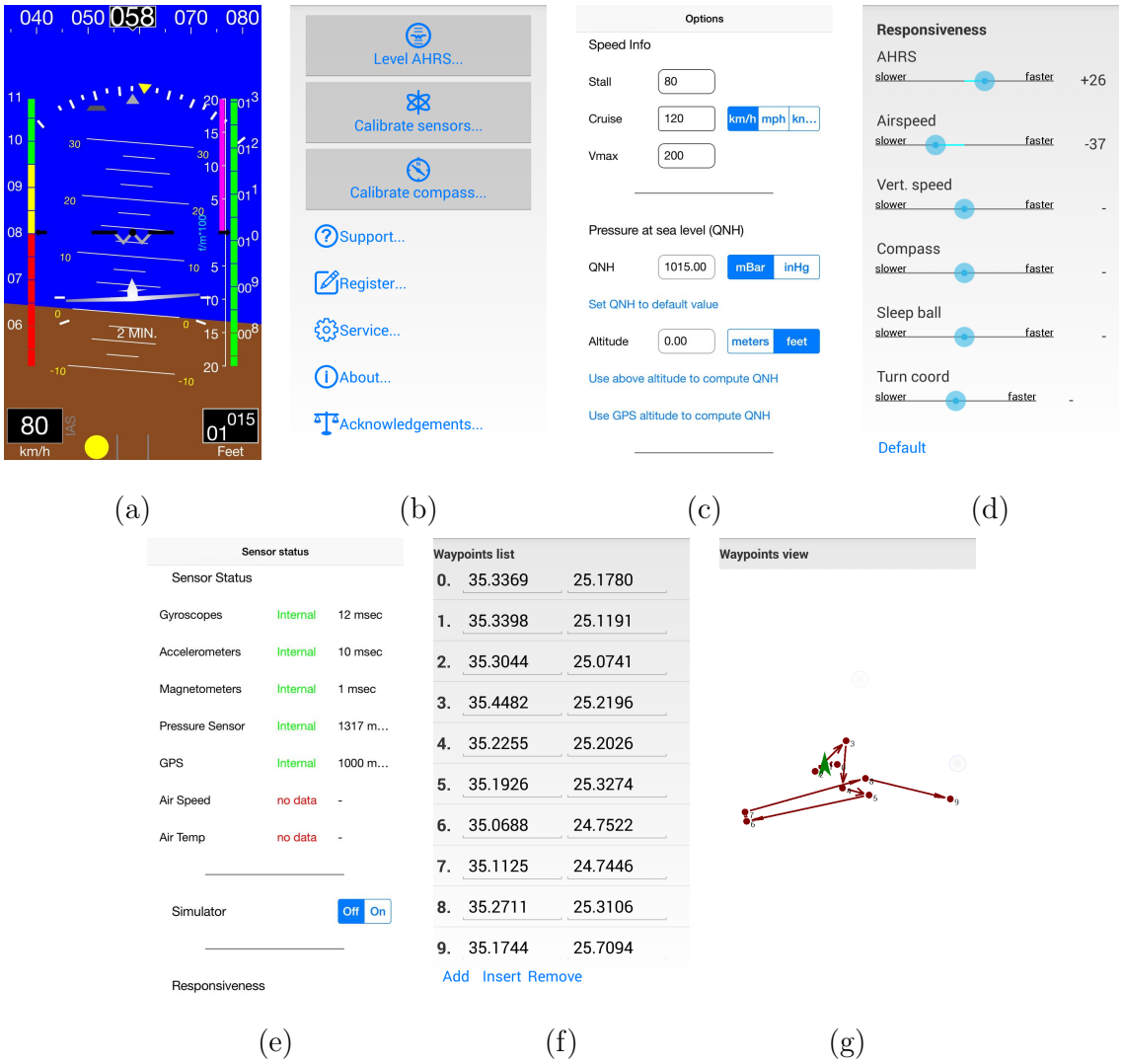


Figure 2: The application interface consists of five screens: (a) EFIS screen, (b) Menu screen, (c) Options screen (d) Responsiveness (e) Sensor status screen, (f) Waypoints (g) Top View. Swipe left/right to switch between screens.

6 EFIS screen

Figure 3 depicts the main EFIS screen in portrait (Figures 3a, 3c) and landscape (Figures 3b, 3d) layouts. The layout (portrait or landscape) is automatically chosen when you start the application. You cannot change the layout while in flight or while the application is running. You must do this selection before flight. If, for any reason, you would like to change the layout during the flight, you should close the application, rotate the device, and, then, start again the application.

Figure 3 also depicts the main EFIS screen with (Figures 3a, 3b) and without (Figures 3c, 3d) the HSI display. You can toggle the HSI display on and off by long-tapping (firmly pressing for 1-2 sec) at the screen.

Figure 4 displays an overview of the interaction possibilities with the main EFIS Screen.

6.1 Switch units

- To switch speed units, tap on the speed rectangle (black rectangle at the bottom left corner of the artificial horizon window). Every time you tap, units change between km/h, mph, and knots.
- To switch altitude units, tap on the altitude rectangle (black rectangle at the bottom right corner of the artificial horizon window). Tapping switches units between meters and feet.
- To switch vario (vertical speed) units between feet/min or meters/sec, tap on the vertical speed bar which is located on the left of the altitude bar.

Tapping on the main screen can either change the relevant unit temporarily (for five seconds) or permanently. This behavior is configured in the Options screen (Section 8.3). In the Options screen you can also change the default units.

