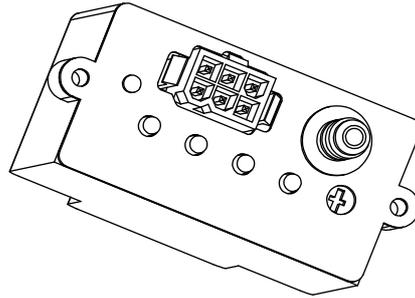




Motorcycle Electronics

## User manual



# ***LSK FuelGaugePro Universal Sending Unit***

*Universal Floatless Fuel gauge*

Rev. 1.1, Date: 29.11.2018

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## Device description

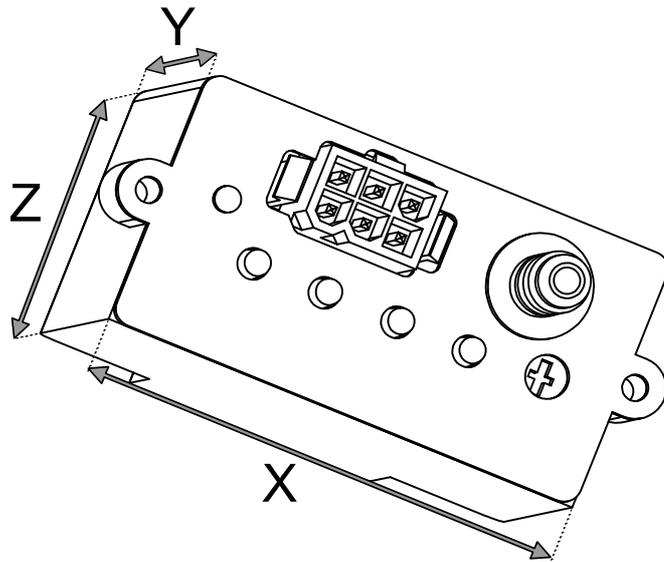
- The gauge sensor is connected to the fuel hose from the tank using a plastic T-shape three way connector. It must be placed really under the fuel tank.
- The fuel gauge does not work when it is connected to a pipe, into which the fuel is delivered by a fuel pump (It can be used if the motorbikes is equipped with some types of external fuel pump, it is explained in this document below).
- If the fuel gauge is connected under a vacuum controlled fuel cock, that needs to work just fine and not remain partially closed.
- It only works on bikes with a 12 volt electrical system. It does not work on 6 volts. This can be solved by a 6V/12V converter that can be purchased in our website. In case of need, we will help with any uncertainties.
- It can be used on other machines, including diesel powered, like tractors, excavator etc.
- The fuel tanks with fuel evaporation control (Active charcoal filter) may cause problems with hydrostatic measurement principle.

## Package contents

- FuelGaugePro sending unit
- Fuel hose for connecting to the fuel system
- Plastic pipe T shape three way quick connector  $\varnothing 6\text{mm}$
- Plastic pipe T shape three way quick connector  $\varnothing 8\text{mm}$
- Clips for securing the fuel hoses
- Set of plastic ties
- Velcro fastener with adhesive tape
- Scotchlok connectors for easy supply voltage connection
- Ring tongue terminal for grounding
- Assembly manual

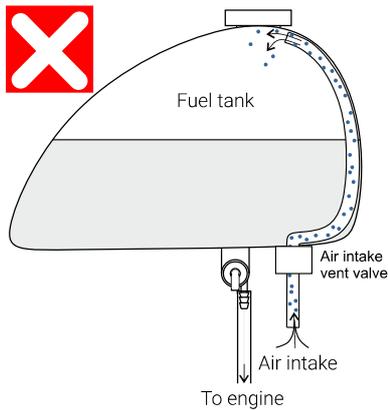
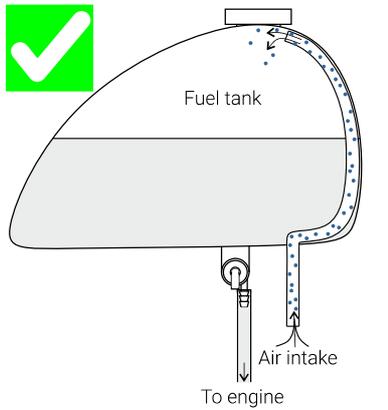
## Technical specifications

