

External Compass Module



External Compass Module Installation & Wiring

- Choose a suitable location to install the external compass on the aircraft. Then measure the distance to the location you have installed the Talos Avionics instrument (FlySense or AeolusSense), and purchase a 4-conductor cable of your choice.
- On the instrument side, connect your choice of wire to the 4-wire cable coming out of the D-25 sub connector that you have received in the external compass package. Perform the same connections on the 4-wire cable coming out of the external compass module. Just make sure that you follow the color-coded wire scheme (green->green, black->black, brown->brown, gray->gray).
- If you have bought the external compass after purchasing your instrument, In order for your instrument to detect and use the external compass, you need to disconnect the current D-25 sub connector and replace it with the one above (that you've received in the external compass package). Remove all power from the instrument when you do so, if your instrument includes a battery, please switch it off by the lever-switch on the instrument panel.
- When you've completed the wire connections above, switch on the instrument. Automatically the instrument will detect the external compass and use that instead of the internal magnetometer.

External Compass Calibration

The external compass is a three-axis sensor that measures the direction of the Earth's magnetic field. It needs to be calibrated in order to take into account any interference from ferrous metals in its vicinity.

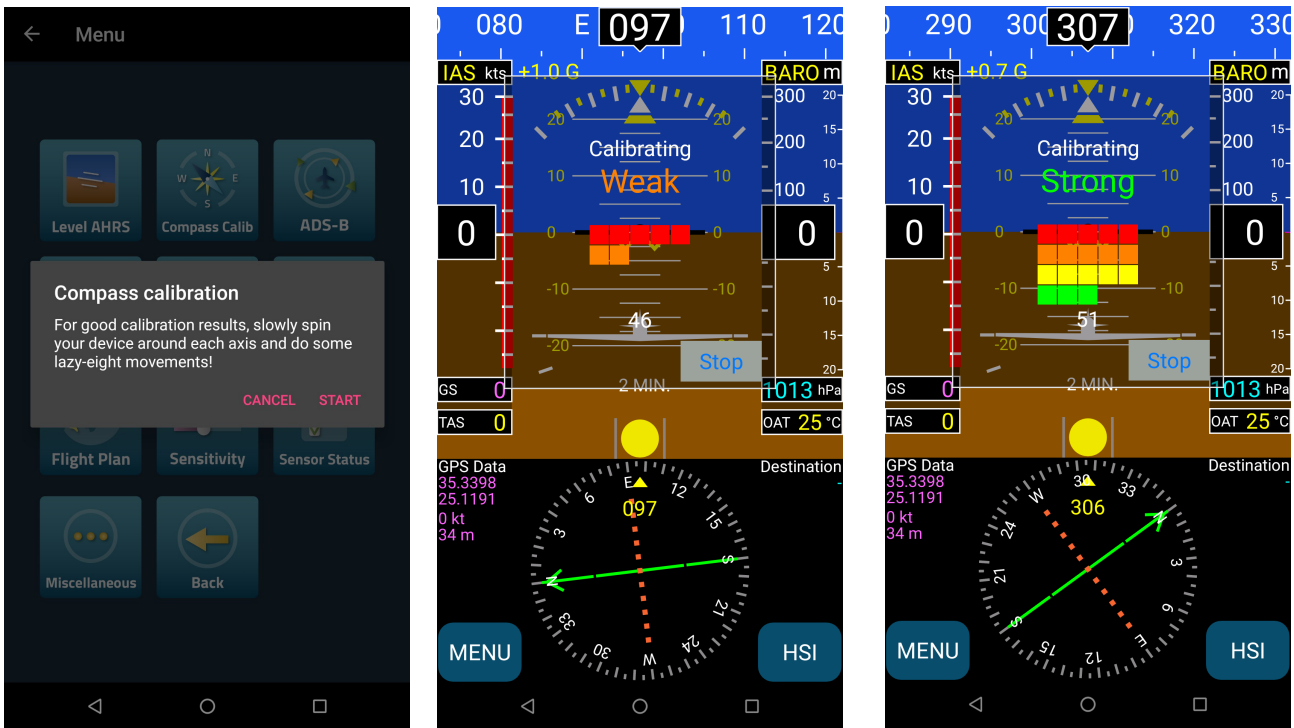
Note: if you've bought a new instrument and the external compass together as a bundle, we propose that even though you plan to install and use the external compass, to calibrate the internal magnetometer first, and keep it as a back-up. This is proposed because when the D-25 sub connector of the external compass is plugged in and the instrument is rebooted, it automatically detects and uses the external compass module. If there is a damage to the cabling and the external compass can't communicate, the instrument will revert to the internal magnetometer instead, and warn the pilot by flagging a message on the screen.

