Please read the installation instructions carefully before using your PSC PRO . Make sure you fully understand and agree with the disclaimer before using this product.

www.IRCcomponents.com
Email. info@irccomponents.com

PRESENTS



POWER SLIDE CONTROL

PRO



An **NDT MOTO** Product

The Power Slide Control PRO is our latest high performance creation; we put down an enormous amount of time and engineering into it, to create an effective and reliable product. It is developed by racers for racers.

The Power Slide Control PRO is an electronic system able to reduce the rear wheel slide off during accelerations and constant throttle. It is not capable to reduce the slide off during the deceleration and the braking phase.

The system is composed by an ECU and 2 velocity sensors put on front and rear wheels. The variation of the difference between front and rear wheel velocities is continuously monitored in order to understand if the rear wheel is sliding off or not. The Power Slide Control PRO is capable to understand if the bike is on straight, or in a slow turn or in a fast turn, and acts consequently. The Power Slide Control PRO is even able to act like Quickshifter, Pit Limiter and Launch Control.

DISCLAIMER

The Power Slide Control PRO is intended for use on a closed track only. The Power Slide Control PRO is not road approved. The Power Slide Control PRO is not a safety component. Sliding losses mean possible driver crash; the Power Slide Control PRO aim is only to support the driver in this phase, reducing or deleting, if possible, the sliding conditions. The Power Slide Control PRO does not guarantee avoiding slide off and potential crash. It is not guaranteed that the Power Slide Control PRO avoids crash of the bike with possible damage to the bike, driver or third parts.

The Power Slide Control PRO allows for several settings both during installation and use. A wrong setting could affect, partially or fully, the system effectiveness. Even the wrong positioning of the front and rear sensors could affect the system performances. Take particular care to chain adjustment operation that could misalign the rear sensor if not properly braced.

The use of this product understand the risk connected to employing the equipment here described.

The use of this product is at the total discretion of the private parties. The manufacturer of this product is not liable for any kind of damage or injury deriving to the operator, vehicle, or to third parties form the use of the Power Slide Control PRO .



WARNING: Each system modification, both hardware and software and harness or single components, could affect the system functionality with potential damage or injury caused to the operator, vehicle, or to third parts and delete the product warranty.

Installation must be done carefully following these instructions. It's strongly recommended to test the product and the bike after the installation.



WARNING: Installation is a very critical operation for system effectiveness. Be sure that it is done by competent and specialized personnel.



WARNING: Even in the case that the system is been installed and set by specialized personnel, the end user must follow all tests according to the procedure described in the following paragraph 6th (Pre use tests).

The PSC PRO is a race use only product so the warranty on its parts and components is only ONE year from the date of purchase.

This manual is issued on May 11th in Rev. 3.0. It's the end user responsibility to periodically visit the website www.irccomponents.com in order to check new releases of the manual.

Each single ECU has a label indicating the diagnosis and the software version. Check the website to see if it is matching the last release. The eventual software update will be done free of charge except for shipping expenses.

INSTALLATION MANUAL

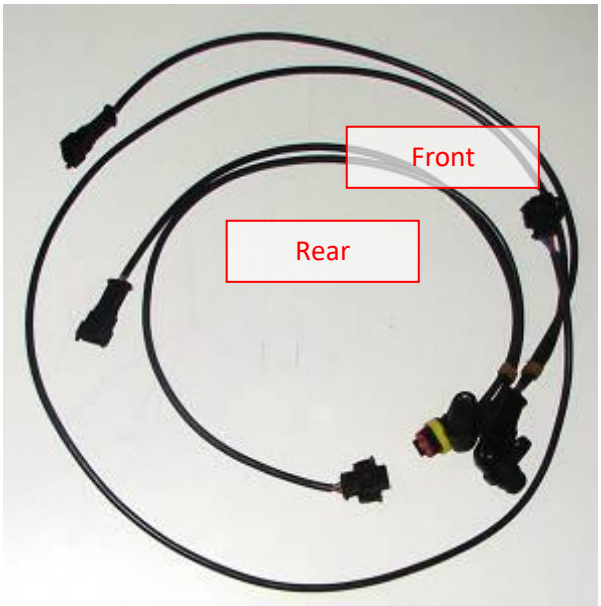
Installation must be done only by competent personnel. Do not proceed with installation if you are not expert and able to do it.

Some installation pictures are available here:

http://www.irccomponents.com/PSC/Ducati.zip
http://www.irccomponents.com/PSC/Honda.zip
http://www.irccomponents.com/PSC/Aprilia.zip
http://www.irccomponents.com/PSC/Kawasaki.zip
http://www.irccomponents.com/PSC/Suzuki.zip
http://www.irccomponents.com/PSC/MV.zip
http://www.irccomponents.com/PSC/Yamaha.zip

1. SENSORS INSTALLATION

WARNING: Take maximum care in the installation of the sensors. This is the most critical operation.



2 Effect Hall Speed sensors are included in the kit; they are Automotive products, with the advantage of a relaible reading but don't allow a fine adjustment of the sensor-target distance.

Connect sensors to linking wires: short sensor to long linking wire (front sensor), long sensor to short linking wire (rear sensor).



Connect to the PSC PRO accordingly to the label prints: REAR-rear sensor, FRONT-front sensor.

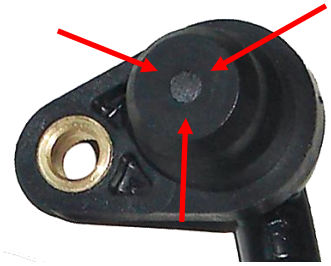
The system properly works when the front and rear sensors read from a minimum of 3 to a maximum of 40 pulses.

These must be equally spaced. Its strongly recommended use the max number of pulses possible.

Be sure that the reading counterpart can be read by a magnet. Ie. iron bolt, not stainless steel.

WARNING: The actual sensor is only the central circle.

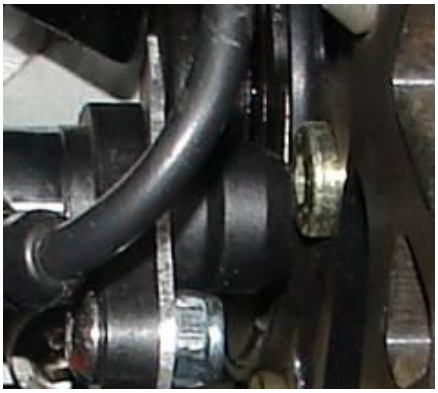
Take care that the target surface is exactly in front of it.