Supply voltage:	Onboard 12 V
Resistance range:	0 – 1000 $\Omega$
Max. fuel level height:	90 cm (distance from the sensor to level of full fuel tank)
Sensor dimensions:	<b>X:</b> 57 mm, <b>Y:</b> 71 mm, <b>Z:</b> 30 mm (without hose plug) ( <b>X:</b> 2.24 in, <b>Y:</b> 2.79 in, <b>Z:</b> 1.18 in) (without hose plug)



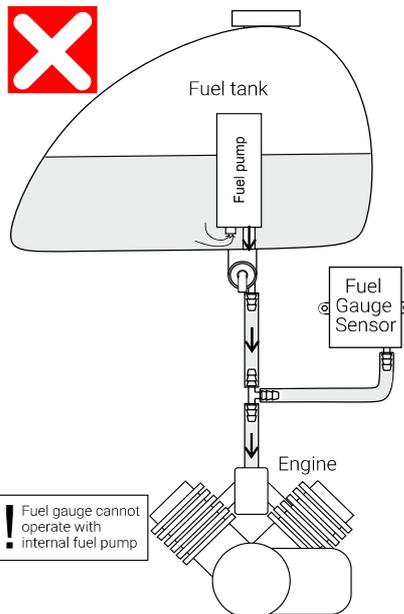
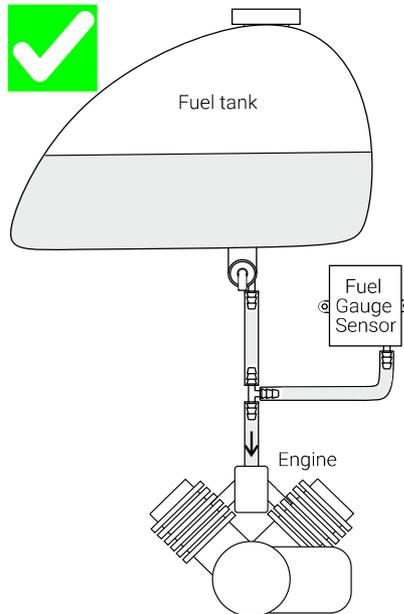
# Usage restrictions

Fuel Tank Air Intake



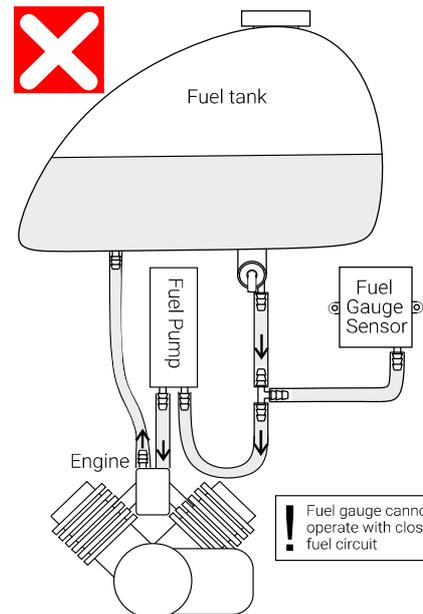
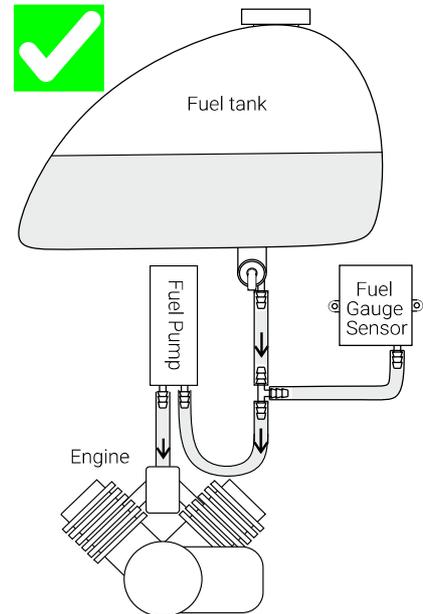
! Fuel gauge cannot operate with air intake vent valves that makes underpressure in the tank

