

**Most Economical
Way of
Fuel Monitoring
in
Car, SUV,
VAN, LCV**



About Installation Additional Fuel Level Sensor

About Fuel monitoring Structure

Fuel monitoring system in vehicle consist of two main components:

- data source about fuel level in the fuel tank: - fuel level sensor;
- device for transmitting information from the level sensor to the monitoring center:- vehicle module (vehicle tracker).

About Installation Additional Fuel Sensor in Car Fuel Tanks

Very often there are many problem to install additional fuel level sensor in car regular fuel tank:

- car regular fuel tanks have so different and often “exotic” shapes that is not possible to find free place to install additional fuel sensor;
- very often car fuel tanks are very thin, - about 10 ..15 cm, that make problem to find fuel sensor necessary length;
- for the installation additional fuel level sensor in car will be need to remove regular fuel tank from car (for this will be need the car lift) and make tank degassing from gasoline vapors;
- each fuel level sensor has the head. This can make problems for the fuel tank installation in car. Can be not any free space for the head of new fuel sensor.

All this points make installation procedure of additional fuel level sensor enough expensive, uneconomical or even physically impossible.

car fuel tanks
different shapes:

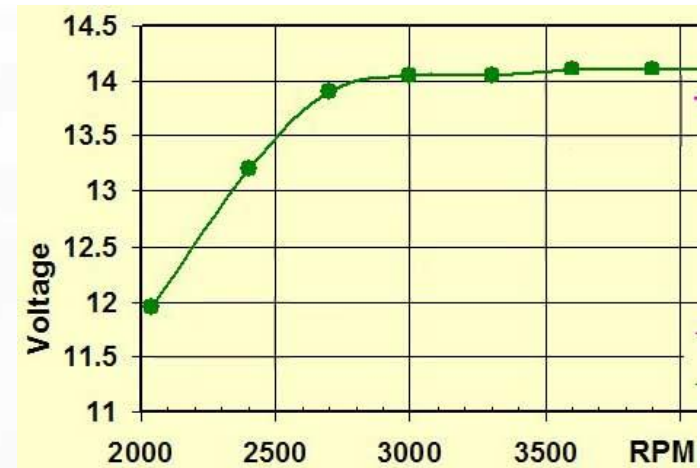


About Car Regular Fuel Sensor

About Car Regular Resistive Fuel Level Sensor

It seems that the most easiest way is: directly connect car fuel level sensor to vehicle tracker (telematic module), but it is not so.

Car regular resistive fuel level sensor with analog output have some specific parameters and mostly vehicle trackers (about 90%) don't support such signal type.



Specific parameters of car regular fuel level sensor with analog output:

- sensor output voltage depend of car board voltage,- car engine RPM;
- sensor output voltage depend of car board voltage,- electrical load in car (“On-Off” headlights, heating etc.)
- sensor output voltage has very small dynamic range (for example it can be: from 3 Volts and up to 7 volts);
- when ignition key is in position OFF, fuel level sensor is not powering and output voltage can be: GND or full battery;

Also some modern cars have Pulse-Analog fuel level sensor.

Output signal of such sensor have pulse form. Voltage of this pulse depend of fuel level in tank.

Based on the exposition it becomes evident that by simply connecting the regular level sensor to the standard tracker impossible to obtain real data.

Why DAFS ?

GuardMagic DAFS is adapter (fuel level sensor reader) for resistive type floating fuel level sensor

GuardMagic DAFS is intended for connection car, light vehicle regular floating fuel level sensor to GPS-GSM/GPRS module.

GuardMagic DAFS could be used to provide fuel monitoring function on passenger cars, SUVs, VANS pick-up” or LCV on which the use of professional fuel level sensors is not reasonable due to technical or economic reason.



GuardMagic DAFS (DAFS1, DAFS2) receive voltage level (“analog” or “pulse-analog”) from vehicle regular fuel level sensor and fix input signal to vehicle GND circuit.

This input signal converted in to digital form (digital code) and DAFS main processor carry out valuation and filtration this signal. This processing code is storing in main processor memory. Further this code of fuel level transmitting to vehicle telematic module in digital form by EIA-485 (DAFS1) or RS-232 (DAFS2) communication interface or/and converted in to analog form for transmitting to vehicle telematic module with analog input.

Based, that when the ignition switch is in OFF position, the data from vehicle regular fuel level sensor is not valid, main processor insert the last valid data to output signal (output code or output voltage).