WARNING Put the sensor at a distance around 0.5÷1mm from the target.



Substitution of bolts with full head ones is strongly recommended. Holed screw heads could false the signals.

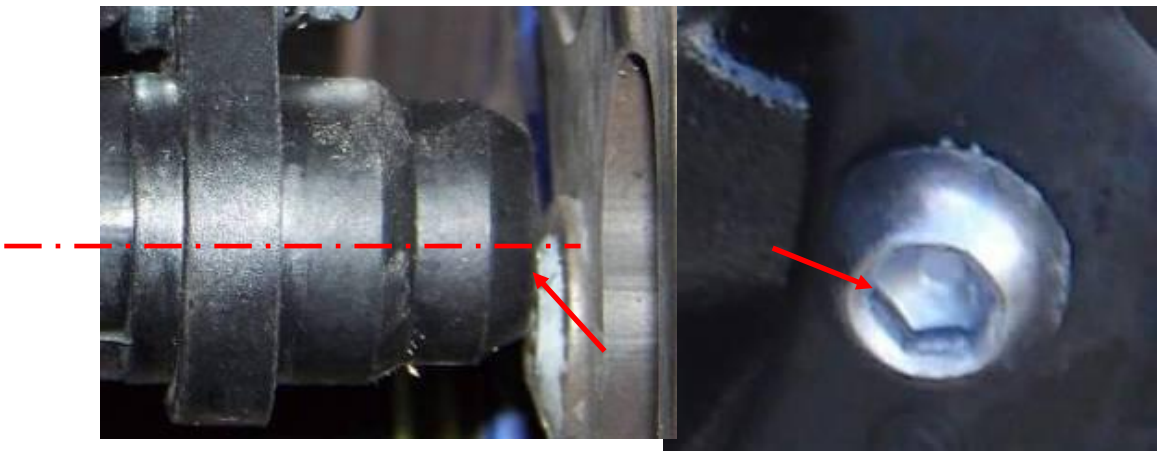


If you don't use flat head bolts take care that the sensor reads ONLY the flat side of the bolt.

Fit the sensors being sure that they do not read holed screw heads.

Starting from firmware 3.7, PSC is able to automatically avoid double readings, however try to follow all our suggestions and check that sensors are correctly reading.

Position sensors as near as possible to the flat surface to obtain a reliable reading even on the conical side of the bolt.

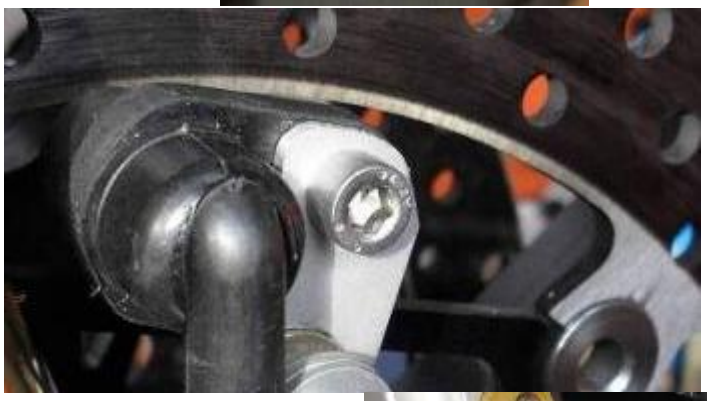


In Yamaha and Suzuki, the above operation is not giving reliable reading at higher speed.

In this case put the sensor as shown on the right.



If possible, put the sensor directly on the brake disk flange in order to have a wide flat reading surface. Put one flat head bolt on each floating bushing hole is recommended.





WARNING: Sensors' brackets must be stiff, well fastened and not bending. If necessary to change the sensor's distance, use spacers avoiding to bend the bracket.

Take extra care with the rear sensor's bracket: during the chain adjustment operation, the rear sensor must be aligned with his target. An improper alignment could cause wrong readings, with impact on PSC PRO system operation. Rear sensor positioning on sprocket side is not giving reliable reading due to the axial movement of the sprocket.







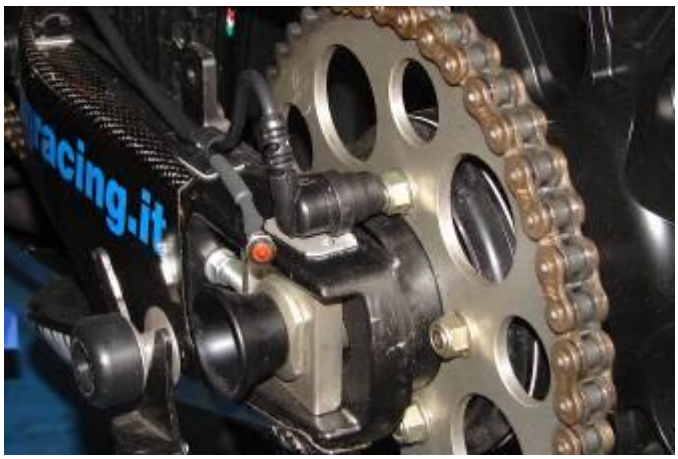
1.1 Sensors check

To check that sensors read properly, disconnect the sensor and connect the proper tool to be ordered apart (available only for professionals).



Switch on the PSC PRO and SLOWLY rotate the wheel. The led must flash whenever the sensor read the target surface.

If the check sensor's control kit is not available, take an amperohmeter set on 20v. Leaving the sensor connected to the PSC PRO , connect the "-" to ground and the "+" to the blue wire of the sensor. Switch the PSC PRO on and slowly rotate the wheel. The sensor will read "0v" whenever the target surface will be read.



WARNING: check that the target surface is read continuously, i.e. without led on/off or volts variations. Pay attention in case of reading on holed screws.

2. GROUND CONNECTION

Connect the ground wire directly to the battery or, if not possible, to a common ground.



3. COILS/INJECTORS CONNECTION

WARNING: If other aftermarket electronic units are fitted on the bike, always connect the PSC PRO directly on the coils and following all other units.

