**Fuel level**

# 1 – How to connect any fuel level sensor

**Question**:
How can I connect any fuel level sensor to my AiM device?

**Answer**:
Fuel senders normally supply a variable resistance signal. To switch variable resistance (Ohm) in variable voltage (Volt) a properly dimensioned pull up resistor is needed so to allow analog inputs to read and sample incoming data.

# 2 – Pull up resistor calculation

To correctly dimension the pull up resistor measure the two resistor values: with the fuel tank full and with the fuel tank empty. Multiply the highest value by 9 to obtain the pull up resistor value to be used. In case this value is not available on the market choose the first round up value.

**Example**: if the float indicates 126 Ohm with the fuel tank full and 25 Ohm with the fuel tank empty, take 126 Ohm, multiply it by 9 and you get 1134 Ohm. Such a pull up resistor is not available on the market so choose a 1200 Ohm 1/4W resistor (very prudential power value) with a 5% precision.

# 3 – Connection

To connect the fuel sender you can use the fuel pump connector, where the sensor terminations are, or the stock dash connector.

Please note that all AiM analog inputs connectors have the same pinout. The wires to be used are:

- ground (or GND), to connect to pin 2 of AiM device input Binder connector
- analog signal, to connect to pin 1 of AiM device input Binder connector

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If fuel level signal is taken from the stock dash connector ground wire can be unavailable. In this case use the common ground of the stock dash and connect it to pin 2 of AiM system Binder connector.

The pull up resistor needs to be bridged between Vref (Binder connector pin 4) and analog input (Binder connector pin 1) used to connect the signal out coming from the sensor.

The scheme below shows a generic connection between sensor and pull up resistor.