

Template:FMM640 Green Driving

Green Driving

The screenshot shows a configuration window titled "Green Driving". It is divided into several sections:

- Output Control:** A table with two columns. The first column has "Disabled" (highlighted in blue), "DOUT 1", and "DOUT 3". The second column has "No DOUT control" and "DOUT 2".
- Source:** A table with two columns. The first column has "GNSS" (highlighted in blue) and "GNSS Algorithm A1". The second column has "Accelerometer" and "Accelerometer Algorithm A1".
- Parameters:** A list of five parameters, each with a text input field and a spin button:
 - Max Acceleration (m/s²): 2.2
 - Max Braking (m/s²): 2.5
 - Max Cornering (m/s²): 2.1
 - DOUT ON Duration (ms): 200
 - DOUT OFF Duration (ms): 200

When vehicle parameters exceed the values of *Max Acceleration*, *Max Braking* or *Max Cornering* parameters, the scenario is activated: a record is generated and digital output status is changed to 1 when configured. You can configure all three parameters in m/s² units. Scenario is activated until current Acceleration, Braking or Cornering value decreases below the set parameter value. Parameters used with *Green Driving* functionality are given in a table below.

Parameter name	Description
Output Control	Enable/Disable Green driving functionality and Activate/Deactivate DOUT.
Max Acceleration	Value which can be reached while accelerating without triggering harsh acceleration event.
Max Braking Acceleration	Value which can be reached while braking without triggering harsh braking event.
Max Cornering Acceleration	Value which can be reached while cornering without triggering harsh cornering event.

Which source data will be collected from:

- **GNSS** - GPS Data will be used to detect harsh driving. (This algorithm was used in FM53, FM63 devices)

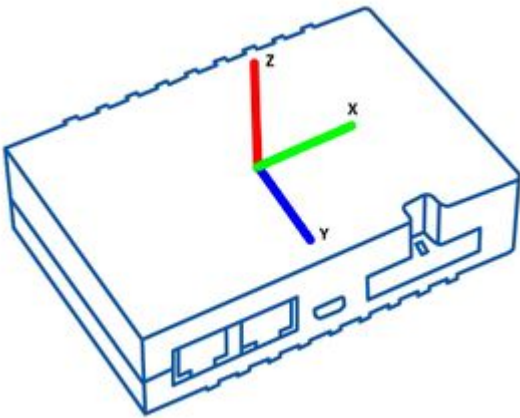
- **Accelerometer** - Accelerometer data will be used to detect harsh driving. (This algorithm is from FMB device family). Accelerometer calibration needs to be performed with "*auto_calibrate:set*" command.

Source

- **GNSS Algorithm A1** - GPS data will be used to detect harsh driving. (This algorithm is used in FMA11 devices). The main difference from FM53 is cornering detection which uses advanced math to more precisely calculate harsh cornering value across different vehicle speeds.

- **Accelerometer Algorithm A1** - Accelerometer data will be used to detect harsh driving. (This algorithm is used in FMA11 device family)

Note: To use "*Accelerometer Algorithm A1*" option user need to install device as in Figure 1.



[FMB640](#) Device accelerometer position. (With positive Z axis pointing to Ground and antennas face forward in the vehicle). Before operation with the vehicle on level ground user must send "*setacc*" SMS.

Auto calibration

The auto-calibration process is the following:

1. The vehicle is stopped.
2. There is a straight road ahead.
3. Send SMS "*auto_calibrate:set*" to the FMB device.
4. Accelerate to >30 km/h for 5 sec.
5. FMB will send a response when calibration is completed successfully.

Calibration is saved to internal flash memory, which means it will stay after a reset. To check auto-calibration status send a following short text message to the FMB device: "*auto_calibrate:get*".