GuardMagic DAFS1 has an analog output and EIA-485 communication interface
GuardMagic DAFS2 has an analog output and RS-232 communication interface

About DAFS m3 Series Advantages

Benefits:

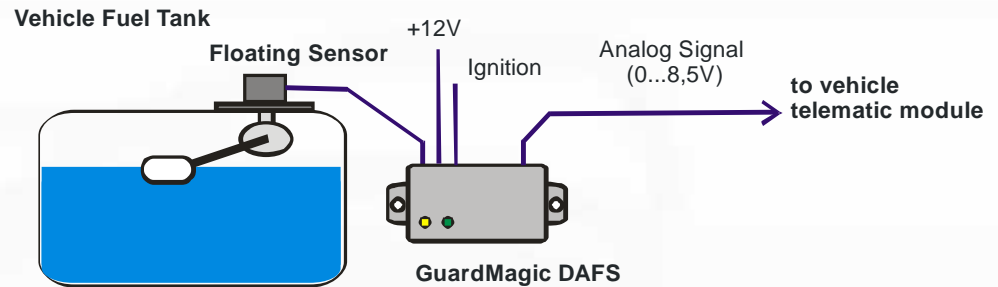
- Dual input signal: Analog and Pulse/Analog;
- Wide voltage input range;
- Dual output: analog and digital
- Valuation of the input signal;
- Input signal processing;
- Internal digital filter;
- User setting internal;
- User setting the operating parameters;
- High resolution;
- Over voltage and over polarity protection

Application:

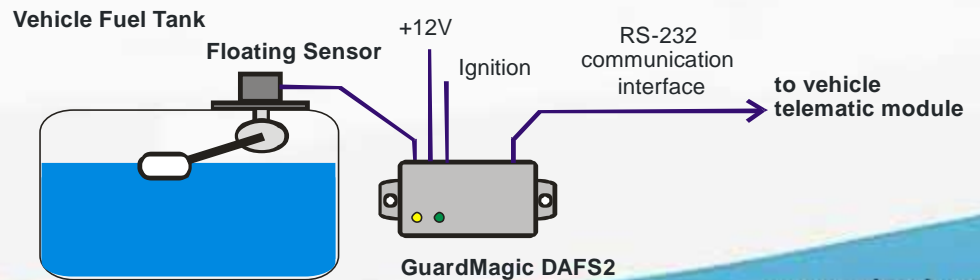
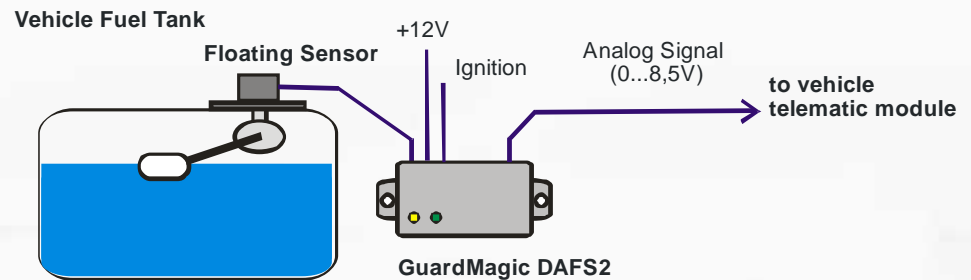
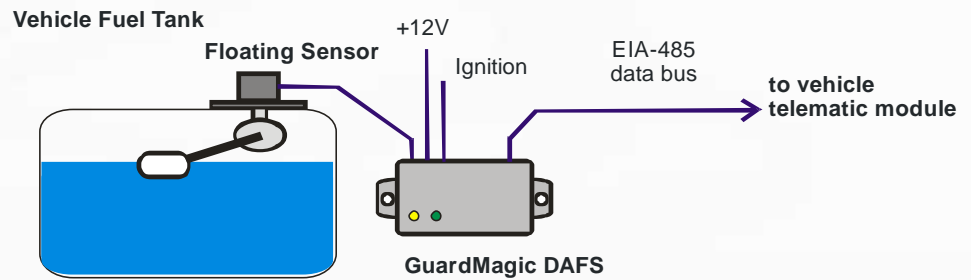
- Passenger cars;
- SUVs;
- VANS;
- Pick-Up;
- LCVs (light commercial vehicle) and Light trucks;
- Minibuses.

DAFS Connection

GuardMagic DAFS1 connection



GuardMagic DAFS2 connection





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