

Please read all pages of this manual carefully before using the GRIPONE system. The installation of this device requires care. Remember that you are installing a device on a vehicle capable of potentially high speeds. GRIPONE is a device that is not approved for road use. GUBELLINI di Gubellini Diego & C. s.a.s. is not responsible for the consequences resulting from the proper and improper use of the vehicles on which the GRIPONE device is installed. All responsibilities are referred to the drivers and installers

1.0 Included in the kit

1 x ECU
1 x wiring harness
1 x remote light
1 x USB cable
2 x speed sensors
2 x stickers
1x online manual
1x online software

2.0 Security

When installing this product, it is recommended that the vehicle be placed in such a way that it cannot cause injury or damage by falling or moving forward or backward or sideways; the use of a stand and wheel locking if necessary is recommended.
Ensure that the fuel injection is always turned off and the electrical system is not energized when installing this product (and in any case during all installation steps indicated by this manual). When removing or adding electrical cables or wiring to the vehicle system, always remove the positive terminal from the battery before the negative terminal. When reassembling, connect the negative terminal as last to avoid shorting the electrical system.

2.1 Good standards for installation

DON'T RUSH IT! When installing GRIPONE ISIDE make sure that the unit is protected from excessive vibration, heat and surrounding elements, and that it is securely fastened. When placing the wiring make sure it cannot be pinched or crushed and thus cause malfunction, secure it with cable ties where necessary (without over-tightening the cables by cutting them).

WARNING!

The control unit should be placed where there is no operating temperature higher than 65°C and should be protected from vibration. Locate a suitable surface on which to fix the control unit. Do not fix the control unit until the installation of all other components and wiring is completed.
Using a traction control system will not prevent a crash caused by inappropriate use of the throttle and/or vehicle control. For this reason, it is recommended to experiment with the operation of the GRIPONE ISIDE system through repeated trials and through small steps. Only after you have gained the proper confidence and clearly understand where and how the device intervenes on the engine and the chassis, try making adjustments.

3.0 Introduction to GRIPONE

GRIPONE 5 is an electronic control device designed and developed to be mounted in all two-wheel vehicles. GRIPONE 5 is capable of implementing traction control, wheelie control, and rapid gear shift control (on engagement).

3.1 How it works

GRIPONE 5 works like a classic GRIPONE system. The control unit processes all the information and defines a "safe" skidding level beyond which it intervenes by limiting power. If the rear tire skidding is too high GRIPONE will reduce power according to the safety parameters. If the bike wheelies, the sensors will detect the phenomenon and reduce the power so as to limit and/or cancel the phenomenon.

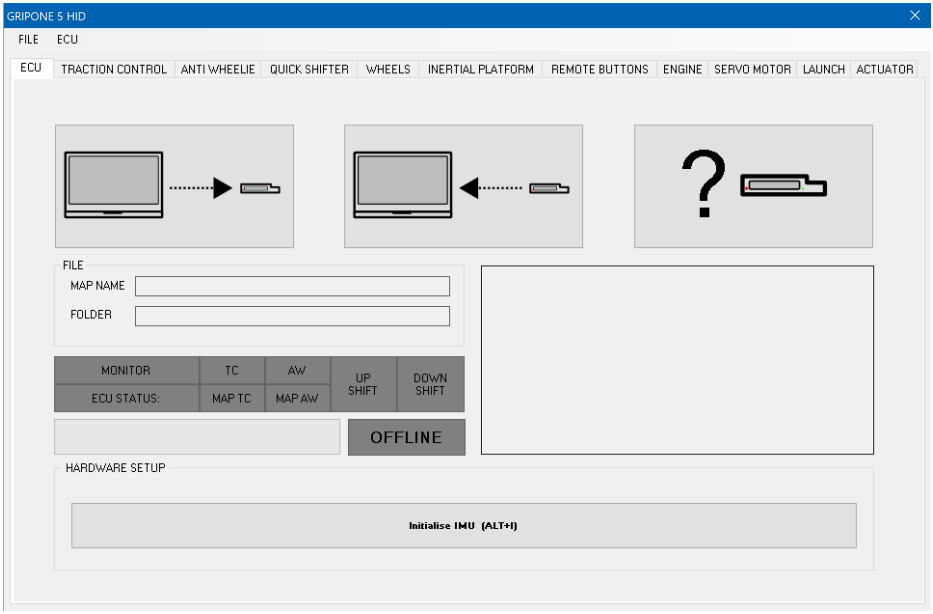
Each control strategy included in GRIPONE 5 (traction control, wheelie control, fast gear shifting) can be adjusted separately so as to suit each driving style and vehicle type. In order to adjust the different strategies, you have to use the management software and USB connection of your computer.

