

Thank you for showing interest in our products. Please, read this user manual before use. It contains important instructions about installation, setup and use of the gauge. By obeying these instructions, the product will reward you with long time flawless functionality.

Basic description

Gear indicator gives the information about the gear in the gearbox that is currently used. That is detected by measuring the current gear ratio. The ratio is computed from the turning speed of the rear wheel and engine revs. There are 3 wires to connect – 2 power supply cables and 1 for sensing engine revs. This system can be used on any type of bike with 3 to 6 speed gearbox. Display brightness is adjusted in accordance to the light outside by a built-in sensor.

Main functions of the Gear change indicator LSK GX1

- Displays of all colors have sufficient brightness to be readable even on bright sunshine. The brightness is adjusted automatically according to the light in the environment.
- Built-in nondestructive fuse – no need to use a classical fuse on supply cables.
- The device is equipped with built-in protection against a short overvoltage and wrong polarity.

The package contains (can vary depending on the version)

- LED display Panel of chosen color with connected wheel turning sensor
- Neodymium magnet for wheel turning sensor
- Magnet for calibration of GX1
- Set of cable ties
- Cut-in cable connectors for supply connection
- Set of ScotchLok Connectors
- Cable shoe for connecting GND to frame of motorcycle or battery
- 3M tape for mounting of display panel etc.
- User manual

Technical specification

Supply voltage:	7 – 15V DC
Device energy consumption:	2W max.
Display dimensions:	31 x 21 x 17 mm (1.22 x 0.83 x 0.67 in.)

Mounting

Parts placement and connection

Display Panel

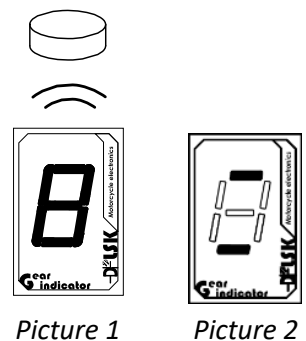
Choose a spot, where you'll be able to read the information well. If you want to mount it with a tape, clean the desired spot with ethanol before.

Wheel turning sensor

The correct spot is showed at the schematic (Picture 3 on next page). The distance between the sensor and the magnet should be as small as possible. The sensor can receive signal from the magnet up to 20mm distance.

After the mounting make sure it works properly – turn the device on and briefly move the magnet to the upper side of the display (as shown on Picture 1). Two segments should appear - the upper and the bottom (as shown on Picture 2).

Try turning the rear wheel and see if the bottom segment flashes. If it does it every time the wheel turns, the device works properly. If not, you should move the sensor closer to the magnet.



Picture 1

Picture 2

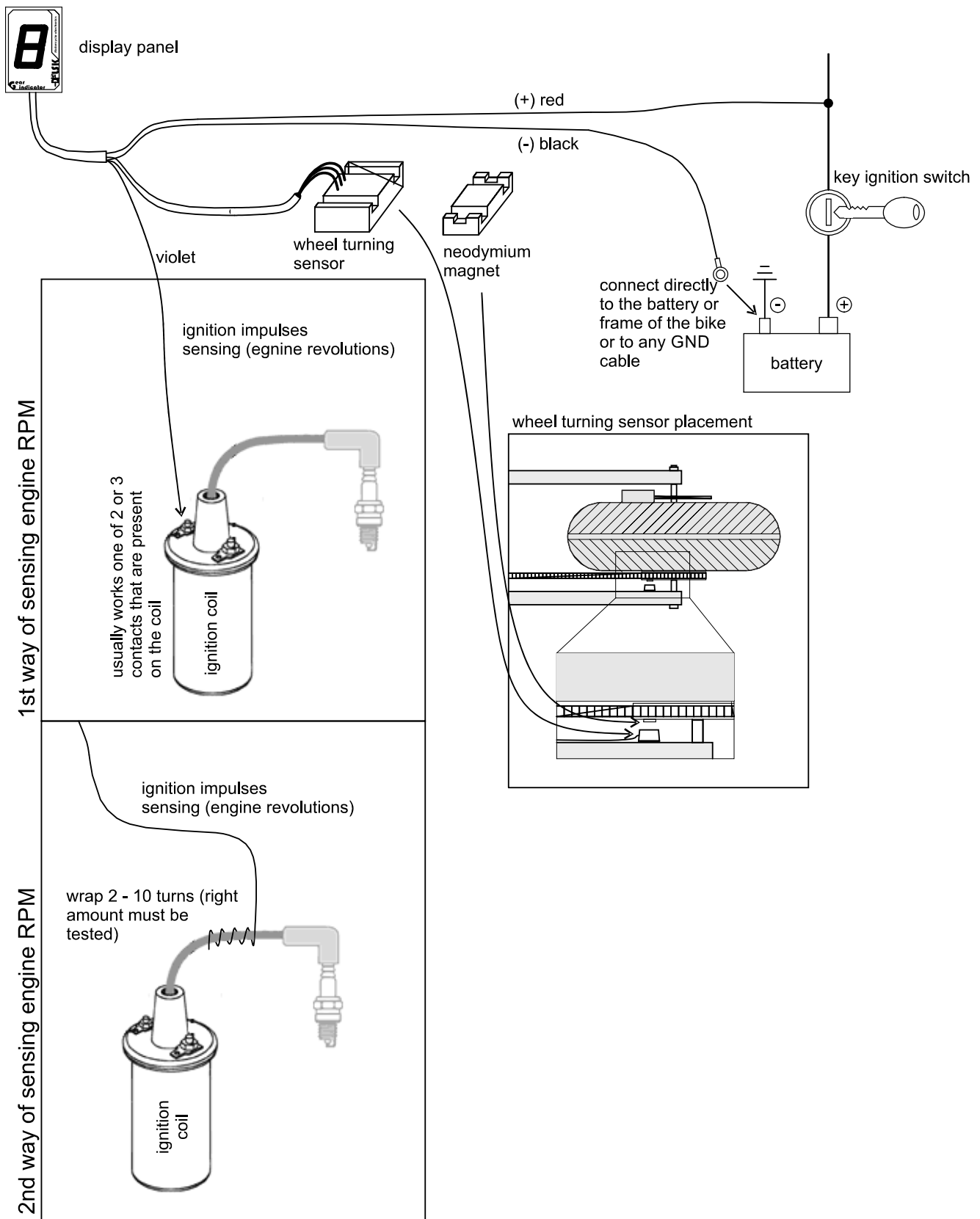
Sensing the ignition impulses (getting engine revs)