WARNING: In case of quickshifter ECUs, check that these are nto cutting the positive wire to the coil. In this case directly power the PSC PRO unit cutting the red wire that comes to 1st channel harness (where you have a connector with the grey wire too) and connecting it to an ignition switch controlled +12v source avoiding, if possible, the rear tail light supply wire.

The PSC PRO can operate on up to 4 coils or injectors.

WARNING: Cut on coils affects emissions and catalyser's life. In order to avoid these damages, in case a catalyser is present, connect the system to the injectors.

WARNING: PSC PRO works only on transistorized ignition ECU, NOT on CDI ignitions. Before proceed with installation, check that you bike satisfy the previous requirement.

Connect the PSC PRO to all bike's cylinders connectors following this order:

1st cylinder: wires GREEN/BLACK - GREY,
2nd cylinder: wires GREEN/RED - ORANGE,
3rd cylinder: wires GREY/BLUE - CYAN,
4th cylinder: wires ORANGE/GREEN - BLUE.

Plug&Play harnesses are supplied with the system, at the order.

Japanese bike, KTM, Triumph, Aprilia RSV4, BMW S1000RR and new MVs are supplied only with coil connectors.
Ducati, MV, Aprilia Twins, Benelli and BMWs can be supplied with connectors for Injectors or for coils.

3.1. COILS CONNECTION

Refer to the proper paragraph among the followings:

3.1.1. JAPANESES SPORTS BIKE (Coils on spark plugs), TRIUMPH and KTM,

If, at the moment of the order the model and maker are specified, the PSC PRO is delivered with the connectors installed.

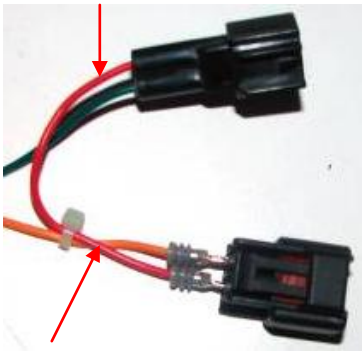
WARNING: Even in this case check harness correctness following the instructions below. In fact, some differences could occur depending on motorcycle production year or lot.

Through electric print diagram, locate the +12v. If the print is not available, unplug coils and determine which one is the +12v wire with an amperohmeter.

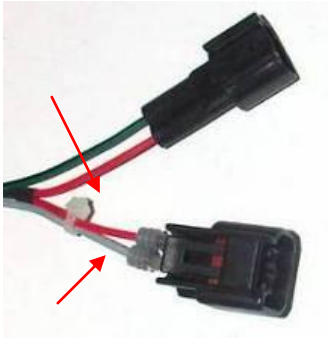
WARNING: On more recent Yamahas you could find both positive wires. Consider positive the one with the higher voltage.

Take off the connector plug and look at the connector part in the coil:

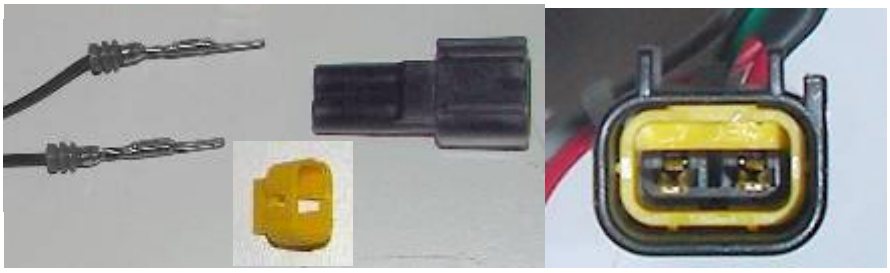
- if the +12v (common color) wire is on the right hand side, it is a DENSO ignition system.
  Typical examples of Denso coils are: Suzuki GSXR 600, GSXR1000 e Hayabusa, Honda CBR600RR, CBR10000RR and KTM. HOWEVE CHECK.
  In this case connect harness according to picture on the right:



- If +12v are on the left, it is a MITSUBISHI ignition sytem (coils branded with 3 leaves).
  Typical examples of Mitsubishi coils are: Yamaha R6 and R1, Kawasaki ZX6R and ZX10R, Triumph. HOWEVER CHECK.
  In this case connect harness according to picture on the right:



To connect the harness-connectors act as described:
Insert male pins on the small connector. Close it with the yellow plastic key.



Insert female pins on the big connector. Close it with the yellow plastic key.



3.1.2. Engines with coils not integrated on spark plugs: (example Honda CB1000)
Locate the coils and how many there are. Use the proper number of PSC PRO connectors following this order: GREEN/BLACK-GREY, GREEN/RED-ORANGE, BLUE-GREY/CYAN, BLUE-ORANGE/GREEN. Cut off the PSC PRO plug & play connectors. Unplug the connectors of the coils; locate pulse wires (usually they come in a different color for each coil), cut it.

SCHEME FOR 1ST CUT CHANNEL:

Connect the ECU side with the **GREEN/BLACK** wire and the **GREY** wire to the coil wire.
In the case of more coils, repeat the above operation on the other cut channels, connecting **ORANGE**, **CYAN** and **BLUE** wires towards the coil.

Connect the **RED** wire (the one long about 1m included in the harness) to an ignition switch controlled +12v source; a tail light supply wire is preferred since it is powered continuously.
Seal off the wires that aren't used.

3.1.3. CONNECTIONS FOR DUCATI, APRILIA, MV, BENELLI, BMWS1000RR

Use the proper harness (specify on order) connecting it to coils or injectors.
Connect the RED wire (the one long about 1m included in the harness) to an ignition switch controlled +12v source avoiding, if possible, the rear tail light supply wire.

OR:

These bikes have 3 wires for each coils: +12v common color for each coil, negative common color for each coil and pulse wire different color for each coil.

Locate the coils and how many they are. Use the proper number of PSC PRO connectors following this order: GREEN/BLACK-GREY, ORANGE/GREEN - BLUE, GREEN/RED-ORANGE and GREY/BLUE - CYAN. Cut off the PSC PRO plug & play connectors. Unplug the connectors of the coils; locate pulse wires (usually they come in a different color for each coil), cut it.

