ZEITRONIX
YOUR ULTIMATE TUNING PARTNER

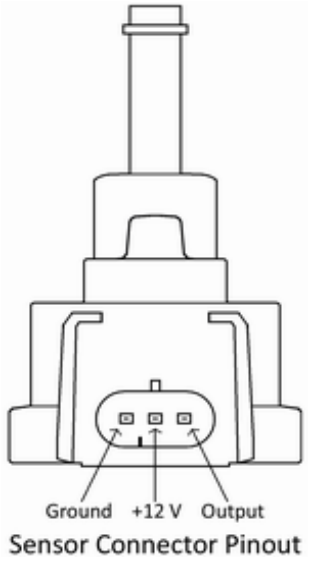
Ethanol Content Analyzer

Installation

The Zeitronix Ethanol Content Analyzer (ECA) should be mounted in the vehicle cabin. Before mounting the ECA, plan the wiring route from the flex fuel sensor connector to the ECA display. Connections to the ECA gauge wires shall be made inside the vehicle cabin. Extend the ECA green signal wire as needed to connect to the output signal of the flex fuel sensor. Connect the ECA green wire to the sensor output pin shown on the picture. If retrofitting a vehicle with a flex fuel sensor, a professional sensor installation is highly recommended. Always check for fuel leaks!

Only 3 wires need to be connected for the ECA gauge operation.

ORANGE +12V
BROWN Ground
GREEN Sensor output

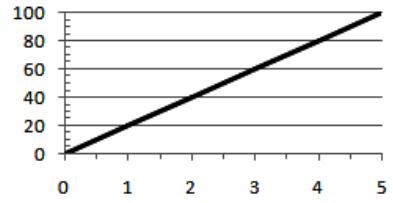
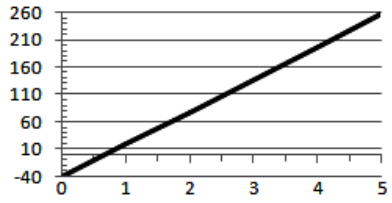
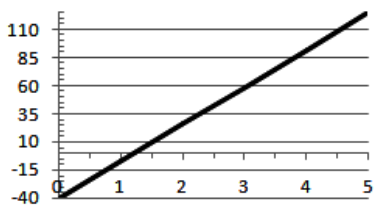


Sensor Connector Pinout

ECA Wire Colors	*Function*
ORANGE	**+12 volt** switched power connection (ex: ignition)
BROWN	**Ground** connection
GREEN	**Fuel Sensor Output**
BLUE	Fuel Temperature analog output
WHITE/BLUE	Ethanol Percentage analog output
WHITE/GREEN	Ethanol Content / Fuel Temperature **Display Toggle**

Analog Outputs	*Signal*	*Range*
Ethanol Percentage (white/blue wire)	0-5 volts	0% to 100%
Fuel Temperature (blue wire)	0–5 volts	-40 to 125 C (-40 to 257F)

Both analog outputs are linear…

Ethanol % = 20 * Voltage	Fahrenheit Temp. = -40 + 59.4 * Voltage	Celsius Temp. = -40 + 33 * Voltage
		

Ethanol Concentration and Fuel Temperature Display

To switch the display between displaying percentage of ethanol content and fuel temperature, connect the WHITE/GREEN wire to ground. To switch back to showing ethanol content, disconnect the WHITE/GREEN wire from ground. An optional toggle switch can be used to ground WHITE/GREEN wire. Both analog outputs are present at all times and are independent of WHITE/GREEN wire connection.

Temperature Units (Fahrenheit/ Celsius)

F and **C** are displayed as temperature unit indicator on the ECA gauge in temperature mode.
The ECA is set from the factory to display temperature in Fahrenheit and comes with installed jumper. To access the 5 pin header and the jumper remove 2 screws and the end cap from the bottom of the ECA gauge.

Fahrenheit
Jumper is installed between pins 1 and 2

Celsius
Jumper is **NOT** installed between pins 1 and 2

Troubleshooting
In the case of an error the Zeitronix ECA will read "ESEn" (Error Sensor). This can be caused by a disconnected sensor, incorrectly wired connection, poor wiring connection to the sensor, or a bad sensor.

