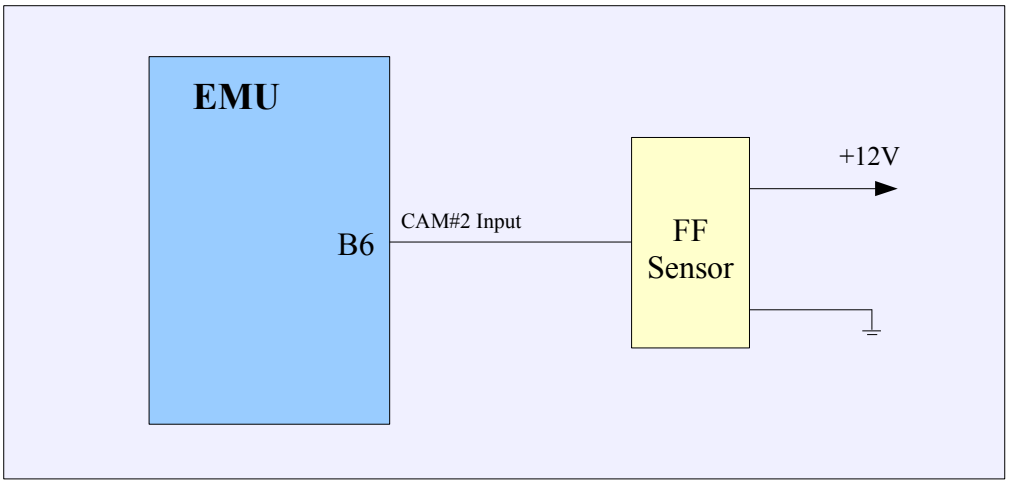
EMU FlexFuel sensor wiring and configuration

What is Flex Fuel Sensor

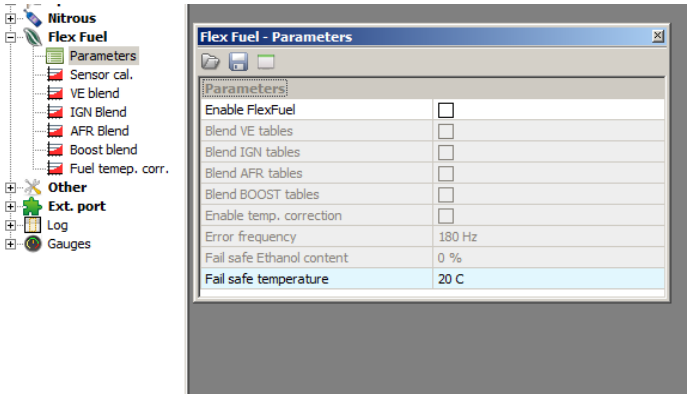
A FlexFuel Sensor is a device that measures concentration in gasoline / ethanol fuel mixture. Information about ethanol content can be utilized by Ecumaster EMU to make adjustments in fuel dose, ignition advance or boost pressure. EMU supports GM/Continental frequency sensors.

How to wire Flex Fuel Sensor

The diagram below shows how to wire FlexFuel sensor to EMU device.



How to configure Flex Fuel Sensor



Parameters description:

Enable FlexFuel	Activate flex fuel sensor support
Blend VE tables	Enable blending between VE1 and VE2 tables
Blend IGN tables	Enable blending between IGN1 and IGN2 tables
Blend AFR tables	Enable blending between AFR1 and AFR2 tables
Blend BOOST tables	Enable blending between Boost Target1/ BOOST DC ref1 and Boost Target2/ BOOST DC ref2 tables
Enable temp. correction	Enable fuel dose correction in function of fuel temperature
Error frequency	If the frequency outputted by flex fuel sensor is higher or equal than error freqency the sensor reports error
Fail safe ethanol content	If the sensor reports error this value is used as ethanol content
Fail safe temperature	If the temperature from the sensor is outside allowable range, this value is used as fuel temperature.

To allow blending between tables *Switch tables* param block must be configured.