SCHEME FOR 1ST CUT CHANNEL:

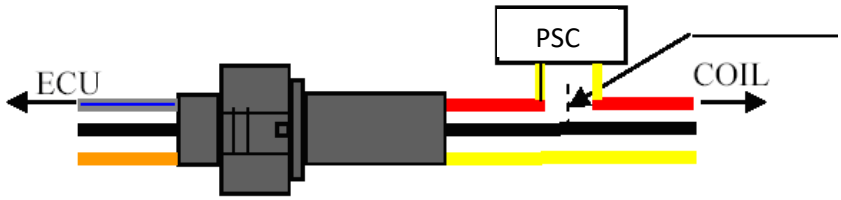
Connect the ECU side with the **GREEN/BLACK** wire and the **GREY** wire to the coil wire.

In the case of more coils, repeat the above operation on the other cut channels, connecting **CYAN**, **BLUE** and **ORANGE** wires towards the coil.

Connect the **RED** wire (the one long about 1m included in the harness) to an ignition switch controlled +12v source avoiding, if possible, the rear tail light supply wire.

Seal off the wires that aren't used.

Scheme for Ducati 999 and other CDI ignition: the GREY/BLUE, and GREY/BROWN are the pulse wires, one to each coil. They changes color to RED close to coil; cut the RED pulse wire after the black insulation is stripped about 40mm. Connect the RED wire from the coil to the PSC PRO **GREY** and the other side with PSC PRO **GREEN/BLACK**.



Repeat the above operation on the other cut channel, connecting **BLUE** wire towards the coil.

Connect the **RED** wire (the one long about 1m included in the harness) to an ignition switch controlled +12v source avoiding, if possible, the rear tail light supply wire.

Seal off the wires that aren't used.

3.1.4. APRILIA AND OTHER TWIN SPARK ENGINES:

WARNING: Specific subsequent ECU programming could be necessary if model and maker are not specified at the order.

Follow the same color wires (they should be negative but check) till they become one. Cut it. Take the PSC PRO connector with red, GREEN /RED and ORANGE wire. Cut harnesses. Connect the ECU side with the ORANGE/GREEN wire and the BLUE wire to the coil wire.

Connect the **RED** wire (the one long about 1m included in the harness) to an ignition switch controlled +12v source avoiding, if possible, the rear tail light supply wire.

Seal off the wires that aren't used.

3.1.5. APRILIA RSV4:
Follow this connection order: Rear Left Cyl. GREEN/BLACK-GREY; Rear Right Cyl. Grey/Blue - Cyan; Front Left Cyl Green Red - Orange; Front right cyl Orange/Green - Blue.

3.2 INJECTORS CONNECTION

The PSC PRO has only 4 exits for the power cut. In case of engines with 6 or 8 injectors, refer to the installation on coils.



WARNING: connection of 2 injectors to the same PSC PRO wire, could cause bike malfunctioning and ECU damage.
Use the proper number of PSC PRO connectors following this order: GREEN/BLACK-GREY, GREEN/RED-ORANGE, BLUE-GREY/CYAN, BLUE-ORANGE/GREEN. Cut off the PSC PRO plug & play connectors. Unplug the connectors of the coils; locate pulse wires (usually they come in a different color for each injector), cut it.

3.2.1. GENERAL INSTALLATION
SCHEME FOR 1ST CUT CHANNEL:

Connect the ECU side with the **GREEN/BLACK** wire and the **GREY** wire to the coil wire.

In the case of more injectors, repeat the above operation on the other cut channels, connecting **BLUE**, **GREY/CYAN** and **ORANGE** wires towards the injector.

Connect the **RED** wire (the one long about 1m included in the harness) to an ignition switch controlled +12v source avoiding, if possible, the rear tail light supply wire.

Seal off the wires that aren't used.

3.2.2. MV (only 4 injectors models)

Use the proper harness (specify on order).



WARNING: The position of negative pulse wire on the bike may vary. When installing make sure that the PSC PRO 's GREEN /BLACK and GREEN /RED wires get connected to the negative wire (BROWN solid and striped) from the injectors.

Cut the negative pulse wire (brown solid or striped) wire of the injector harness.
Connect the ECU side with the **GREEN/BLACK** wire and the **GREY** wire to the injector wire.

Repeat the above operation on the other cut channels, connecting **BLUE**, **GREY/CYAN** and **ORANGE** wires towards the injector.

Connect the **RED** wire (the one long about 1m included in the harness) to an ignition switch controlled +12v source avoiding, if possible, the rear tail light supply wire.

Seal off the wires that aren't used.

3.2.3. Ducati and Aprilia (not RSV4)

Use the proper harness (specify on order), using harnesses with **GREEN/BLACK** - **GREY** e **ORANGE/GREEN - BLUE**. In case of 4 injectors connect the other harnesses.



WARNING: The position of negative pulse wire on Aprilias may vary. When installing make sure that the PSC PRO 's ORANGE and BLUE wires get connected to the negative wire (BROWN solid and striped) from the injectors.

OR:

Cut the negative pulse wire (brown solid or striped) wire of the injector harness.
Connect the ECU side with the **GREEN/BLACK** wire and the **GREY** wire to the injector wire.

Repeat the above operation on the other cut channels, connecting **BLUE**, wire towards the injector.

Connect the **RED** wire (the one long about 1m included in the harness) to an ignition switch controlled +12v source avoiding, if possible, the rear tail light supply wire.

Seal off the wires that aren't used.

4. SYSTEM SETUP

From the ECU there is an 8 way white connector, with only 6 wires in, covered by a cap. Remove the cap and connect the programmer. To ease the connection operation, it's possible remove the safety lock tongue on the programmers' connector.

The programmer will switch on and it's possible to start with the programming according to the following table.