Compatible Sensors
Only GM flex fuels sensors part numbers 12568450 and 12570260 should be used with the Zeitronix Ethanol Content Analyzer.
GM part number 88987992 can be used for flex fuel sensor connection.
The part number is shown on the senor**. Flex fuel sensor and sensor connector is not included**.
Additional information can be found online at: **www.zeitronix.com/Products/ECA/ECA.htm**

Flex Fuel Sensor Technical Specification

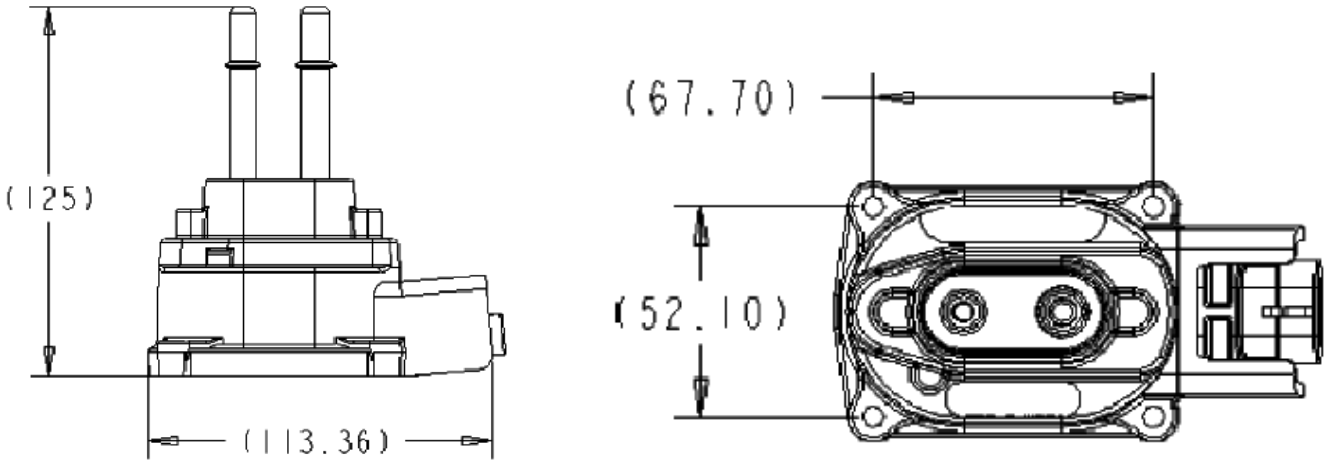
Measuring range:	0…100% Alcohol (ethanol) in fuel mixtures
Sensor Accuracy:	±5% of the mixture ratio
Output characteristic:	Linear
Operating temperature:	Environment -40°C… +125°C, Fuel -40°C… +90°C
Maximum fuel pressure:	10 bar, (145 psi)
Maximum pressure drop:	0.1 bar, (1.45 psi)
Maximum flow:	200 l/h
Supply voltage:	6…18 VDC
Sensor Temperature error:	<± 1.5%
Response time:	< 250 ms after power on at any temperature
Design:	Suitable for the installation in motor vehicles, independent of position. Housing is waterproof.

<u>Tube connection</u>
There is no preferred flow direction through the sensor.

<u>Measurements</u>
Use with gasoline and ethanol fuel mixtures. Guarantee a minimum flow through the sensor to eliminate any air bubbles. Air bubbles inside of the sensor will cause incorrect readings.

If retrofitting a vehicle with the fuel sensor, a professional sensor installation is highly recommended. Always check for fuel leaks!

Flex Fuel Sensor dimensions (mm)



Warning!
The Zeitronix Ethanol Content Analyzer (ECA) is for automotive and off road use only. Never place the Zeitronix ECA in a location which obstructs your view. Do not expose to moisture or extreme heat. Do not modify or tamper with the Zeitronix ECA. Zeitronix Inc. is not responsible for any damages caused through use of the Zeitronix Ethanol Content Analyzer.