6.2 Turn coordinator

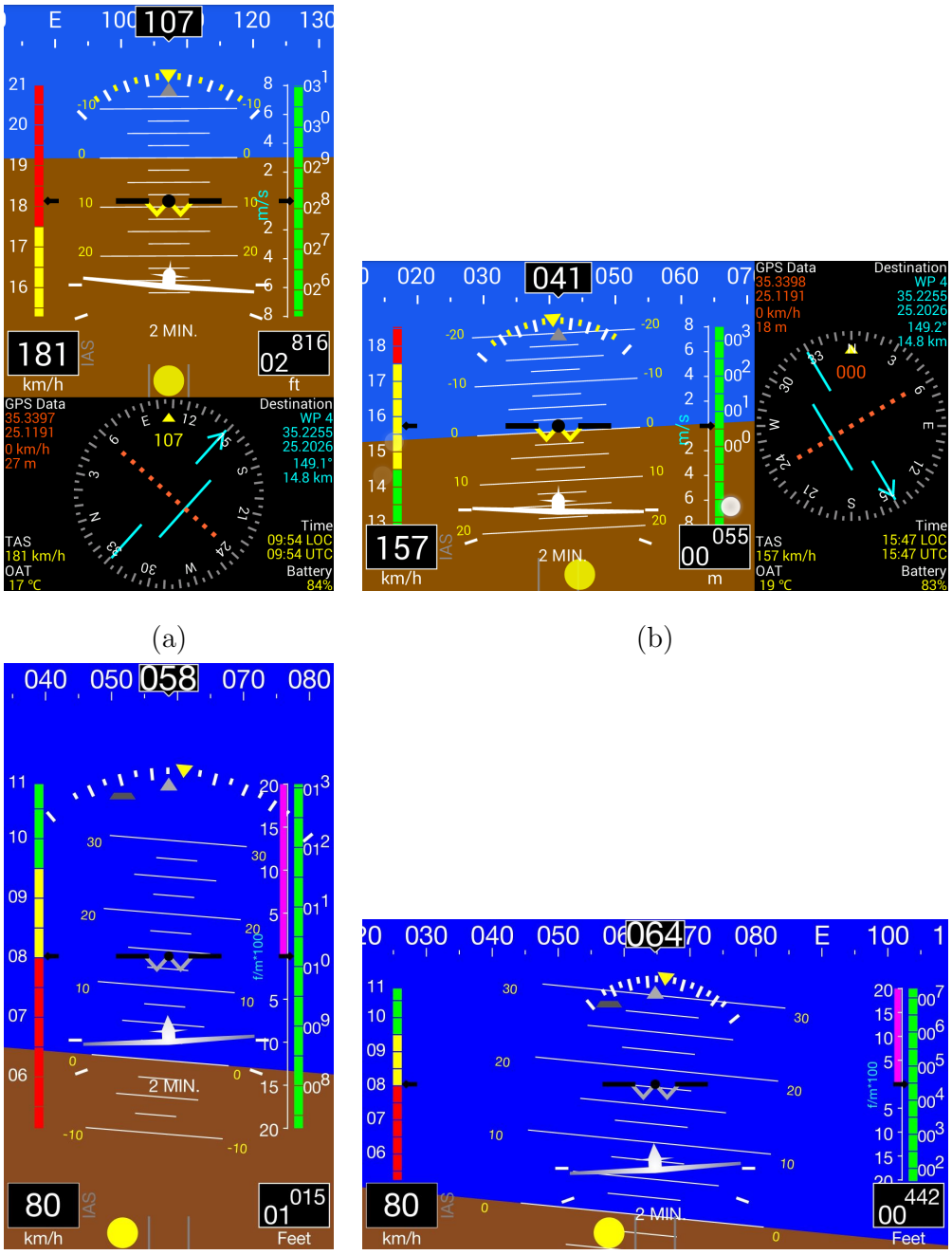
- To switch on or off the turn coordinator during flight, fast tap with one finger in the middle of the screen.

6.3 Compass strip

The strip of numbers at the top of the artificial horizon is the indication for your heading.

- To switch the indication of the strip between true track (red color) and magnetic heading (white), fast tap in the small window in the middle of the strip.

Please note that for correct indication of the compass, you must install the device as far away as possible from any metallic objects or sources of strong electromagnetic field. You will also need to calibrate the compass according to the instructions given in Section 7.3.



(a) (b)

(c) (d)

Figure 3: Main EFIS screen. Portrait (a,c) and landscape (b,d) layouts with (a,b) and without (c,d) the HSI display.

