

## IMU – Inertial platform

### 1.0 IMU

The IMU is an the inertial platform that is used by the GRIPONE P3 to activate all the processes of calculating of the 3D-INTELLIGENCE technology.

### 2.0 Connection

L'IMU must be connected to the connector marked with "IM" on the GRIPONE P3.

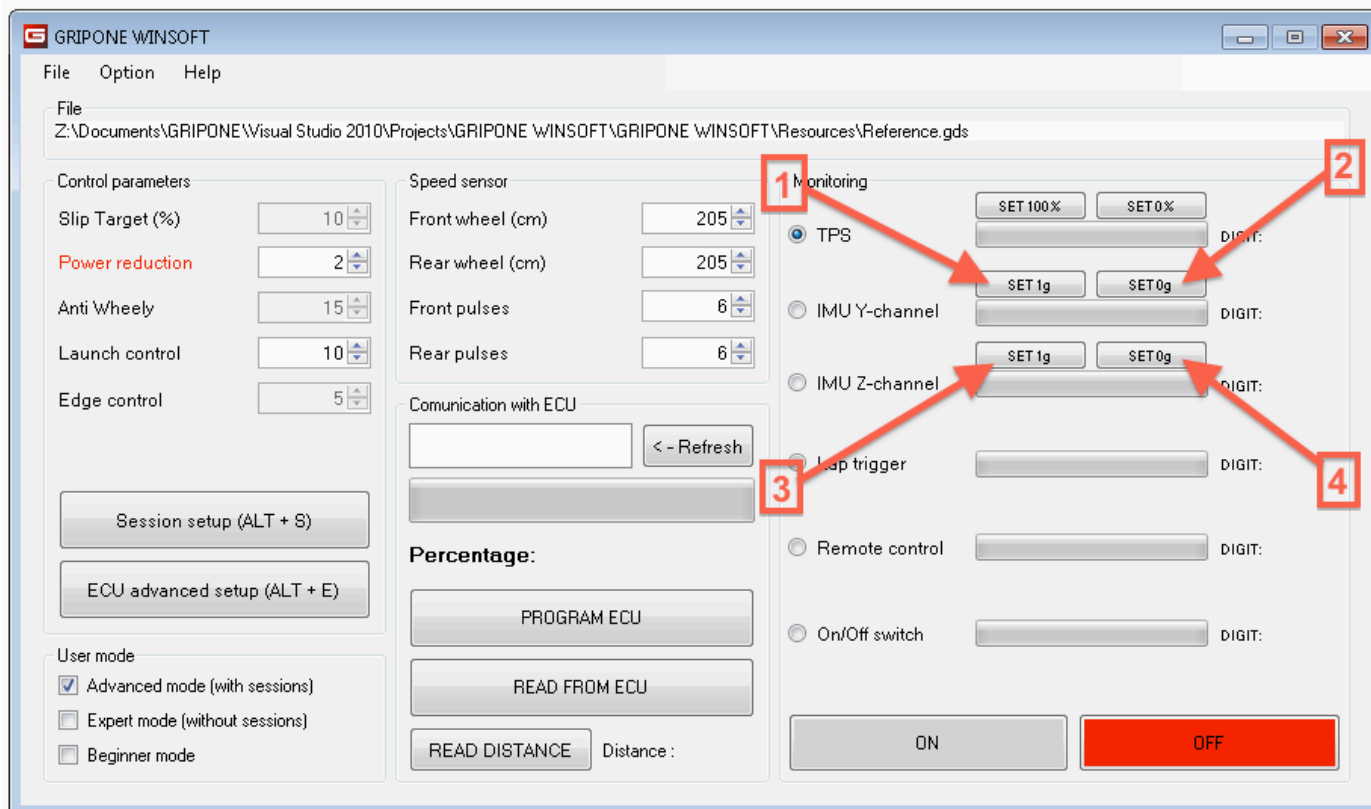
### 3.0 Positioning

The positioning of the IMU on the bike is very important. If it is not done in the correct manner, the control unit may not work. The IMU must be positioned (possibly) in the front of the bike and the most possible to the center (not on the right or left side). On the IMU you can see two arrows pointing to the Z axis and the Y axis. The arrow Y should be pointing the direction of motion of veichle (as horizontal as possible). The arrow Z should be pointing the ground (as upright as possible).



**IMPORTANT: Use the included rubber to isolate the IMU from vibrations. Fix the IMU softly (not rigidly) to the structure of the bike.**

### 4.0 Configuration



After the connection and positioning of IMU, follow these steps to initialize it:

1. Connect the USB cable to the ECU;
2. Press the button "READ FROM ECU" to load the map from the ECU to the WINSOFT. In the case of the first installation of the system (instead of use READ FROM ECU) open the map on you computer (downloaded from the online database) using the menu File > Open;
3. Select "IMU Y – channel" into the group "Monitoring" and press the button "ON";
4. Place the IMU with the arrow "Y" upwards (perpendicular to the floor);

5. Press button "OFF" in the group "Monitoring";
6. Wait a few seconds and press the "SET 1g" (button Nr. # 1);
7. Press button "ON" in the group "Monitoring";
8. Place the IMU with the arrow "Y" forwards (parallel to the floor);
9. Press button "OFF" in the group "Monitoring";
10. Wait a few seconds and press the "SET 0g" (button Nr. # 2);
11. Select "IMU Z – channel" in the group "Monitoring" and press the button "ON";
12. Place the IMU with the arrow "Z" downwards (perpendicular to the floor);
13. Press on button "OFF" in the group "Monitoring";
14. Wait a few seconds and press the "SET 1g" (button Nr. # 3);
15. Press on button "ON" in the group "Monitoring";
16. Place the IMU with the arrow "Z" forwards (parallel to the floor);
17. Press on button "OFF" in the group "Monitoring";
18. Wait a few seconds and press the "SET 0g" (button Nr. # 4);
19. Increase 2 units the value of variable "Slip target";
20. Press the button "ECU advanced setup" and set the parameter "IMU" to 1;
21. Press the button "Save" to come back to the main window;
22. Save the map by menu File > Save As;
23. Program the ECU pressing the button "PROGRAM ECU";
24. Disconnect the USB cable.

The above procedure is used to initialize the variables included in the group "Sensor linearization" in the window "ECU advanced setup". If you change the map (or use another map from the online database) be sure to enter the correct values in the variables shown in the figure below.