Internal Fuel Pump



! Fuel gauge cannot operate with internal fuel pump

External Fuel Pump



! Fuel gauge cannot operate with closed fuel circuit

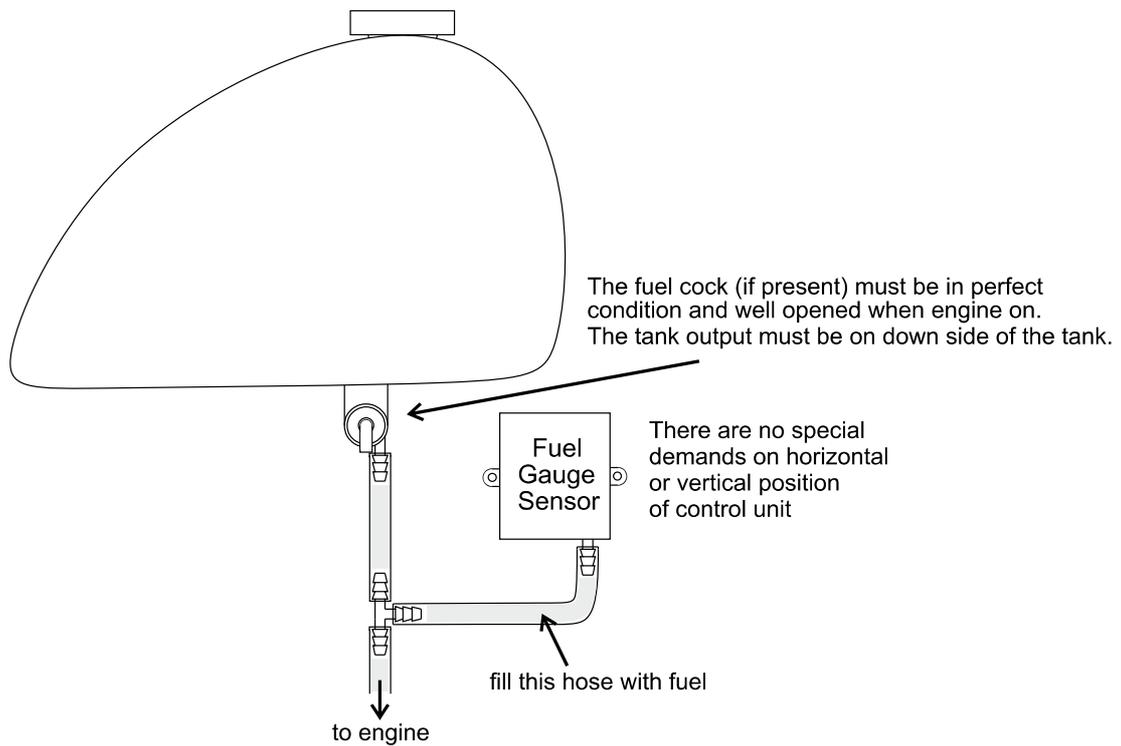
**CAUTION:** We cannot guarantee the correct function on all motorcycles with a fuel pump. The external fuel pump may cause problems with measuring on some motorcycles. If this problem occurs, you can return FuelGauge to us and we will return your money back to you. Device must be in intact condition.

## Device mounting

Sensor can be placed over or under the fuel tank. It is better to mount it under the fuel tank and fill the hose up with fuel. This will make the gauge the most accurate.