4.0. Software installation

GRIPONE 5 is a control system with several features. Each of these can be configured through dedicated software that can be downloaded from **download.gripone.com/gripone_5_hid/.**
The software connects to the control unit via a simple USB cable and is indispensable for being able to configure the control system. Follow the steps below to install the software:

- Open your Internet browser is go to **download.gripone.com/gripone_5_hid/**;
- Click on the "install" button ; 

- Follow the installation procedure; Confirm that you want to "run anyway" if the Window system (or antivirus or firewall) tries to block the procedure;
- Once the installation procedure is complete, start the program, which you will find in the start menu under START > GUBELLINI > GRIPONE 5 HID;



4.1. Configuration and programming parameters

The management software makes it possible to change several parameters that govern the operation of GRIPONE. Let's take a look at some details of the operating logic:

- All configuration parameters are divided into folders: ECU, TRACTION CONTROL, ANTI WHEELIE, QUICK SHIFTER, INERTIAL PLATFORM, WHEELS, REMOTE BUTTONS, ENGINE, etc.

- If I close the software without saving, parameter changes will be lost. When the software is next started, the parameters displayed will be the default ones.
- The set of all parameters can be saved in a "map" file so they can be stored and recalled at a later time.



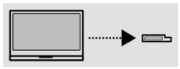
Save to file
FILE >> SAVE MAP

Set of configuration parameters



Sending parameters to the control unit
ALT-W

- Within the software I can change the parameters several times but I have to send the changes to the ECU to make the changes active. Until I send the parameters to the ECU, any changes made within the software will not be felt by the ECU.
- To send the configuration parameters to the ECU, I have to connect the USB cable and press the "WRITE MAP IN ECU" button.



WRITE MAP IN ECU

- When I press the "WRITE MAP IN ECU" button, I send all the parameters to the ECU. Even if I have changed only one parameter (within the software), sending to the ECU will affect all the parameters. Be careful to change many parameters all at the same time.
- In the stages following the "first installation," whenever you need to change one or more parameters, we recommend that you first press the "READ MAP FROM ECU" button. This will read all the parameters of the ECU and load them into the software. The user can edit them and can send them to the ECU by pressing the "WRITE MAP IN ECU" button.



READ MAP FROM ECU

Further details on how to use the software and how to program the ECU will be explained later in the following paragraphs.

5.0 Installation of components

The GRIPONE kit includes the wiring harness and various electronic/mechanical parts to be installed on the vehicle. No modifications to the stock electrical system are required. You will need to connect the following components during installation:

- ECU - to be connected to the main connector of the supplied wiring harness
- Gear sensor (OPTIONAL) - to be connected to the branch of the wiring harness marked QS
- Front speed sensor - to be connected to the wiring branch marked FL
- Rear speed sensor - to be connected to the wiring branch marked FR
- Pick up RPM - to be connected to the branch of the wiring harness marked RR
- Red wire eyelet - connect to 12 volt (under key)
- Eyelet blue wire - connect to power (or battery) ground
- Remote indicator - to be connected to the wiring branch marked RE
- Coil module - to be connected to the wiring branch marked PWM1 and the first coil
- Electronic gearbox module (OPTIONAL) - to be connected to the branch of the wiring harness marked PWM2 and the remaining coils

5.1 Positioning of the control unit

The ECU must be attached horizontally or sideways, with the main connector directed toward the rear of the vehicle. The ECU contains the inertial platform inside and therefore requires special orientation. It should not be placed diagonally or at an angle.

