

IRC Components quickshifter uses a "Strain Gauge" style sensor that is IP65 rated with quick-disconnect plug. We have put an enormous amount of energy in the form of time, technology and knowledge to create a reliable performance-oriented product. This product is encouraged for use on a closed circuit only, is not homologated for road use. IRC is not liable for any injury or damage to the operator, vehicle, or third parties from the use of this product. **MADE IN ITALY**

DISCLAIMERS

- System setup must always be done when bike is at complete halt and is parked on stands. A wrong setting could affect, partially or fully, the system's effectiveness, ultimately damaging the gearbox.
- System setting is the responsibility of the user and not of the manufacturer. While fixing sensors, take extra caution to not damage while screwing and unscrewing the bike. It is a delicate product.
- The use of this product is at the total discretion of the private parties.
- Each system modification, both of hardware and software, as well as harness or single components, could affect the system functionality. It can do potential damage or cause injury to the user, vehicle, or to third parts and this will negate the product warranty.
- Installation must be done carefully. It is mandatory that you follow instructions provided in the manual book. After installation it is highly recommended that you do proper test of the product before riding on.
- Installation is an extremely crucial setup for system efficiency. Be sure it is done by competent and specialized mechanic.

1. CONNECTIONS

1.1 Fix the Main Boards on the frame.

Under rear seat, in an accessible position.



1.2 Ground wire installation

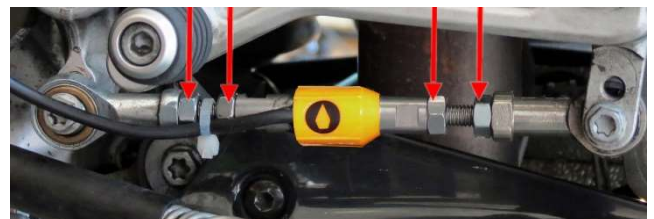
Connect eyed Black wire directly to battery ground.



1.3 Load Cell installation

Sensor has "magic threads" i.e. both right and left. Connect the sensor to the provided shiftrod. Cut it if necessary. Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations.

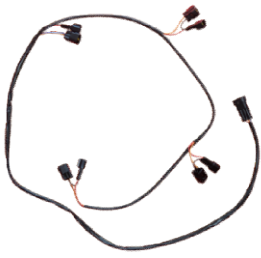
Install sensor and rod with uniball links on both ends, most bikes have uniballs stock, check that the shiftrod does not rub or touch anything. Put sensor far from very hot parts. Make sure wire has a slight bend/loop so it does not tighten up and pull at the sensor during up or down shift. Warranty doesn't cover ripped out wires.



To adjust sensor positioning, act on the proper planes on it. Sensor failure could occur if acting on the cover.

1.4 Coils connector installation.

Take the coils bypass:



or 4 bypasses according to model bike.

Locate the coils.

Our coils harness has 3 pairs of wires with terminals. On coils you should have 2 plugs. On one of these, you have +12V. Disconnect it and connect it to the **red** wire of our harness, then connect the **orange** to the coil. **(If you have 2 or 4 coils, do this on all coils)**

Now remove the other connector of the coil.

Connect in the between the blue wires from our harness **(If you have 2 or 4 coils, do this only on one coil, the one you prefer)**

2.DISPLAY

At key on, the system will be powered and the ECU makes a general check. I passed, the display will show the firmware Version.

Do not start any process, setting or action on sensor until the above routine is completed.

In some bikes the "key on" is not sufficient to maintain the unit powered but the engine must run.

When the pre load threshold has passed (par. 3.4 and 3.7), the display will show "--". In case of failure, the display will show an "E" followed by a number. Give this code to the assistant.

3.SETTING

To set up initial program press both the buttons to enter into the system. Push lower button to scroll the menus forward. Push the upper one to scroll the menus backwards. Press and maintain the lower button to enter into the various menus. However, to exit from the menu and undermenus press upper or both buttons. System will go out of programming session if no button is pushed except the "r" menu. Also during programming, the quickshifter is disabled.



WARNING: Act only on the following setup

3.1 Cut time programming "t".

It is the duration of the power cut. It can be adjusted within 20÷99ms.

Default is "60"ms.

3.2 Choice of cut type "tP".

The power cut can be "hard" as most of our competitors or "smooth".

Choose "F" to see fixed time; "U" to automatically adjustable time. In this case ECU modify the cut time in function of rpm, acceleration and makes a "smooth" cut to ease the shock loads on the gear box and chain. It also reduces loss of traction at upshift.

Default is "U".

3.3 Upshift Pre Load adjustment "L".

The default setting is set at "14" and it can be customized according to the need. Keep the ignition on and engine off to try to select the upper gear. Shift lever should move through the spring load in gearbox until gear resistance is felt. The panel LED will display "--" for a while. If this happens too early or too late, then consequently change the preload set. Default is "14".



