

**SHIFT LIGHT**

A SHIFT LIGHT is a device which shows when the engine reaches the RPM limit, typically the shift-up RPM; it allows to shift-up at the best possible time, by not having to check the rev-counter and keeping the eyes on the track, improving car performance.

SHIFT LIGHT led will flash when RPM reaches the set value (SHIFT POINT).

SL-C3 is a compact microprocessor-controlled rev-limiter/shift-light, for cars and motorbike, it has got high-efficiency led, controlled by a photoresistance, an internal relay for the rev-limiter; shift point and rev-limiter point are separately setting.

SL-C3 is 12V DC powered and it has got a protection for overvoltage.

**REV LIMITER/RELAY**

It is possible to set the SL-C3 to activate an output when the RPM reaches the set point (RPM LIMIT) : output can be used to control an ignition cutter, a water injector, a nitrous injector, etc..

SHIFT POINT & RPM LIMIT are independent.

Pack contents:

- Shift light SL-C3
- Operating instructions
- VELCRO® for installation
- Faston for electrical connection
- Extra connector for coil

**MOUNTING**

**Installation has to be done only by skilled and professional people, because it is necessary to work on parts and devices vital for vehicle working and safety.**

Led are designed to be installed on the dashboard, however in a driver-visible area; choose the best place so that led side of the shift light is on the same level as the driver eyes, at a distance of at least 40 cm.

Mount device so that driving safety is not compromised.

It is suggested to install the shift light using the VELCRO® included.(clean both surfaces with alcohol)

Respect connection below; displace and lock cables in a safety way.

Be sure that the vehicle is switched off and with the key in OFF before working on cables.

**CABLES AND CONNECTIONS**

COLOR	FUNCTION
<b>Brown</b>	<b>Power +12V DC</b>
<b>Gray</b>	<b>Ground</b>
<b>Pink</b>	<b>Ignition Signal</b>
Green	Common relay
White	Normally opened relay
Yellow	Normally closed relay

Power and ignition signal cables are the minimal connection (only shift light).

**BROWN:** connect the cable to a source active while the key is on "RUN", typically inside the fuse panel.(it is not necessary to change the fuse value)

**GRAY:** connect the cable to - battery connector; it is also possible to plug the cable with a screw to a metallic area of the frame; bad connection may cause problems..

**PINK:** this wire brings to the shift-light the frequency of ignition: connect directly to RPM counter cable ("TACHO" output).

If it is impossible, connect it TO 12V output of coil USING THE SUPPLIED SHORT CABLE.

In case of RPM signal integrated in the vehicle wiring harness contact the car manufacturer to know colour and position of rev counter plug.

This device can not work with CAN network systems..

#### RELAY OUTPUT

Internal relay switches when RPM reaches the set value RPM LIMIT

**GREEN :** relay common

**YELLOW:** normally closed relay connector

**WHITE:** normally opened relay connector

Connect terminals to an external relay (strongly suggested) or directly to 12V coil connectors.

#### SETTING

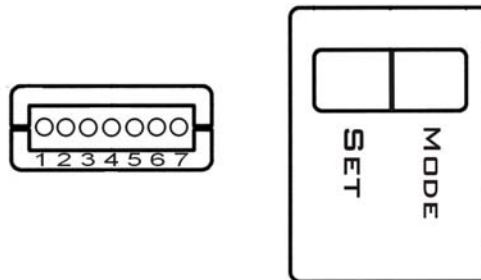
This shift-light is easily and directly setting by the two buttons MODE and SET on the upper side of the case.

Settable parameters (kept in memory also when power is off) are shown in table A:

**RPM LIMIT** Number of RPM when internal relay switches (relay automotive). When limiter is active, led flash without blinking.

**SHIFT POINT** Number of RPM when led start to blink, when RPM decreases of 100 RPM led switch off.

SL-C3 is a 7 led rev counter with two buttons on the upper side, as shown below



Setting procedure is easy. As seen, each led has got a number: each number correspond to a function, shown here in the follow.

#### SET & MODE BUTTONS

This shift light has got two buttons: MODE and SET.