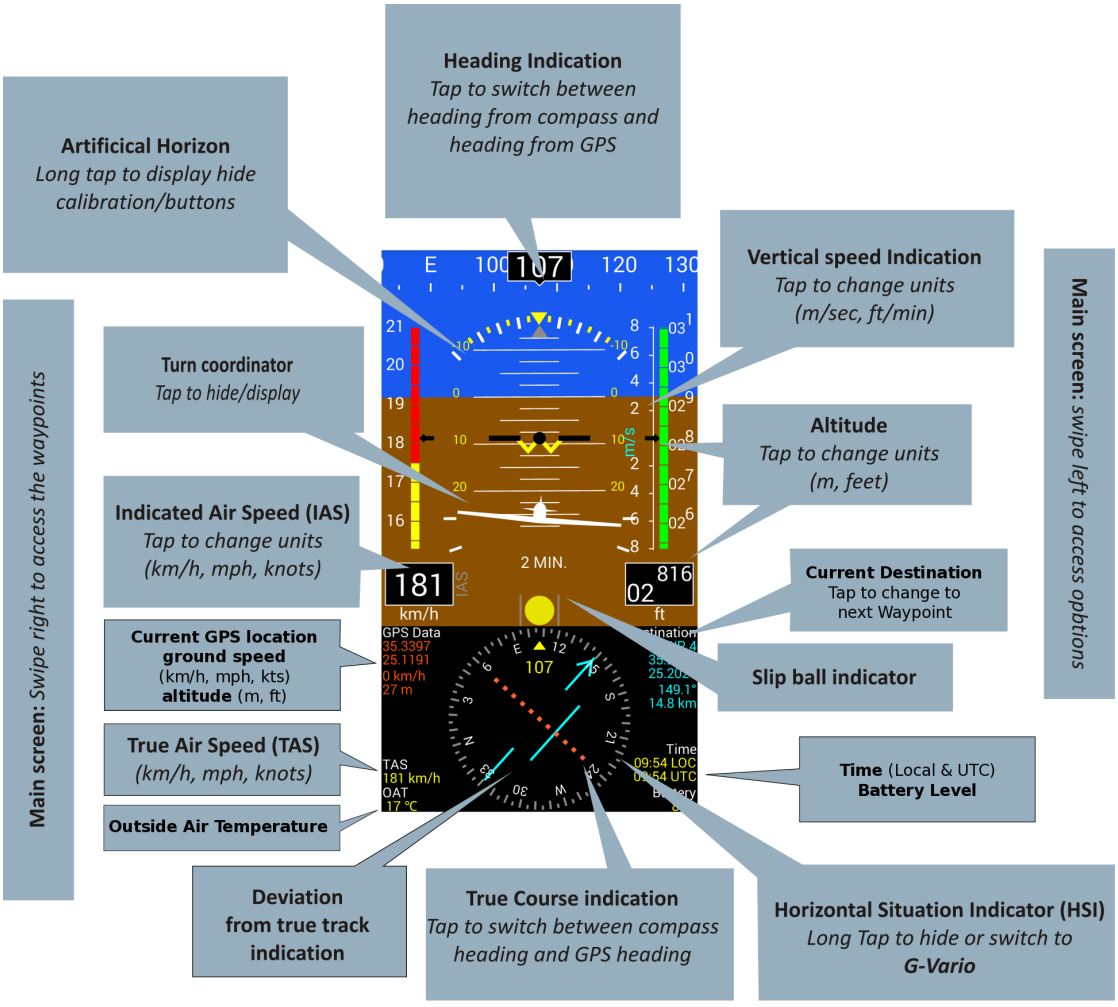


Figure 4: Interacting with the EFIS screen

6.4 Tail dragger calibration

If you install A-EFIS in a tail dragger and you know the attitude of your plane while on the ground, you can adjust the artificial horizon by using the procedure described below.

- Tap close to the center of the screen using two fingers simultaneously. You will notice a screen with six purple arrows that will appear.
- You can adjust the plane's attitude, pitch or roll, by tapping on the corresponding arrow. Each tap changes the corresponding variable by 1 degree.
- To dismiss the tail dragger calibration screen, tap again in the center on the screen with two fingers.

Before manually calibrating the roll and pitch of your tail dragger, you should perform an automatic AHRS calibration, using the procedure described in Section 7.2.

6.5 HSI Display

On the right side of the screen (when in landscape mode), or at the bottom of the screen (when in portrait mode), you can see the HSI window.

- To switch on and off the HSI display during operation, tap with one finger in the middle of the screen for more than 2 secs.

The outer circle shows the angle from the set waypoint, while the green arrow shows the actual GPS course. To set new waypoints see Section 11.

- During the flight you can easily switch among the waypoints you have entered by taping on the top right corner of the HSI screen (under the caption "Destination"). Alternatively, you can tap and check the desired waypoint at the waypoints screen (see Section 11).
- By short taping on the HSI rose, you can switch the indication from true track (red color) to magnetic heading (yellow).

Coordinates are displayed either in Decimal, DMS (degrees, minutes, seconds) or DMM (degrees, decimal minutes) format. The coordinates format is selected in the Options screen (Section 8.3).

In the middle of the HSI rose you can see one green arrow and a series of orange dots. The green arrow indicates the angular deviation of your course from the desired course.

A part of this arrow is broken and moves on the left or the right of the arrow. This measures the distance between your current location and the straight line connecting the previous and the current waypoint (i.e. the deviation from your course). Each dot of the orange line corresponds to two miles out of course.

The small triangle points to the nose of the aircraft, while the legend below it, shows the set course.

7 Menu screen

Figure 2b depicts the menu screen. The menu screen includes three buttons for AHRS-leveling, for sensor calibration (accelerometers and gyroscopes) and for compass calibration as well as buttons with links to register your software, support, service commands and the about box.

7.1 AHRS Leveling

Whether you use the internal sensors of your phone/tablet or an external sensor box, the sensors should be placed close to the symmetry axis of the airplane with their respective axes as parallel to the axes of the airplane as possible. If you are using the internal sensors of a mobile phone or tablet, the correct placement of your device is vertical. If you are using AEOLUS-SENSE then the correct placement is with the pressure connectors facing forwards. See Figure 14.

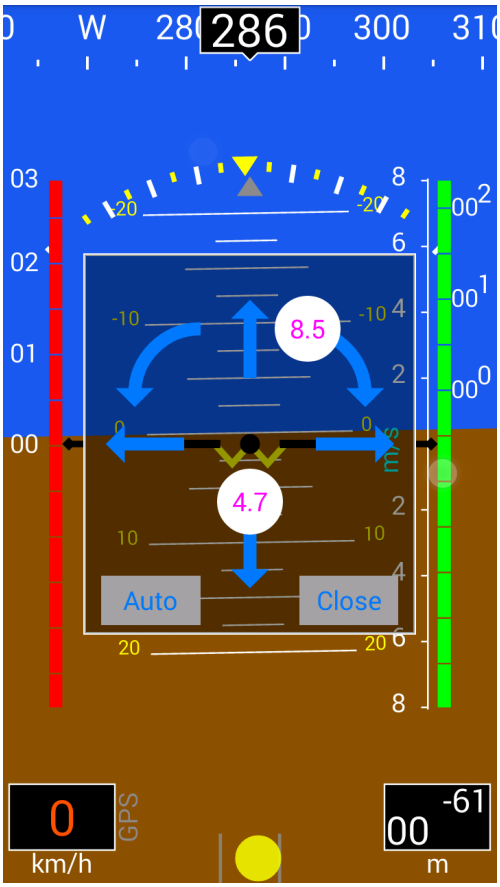


Figure 5: AHRS leveling. Press "Auto" for automatic leveling, and/or use the arrows to manually adjust the AHRS and the compass

Unfortunately, the placement of the device, cannot always be performed with accuracy. AHRS leveling allows the user to adjust the placement of the device, compensating for any inaccuracies during placement.

The "AHRS leveling" procedure described below needs only to be done once, after you have mounted your device on the cockpit and after you have performed sensor and compass calibration (Sections 7.2 and 7.3, respectively).