Press " **SETUP**" button to enter in **"SET" GENERAL MENU**		
G	Ratio	Measure the circumferences of front ad rear wheels, in the center of the tyre, and calculate the difference. Then set the "Ratio": from 0 to 25 cm.
r	Speed Ratio	Default 0. Max 5. Higher values give less sensitivity at higher speeds.
1C	Cut Ratio between cyl 1-2	If set "0", cyl 1 and 2 will be cut at the same time. Max value 25. Default:10
2C	Cut Ratio between cyl 2-3	If set "0", cyl 2 and 3 will be cut at the same time. Max value 25. Default:10
IA	Front pulses	Number of front reading points: 3÷40
IP	Rear pulses	Number of rear reading points: 3÷40
Press "**+**" button to enter **MENU "Setp" Full Programming**		
E	Progression Cut	High values give a smoother system acting . From 1 to 12, Default: 3
I	Minimum number of cut's cycles	High values give a harder system acting on minimum cut. From 4 to 12. Default: 6

C	Maximum number of cut's cycles	Max number of consecutive cut cycles. Default 40, Min 10, Max 60.
ts	Smooth Power	For a smooth power in after the cut. From 0 to 15. Default 5. Higher values mean more smooth (longer cut time).
OLd	Lean sensitivity	Default =”0”. Set -10 ÷ +10. Positive values give more sensitivity a max tilt angle; Negative values reduce it.
d	Max working speed	Above the set speed, the PSC will work only in case of very big spinning (for safety). Default 355Km/h.
p	Type of control for system setup and analogic telemetry output (brown/white wire)	From 0 to 3. 0: Sensitivity setup through potentiometer and cut as output 1 Sensitivity setup through potentiometer and set spinning lever as output 2: Sensitivity setup through button panel and cut as output 3 Sensitivity setup through button panel and set spinning lever as output
Ad	RPM power	Default 1. Change if the rpm reading is not correct (see paragraphs 6, 9).
L	Wheelie control	"0" means: no wheelie. Max value "5". Default: 2
da	Wheelie laser setup	From o to 5. O means no laser; PSC automatically will evaluate the wheelie height. From 1 to 5 Laser is working; higher values means more smootness on cut.
dl	Number of cylinders cut on wheelie	From 1 to 3. Default “2”
Press"**-**" to enter in menu **setc QUICKSHIFTER**		
t	Killtime	30÷150ms. Default 60ms.
- - -	Minimum rpm on/off	0÷15000rpm. Display shows rpm/10, i.e. 0÷150.
PS	SmoothShift	For a smooth power cut. From 0 to 4. Default 4. Higher values mean more smooth.
Cd	Shifting mode	S: Shifting at fixed timing D: dynamic shifting (suggested)
d	Autoshift rpm	0 = off. Set 0÷15000rpm. Display shows rpm/100, i.e. 0÷150.

L	Number of upshift to be automatically in whenever DRAG button is pushed.	1÷6
Press buttons "**setup**" and "**-**"to enter menu "**pit" PIT LIMITER**		
b	Pit limiter	Max speed: 40÷160Km/h
p	Rear wheel central circumpherence	180÷250 cm
---	Launch Control	Max rpm during launch control with bike completely stopped and LC switch activated. 3000÷15000rpm. Display shows rpm/10, i.e. 30÷150. Default 3000rpm.
b	Min velocity for wheelie	Speed below which wheelie is not admitted. From 0 to 100 Km/h. Default 65Km/h. This function is activated during the start when LC is active and stops working as soon the set speed has been passed.
Press buttons "**+**" and "**-**"to enter in menu "**sett" TEMPERATURE**		
bt	Min Temperature Cold Tire	0°÷80°C
t	Max temperature Hot Tire	80°÷150°C
sb	Sensitivity increase for Cold Tire	0÷50. 5 points means 1 trimmer step.
sa	Sensitivity increase for Hot Tire	0÷50. 5 points means 1 trimmer step.
Sd	Sensitivity Left/Right turns	Default =”0”. Set -23÷+23. Positive values give more sensitivity at right turns (display shows "d") while Negative values give more sensitivity at left turns (display shows "s"). 1 point means 1 trimmer step.

4.1 Programming: A the end of each menu and undermenu, the display will switch off, the 2 leds of programmer will start to blink or flash while the led on the dashboard will be on. If the programming operation will be passed the green led will flash about 1.5s; afterwards it will be off and the red light wills tart blinking. At the programming end, the 2 leds on the programmer will start to switch on/off alternatively.
In case of programming error, the red light on the dashboard will blink 5 times and the PSC will not be programmed. Check ECU power, put the 9V battery on the programmer and repeat the programming at least 2 times successfully, otherwise contact support.

In case the green led will remain fixed on, check ECU power, put the 9V battery on the programmer and repeat the programming at least 2 times successfully, otherwise contact us.

It's possible to preset all values on the programmer even if it is not connected to the ECU. In this case, insert a 9V battery on the programmer and do all setup you want.



WARNING: If the programmer doesn’t have the switch, remove the 9V battery when not

used, in order to save its power.

To send the new data at the ECU, remove the 9v battery, connect the programmer to the ECU, switch on the ECU and wait till "PRO" will appear on the display. At this time press “setup” button. The 2 leds will start to blink and the led on the ECU will be on. At the programming end, the 2 leds will start to switch on/off alternatively.

4.2 Default value restore: At programmer switching on, press for at least 3 second both “+” and “-” buttons.

4.3 Enabling ECU functions.

PSC PRO is sold in several configurations. Usually it is on base version "SET" menu. All other features must be enabled.



WARNING: The programmer shows all menus but the PSC PRO ECU will use only the enabled ones.

Each ECU has a label with a serial number. Giving this code to IRC dealer, a secret enabling code will be sold. This code is not function of serial number but of a code inside the ECU, known only by IRC personnel.

Connect the programmer at the ECU.

Push "**SET**" and "**+**" buttons. It's possible to insert the codes to enable the functions:

"**c**" QUICKSHIFTER	"**l**" WHEELIE LASER SENSOR
"**p**" SETp- PRO functions	"**t**" TEMPERATURE SENSORS

Choose the desired function to be enabled using the "set" button. Insert the code using left button (-) for first digit and right button (+) for second digit. Pushing again "set" button, it will be possible to choose between "PR S": Programming and "PR O" not programming yet. Pushing again the "set" button, in case of "PR S" choice, the 2 leds will start to blink and the led on the ECU will be on. At the programming end, the 2 leds will start to switch on/off alternatively. The chosen codes will be sent to the ECU.

At the end of the enabling procedure, the green led will start blinking according to the enabled functions:

"**F_WLS**" 2 blinks	"**F_PROG**" 3 blinks
"**F_CTA**" 3 blinks	"**F_QS**" 4 blinks

Each blink group will be divided by a 1 second pause. Example: 2 blinks, 1 second pause, 4 blinks means that WLS and QS functions are enables.