Once switched on, a blinking strip of led flashes to test all the led.

To change set up enter into the SET menu, pushing Mode button: after another led sequence, the first led starts to blink:

- press again MODE button to move to another parameter
- press SET button to modify the parameter

To go back to main menu press again MODE; to go back to normal visualization scroll all the led with MODE button, or wait 30 seconds after last button press.

Note: when the shift-light is in a menu, limiter is disabled.

**Table A parameter/functions**

Led	Type	Description
1	Function	Shift-up RPM setting (SHIFT POINT)
2	Function	Limiter switching RPM (RPM LIMIT)
3	Parameter	Visualization mode
4	Parameter	Led activation step
5	Parameter	Led brightness
6	Parameter	Engine cylinder number ( 4 stroke engine )

### Shift-up RPM setting (SHIFT POINT) – led 1

In this mode, first led status shows if a shift point has already been set.

Bring RPM **at the half** of the SHIFT POINT required: if all is correct (connection, signal etc) a led moving from left to right and backward will be displayed.

To memory the shift point, press SET button for more than 1 second: five led in the center will blink.

To cancel the shift point, repeat the operation with engine off.

### Limiter switching RPM (RPM LIMIT) – led 2

Internal limiter, that can be excluded, switches on an internal relay once set RPM is reached. RPM LIMIT setting is similar to SHIFT POINT ; first led shows setting status.

Bring RPM **at the half** of the RPM LIMIT required: if all is correct (connection, signal etc) a led moving from left to right and backward will be displayed.

To memory the RPM LIMIT, press SET button for more than 1 second: five led in the center will blink.

To cancel the RPM LIMIT, repeat the operation with engine off.

### Visualization mode – led 3

This parameter controls the way led are switched on, as the RPM comes to SHIFT POINT.

Press SET to scroll visualization mode, press MODE to exit from menu

Visualization mode	Menu selection
Dot	Led 1 on
Bar	Led 1,2 on
Bar with peak hold	Led 1,2,3 on

### Led activation step – led 4

Parameter controls the step between led switching on.

Press SET to scroll steps, press MODE to exit from menu

Step	Menu selection
100 Rpm	Led 1 on
150 Rpm	Led 1,2 on
200 Rpm	Led 1,2,3 on
250 Rpm	Led 1,2,3,4 on
300 Rpm	Led 1,2,3,4,5 on

Sample: setting shift point @ 6000Rpm with step of 250Rpm, first led is on @ 4500Rpm, second @ 4750Rpm, third @ 5000Rpm etc.

### Led brightness – led 5

Press SET to increase brightness, press MODE to exit from menu

Brightness	Menu selection
1 e 2	Led 1 on
3 e 4	Led 1,2 on
5 e 6	Led 1,2,3 on
7 e 8	Led 1,2,3,4 on
9 e 10	Led 1,2,3,4,5 on

### Engine cylinder number ( 4 stroke engine ) – led 6

To ensure the correct working of the shift light, it is necessary to set this parameter, otherwise wrong step in led activation may occur. Four stroke engine.

Press SET to change cylinder number, press MODE to exit from menu

Cylinder number	Selection menu
2	Led 1,2 on
3	Led 1,2,3 on
4	Led 1,2,3,4 on
5	Led 1,2,3,4,5 on
6	Led 1,2,3,4,5,6 on

WARNING: in case of non-conventional ignition systems (for example lost spark ignition) it can be necessary to set this parameter in a different way from table above.

## DEVICE DISABLING

It is possible to disable completely this device by a switch on the + Power cable or setting both RPM LIMIT and SHIFT POINT with engine off and shift light on.

### TECHNICAL DATA

- 7 LED Shift-Light (6 green and 1 red)
- Shift up point and limiter point setting.
- 3 mode of led sequence displaying: dot, bar, peak hold.
- Led activation step setting.
- Led brightness setting.
- Engine cylinder number setting (2 – 6).
- RPM reading precision of 10 RPM.
- Max read RPM of 15000 RPM –4 stroke 4 cylinder engine
- Max amperage 200 mA
- Power voltage 11-15 V