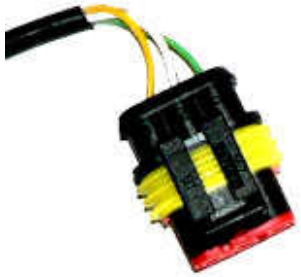
Product code: F27SWGEAR-ER
Description: Digitally adjustable pressure/tension strain Gauge/Loadcell quick shifter**.**

Features

- Can be set up for either push or pull linkages
- No movable parts
- Preload adjustable 1 to 30
- User friendly digital LED interface
- Use a 20MHz processor for an absolute stable up shift signal in all riding conditions.
- Protection: IP67.
- Dimensions: Length 45mm Diameter 14mm
- **For use on racing vehicles on traffic-closed streets.**

1. Installation



1.1. Remove the stock shift rod, it must be replaced with the one indicated in the application list or with another one so that the length of the new shift rod with the sensor it equals the length of the stock shift rod.
1.2. Install sensor and rod on the side closest to the engine.
1.3. Make sure that the wire has a slight bend/loop so it does not tighten up and pull on the sensor at up shift or down shift and the shift rod has no interferences while moving.
1.4. Connect the 3 way connector to the corresponding one of the Rapid Bike harness.

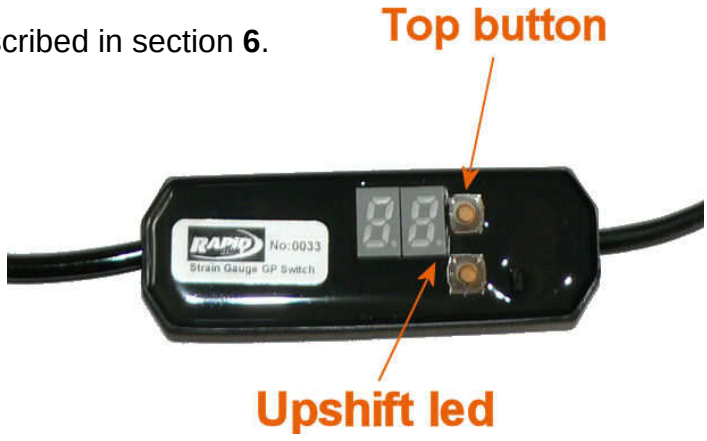
2. Initial setup

2.1. Switch ON ignition, the displays should flash briefly.
2.2. Switch OFF ignition.
2.3. Switch ignition back ON while pressing both buttons. Display flashes UP continuously.
2.4. Move shifter pedal and do a simulated up shift and hold the pedal for about 3 seconds, display goes black.
2.5. Switch OFF ignition.

*The setup process must be done every time it is necessary to change the quick shifter operating direction. By default it is setted in **COMPRESSION** (push).*

3. Preload programming and preliminary verification of the sensor

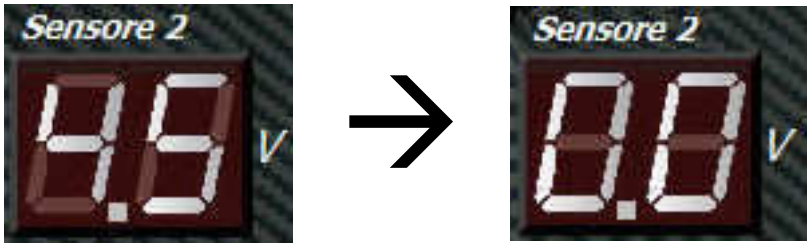
3.1. Press top or right button and display will show up shift default value “15”, suitable for most bikes to get going.
3.2. With ignition on and engine off, shift to 6th gear and try to select a 7th gear (to avoid nasty noise from the gearbox). Shift lever should move through the spring load in the gearbox until gear resistance is felt; now activation of the up shift led should be seen on panel.
3.3. If it doesn’t happen, proceed as described in section **6**.



4. Setting and testing operation with Rapid Bike software

4.1. Connect the Rapid Bike module to the computer with the USB adapter and start the RB Master software. If data are not downloaded automatically press F6 key on the dashboard or click on the relative icon.

4.2. Select the form **Maps**; with the ignition on and engine off shift to 6th gear and try to select a 7th gear, verify that the display **Sensor 2** shows 0 volts when gear resistance is felt. When the shift lever is in resting position the display must show about 4,5 volts