WARNING: After 5 times of wrong coding the PSC PRO stops working and must be enabled by IRC personnel at customer cost.

5. DASHBOARD INSTALLATION

Install the potentiometer, the 3 switches and the 2 leds, in the carbon plate included in the kit. Cut it and drill according to the positioning of your choice. Put it in a place always visible and easy to reach by hand.





WARNING: Put the dashboard taking care that the 2 leds are oriented directly towards the driver's eyes.

In the harness with leds and potentiometer, there also is the

LAUNCH CONTROL switch. It has YELLOW/RED and YELLOW/BLUE wires

It's ON or OFF according to pictures on the right.

When Launch Control is on, the PSC PRO controls the amount of front wheelie allowed. The front wheel will rise, more or less, 20cm and, slowly, will go back down.

Suggestion for the switch positioning: LC ON downward (ie. the front wheel must be down) and LC OFF upward.



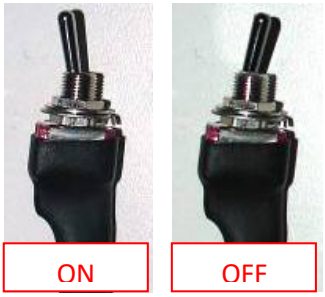
In the harness with leds and potentiometer, there also is the

PIT LIMITER switch. It has YELLOW/BLUE and BLACK/WHITE wires

It's ON or OFF according to pictures on the right.

When PIT LIMITER is on, the PSC PRO maintains speed below the set value.

Suggestion for the switch positioning: LC ON downward (ie. the front wheel must be down) and LC OFF upward.



In the harness with coils or injectors connectors, there is the **EMERGENCY SWITCH**.

It is the biggest switch on the kit. It allows to reconnect the coils as per OEM application, completely disconnecting the PSC PRO system.

It's ON or OFF according to the pictures on the right.



Suggestion for the switch positioning: System ON downward (ie. The front wheel must be down) and System OFF upward.

The sensitivity potentiometer is positioned in order to have the system OFF if rotated completely counter clockwise rotated and maximum sensitivity if rotated completely clockwise, according to the numbers on the sticker. (0 OFF, 10 max sensitivity).

6. PRE USE CHECKS



WARNING: Although the installation could seem well done, always make sure to have full confidence that the system properly works at all speeds. DO NOT TEST THE PSC PRO ON A ROAD OPEN TO TRAFFIC but on a track, always wearing safety wear like, helmet, gloves, boots, rear protector, racing leather suit.



WARNING: If any of the following tests are not passed, DO NOT USE THE SYSTEM and contact our technical support . Switch off the PSC PRO through the proper emergency switch and disconnect the PSC PRO from the bike.

- Switching on the bike, the PSC PRO RED will flash. Otherwise the connection to the coils or injectors is not correct. Therefore refer to instruction at the above paragraph 3.
- If available in the pack, switch the Launch Control ON, set 3000rpm. Switch the engine on and rotate the throttle. The PSC must cut. Otherwise the connection to the coils or injectors is not correct. If you feel the cut but not at the correct rpm, ac on the "Ad" parameter
- Set Ratio "G" on 25, front reading pulses "IA" at the proper value, rear reading pulses "IP" at -1 respect to the proper value. I.E. if you have 5 pulses, set 4. Set max sensitivity through the trimmer. As soon the bike will reach 4Km/h, the PSC PRO will star to cut. Continue to accelerate. Bike will accelerate but engine will continue to be cut even at higher speeds. For instance, if you have a 4 cylinders, the bike will start at 1 cyl and it must continue to run at 1 even if you accelerate, without coming back at 4.

If test will be passed, set the proper ratio and pulses reading "IA" and "IP" and sensitivity to maximum.

- Power on with the bike stopped; the red light must flash. As soon as passed the 4Km/h it will be off. If this will not happen, one of the 2 sensors is reading in a no proper way (speed difference between the 2 wheels above 30Km/h).
- If available in the pack, test the PIT LIMITER feature setting 60Km/h. If test has not been passed, check the rear sensor positioning.
- Test the bike on straight with dirty ground. Whenever the rear wheel looses traction, the system must act.
- Switch the Launch Control ON. Test the system, with the highest possible gear that allows the front wheel rise due to power and not in first gear. The PSC PRO will work carrying the front wheel again on the ground.

- Test the system on a turn, never 100% full throttle. The PSC PRO must cut the power.
- Repeat the above tests at higher speed, proceeding step by step.

Reduce Sensitivity, step by step, till PSC PRO act as you are comfortable with.

WARNING: Remember that "0" position of the potentiometer, ie. complete counter clockwise rotation, means system OFF, not acting.

7. POSSIBLE TROUBLESHOOTING

7.1 The system always kicks in whenever 4Km/h are reached.

Either the rear sensor is reading a double pulse, or the front sensor is not reading all pulses. Check sensors' positioning and reading (paragraph 1.1)

7.2 The system seems to properly work but acts too hardly on straights or on high speed turns.

Even if all tests at paragraph 6 are passed, maybe you can have trouble at high speeds. This is because, the wheel rotation creates electromagnetic field variations that can influence the hall sensors reading.

7.2.1 Maybe the front sensor is "loosing" some readings at high speed. Check its positioning, taking care to avoid reading of central hole or reducing the distance between sensor and target.

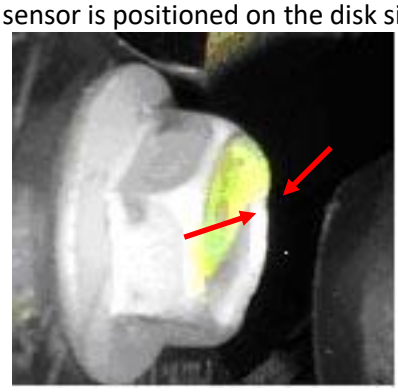
If trouble persists, check the rear sensor.

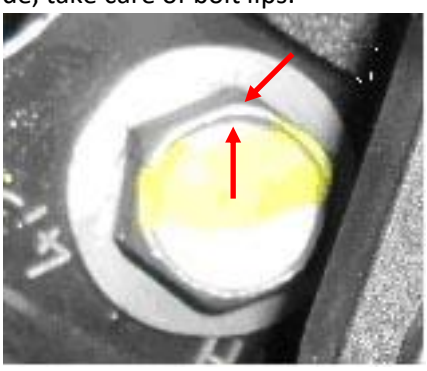
7.2.2 It could read "full-empty" signals. This occurs if the sensor is positioned on the sprocket side and the screw is overcoming the bolt.