If, for any reason, there is a need to change the placement of your device (or the sensor box, if you are using AEOLUS-SENSE), you must repeat the AHRS calibration procedure. Nevertheless, it is a good practice to repeat the calibration procedure (i.e. press the "AHRS leveling" button) every time you change position of your device or, maybe, whenever you are about to start a flight.

- Start the A-EFIS software on your mobile device.
- If using and external sensor box, make sure that your mobile device is connected to the external sensor box.
- Swipe right to the menu screen and press "AHRS leveling".
- AEFIS will return back to the main screen and the "AHRS leveling" window (Fig. 5) will appear.
- Press the "Auto" button for automatic AHRS leveling, and/or use the arrows to manually adjust the AHRS. Manual adjustment may unavoidable if, for example, you are using A-EFIS on an aircraft with a tailwheel-type landing gear (a taildragger).
- When you are done leveling the AHRS, press "Close" to save the changes and return to the main screen.

ATTENTION: During automatic AHRS leveling the engine must be normally off and the aircraft on the ground, with the same attitude as when in a straight and leveled flight. Your device must be mounted on a solid, non vibrating holder. Suction cup holders are usually not suitable, because they tend to vibrate too much when in turbulence. If you use the device in a tail-dragger plane or an aircraft which has different attitude on the ground and in the air, you will need to manually adjust the attitude of the plane. See Section 6.4.

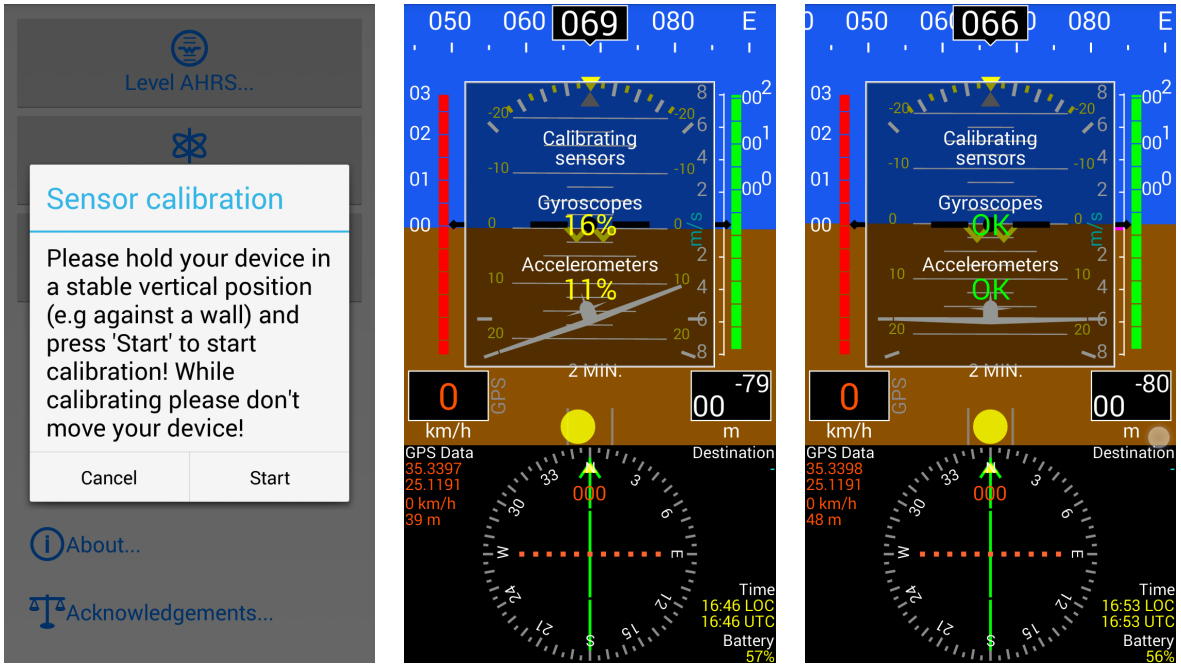
If, for any reason, you need to re-level the AHRS during flight, you have to fly a leveled and straight flight with as little as possible vibrations from the engine. Leveling during flight is much less accurate that leveling on the ground.

7.2 Sensor calibration

Before you start using your device you should calibrate the gyroscopes and the accelerometers.

The "Sensor calibration" procedure described below needs only to be done once.

- Start the A-EFIS software on your mobile device.
- Hold your device vertically against a flat vertical surface (e.g. a wall).
- Swipe right to the menu screen and press "Sensor calibration".
- AEFIS will return back to the main screen and the "Sensor calibration" window (Fig. 6) will appear.
- Don't move your device while the sensors are being calibrated.
- The calibration window will automatically close when the calibration procedure is over.



(a) (b) (c)

Figure 6: Sensor calibration. (a) Press "Start" to begin sensor calibration. (b) Sensor calibration in progress. (c) Sensor calibration finished.

7.3 Compass calibration

Before you can start using your device you should also calibrate the compass.

