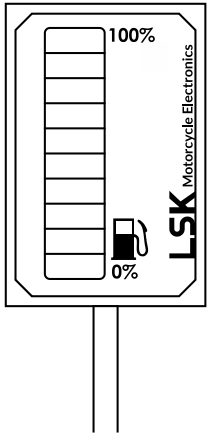
LSK Motorcycle Electronics

FuelGaugePro
Bar Graph Display Panel



FGP-DIG-SEG | INSTALLATION MANUAL

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For more information

Thank you for choosing our products. We strongly advise you to read this user manual thoroughly. It contains important instructions about installation, setup and use of the gauge. By obeying these instructions, the product will reward you with long-time reliability.

Basic information

The FuelGaugePro – Bar Graph Display Panel is a display panel designed for displaying actual amount of fuel in fuel tank in cooperation with FuelGaugePro - Float-free Fuel Level Sensor. It is mountable on double-sided adhesive tape on the dashboard of motorcycles, cars, boats etc. For best visibility on the direct sunlight and not blinding at night, the display panel have automatic brightness regulation.

After installation, the whole system needs to be calibrated (except bike specific kits where the system is factory calibrated). Calibration data are stored in display panel.

Technical specification

Supply voltage:	12V DC - supplied by FuelGaugePro - Float-free Fuel Level Sensor
Energy consumption:	4W max. incl. consumption of FuelGaugePro - Float-free Fuel Level Sensor
Fuse:	power lines fused by FuelGaugePro - Float-free Fuel Level Sensor
Working temperature:	-30°C to +60°C
Dimensions:	31 x 21 x 17mm

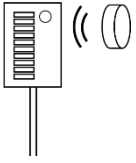
Device is shockproof and waterproof.
Device doesn't lose its memory after being disconnected from power.
Device is equipped with automatic display brightness regulation.

Installation

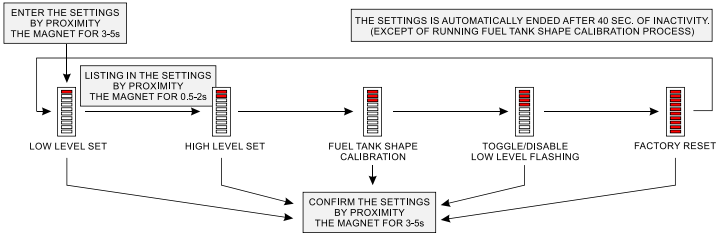
1. Install the Display Panel on a suitable place
   a) Clean the surface with alcohol for the best adhesion of the 3M adhesive tape.
   b) Stick the Display Panel on desired place using included 3M adhesive tape.

2. Connect the FuelGaugePro – Bar Graph Display Panel together with the FuelGaugePro – Sensor using original connector.

Settings diagram



Display Panel is equipped with non-contact magnetic switch. Whole settings and calibration process are performed by proximity the magnet near the place shown on picture.



Calibration

For proper working of whole FuelGaugePro system, the system must be calibrated. Calibration includes:

- calibration of low/high fuel level
  or
- calibration with fuel tank shape compensation for unevenly shaped tank

What you must think on during calibration:

- Make sure the FuelGaugePro – Float-free Fuel Level Sensor, the fuel tank and all parts of fuel system are on its final places and bike stands in its riding position (not on kickstand).
- Double check connection of all fuel hoses. Leaking fuel can be very dangerous.
- Make sure the petcock is opened. If your bike is equipped with vacuum controlled petcock, the engine must be running during calibration to hold the petcock opened.

1. Decide what type of calibration you will need

a) Low/high fuel level calibration:
   - FuelGaugePro calibrated using low/high level calibration measures well enough with most motorcycle fuel tanks.
   - The gauge shows the height of the fuel. Not the real amount.
   - No need to drain the tank. Just mount the gauge, ride the fuel out and when you switch to reserve, set the minimum. Go on gas station, fill the tank up and set the maximum.
   - For this type of calibration follow step 2 and skip step 3.

b) Calibration with fuel tank shape compensation:
   - More precise – every 10% of fuel is stored separately in memory.
   - The gauge shows the real amount of fuel.
   - Need to drain the tank, start the calibration process, fill 1/10 of the tank, store the value, fill 2/10 of the tank, store the value etc…
   - For this type of calibration skip step 2 and follow step 3.

2. Simple low/high fuel level calibration

a) Low level set:
- Ride the gas out to the amount you want to gauge show as a minimum. You can use the moment when you switch to reserve for example.
- Make sure the petcock is opened and bike stands straight.
- Hold the included magnet in active area of Display Panel as you see on picture on page 2 for 3-5 seconds. You should see the animation. When it ends, take the magnet out. The upper segment is now on.
- Hold the magnet in active area for ca. 3-5 seconds until you see the animation (all LEDs from bottom to top will light on) and take the magnet out.
- Now the low level is set.

b) High level set:
- Fill the tank to the amount you want to gauge show as a maximum.
- Make sure the petcock is opened and bike stands straight.
- Hold the magnet in active area of Display Panel for 3-5 seconds. You should see the animation. When it ends, take the magnet out. The upper segment is now on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out. You should see the two segments from the top are on.
- Hold the magnet in active area for ca. 3-5 seconds until you see the animation (all LEDs from bottom to top will light on) and take the magnet out.
- Now the high level is set.