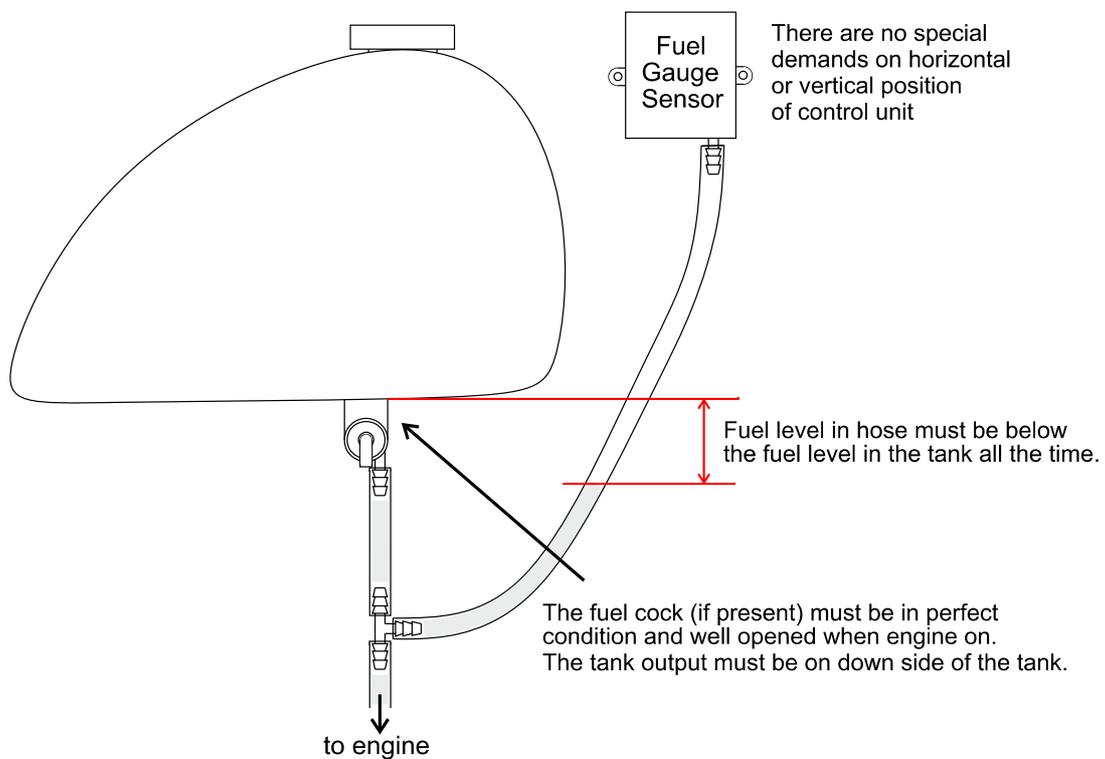
- Do not place the unit on hot places. It can handle temperature up to 60°C(140°F).
- Connect the gauge to the hose between the fuel tank and the fuel cock if it is possible.
- Recommended sensor position is hose output on bottom side.
- Connect the gauge to the FuelGaugePro Sending Unit via supplied cable. The cable may need to be extended

## The best fuel gauge sensor placement



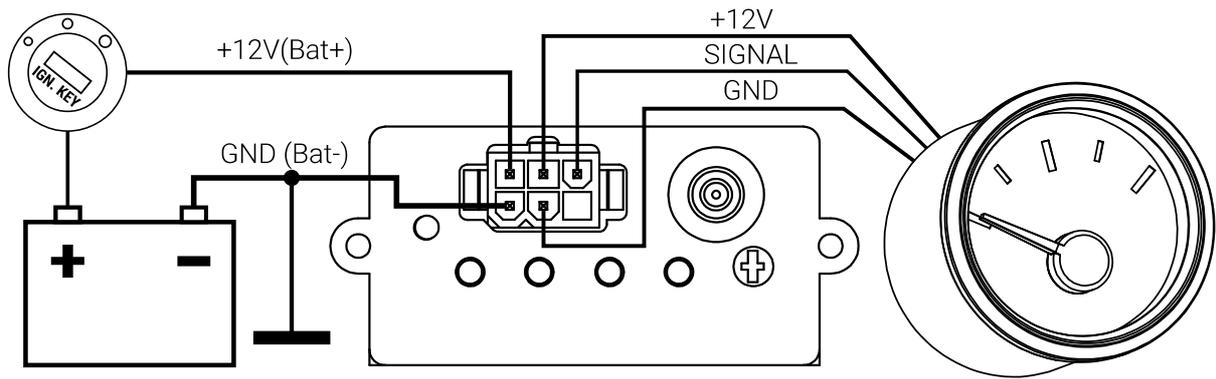
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## The fuel gauge alternative placement



## Electrical parts connection

Output connector is shown below, it must be connected correctly to motorcycle onboard electrical supply. The wires labelled „Bat“ are main supply for FuelGaugePro sending unit. Wires labelled „Gauge“ are earmarked for supply for your chosen fuel gauge display, supply wires need not be used if the fuel gauge display is powered from different source. The wire labelled „SIGNAL“ it behaviors as variable resistor dependence on amount of fuel in the fuel tank. GND wires must be connected with battery and used fuel gauge display, ground wires are internally connected together.