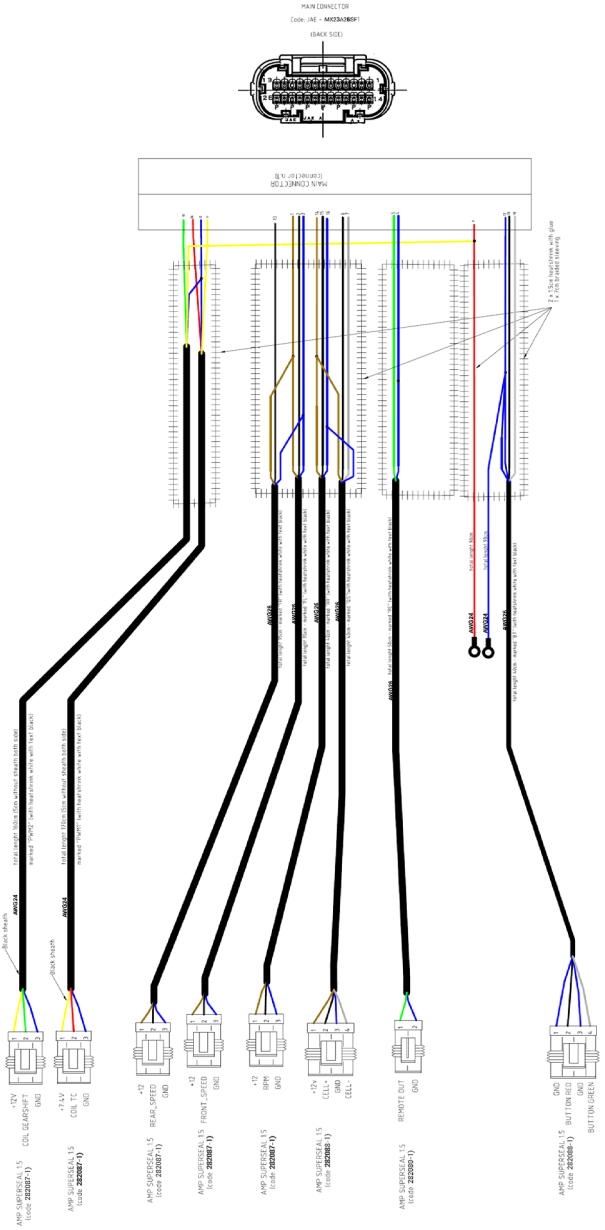
- The first requirement is to face the connector toward the rear of the vehicle
- The second requirement is to secure the ECU by rubber or sponge (so as to isolate it from vibration).