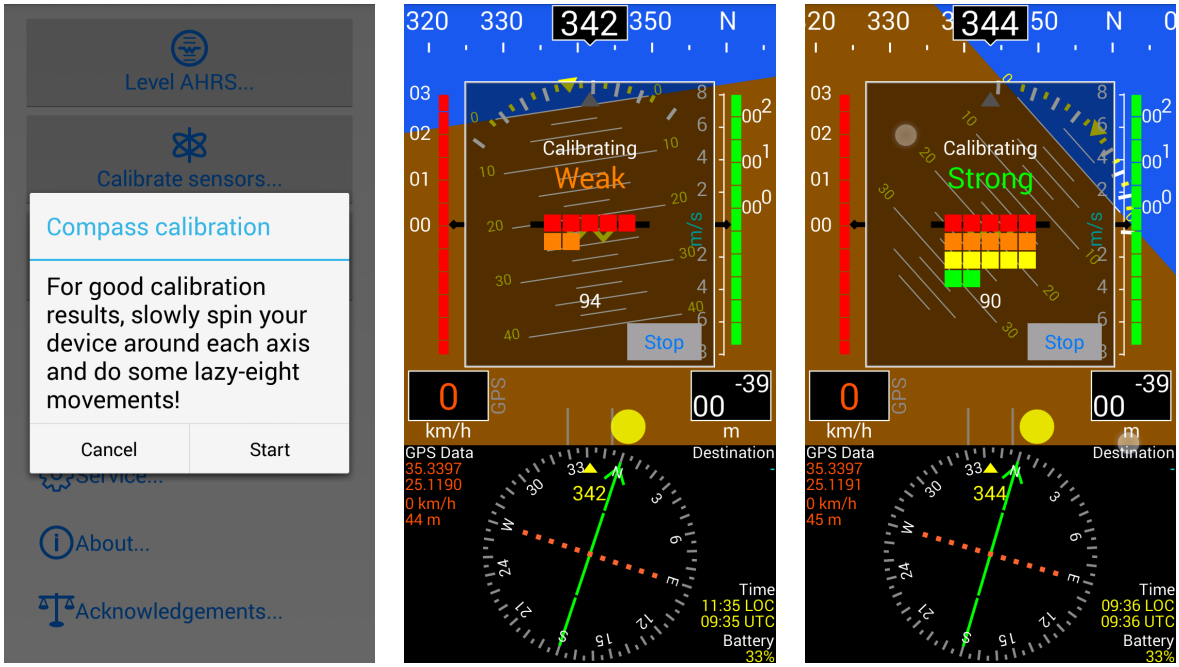
Compass calibration is a necessary process in order for all parasitic magnetic fields to be canceled, except for the earth's magnetic field. This ensures that you will have correct compass indication. Compass calibration only needs to be done once.

For a good compass calibration, it is very important to perform that calibration procedure as close as possible to the final mount location.

To calibrate the compass, you should rotate the magnetometers in all possible orientations. Depending on whether you are using the internal sensors of your mobile device or an external sensor box (AEOLUS SENSE) you have to either rotate your smartphone or tablet itself or the sensor box.

The procedure is as follows:

- (for AEOLUS-SENSE only) Power up your AEOLUS-SENSE by connecting it to the 12V power supply of your aircraft (e.g. the aircraft's battery). The other connectors (Pitot, static, OAT, GPS, etc) are not necessary to be connected/mounted for now.
- (for AEOLUS-SENSE only) Connect your mobile device (IOS or Android) to the AEOLUS wifi Network (the password is "aeolus01")
- Start the A-EFIS software on your mobile device.



(a) (b) (c)

Figure 7: (a) Press OK to start compass calibration. (b) Calibration in progress. The calibration results are indicated as "Weak". You should continue rotating your device until you have a "Good" or "Strong" indication. (c) Indication for a "Strong" Calibration.

- Swipe right to the menu screen and press "Calibrate compass".
- A notification window will pop up, informing you that the calibration procedure is about to start. Press "OK" to continue.
- AEFIS will return back to the main screen and the calibration window, indicating the calibration progress will appear (Fig. 7). Start rotating your device slowly, until the indication on the screen becomes "Good" or "Strong". To easily achieve the desired calibration result, start be rotating your device three times around each axis and then perform a sequence of "lazy eight" maneuvers (Fig. 8).
- Press "Close" or wait a few seconds until the calibration window closes itself.

Although you only need to calibrate the compass once, you are advised to repeat the above procedure once more after some flights.

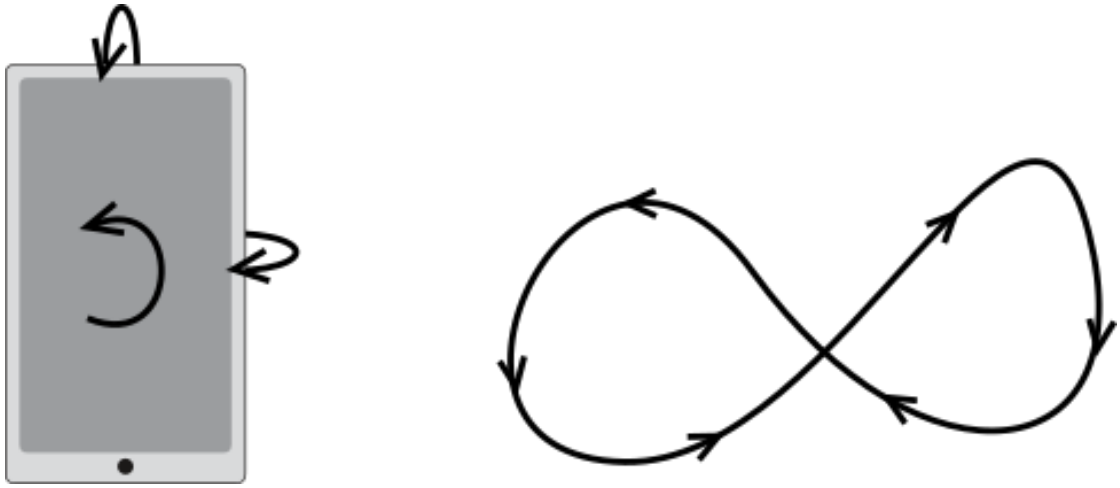
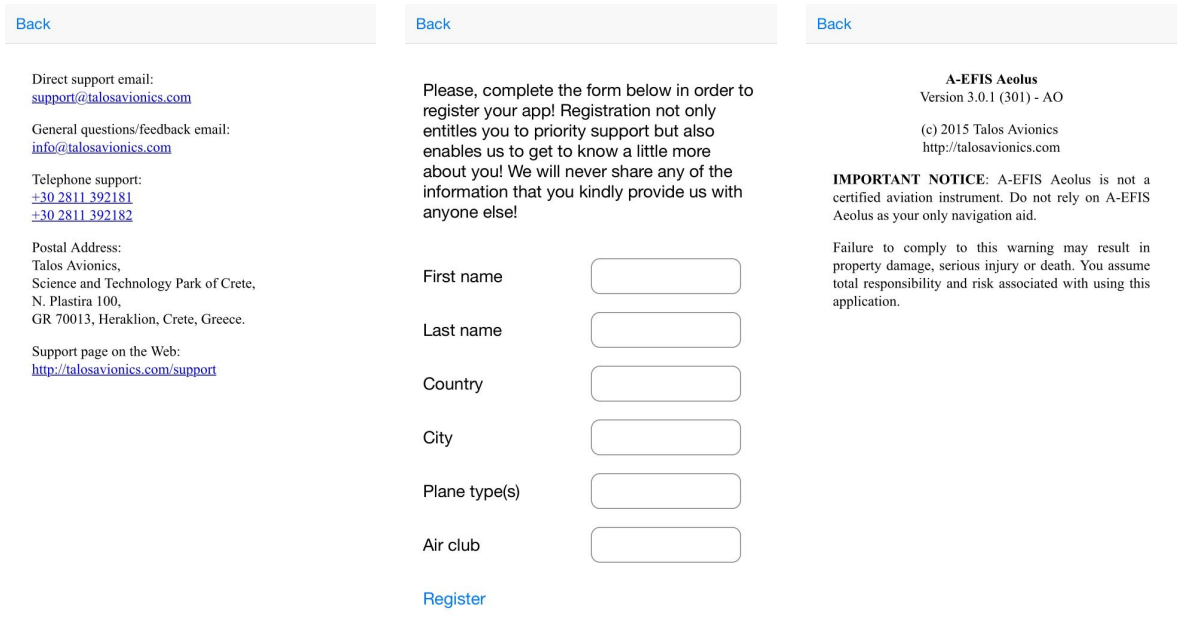