Maybe that sensor is reading bolt, hole and then the nut. In this case increase a bit the distance between sensor and target.

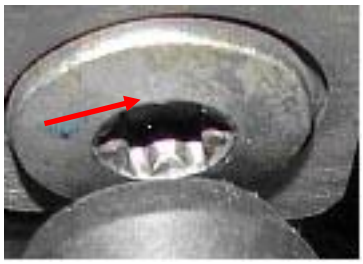
7.2.3 If the sensor is positioned on the disk side, take care of bolt lips.



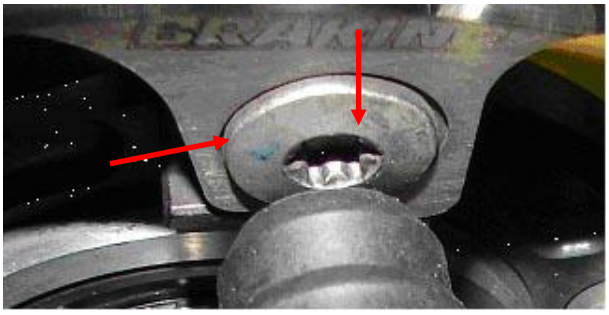


If too tall these can give misreading. In this case reduce a bit the distance between sensor and target or, better, replace the bolts or machine the lips.

7.2.3 If the sensor is reading the bolt head, take care to avoid the central hole.



7.2.3 If the sensor is reading the bolt head, don't position the sensor too close to the disc or, at high speeds, it could read the magnetic field generated by the disc.



In this case increase a bit the distance between sensor and target. Consider that sensors have a reading distance of 0.5÷1mm but they can read even up to 1.5mm distance and, even if this is not guaranteed, this could create troubles.

8. DIAGNOSTIC SYSTEM AND ERROR LED (RED & GREEN)

The PSC PRO has a self diagnostic system that constantly monitors the status of hardware, software and connections.

Red Led Light means system trouble.

8.1: At bike stopped, red led **blinks** because in this condition the 2 sensors are not giving any signals. As soon passed the 4Km/h, the led must switch off.

8.2: At bike running red led **fixed** flash: One of the 2 sensor is not correctly red.

8.3: At bike running and stop red led **fixed** flash: ECU has a problem. Switch off the system and contact support.

WARNING: This means a big system trouble. Immediately disconnect the PSC PRO acting on emergency switch. DO NOT CONTINUE TO USE THE PSC PRO UNTIL THE PROBLEM IS SOLVED. Stop the bike as soon possible and physically disconnect the ECU.

8.3: **Green Led** blinking warn cuts of the system during the acting of quickshifter, pit limit, launch control, anti wheeling and Traction Control.

8.4: Green Led warn a cut but the engine is not cutting.

Check that the safety switch is on the TC ON position. Refer to chapter 5.

9. INFLUENCE OF SOME PARAMETERS ON SYSTEM SENSITIVITY

Modification at parameters “r”, “E”, “I”, “C”, “ts” “old” have influence on system sensitivity. Whenever one of them is modified, increase trimmer sensitivity at least 5 points and slightly reduce it till find the desired behaviour.

10. LAUNCH CONTROL

The Launch Control switch ahs 2 posiions:

LC ON: Launch Control active **LC OFF**: No control of the wheelie

Acting on parameters on menu "setl" it's possible to set the max rpm during the starts.

With bike stopped and LC ON, accelerate. Rpm will not pass the setup one. As soon as the clutch lever has released and the bike is moving, the rpm will not be controlled anymore. However the power-in is smooth in order to avoid uncontrolled wheelies. It's possible to setup a minimum wheelie speed, below which he front wheel remains on the ground.

WARNING: In order to check the Launch Control feature, set 3000rpm. Switch the engine on and rotate the throttle. The PSC must cut at 3000rpm. If you feel the cut but not at the correct rpm, act on the "Ad" parameter. Otherwise, if you don't feel any cut, verify that the switch is in "ON" position and check the connection to the coils or injectors.

11. WHEELIE CONTROL

11.1 The base version of the PSC PRO has an inner wheelie control. It's able to understand when the front wheel is rising cutting consequently the power till it goes again in contact with the ground. Buying the full programming feature, you can go into the menu "setl" where it's possible to set up all parameters that control the wheelie.

11.2 As OPTIONAL it's possible to use a laser sensor "**WLS**" that reads the front wheel height. The advantage is that the wheelie height remains constant independently from the gear, throttle position, ground conditions. Moreover it allows at the front wheel to float on the ground without giving that kind of "bouncing" effect typical of other systems.

WARNING: Reading height may vary depending on the surface color, so take care on height change between wet and dry surfaces.

11.3 Installation: From the PSC PRO come out one **RED** , one **WHITE** and one **BLACK** wires covered by a sheath with written "**LASER**". Seal off if not used.

From the laser sensor come out 3 wires same colors. Connect the **RED** to the PSC PRO 's **RED**, the **WHITE** to the PSC PRO **WHITE** and **BLACK** with the PSC PRO **BLACK**.

11.4 To adjust wheelie height (in case of WLS)

Take an amperohmeter set on 20Vcc. Put the negative terminal to ground and the positive terminal to white wire of the sensor, leaving it connected and powered.

Aim the sensor toward the ground and, starting from about 10cm height, rise slowly. Around 30cm, or 76, according to the chosen model, the sensor signal will change from 5 to 0v. That's the point of wheelie control. Repeat the measurement 3 times. Reduce the height of the amount needed (even considering static sag), maintaining it perpendicular to the ground. Slightly rotate the sensor back toward the bike to compensate for the angle change during the wheelie.

11.5 Switching on

The wheelie control is activated/deactivated through the LC switch.

12. QUICKSHIFTER

12.1 Connection

From the PSC PRO come out one **WHITE**, one **GREEN** and **YELLOW** wires covered by a sheath with written "**QS**". Seal off if not used.

Green is +12v, White is ground and Yellow is the signal.