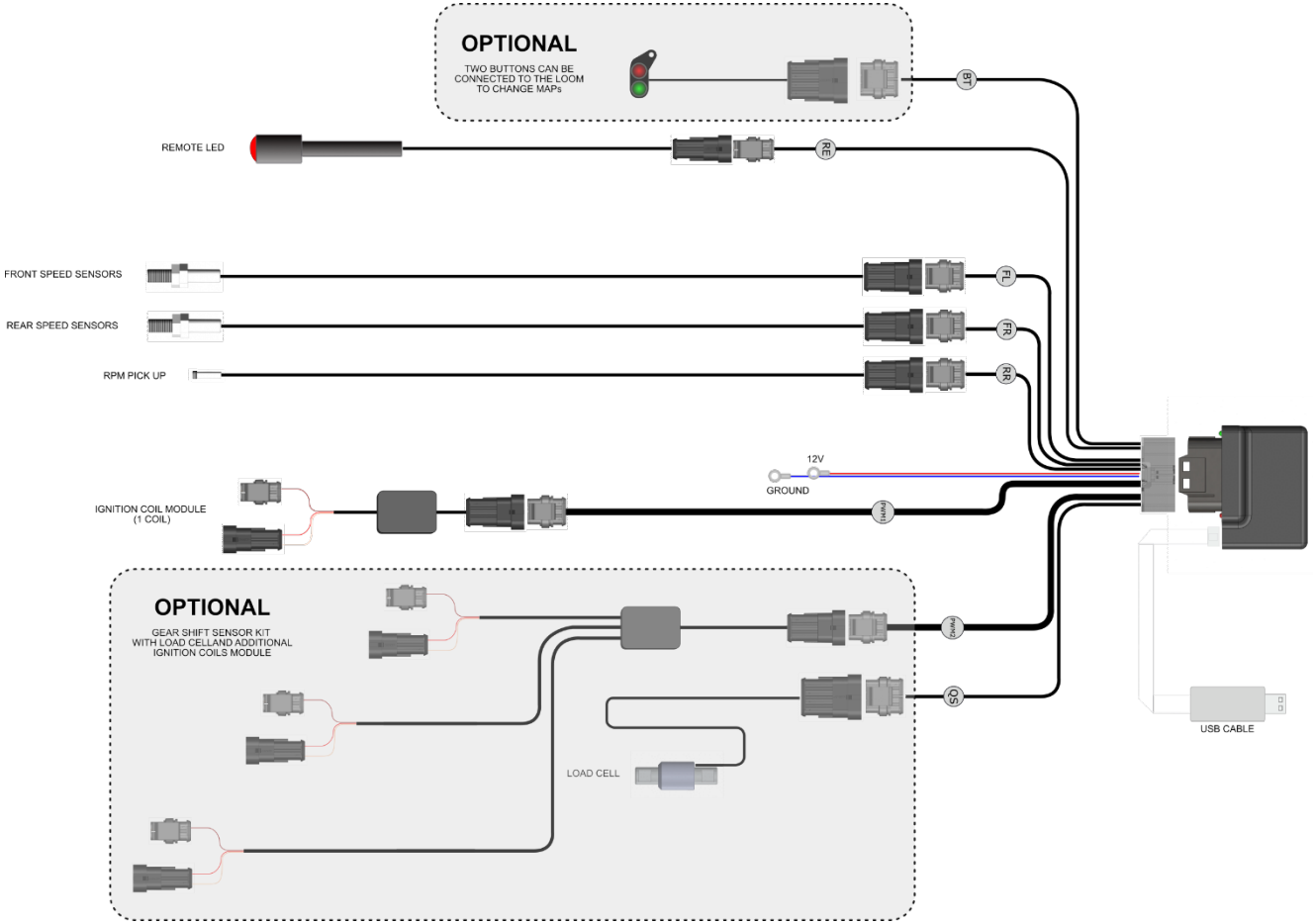
The ECU cannot be fixed obliquely; it must be (as far as possible) parallel to the ground. The ECU can be placed in the center, right or left (as preferred).



5.2 Wiring

Wiring diagram

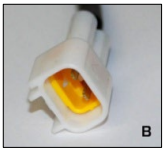

MAIN CONNECTOR
Code: JAE - MX23A28SF1
(BACK SIDE)
MAIN CONNECTOR
(CONNECTOR N.1)
AWG24
Black sheath
total length 450±5 (450±5 without sheath both side)
stripped 2*AWG1 each leadwires white with Red sheath
total length 450±5 (450±5 without sheath both side)
stripped 2*AWG1 each leadwires white with Red sheath
AWG24
Black sheath
AWG24
AWG24
AWG24

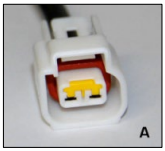

OPTIONAL
TWO BUTTONS CAN BE CONNECTED TO THE LOOM TO CHANGE MAPs
LED
REMOTE LED
RM
FRONT SPEED SENSORS
REAR SPEED SENSORS
RPM PICK UP
FL
FR
RR
12V
GROUND
IGNITION COIL MODULE (1 COIL)
IGNITION
OPTIONAL
GEAR SHIFT SENSOR KIT WITH LOAD CELLAND ADDITIONAL IGNITION COILS MODULE
IGNITION
GS
LOAD CELL
USB CABLE

5.3 Electrical connections

The GRIPONE 5 kit includes the plug&play wiring harness. No modifications to the bike's stock system are required.

- Remove the tank and air filter box so as to access the coils.
- The ECU can be placed in the front or under the seat. From the spot you choose for positioning the ECU, run the wiring to the cylinder heads (where the ignition coils are located).
- GRIPONE should be connected to a coil (or in some cases to the injector(s)). In "inline 4" engines, connect it to cylinder 2 or 3. In V4 engines to the right rear cylinder. In 3-cylinder engines, connect it to the center cylinder. In 2-cylinder engines, attach it to cylinder number 2.



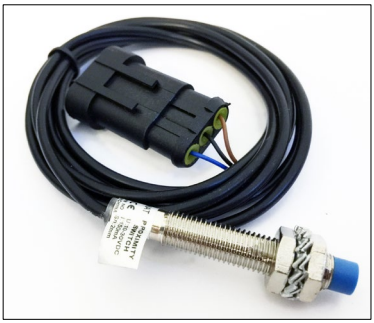


The shape of the connectors of the coil module (of the GRIPONE harness) may vary depending on the motorcycle model. For each module you will always have one male connector (B) and one female connector (A).

- Disconnect the original connector from the coil (or injector);
- Connect the female connector (A) of the plug&play harness to the coil (or injector);
- Connect the male connector (B) of the plug&play harness to the original connector (previously disconnected);
- Connect the RPM pick up wire to the branch of the wiring harness marked RR;
- Connect the end of the RPM pick up wire (via the current tap) to the negative pole of one of the injectors.
- To tell which is the negative and positive pole of the injectors, just look at the color of the wires coming out of the injectors

- All injectors have one of the two wires in common (with the same color). The wire that is common to all injectors is the positive pole. The other wire (different for each injector) is the negative pole;
- Connect the blue wire (with the "eyelet" lug) of the plug&play harness to ground or the negative of the battery;
- Connect the red wire (with the "eyelet" lug) of the plug&play harness to a 12V (under-key) source;
- Reassemble the filter box and tank;
- GRIPONE has a remote light that can be placed on the dashboard and is used to check the functionality of the control unit. Connect the remote LED to the plug&play harness connector marked "RE." Place it in a visible location near the dashboard;

5.4 Connect wheel speed sensors



Speed sensors are included in the basic kit. GRIPONE 5 uses two proximity sensors. The sensors must be mounted so that they detect the passage of the front and rear brake disc mounting screws (or the passage of the teeth of a custom phonic wheel). A set of universal brackets that can be used on most motorcycles can be purchased separately. The front bracket is attached using the screws that tighten the wheel axle (in the fork leg). The rear bracket consists of a fork that is attached under the wheel axle nut.



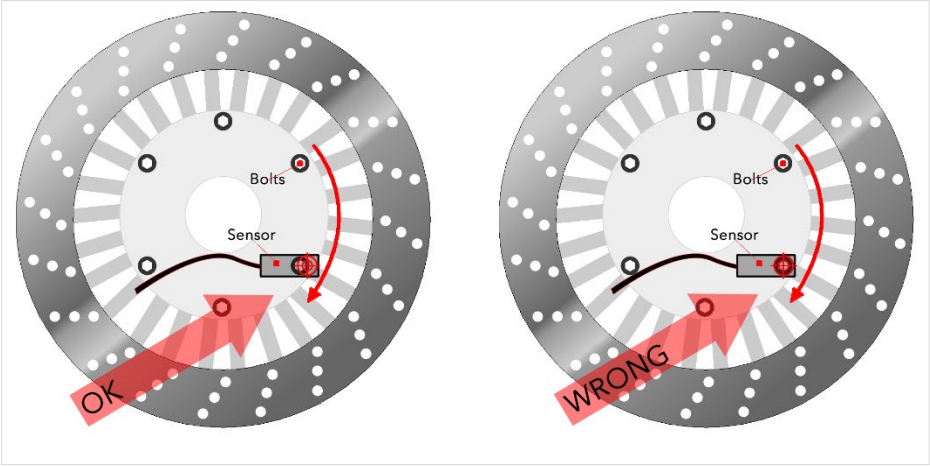


Connect the front sensor to the plug&play wiring harness to the branch marked "FL". Connect the rear sensor to the plug&play harness to the branch marked "RR".