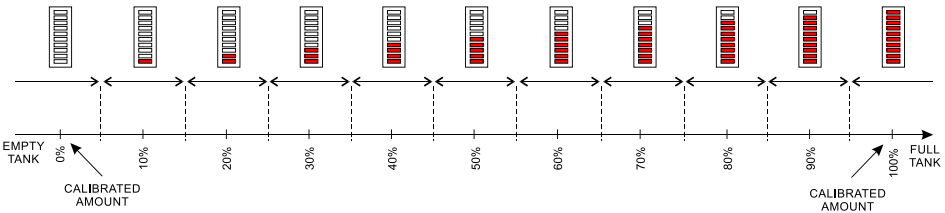
Note: You can do low/high level calibration separately whenever you want. You can also turn the gauge off and on between low and high level calibrations.

3. Calibration with fuel tank shape compensation

- Fill the tank to the amount you want to gauge show as empty tank.
- Make sure the petcock is opened and bike stands straight.
- Hold the included magnet in active area of Display Panel as you see on picture on page 2 for 3-5 seconds. You should see the animation. When it ends, take the magnet out. The upper segment is now on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out. You should see two segments from the top are on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out again. You should see three segments from the top are on.
- Hold the magnet in active area for ca. 3-5 seconds until you see the animation and take the magnet out. Now you will see two flashing segments – top and bottom.
  - *Now the device is prepared for storing first value (0%).*
  - *We suggest to fill 0.2-0.5l to the empty tank to make sure all fuel hoses are filled up.*
- Confirm 0% by proximity the magnet to the active area shortly (0.5-2s) and take it out. After animation you should see the 1st bottom flashing segment.
  - Device is prepared for storing second value (10%).
- Fill the 10% fuel to the tank now confirm 10% by proximity the magnet to the active area shortly (0.5-2s) and take it out. After animation you should see the two bottom flashing segments.
  - *Device is prepared for storing third value (20%).*

- Repeat previous step for two flashing bottom segments (20%), three bottom flashing segments (30%) up to ten flashing segments (100% of fuel tank capacity).
- Now the FuelGaugePro system is calibrated.

How the gauge displays calibrated data:
Used for both types of calibration (simple low/high fuel level calibration, calibration with fuel tank shape compensation).



Bottom segment flashing on empty tank

Using this settings toggles between on and off.
Flashing off means no segment is illuminated when the Display Panel shows empty tank.
Flashing on means first segment is flashing when the Display Panel shows empty tank (factory setting).

- Hold the included magnet in active area of Display Panel as you see on picture on page 2 for 3-5 seconds. You should see the animation. When it ends, take the magnet out. The upper segment is now on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out. You should see two segments from the top are on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out again. You should see three segments from the top are on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out again. You should see four segments from the top are on.
- Hold the magnet in active area for ca. 3-5 seconds until you see the animation (all segments flash few times) and take the magnet out.
- Now the setting is toggled.

Factory reset

Using this function resets all settings and calibration data stored in Display Panel to the factory defaults.

- Hold the included magnet in active area of Display Panel as you see on picture on page 2 for 3-5 seconds. You should see the animation. When it ends, take the magnet out. The upper segment is now on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out. You should see two segments from the top are on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out again. You should see three segments from the top are on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out again. You should see four segments from the top are on.
- Proximity the magnet to the active area shortly (0.5-2s) and take it out again. You should see all segments are on.
- Hold the magnet in active area for ca. 3-5 seconds until you see the animation (all segments flash few times) and take the magnet out.
- Now the memory of the Display Panel is in factory state.

Warranty

Product is covered by 2 years Limited Warranty (from the date of purchase). Limited Warranty covers any defects in material or manufacturing defects under normal use and maintenance. **We reserve the right not to accept the claim in the case of mechanical damage that could be related to the defect of the product or if the product was disassembled by unauthorized service.**
This limited warranty also does not cover any problem that is caused by conditions, malfunctions or damage not resulting from defects in material or workmanship.

During warranty period, we will repair or replace defective product or defective parts. To obtain warranty service, you must first contact us to determine the problem and the most appropriate solution for you.

Safety notice

This device should be installed by specialized garage or service. Inappropriate mounting or electrical connection may result in damaging this or any other electrical devices in the motorcycle. Improper installation of fuel hoses can cause the fuel to leak and a fire resulting in damage the motorcycle and the owner's health.
Device is not approved for use at public roads. You use it at your own risk and responsibility.

Troubleshooting

If you obey all the instructions, this fuel gauge should work properly without problems. In case of any problems, feel free to contact us.

- If the gauge doesn't show anything on the display, check out all the connections of the device.
- If the gauge shows nonsense and is calibrated correctly, try checking, if you filled up the fuel hoses like explained on page three.
- Wrong data display is often caused by dirty fuel strainer in the fuel tank, dirty fuel filter if the gauge is connected after it or just marginally opened fuel cock. In case of problems, try to check/replace these parts. This fault is often represented by the amount of fuel dependant on engine revs. Pressure sensor fail is very improbable – problems are usually caused by something else.

If nothing helps, contact us.

Recycling

Retired device should be given to places specified for retrieving electrical garbage. Package should be thrown into a specific container for recycled garbage.

Device meets RoHS Directive.

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Product website: