

HERE GNSS Module Built-in Compass Change Notice

There is an important update about the new batches of Pixhawk 2.1 Edison & Here GNSS Kit and the Here GNSS. Indeed, original version of Here was built with a Honeywell HMC5983 compass IC. However, due to the end-of-life (EOL) it is increasingly difficult to find a reliable supplier. To ensure the quality of Pixhawk materials, Here GNSS (M8N) have been updated to a new version that has a built-in Invensense compass IC. This new batches were released starting from October 27, 2017.

Following this release, there are two important notices about the usage of this new version:

- 1) First, the driver for as an external compass has recently been updated in the Ardupilot firmware, in **Copter 3.5.4 and Plane 3.8.3 firmware**. Therefore, to use the external compass, you may have to update to the new firmware.
- 2) Secondly, the default external compass orientation has to be changed for those using **Rover-3.1 (or previous), Copter-3.5.4 (or previous) and Plane**. As seen from the screen capture above, the compass orientation has to be set to **pitch180yaw90**, to be aligned with the flight controller orientation. This can be easily configured in the same page as compass calibration. Not setting the correct compass orientation for external compass will result in wrong heading being detected and may result in undesirable flight behavior.

NB : If using **Rover-3.2.1 (or above) or Copter-3.5.5 (or above)**, compass orientation manipulation is irrelevant.

Mission Planner 1.3.49 build 1.1.6410.20232 APM:Copter V3.5.4 (284349c3)

The screenshot displays the 'Compass' configuration page in Mission Planner. The interface includes a top navigation bar with icons for Flight Data, Flight Plan, Initial Setup, Config/Tuning, Simulation, Terminal, Help, and Donate. A left sidebar contains a 'Wizard' menu with options: Install Firmware, Mandatory Hardware, Frame Type, Accel Calibration, Compass (highlighted), Radio Calibration, ESC Calibration, Flight Modes, FailSafe, and Optional Hardware. The main 'Compass' panel has three tabs: Pixhawk/PX4, APM2.5 (Internal Compass), and APM and External Compass. Under 'General Compass Settings', there are checkboxes for 'Enable compasses', 'Obtain declination automatically', and 'Automatically learn offsets'. The 'Primary Compass' is set to 'Compass 1'. Below, three compass sections are shown: 'Compass #1' (checked 'Use this compass' and 'Externally mounted', dropdown set to 'Pitch180Yaw90', offsets X:-78, Y:-87, Z:-45, MOT X:0, Y:0, Z:0), 'Compass #2' (checked 'Use this compass', 'Externally mounted' unchecked, offsets X:-128, Y:106, Z:160, MOT X:0, Y:0, Z:0), and 'Compass #3' (unchecked 'Use this compass', 'Externally mounted' unchecked). At the bottom, an 'Onboard Mag Calibration' section has 'Start', 'Accept', and 'Cancel' buttons, input fields for 'Mag 1', 'Mag 2', and 'Mag 3', a 'Fitness' dropdown set to 'Strict', and a checkbox for 'Relax fitness if calibration fails'.