PAY ATTENTION DURING INSTALLATION

- The sensor consists of a threaded cylindrical body (M8x1). The sensor includes a nut and counter nut so it can be attached to a drilled bracket;
- The bracket to which it is attached must not vibrate or move, otherwise the sensor may detect false pulses;
- In the part where the cable comes out (the back) there is an LED that lights up when the sensor detects a metal object;
- The front should face lost a phonic wheel or toward the brake disc flange (so that metal teeth or screws can be detected;
- The distance required for tooth detection is about 0.8 to 1 mm. Once fixed, verify that the speed sensor detects all the teeth on the phonic wheel;

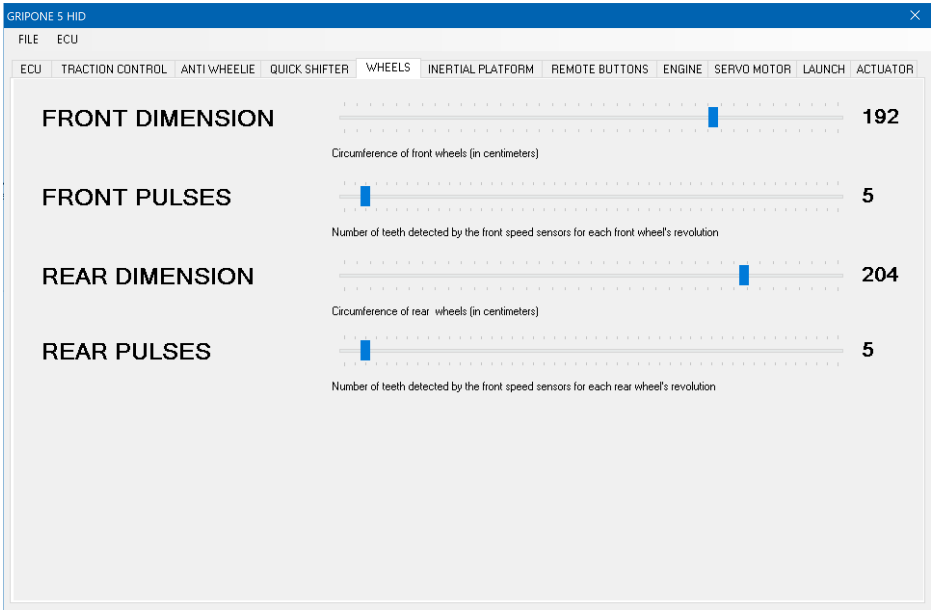
- Metal teeth (or screws) must be equidistant from each other. For example, they cannot be 6 teeth paired in groups of two teeth close together;
- When connecting the sensors to the control unit be careful not to reverse the front sensor with the rear sensor.
- If the disc fixing screws are hollow-headed (such as Allen screws) position the sensor so that when the screw passes through, only one pulse is detected at the edge of the screw (see figure).
- Screws can be made of iron or steel. They must not be aluminum, titanium or stainless steel.
- After installing the sensors, control unit and plug&play wiring, start the engine and spin the wheels by hand. Verify that the red LED on the sensors light up as you pass the screws in front of the sensor



5.5 Configure speed sensors

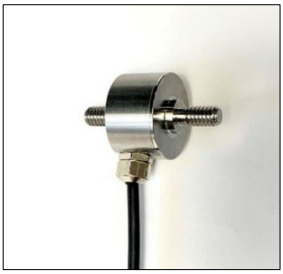
Once the sensors are installed and connected to the wiring harness, it is important to set the wheel parameters, by which the ECU is able to calculate the vehicle speeds. Follow the following steps:

- Make sure the control unit is connected to the main connector;
- Power the control unit through the 12Volt voltage;
- Connect the USB cable and wait until the ECU is ONLINE in the GRIPONE 5 HID software.
- Select the WHEELS folder and configure the parameters according to your wheels. Measure the development of the wheels (front and rear) with a tape measure. Wheel development is the distance (in centimeters) that the wheel covers in one complete turn;



- Set the wheel development value (in centimeters) for the front wheel and for the rear wheel;
- Set the number of pulses detected by the front and rear sensors (for each complete wheel revolution;
- Select the ECU folder and press the "WRITE MAP IN ECU" key (or use the ALT-W key combination) to program the ECU with the parameters you just set;

5.6 Connect the gear sensor (OPTIONAL)



The shift sensor is a load cell sensor, capable of detecting the pressure exerted by the rider on the shift lever. The sensor detects the force exerted in both compression and traction.
The shift sensor is to be inserted on the shift lever return rod. The sensor has two M6 threads through which it can be attached to the return rod. Connect the sensor to the branch of the wiring harness marked QS.