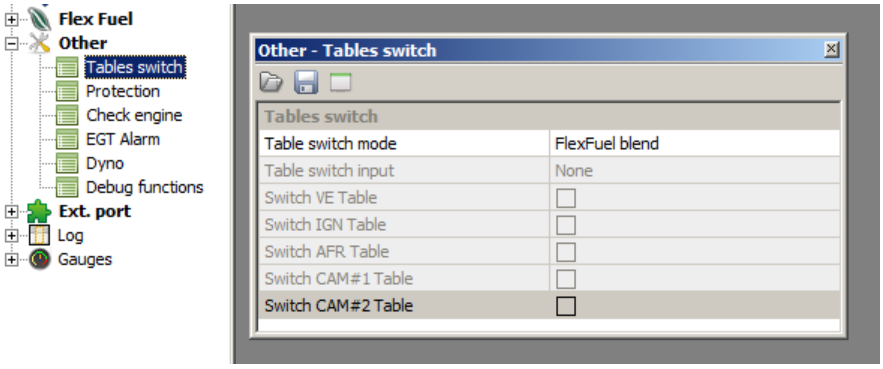
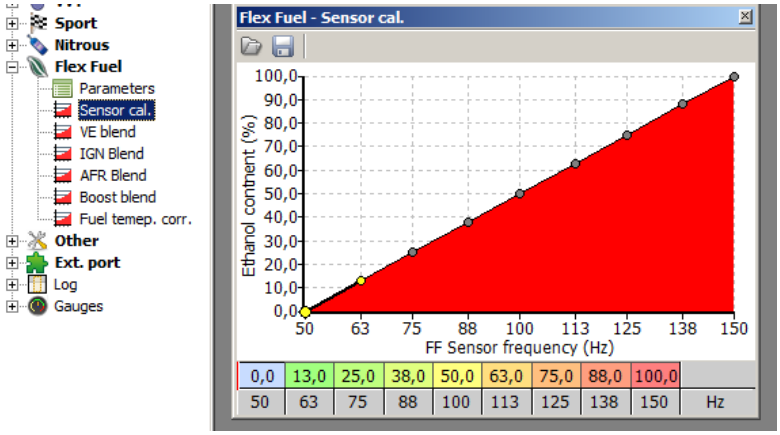
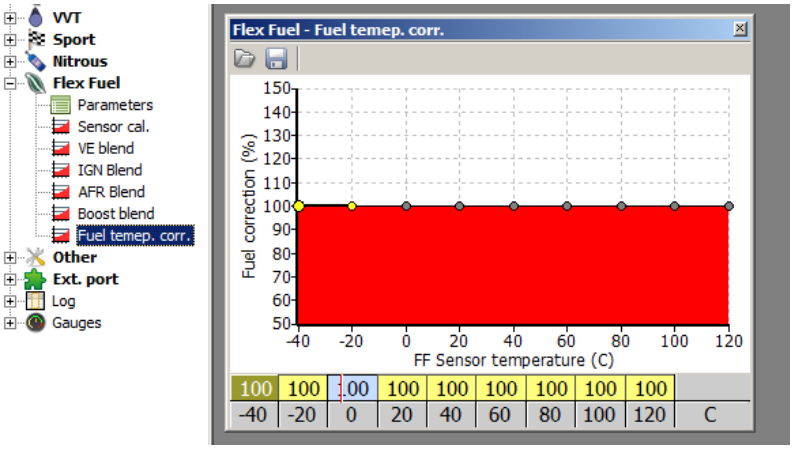


Table switch mode has to be set to FlexFuel blend.

Sensor characteristic (ethanol content in function of frequency) is defined in table **Sensor Cal.**
The following configuration is suitable for GM/Continental sensor where 50Hz is for 0% ethanol content and 150Hz is for 100% ethanol content.



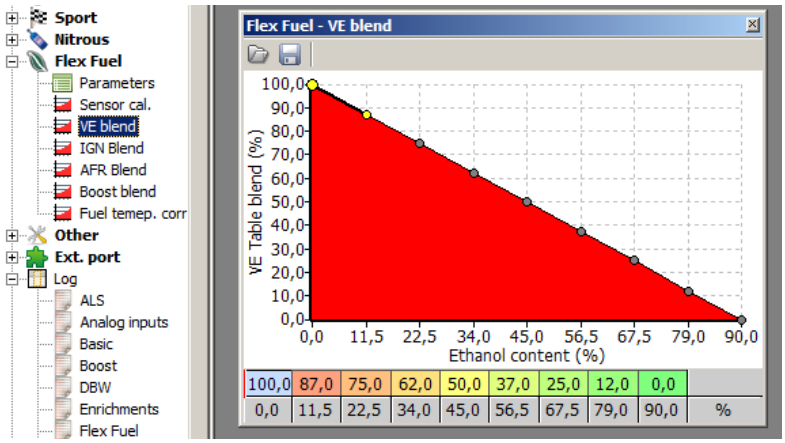
Fuel dose correction in function of fuel temperature is defined in table **Fuel temp. Cor.** Where 100% means no correction.



Tables bledning

Depending on ethanol content values from VE, IGN, AFR and Boost dual tables could be blended. The blending proportions are defined in separate blending tables. Blending is performed using the following formula:

Value = Tbl1[] * Blending% + Tbl2[] * (100% - Blending%)



TIP: You can copy selected areas between tables using copy / paste functionality (CTRL+C, CTRL+V)