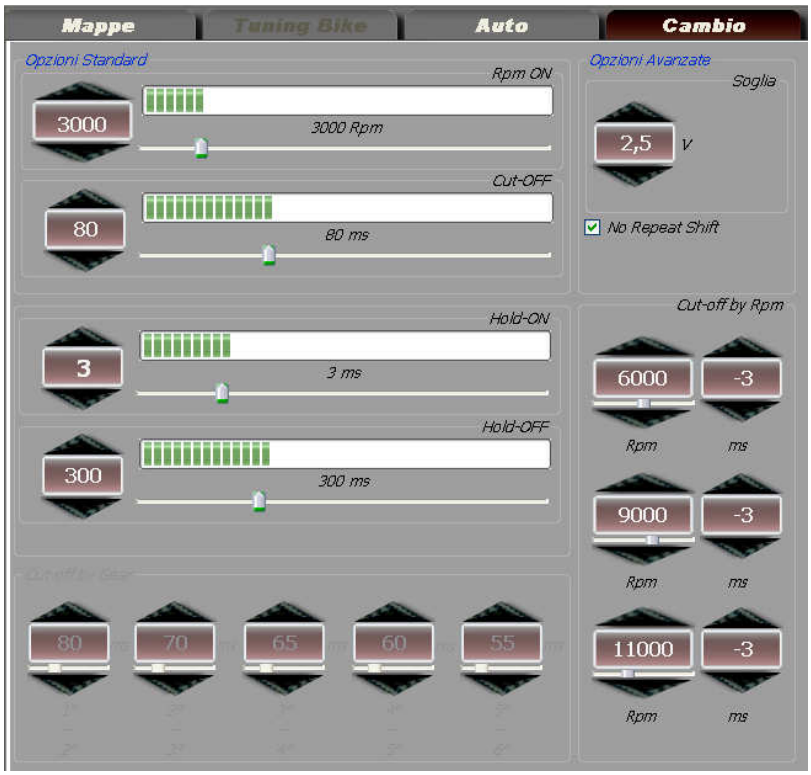


- If the voltage on the display **Sensor 2** doesn't goes down to 0 volts verify the connections and modify the preload setting as described in section **6**

4.3. Select the form **Quick shift** and set values **RPM-On** (rpm value of activation) and **Cut-OFF** (time of engine's cut).

4.4. Click on the **Advanced** button to access particular parameters.

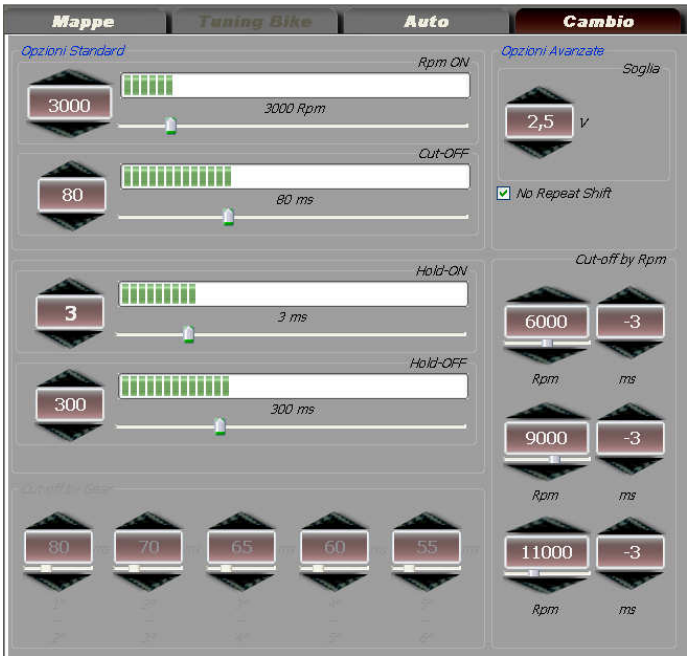
For further information please check the RB Master specific handbook.



4.5. Click on **Apply** to save the new settings.

5. Final test

WARNING, make sure clutch lever is pulled all the way in to the handlebar, secure clutch lever with 2 zip ties and keep one hand on it so your bike does not take off out of control, creating a very hazardous situation.



5.1. Start the engine in 6th gear.

5.2. Raise rpm above the activation value (setted on the parameter **RPM-On** in the software)

5.3. Do up shift to 7th gear and make sure rpm goes down briefly and then raise up again. If this doesn't happen, verify again the proper operating of the sensor as described in sections **3** and **4**.

5.4. Test the bike on a dyno bench or driving on a racetrack and verify the proper operating of the quickshifter by change the gear from the lower to the higher rpm.

*Make sure to really move the shifter pedal swift and with force, don't try to caress the next gear in. If it doesn't work properly check the settings as described in section **3** and **4**.*

6. Modify sensor settings

Preload represents the "hardness" of the sensor.

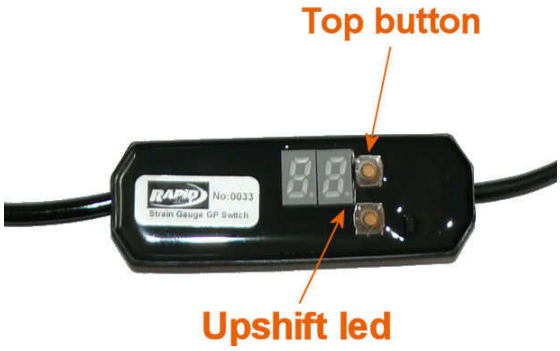
*Adjustment of the preload settings must be done if verifications in sections **3** and **4** fail:*

- *Activation led or tension shows in **Sensor 2** commutes in advance from the real gear shift.*
- *Activation led or tension shows in **Sensor 2** doesn't commute when gear shift happens.*

The preload settings can be set in a range between 1 and 30.

6.1. Push top or right button;

The display will show the defaul value "15" which correspond to a force of about 45 Kg. This setting allows the proper operating on most of the bike.



6.2. While pressing the top or right button push also the one at the bottom or on the left until the display starts to flash.

6.3. Release both buttons.

6.4. Press the top or right button to increase the value and the button at the bottom or on the left to decrease the value.

6.5. Save the new setting by pressing both buttons until the display stops to flash.

7. Modify sensor commutation

The sensor is set to operate as a commonly open circuit, because the Rapid Bike specs require that commutation.

However, it is possible to change that setting to make the sensor working with other ECUs (OEM or aftermarket), which require a commonly closed circuit.

This option is available only on sensors with the buttons arranged horizontally.

7.1. Press and hold the left button and then press and hold also the right button.

7.2. After 10 seconds **t1** will show; continuing to hold down **t2** will appear. The two settings will continue to alternate.

7.3. Release both buttons when the desired option is shown:

t1 = commonly open circuit (default setting, necessary for Rapid Bike)

t2 = commonly close circuit.

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