Figure 8: To easily calibrate the compass start by slowly rotating your device tree times around each axis and then perform a sequence of “lazy eight” maneuvers until you have a “Good” or a “Strong” indication on the screen.

7.4 Support, Register, About

The “Support” and “About” buttons are used to provide contact and support information (Figure 9a), as well as information about this A-EFIS application (Figure 9c).

The “Register” button can be used to register your application (Figure 9b). Registration not only entitles you to priority support but also enables us to get to know a little more about you! Registration is done via email. Needless to say that we will NEVER share ANY of the information that you kindly provide us with anyone else!



(a) (b) (c)

Figure 9: (a) Support screen, (b) Register screen, (c) About screen.

8 Options screen

The Options screen (Figure 10) contains various options and settings.

8.1 Speed Info

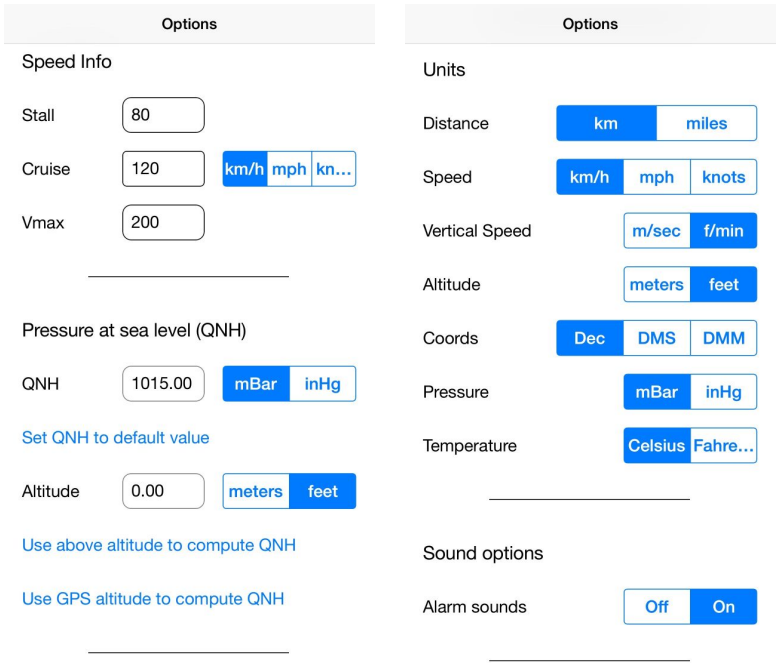
Here you enter the Stall, Cruise, Vmax speeds of your airplane which are used to setup the colors of the speed bar and the audio warnings for the speed. You can enter the above speeds in km/h, mph or knots by selecting the appropriate unit using the corresponding button besides the edit boxes. The units selected here don't change the speed unit selection in the main interface (to change the units in the main interface, see bellow, Section 8.1).

8.2 Pressure at sea level (QNH)

If your mobile device doesn't have a barometric pressure sensor or if you don't have an external sensor box (AEOLUS or AEOLUS-SENSE) these settings are completely irrelevant and they do nothing.

In this case (if you don't have a barometric sensor), the displayed altitude and vertical speed are based on GPS data.

If your smart-phone/tablet has a barometric pressure sensor or if you have an external sensor box, you can use these settings to set the pressure at sea level (QNH). QNH can be entered either in mBar or in inches Hg.



(a) (b)

Figure 10: Options screen: (a) Speed and QNH Options (b) Units and sound options.

If you don't know the QNH you can assume a default value of 1013.25 mBar or, if you know the current altitude (For example, if you at the airport and you know the altitude of the airport) you can use it to compute QNH. The altitude can be entered in meters or in feet.

Alternatively you can use the altitude from the GPS to compute QNH.

8.3 Units

Here you can select the various units used thoughout the application. More specifically:

- Distance can be either in km or miles.
- Speed (IAS, TAS or ground speed) can be displayed either in km/h, mph, or knots.
- Vertical speed (Vario) can be displayed either in m/sec of ft/min.
- Altitude can be displayed either in meters or in feet.
- Coordinates can be entered/displayed in Decimal, DMS (Degrees, Minutes, Seconds) or DMM (Degrees, decimal Minutes) format.
- Pressure can be displayed either in mBar or in inches Hg.
- Temperature can be displayed either in degrees Celsius or degrees Fahrenheit.

8.4 Sounds

With this button you enable sound warnings for low speed, stall and high speed. Warnings are based on the data you set under Speed Info (see Section 8.1).

