

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.

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.



WARNING

1. CONNECTIONS

1.1 Fix the Main Board on underseat

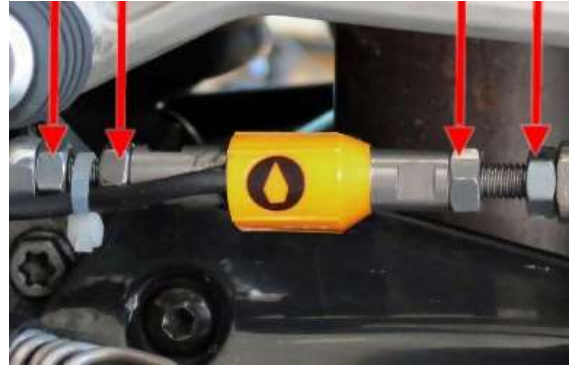
Under rear seat, in an accessible position



1.2 Load Cell installation

Sensor has "magic threads" i.e. both right and left. Connect the sensor to the shiftrod (This has to be bought separately it is not included in the kit). Once you have connected it, measure the shift-rod and cut it to customize it. After connecting, tighten the nuts and ensure the grub screws to avoid disconnections due to vibrations.

However, Install sensors and rod with uniball links on both the ends. Most bikes have stock uniballs. Check that the shiftrod does not rub or touch anything, as this could impair sensing. Try to fix sensors that does not get in connection with heated parts while riding. Make sure wire has a slight bend/loop so that it does not tighten up and pull the sensors up or down while shifting. Warranty does not cover ripped out wires



WARNING

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

1.3 Connection:

In general consider that Red is the positive of the signal, White is the negative of the signal, Blue is the +12V powered and Black is the ground.

3.2.1 POWER COMMANDER 5 PCV:

Connect Blue wire to an ignition switch controlled +12v source and Black to ground.

Connect White to PCV port 4 and Red to port 5. Choose if necessary, the normally closed circuit as above par. 3.3.

3.2.2 POWER COMMANDER III USB:

Connect Blue wire to an ignition switch controlled +12v source and Black to ground. With the connector tongue towards the bottom and seen from wire side, connect the Red into the upwards right hole and the White into the upwards left hole.



3.2.3 RAPID BIKE EVO and PSC PRO:

Insert the connector as received, otherwise, with the connector tongue towards the bottom and seen from wire side, Blue on left position, Black and White together in the central position, Red in the right position.

4.2.4 RAPID BIKE 3:

Connect Blue wire to an ignition switch controlled +12v source and Black and White to ground. Connect the Red to the Rapid Bike Brown.

4.2.5 YEC:

Connect Blue wire to an ignition switch controlled +12v source and Black to the ground. Connect the Red and the White to the YEC ports. A Pulldown resistor could be necessary in between signal input and a +5V source.

4.2.6 YAMAHA MODIFIED IN YEC:

Connect the resistor as per modified YEC instructions. Should be one 10KOhm resistor between White/Red (signal) and Blue (L=+5V) of the YEC.

Connect Red wire of the SGRACE to the White/Red of the bike EXUP connector (A: PIN 25).

Connect white wire of the SGRACE to the Black/blue wire of the Exup connector.

Connect Blue wire to an ignition switch controlled +12v source and Black to the ground.

4.2.7 TRACTION CONTROL "RACE":

Connect Blue wire to ignition switched + 12v and Black and White to ground. Then connect the Red wire to the Yellow wire of TC

4.2.8 HRC:

Connect Blue wire to ignition switched + 12v and Black to ground.

Follow HRC ECU instructions. Usually connect the Red to the green/red (pos 27 QSSW) and the White to the ground (usually the green wire of the ECU where the horn is connected, but check). In some versions <06 connect the red to Pin22 (green/white wire). HRC harness has a positions for the strain gauge load cell quickshifter. DO NOT USE THEM. Set the cut time (suggested 65ms) as per par. 3.1.

4.2.8 SUZUKI MODIFIED IN YOSHIMURA:

Connect Blue wire to ignition switched + 12v and Black to ground. Follow Yoshi ECU instructions. Usually connect the

Red to the blue-white wire of the black ADJBOX connector, on the pin 52 (COV1). Connect the White wire to the black/brown of the ADJBOX connector.

1.4 Analog output for Data loggers

An unused Green wire comes out from the connector. Connect it to your data logger or shifting ECU if you have one. Output is 0÷5V. Refer to the paragraph 3.9 and 3.10 for further information on setup.

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. When the pre load threshold has passed (par. 3.4), 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. SETTINGS

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. If a menu doesn't appear into the following list, don't modify it.

3.1 Signal time programming "Y".

Set at the max allowed value: "90"

3.2 keep it in "F"

3.3 Change in between commonly closed/open circuit "OC"

"C": Commonly close circuit, default value for PCIII

"O": Commonly open circuit

3.4 Pre Load adjustment "L"

Default setting "12" it's possible to change the load necessary to apply on the sensor for having the upshift signal. With ignition on, engine off, try to select the upper gear. Shift lever should move through the spring load in gearbox until gear resistance is felt. If rpm is above the set value at par. 3.8, the panel led should show "--" for a while. If this happen too early or too late consequently change the preload set.



WARNING

A too high preload could affect the gearbox reliability and makes the shifting "harsh". A too low preload could cause unpredicted up/ signal cut of power for a while.

So properly adjust this parameter

3.5 Actual Load displaying "S"

Entering in this menu it's possible to read the actual load value. Useful feature for preload adjustment and for gearbox check and maintenance.

3.5.1 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 Useful feature for preload adjustment and for gearbox reliability and maintenance. During this menu the sensor is enabled.

3.9 Type of analog output "dS"

If your system has the analog output, this function allows 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.

3.10 Bottom/Upper limits "dr"

If your system has the analog output, set "5"=±50Kg, "10"=±100Kg.

3.11 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 shiftrd: Is it compressing (C: Push) or extending (E: Pull)?

4. QUICK PRESETTING SUGGESTIONS

The system is provided fully working. Just properly set "CE" (par. 3.11) 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".

5. TROUBLESHOOTING

5.1 Bike doesn't start

Check connection to power commander is properly according to par.1.3

Check the unit powering. Check the blue wire is properly connected to a continuous +12V source

Check ground wire on battery ground, not on frame or engine.

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

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

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

Check ground wire on battery ground, not on frame or engine.

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, check it eventually replace it.

5.3 Upshifting doesn't work:

Check "CE" according to above par. 3.11.

Check ground wire on battery ground, not on frame or engine.

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, check it eventually replace it.

5.5 System works in reverse manner:

Check "CE" according to above par. 3.11.

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

Increase "+".

Check "L", according to above 5.1. Eventually increase/reduce it a couple of points and test.

6. WORKING CONDITIONS

11÷17.5V; -20°C÷+60°C

Enjoy your choice.

For any questions or troubleshooting queries, please contact us at:
tech-support@irccomponents.it • Ph. (+39) 010 8352973