5.7 Adjust the gearbox sensor

Once the sensor is installed, it is necessary to proceed with adjusting the parameters that define its behavior. Follow the following steps:

- Make sure the control unit is connected to the main connector;
- Power the control unit through the 12Volt voltage;
- Connect the USB cable and wait until the ECU is ONLINE in the GRIPONE 5 HID software.
- Select the QUICK SHIFTER folder and configure the parameters as shown in the figure;

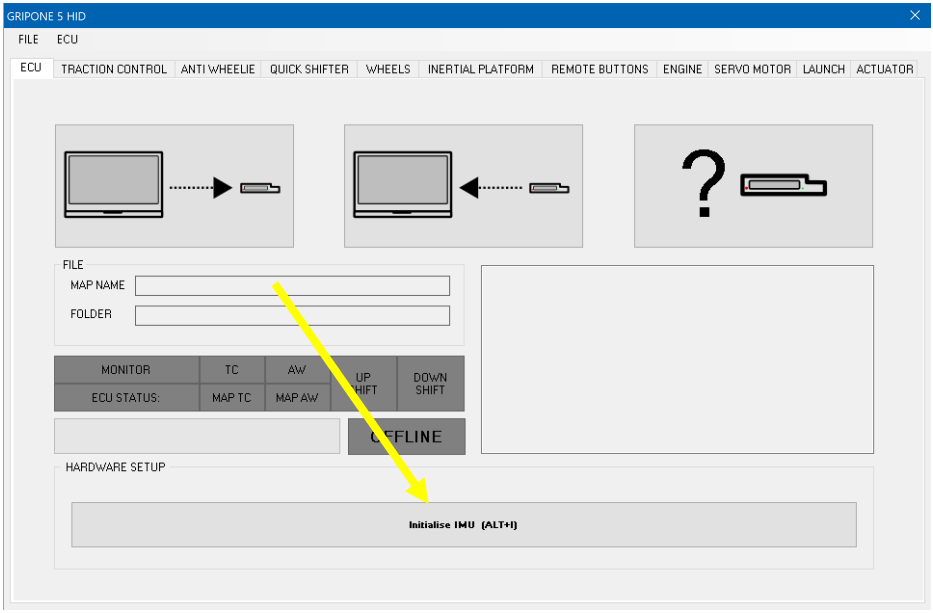


- The parameter SENSITIVE = 9 may be too sensitive. In this case, reduce the value so that more force must be exerted on the lever to activate shifting.
- The DIRECTION parameter should be set so that the direction of actuation corresponds to as described: if by engaging the next gear the sensor is stressed in compression, I should set DIRECTION=1. If by engaging the next gear the sensor is stressed in tension, I must set DIRECTION=0;
- TIME CUT defines the cutting time on the coils. A value between 7 and 10 is recommended.
- Power the control unit through the 12Volt voltage;
- Select the ECU folder and press the WRITE MAP TO ECU key (or use the ALT-W key combination) to program the ECU with the parameters you just set;

5.8 Inertial platform initialization

The inertial platform (IMU) included inside the GRIPONE ECU must be initialized. Once the wiring and sensor installation is completed, proceed following the steps indicated:

- Connect the USB cable to the control unit;
- Keeping the bike straight, with both wheels resting on the ground, press ALT + I in the GRIPONE 5 HID software;



- Disconnect the USB cable;

6.0 The Handlebar Buttons

The GRIPONE kit does not include remote buttons to be placed on the steering wheel. However, there is a connector (four-pin) marked "BT" in the wiring harness that can be connected to two buttons (momentary type, normally open). Through these buttons you can turn the system on or off, change the level of the traction control, change the level of the anti-impingement control.
If it is decided to connect the two pushbuttons, the wiring branch to the pushbuttons is the responsibility of the installer. The pushbuttons must be "momentary" and "normally open" type.

6.1 Enable SELF-TEST

Press and hold the red button for 4 seconds to activate the self-test function. For 4 seconds, GRIPONE will reduce the power of the motor. This allows the user to check that the system is working properly.

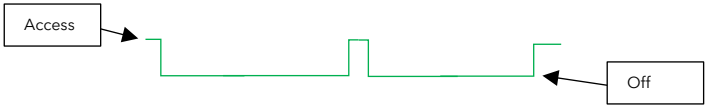
6.2 Enabling and disabling controls

Press and hold the green button for 4 seconds to deactivate all control systems. When the system is deactivated, the green LED on the control unit will flash slowly (0.4Hz).