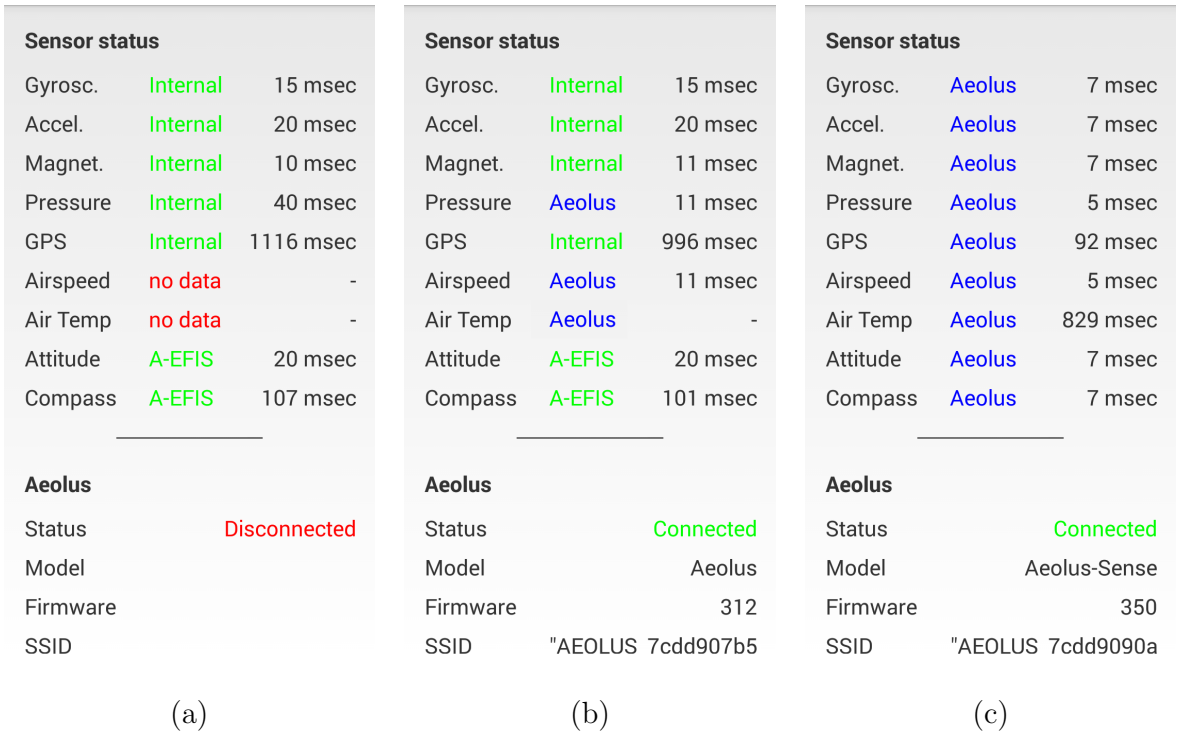
9 Responsiveness screen

The responsiveness screen (Fig. 2d) can be used to fine-tune the responsiveness of various components (artificial horizon, airspeed, vertical speed, compass, sleep ball and turn coordinator) of A-EFIS. Sliding a track-bar to the right means higher responsiveness for the corresponding component. Sliding to the left means lower responsiveness (more "smoothing") to the corresponding component.

The "Default" button bellow the responsiveness track-bars can be used to quickly reset the responsiveness values to default.

10 Sensor status screen

The Sensor status screen (Figure 11) displays information about the availability of the supported sensors and can also be used to define sensor-related information. If your smartphone/tablet is connected to an AEOLUS or AEOLUS-SENSE device, you will also find information about their firmware in this window.



(a) (b) (c)

Figure 11: Sensor status screen. (a) A-EFIS working with internal sensors only, (b) A-EFIS connected to an AEOLUS device, (c) A-EFIS connected to an AEOLUS-SENSE device.

The sensor status information is organized in a tabular format. Each row corresponds to a different type of sensor data. There are three columns. The first column is the name of the sensor.

The second column displays the source of the data and can have one of the following values:

- Internal. Means that the internal sensors of your mobile phone/tablet is used.
- Aeolus. Means that this particular type of sensor data comes from an external sensor box (AEOLUS or AEOLUS-SENSE).
- A-EFIS. Means that this type of data is generated (computed) by A-EFIS itself.
- No data. Means that this type of sensor data is not available. This may vary according to the sensor type (e.g. The GPS sensor is usually slower than the accelerometers and the gyroscopes) and the brand/model of your smartphone/tablet.

The third column displays the time interval between two successive sensor readings.

11 Waypoints screen

The Waypoints screen (Figure 12) can be used to edit and to display the list of waypoints used in the HSI display.

Figure 12: Waypoints screen

Table 3: Examples of valid coordinate input formats

	Latitude	Longitude
Decimal	35.1234	-25.1234
	+35.1234	-25.1234
	35.1234	W25.1234
	N35.1234	W25.1234
DMS	35 7 24	-25 7 24
	+35 7 24	W25 7 24
	N35 7 24	W25 7 24
	+35:7:24	-25:7:24
	35^{o}7'24"	-25^{o}7'24"
	N35^{o}7'24"	W25^{o}7'24"
DMM	35 7.404	-25 7.404
	+35 7.404	-25 7.404
	N35 7.404	W25 7.404
	35:7.404	-25:7.404
	35:7.404	W25:7.404
	35^{o}7.404	-25^{o}7.404

11.1 Waypoint format

Waypoint coordinates are displayed in the format selected in the Options screen (see Section 8.3. However, when entering coordinates you can use any of the the supported formats. The application is smart enough to understand the format. Example formats that you can use to enter new coordinates are shown in Table 11.1.

11.2 Setting target waypoint

To set the target waypoint you have to tap on the free space on the right of the waypoints coordinates. A green tick mark appears to the right of the waypoint indicating that this is the current target. In the top-view screen (see next Section 12) , the line from the previous waypoint to the current target becomes green, indicating that this is the true track that should be followed by the airplane.

12 Top View Screen

The Top view screen (Figure 13) displays a top view of the current airplane position and the list of waypoints.