There are several ways of doing this:

- 1) Most accurate way is to sense the impulses on the primary side of the ignition coil. Connect as shown on the schematic (Picture 3).
- 2) Fast and universal way of getting the engine revs is to place an antenna around the high voltage cable that leads to the spark plug as shown in the schematic (Picture 3). You need to check the proper work of the antenna and work out the correct number of screw-threads (usually 2 – 10 screws).

After the work is done, start the engine and briefly place the magnet to the upper side of the display (as shown on Picture 1). Two segments will appear on it – the upper one and the bottom one (as shown on Picture 2). If the work has been done correctly the upper segment flashes with the same frequency as the engine revs.

If everything works well, you can calibrate the device.



Picture 3

Calibration (Learning of gears)

Device allows automatic and manual learning of gears (calibration). Use manual learning only in case of problems with automatic learning.

Before the first calibration, the display shows "P". It means that the device needs to be calibrated before use. The same symbol is also displayed if an error occurs during calibration.

Automatic learning of gear ratios

- 1) Turn the device on.
- 2) Place the magnet near the upper side of the display for ca. 3 seconds (Picture 1). When the "C" (calibration) symbol is shown, move the magnet out.
- 3) Now choose number of gears of your gearbox. Switch between them with placing the magnet for a short time near the upper side of display panel (Picture 1). Confirm number of gears by placing the magnet to the active area (Picture 1) for ca. 3 seconds
- 4) Now you can see "rotating" symbol on the display panel – calibration is ready. Start the engine and ride. *Drive at least 50 meters with each gear engaged (Not depends on speed and order of gears. You can calibrate during normal ride). The maximum calibration time is not limited.*
- 5) To stop the calibration, stop the bike (do not turn off the gear indicator) and put the magnet on the top of the panel (Picture 1).

Manual learning of gear ratios

(Use only in case of problems with automatic calibration.)

If it is possible, use manual calibration while the bike is standing with the rear wheel not touching the ground (or you can do it while running, but careful at speed. You will be required to run on every gear for some specified time.)

- 1) Turn the device on
- 2) Place the magnet to the upper side of the display (Picture 1) for ca. 20 seconds. When the "A" (Alternative calibration) symbol are shown, move the magnet out.
- 3) The gear indicator will now require first gear (you see flashing "1"). Engage first gear and release the clutch (to make the rear wheel rotating – revs are not relevant, it can be idle).
- 4) Shortly place the magnet to the upper side of display panel (Picture 1) to confirm that the gear ratio for the first gear can be measured and saved.
- 5) After ca. 15 wheel turns you are asked to engage second (You see "2" flashing).
- 6) Engage 2nd gear, release the clutch and confirm the gear with the magnet by placing it close to the upper side of the display (Picture 1).
- 7) Continue like this until the sixth gear *.

*If you have less than six gears, for example five, place the magnet to the upper side of the display for four seconds when asked to engage sixth. The symbol "5" will flash on the display, which confirms fifth as the highest gear in the gearbox. The calibration is done and the device is ready for use.

Safety warnings

The device should be mounted by a licensed garage. Vague electrical connection could lead to the damage of the device or other electrical equipment of the bike.

Keep away from children.

The lights have not been approved for road use. You use them at your own risk.

Disposal of electric equipment

Old device should be handed to a place designed as scrap yard for electrical devices.

Throw the packaging into an appropriate recycle bin.

The device has been manufactured in compliance with RoHS.

LSK

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