If an IRC SGSWITCH is used, connect green with green, yellow with yellow. Join white and brown of the sensor and connect to the white of PSC PRO.

Any kind of shifter can be uses prided that of "switch" type. In this case connect the sensors at the white and yellow wires of the PSC PRO. Position is not important. Seal off the green wire if not used.

12.2: For **checking** that the quickshifter is working, go in the "setc" menu. Set the minimum rpm on/off at "000". Start the engine, make sure the clutch lever is pulled all the way in, aim for around 3000rpm. Simulate up shift by moving the shifter pedal, the engine should die briefly and then come back alive again, the tachometer should drop in between 500-1500rpm. If this will not occur, leave engine on, pull the clutch lever, connect the white and yellow wires of the ECU for a while, If engine will die briefly, then check the quickshifter sensor's setup and connections. Otherwise verify that the Quickshifter function is allowed and properly set. If you don't feel any cut, verify that the switch is in "ON" position and check the connection to the coils or injectors.

12.3 Shifting mode

The PSC PRO can work in 3 manners settable by menu:

S: Fixed killtime. All upshiff will be with the same killtime, set "t".

D: Dynamic killtime. The PSC PRO will choose the proper killtime in function of rpm and acceleration. The "t" value will be used as an initial reference.

A: Adattativo. Not available at the moment.

Set the killtime "t", the minimum rpm on/off and, eventually, acivate the "PS" smoothshift feature.

12.2 DRAG feature

From the PSC PRO come out one **GREY/ORANGE** and one **BROWN/ORANGE** wires covered by a sheath with written "**BUTTON SHIFTS**". Seal off if not used.

Connect them through a button of the type "usually open".

Each button press will activate the DRAG feature:

All the upshift, set through the parameter "**L**", following the button pressure, will occur at the chosen rpm "**d**".

The rider must only gently pus the shift pedal and, ath the set rpm, the engine will die for a while and the gear will go in alone.

In case of race start, when the rider will not put all gears in, the DRAG function will be disabled at the first deceleration.



WARNING: The excessive load on the shift pedal before the upshift could damage the shifter's forks. Consequently do not use this function if not necessary.

12.3 Preventing upshift in 6th gear

Taking drag button press for about 2 seconds in 6th gear and with constant speed above 50 Km/h, the PSC PRO will learn the 6th gear speed/rpm ratio. This avoud engine die if drider try to upshift when th 6th gear is in.

When the learning mode is on, the green led will flash. Immediately release the drag button and wai till the red led switch off.

Test the proper learning putting the 6th gear in and trying to do an upshift. If you don't feel any engine die, the procedure has been properly done, otherwise repeate it.

13. PIT/SPEED LIMITER

With this function it's possible to set up a max speed not possible to be passed. Entering in the "setp" menu it's possible to setup the required parameters:

Actin on the proper switch it's possible to have:

PIT ON: active control of pit/speed limiter **PIT OFF**: Control off

14. LEAN SENSITIVITY MODIFICATION

With this function it's possible to set a different sensitivity in function of the lean angle.

Going into the "SETUP" menu it's possible to set the "OLd" parameter: Zero means no variation. Positive values give more sensitivity a max tilt angle; Negative values reduce it.

WARNING: A new general setup could be necessary, therefore increase the sensitivity of 5 steps and, eventually, reduce it to obtain the proper general system acting.

15. SENSITIVITY VARIATION IN FUNCTION OF TIRE TEMPERATURE

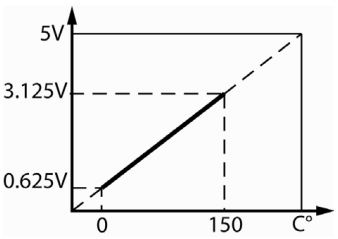
Through this function it's possible to set a different sensitivity in function of too cold or too hot tire temperature, independently on each side of the rear tire. Go in the "sett" menu to setup the proper parameters.

Infrared sensors like CTA IRC are necessary.

From the PSC PRO come out one **GREEN/WHITE** one **GREEN/BLACK** and one **BLACK** wires covered by a sheath with written "**IR SENSOR**". Seal off if not used.

Black is the ground while green/white and green/black are the signals' input.

They accept 0÷5v signals. Voltage/temperature conversion is according to the graph on the right:



The range is 0÷150°C.

Analogic Setting is: 0V=-37.5°C and 5V=262.3°C

Connect the **right** side sensor to the **GREEN/WHITE** wire and the **left** side sensor to the **GREEN/BLACK** wire.

For checking the proper system functioning, set "bt" at 140°C and "t" at 150°C. Set the "sb" a 40. Even with potentiometer at mid scale or below, system will act at each turn as if potentiometer set at max sensitivity. If test has been passed, set "bt" at 0°C and "t" at 80°C. Set the "sa a 40 Even with potentiometer at mid scale or below, system will act at each turn as if potentiometer set at max sensitivity.

Set the proper values.

16. SENSITIVITY VARIATION IN FUNCTION OF LEFT/RIGHT TURNS

Through this function it's possible to set a different sensitivity on left and right turns.

WARNING: Due to an ECU programming reason, this feature works only if the sensitivity variation in function of the tire temperature is working.

Act on "**ds**" parameter. Zero means no variation; Positive values give more sensitivity at right turns while Negative values give more sensitivity at left turns. 1 point means 1 trimmer step.

To check the system working, set the sensitivity at mid range, acivate the feature and set "ds" at max value, firts a rigth and then at left, checking on track that the system is acting as expected (more sensitivity on the choosen side.

Set the proper values.

17. TYPE OF CONTROL FOR SYSEM SETUP

Going in the "setf" menu it's possible to choose if use the potentiometer and switches included in the kit or a button panel.

Button shift must be"4 buttons" type according to the following table:

Sensitivity TC+: Normally open button type	Launch Control: Normally open button type
Sensitivity TC-: Normally open button type	Pit limiter: Switch.



WARNING: The button shift option has 51 set point instead of 40 like the potentiometer on the trim.

18. TELEMETRY SYSTEMS

A brown/white wire is going out from the ECU box. Connect it to the telemetry system. Seal it off if not used.

Telemetry outoput is analogic type not digital; so you can know not only when but how much the PSC PRO is acing. 0v, no cut; 5V max cut.

We appreciated your business.

For every questions and problem contact us any time through:

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