The top view screen is automatically zoomed in order to fit all the waypoints as well as the current aircraft location.

The aircraft location and heading are depicted in the form of a green arrow. The waypoints are depicted as circles, connected with line segments according to their order in the waypoints list (Section 11). The current waypoint (the current target) and the current track are shown with green color.

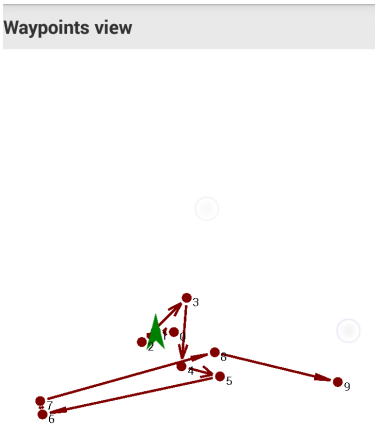


Figure 13: Top View screen. The aircraft is shown as a green arrow. The waypoints are shown as circles, connected with line segments.

13 Quick Setup Guide

13.1 Connection to external sensor box

Before you can use A-EFIS software with your external sensor box (AEOLUS or AEOLUS-SENSE), you'll need to connect your mobile device to the sensor box. This is achieved via wifi. More specifically, AEOLUS and AEOLUS-SENSE creates a wifi network where you will need to connect your mobile device. The SSID of the mobile network is "AEOLUS_XXXXXXXXX" where X is a unique alphanumeric string. The passphrase is "aeolus01".

To test the connection, start the A-EFIS software and swipe right to the sensor status window. You should be able to see a something like Fig. 11b or Fig. 11c.

Please note that the free version of A-EFIS is normally, black and white and works without any external sensor boxes using the internal sensors of your mobile phone/tablet only.

When your mobile phone/tablet is connected to an external sensor box (AEOLUS or AEOLUS-SENSE) device via wifi, the A-EFIS software automatically recognizes, and the full functionality (including color) of the A-EFIS software is unlocked. If, for any reason, you loose connection to the AEOLUS device (e.g. the power is unplugged) A-EFIS switches again itself to the "internal sensors" mode (and becomes black and white).

This allows you to continue using A-EFIS with the internal sensors of your smartphone or tablet as a backup, even in the case of a power failure!

13.2 Placing your mobile device

Your smartphone/tablet should be mounted in a convenient dry place, as far away as possible from heat sources.

If you are using the internal sensors of your smartphone/tablet, it is important for your device to be mounted parallel and as close as possible to the symmetry axes of the airplane. The front side of your smartphone/tablet (the side with the pressure connectors) should be facing towards the direction of flight (see Figure 14).

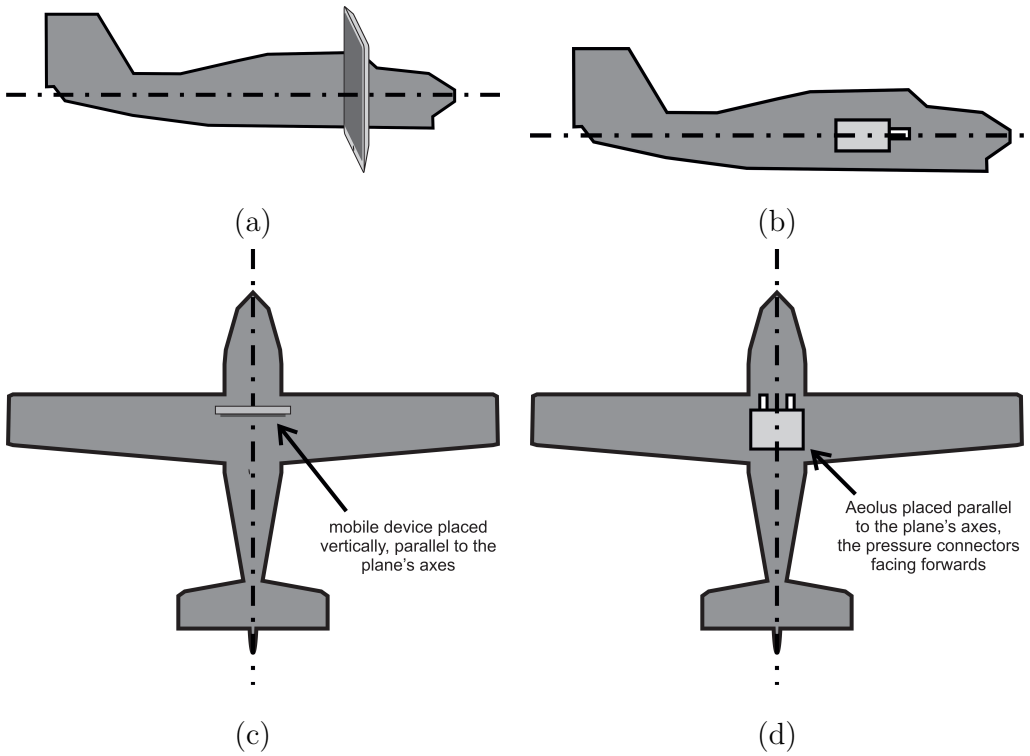


Figure 14: Your smartphone or tablet should be mounted vertically, parallel to the axes of the airplane and as close as possible to the symmetry axis of the airplane (figures a,c). If you are using AEOLUS-SENSE sensor box, the side with the two pressure connectors should be facing forwards (figures b,d).

Please note that before mounting your smartphone/tablet you should calibrate its inertial sensors and the compass (see Sections 7.2 and 7.3).

13.3 Calibration and AHRS Leveling

Before using your device for the first time you will need to calibrate the inertial sensors (accelerometers and gyroscopes) and the compass. For the calibration procedure see Section 7.2 (AHRS Calibration) and Section 7.3 (Compass Calibration).

After sensor calibration you will need to mount the device in a convenient place and perform the AHRS leveling procedure, as described in Section 7.1.

14 Support

For support via email, please contact:

support@talosavionics.com

For voice support, please use one of the following telephone lines:

+30 2811 304480

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For general questions & feedback, please contact:

info@talosavionics.com