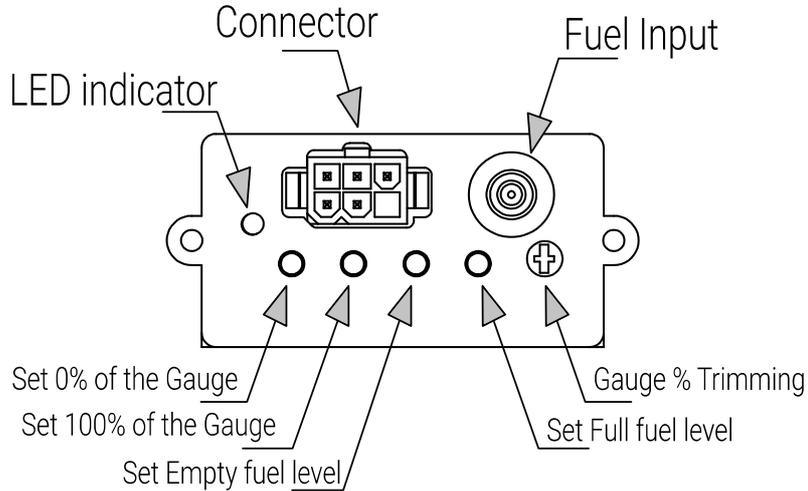


### Common wires marking

- **GND** is commonly marked as **GND**, **0V** or „-“.
- **+12V** is marked as **+12VDC**, **12V**, „+“
- **SIGNAL** is marked also **Signal input**, **Float**, **F** etc.

# Calibration

The device is useful for wide range of a fuel gauge displays, FuelGaugePro sending unit must be calibrated for chosen fuel gauge display and used fuel tank. For calibration are available 4 buttons.



## Set 0% of the Gauge

- **Press** the button and keep it **pressed**
- Rotate with the adjustment potentiometer until the gauge is showing **accurately empty** tank  
NOTE: (a few seconds after the button was pressed the needle might to move without relationship of potentiometer position)
- Release button
- (Successful operation is signaled by LED)

## Set 100% of the Gauge

- **Press** the button and **keep it pressed**
- Rotate with the adjustment potentiometer until the gauge is showing **accurately full** tank  
NOTE: (a few seconds after the button was pressed the needle might to move without relationship of potentiometer position)
- Release button
- (Successful operation is signaled by LED)

## Set Full fuel level :

- Fill the fuel tank
- Press the button for at least 2 seconds and release it for record full fuel level.
- (Successful operation is signaled by LED)

### **Set Empty fuel level**

- Empty the fuel tank
- Press the button for at least 2 seconds and release it for record empty fuel level.
- (Successful operation is signaled by LED)