A too high preload could affect the gearbox reliability and makes the shifting "harsh". A too low preload could cause unpredicted up/downshifting signal.

WARNING cuts of the power for a while. An unpredicted downshifting can be dangerous because it "push" the bike ahead so properly adjust this parameter.

3.4 Actual Load displaying "S".

To read the value of actual applied load select this menu. This feature is also useful for preload adjustments and to check gearbox wear. A too high preload could affect the gearbox reliability.

- **Max Load displaying "--".**

At this point, pressing and holding the lower button, the display will show blinking "--" for about 10s. Afterwards it will show the max load value registered in this period. This feature is useful for preload adjustment and for gearbox reliability and maintenance.

3.5 Actual rpm displaying "r".

If you chose setting mentioned in 3.2 as "U", then rpm as measured by the ECU will be displayed. Please cross check if it is aligned with the real engine rpm.
Default is "13".

3.6 rpm adjuster "rS".

The rpm visualization (3.6) can be adjusted by the following method. Use this feature to multiply or divide the rpms as considered by the SGRACE. Divided ".2" and ".4", Multiplied "2" and "4". Default is "0.5".

3.7 Minimum rpm limit "Sr".

Set rpm below which the system is not cutting. Visualization: /1000. Default is "03".

3.8 Type of analog output "dS".

If your system has the analog output function then, this function allows you to set the type of output: "dC": 0÷5V with 0 load at 2.5V. "dU": 0÷5V with 0 load at 5V. "DD": 0÷5V with 0 load con at 0V. Default is "DC".

3.9 Bottom/Upper limits "dr".

If your system has the analog output, you can set value as "5"=±50Kg, or "10"=±100Kg. Default is "5".

3.10 Pushing/Pulling "CE".

Referring to the upshifting, "C" Pushing, "E" Pulling. To properly set this parameter, engage the 2nd gear and try to put the 3rd. Look at the shiftrod: Is it compressing (C: Push) or extending (E: Pull)?
OEM rearsets require "C".

3.11 Smoothness "rr"

If OEM bike has the upshifter, or if another additional upshift module is used, set it to "00", otherwise, higher values mean increase in smoothness. Initially set the ideal upshift rpm. Visualization: /1000.
Default is "12".

4. QUICK PRESETTING SUGGESTIONS

The system is provided fully working. Just properly set "CE" (par. 3.8) to immediately enjoy the blipping. However all parameters are set in safety way. Every rider must properly adapt the system to own riding mode.
These are some suggestions:

- 4.1 Preloads setting:** Give power, don't start engine, don't touch the lever, enter in the menu, go to "S" and check that you read "00" or oscillating "01", not more. Then put 3rd gear and try to push the pedal in the upshifting way till you just "feel" the gears load, not till the upper gear enter. You should read values between "08" and "17". Set this value in "L". Now try to push the pedal in the downshifting way till you just "feel" the gears load, not till the lower gear enter. You should read values between "08" and "17". Set this value in "LS". LS should be around L. Difference mustn't be higher than 2Kgs.

5. TROUBLESHOOTING

5.1 Bike doesn't start

Check upkit harness to the coil is well installed as per 4.2.

Check "OC" set in C.

Check ground wire on battery ground, not to the frame.

Check you don't have "E1" on the display. If yes, contact your dealer.

Check the sensor: Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations as per Par.1

If a LIPO or any other lightweight battery is used, ckeck it eventually replace it.

5.2 System continuously cut even if the foot isn't acting on the pedal:

Check ground wire on battery ground, not to the frame.

Check you don't have "E1" on the display. If yes, contact your dealer.

Check the sensor: Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations as per Par.1

If a LIPO or any other lightweight battery is used, ckeck it eventually replace it.

5.3 Upshifting not working:

Check "CE" according to above par. 3.8.

Check ground wire on battery ground, not to the frame.

Check that when upshifting the display will show "- -" for a while and that you can hear a "click". If no, properly set "L" according to the above 5.1.

Check you don't have "E1" on the display. If yes, contact your dealer.

Check the sensor: Tight the nuts and the eventual grubs to avoid disconnections and loss of functionality due to vibrations as per Par.1

If a LIPO or any other lightweight battery is used, ckeck it eventually replace it.

Check the "coil" harness is well installed according to par. 2.4.

5.4 System works in reverse manner:

Check "CE" according to above par. 3.8.

5.5 Gears aren't fully engaged during Upshifting or go out after a while:

Increase "t".

Check "L", according to above 3.1. Eventually increase/reduce it a couple of points and test.

6. WORKING CONDITIONS

Enjoy your choice.

For any questions or troubleshooting queries, please contact us at:
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