

Fuel Level Converter

Pulse converter for APP-type floats

- ✓ Output signal 0÷5 V
- ✓ Power voltage 12 V



Purpose

Car manufacturers employ several different solutions regarding the construction and function of fuel level float sensors.

Fuel Level Converter is a device that adjusts the output signal from the pulse float in the fuel tank (the digital float) to standard voltage input of control system recorders.

Construction and function

Fuel Level Converter is a device that requires constant power supply at 12V. It is equipped with two micro-switches that enable adjusting functional parameters to particular requirements of a pulse float in the fuel tank.

Fuel Level Converter converts a pulse with variable amplitude and duration into a voltage signal of 0-5V.

Installation

Fuel Level Converter is installed in the vehicle cabin right next to the control system recorder, so as to prevent any interference or voltage drop. A pulse from the pulse float in the fuel tank is sent to the input of Fuel Level Converter. The output of Fuel Level Converter should be connected to the voltage input of the recorder.

Connection:

yellow and red	-	+12V
grey and black	-	ground
yellow and green	-	input
grey and purple	-	output

Installation steps:

1. *Finding the cable:*

The location of the cable depends on the make, year and lot of the vehicle. The easiest way to locate the cable is to determine the color of the output cables from the pulse float and track them all the way to vehicle gages.

2. *Direction of voltage characteristics in the tank (inversely proportional or directly proportional):*

Using a tester (neon discharge tube), short-circuit the signal cable with vehicle ground. After turning the key in the ignition, the fuel gage will incline.

- If the gage indicates full tank, it means that the characteristics is **inversely proportional** (voltage at $U=0V$ with full tank). In this case, set the micro-switches when the tank is empty.
- If the gage indicates empty tank, it means that the characteristics is **directly proportional** (voltage at $U=\max$ with full tank). In this case, set the micro-switches when the tank is full.

3. *Setting the micro-switches:*

Micro-switch 1 is responsible for amplitude range of input signal

Micro-switch 2 is responsible for time-constant for sustaining input signal

MP	ON	OFF
1	0-5 V	0-10 V
2	large	small

- Determining the measuring range of input amplitude
 - set micro-switches to **OFF** in order to set pulse amplitude
 - if the voltage on Fuel Level Converter output is lower than 2.5V, set **micro-switch 1** to **ON**, setting amplitude range of input signal to 0-5V
 - if the voltage on Fuel Level Converter output is higher than 2.5V, set **micro-switch 1** to **OFF**, setting amplitude range of input signal to 0-10V
- Determining time-constant for sustaining input signal
 - set **micro-switch 2** to **ON** in order to adjust the time-constant for sustaining input signal
 - if the voltage on Fuel Level Converter output is pulsating (fluctuating), then it is necessary to set **micro-switch 2** to **OFF**
 - if the voltage on Fuel Level Converter output is constant, leave **micro-switch 2** at **ON**.