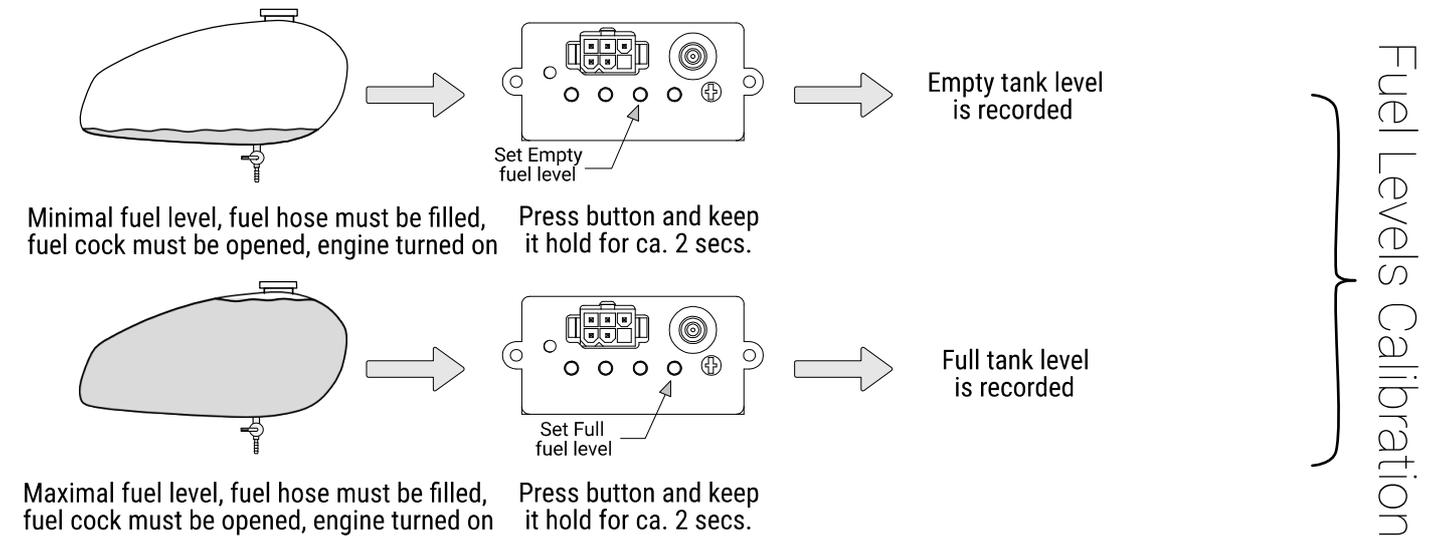
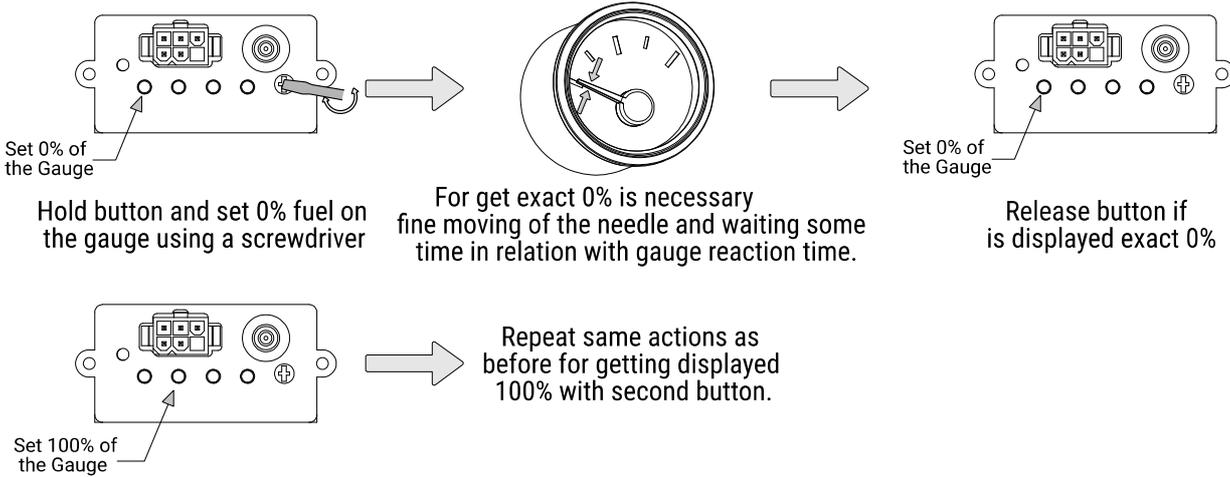
### **LED indicator**

- LED flashes when FuelGaugePro has recorded calibration data after release button.
- LED flashes after FuelGaugePro is turned on.

# Calibration QuickStartGuide

**Note:** Each type of fuel gauge have different reaction time for change, display calibration might take some minutes in dependence of used fuelgauge. Be careful with needle calibration, it's most important for accurate displaying.

NOTE: A few seconds after pressing button needle might moves without relationship of potentiometer position



Display Calibration is independent to Fuel level calibration, each of them are able to calibrate separately.

If display is calibrated and fuel levels are calibrated, display shows real fuel level.

## Possible faults

If you obey all the instructions, this fuel gauge should work properly without any need to change settings or any other problems. In case of any problems, feel free to contact us at [info@lskelectronics.com](mailto:info@lskelectronics.com).

- If the gauge doesn't show anything on the display, check out all the connections of the device.
- If the gauge flash at start but then doesn't show anything, try checking the fuel system (connection, fuel cock on/off).

## Warranty period

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.

Contact e-mail is: [info@lskelectronics.com](mailto:info@lskelectronics.com)

## Safety warnings

- The gauge should be installed by a trained people or by a service. Inproper installation of fuel hoses can cause the fuel to leak and a fire. This can damage the motorcycle and the owners health.
- Improper electrical connection can cause damage of this and other electrical devices on the bike.
- Keep away from children.
- Not approved for the use on public roads. Use only at owners own risk.

## Recycling



Worn out (broken) device should be handed to authorities on places designed for collecting old electrical devices. Packaging should be thrown out into an appropriate bin.

## Manufacturer

LSK Motorcycle electronics

Website: [www.lskelectronics.com](http://www.lskelectronics.com)



*Manufactured in compliance with RoHS norm.*