The external compass follows the same calibration procedure as the internal magnetometer, please note the following:

- 1) The external compass module is supported from firmware version 1.9.0 onwards. You can check your firmware version by going to: Menu->SensorStatus. If you have an older version please perform a firmware update now. (Note about firmware updates): due to task prioritizing sometimes after the firmware update the instrument does not reboot itself. So if within a minute or so, after the firmware update, you do not see the instrument WiFi hotspot coming-up please perform a hardware reboot (switch off the instrument and then switch it back on).
- 2) The compass calibration must be performed with the aircraft in a parking position on the ground, and never during a flight.
- 3) The calibration procedure must be performed with the external compass module as close as possible to the final installation position in order to compensate for parasitic magnetic fields.
- 4) Before the calibration procedure is started, the external compass module has to be in a horizontal position.

Calibration Steps

- Power up your Talos Avionics instrument
- Connect a smart device (iOS or Android) to the instrument wifi Network (no password needed).
- Start the EFIS TA application on the smart device.
- Tap on “MENU” button and then “Compass Calib”.
- A notification window will pop up, informing you that the calibration procedure is about to start.
- Keep the external compass module in a horizontal position and press “Start” to continue.
- The application returns back to the main screen with a superimposed calibration window, indicating the calibration progress (Fig. 1). Start rotating your device slowly, in all three axes, until the indication on the screen becomes “Good” or “Strong”. To easily achieve the desired calibration results, start by rotating your device one axis at the time and then perform a sequence of “lazy eight” maneuvers (Fig. 2).
- When you're done, press “Close” or wait a few seconds until the calibration window closes automatically.



(a)

(b)

(c)

Figure 1: (a) Press “Start” to start external compass calibration. (b) Calibration in progress. The calibration results are indicated as “Weak”; you should continue rotating the external compass module until there is a “Good” or “Strong” indication. (c) “Strong” calibration signifies that the compass module has been properly calibrated.

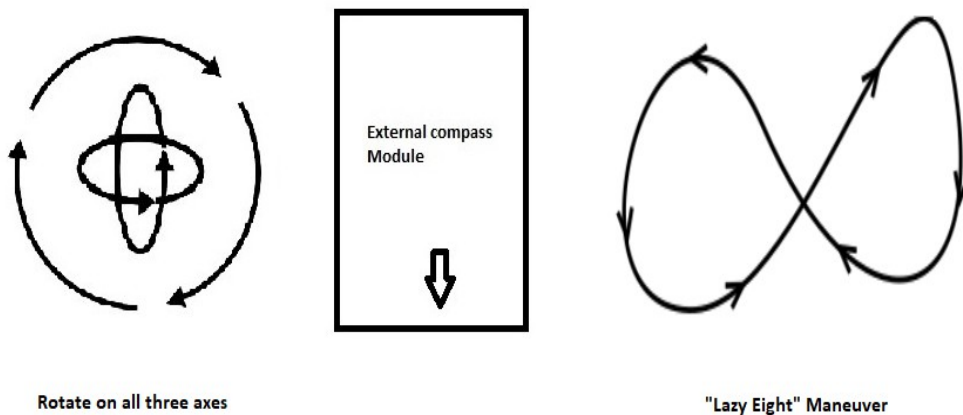


Fig. 2: To easily calibrate the Compass slowly rotate the external compass module three times, once around each axis and then perform a sequence of “lazy eight” maneuvers until you have a “Good” or a “Strong” indication on the EFIS TA application.

Please note that the External Compass Module is only compatible with the AeolusSense/FlySense models that have a D-25 pin connector. See Fig. 3.

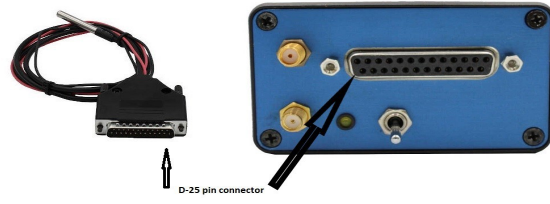


Fig. 3: External Compass Module Compatibility.