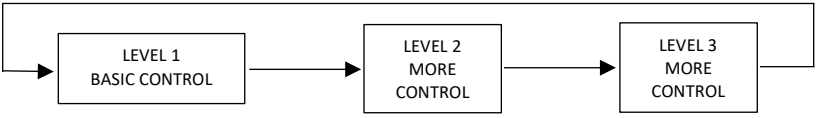


Press and hold the green button for 4 seconds to reactivate the controls. With the system activated, the green LED on the control unit will flash normally (1Hz).



6.3 Changing the level of traction control

Through the management software, the operation of traction control can be adjusted. By connecting the USB cable to the ECU and changing the SENSITIVE and INTENSITY parameters (in the TRACTION CONTROL or ANTI WHEELIE folder), it is possible to increase or decrease the control over the engine, by the system.
By installing the buttons, however, the rider will be able to significantly change the traction (and wheelie) control to 3 levels.



Level 1 corresponds to the control achieved by setting the SENSITIVE and INTENSITY parameters. Level 2 will increase the control. Level 3 will increase from level 2.
Pressing the green button will change from level 1 to level 2, to level 3 traction control. Further pressing the green button will return the control to level 1.
Pressing the red button will switch the soaring control from level 1 to level 2, to level 3. Further pressing the green button will return the control to level 1.

6.4 Variation between levels

Using the buttons, it is possible to change the control level to three levels. Among the configuration parameters of the control unit is the "STEP" parameter (in the REMOTE BUTTONS folder), which influences the change between the 3 levels selectable with the buttons. The suggested value for the STEP parameter is 5.
If by changing traction control level, the variation is not perceptible, you can increase the value of "STEP". This will increase the variation between one level and the next.
On the contrary, if by changing traction control level the variation is too much, you can decrease the value of "STEP". In this case, the variation between one level and the next will be smaller.

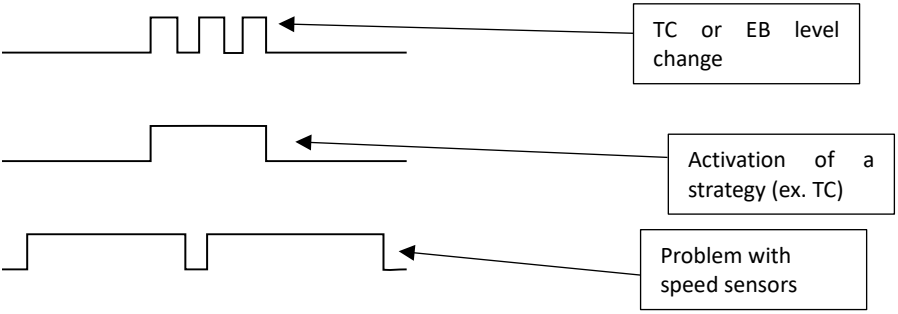
7.0 Remote Spy



GRIPONE is arranged to drive a remote led (not included in the kit). The led is an indicator light that indicates the following system activities to the pilot:

- Variation of traction control level by flashing a number of times equal to the selected level.
- Variation of the motor brake control level by flashing a number of times equal to the selected level.
- Activation of traction control by continuously turning on the indicator light.
- Activation of engine brake control, by continuous illumination of the indicator light.
- Activation of control during gear shifting by continuous illumination of the indicator light.
- Activation of climbing control by continuously turning on the indicator light.

You can connect the branch of the wiring harness marked "RE" to an LED or the vehicle dashboard. Refer to the wiring diagram for the "pin out". The remote indicator light can flash as described below:


TC or EB level change
Activation of a strategy (ex. TC)
Problem with speed sensors

Download the software from:

SCAN ME

download.gripone.com/gripone_5_hid/

Download the manual in PDF format

SCAN ME

This device is developed for demonstration purposes. GUBELLINI di Gubellini Diego & C. s.a.s. is not responsible for the consequences resulting from the proper and improper use of the vehicles on which it is installed in GRIPONE device. All responsibilities are deferred to drivers and installers.

designed, owned and made by

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