



BAZOOKA • FARMSTAR

NEXUS FUEL LEVEL SENSOR

Installation

Hardware

DO NOT MOUNT THE SENSOR ON THE TANK UNTIL IT HAS BEEN VERIFIED & CALIBRATED.

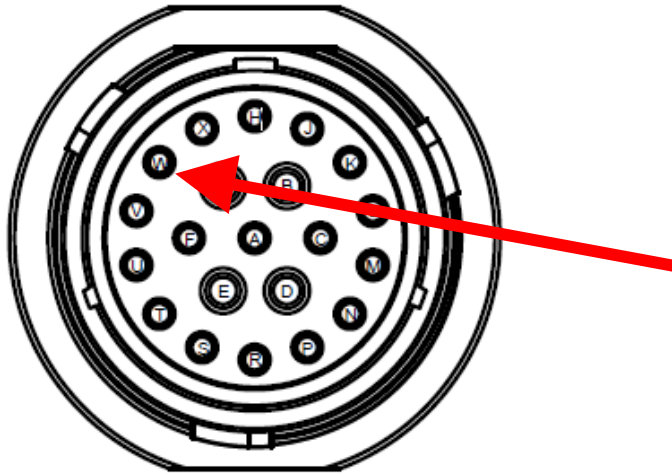
1. Before installation, verify that your sensor matches one of the approved models listed below. Installation should not be attempted if your sensor is not listed

	SENSOR LENGTHS	
 FOR NEXUS VOLTAGE SIGNAL (.5 TO 4.5V)	➤ 70-4097 (1M)	TLL156-N-1000-81
	➤ 70-4098 (.5M)	TLL156-N-0500-81

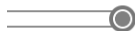
1. Install the electrical harness
 2. Cut the sensor to length
 3. CALIBRATE the sensor
 4. AFTER CALIBRATION, mount the fuel level sensor
- Shown on the left is the fuel level sensor
 - The sensor comes in a length of 40 inches and can be cut to the size of the tank you are needing to measure
 - The sensor comes with a 15ft electrical harness
 - A simple recalibration will be required once power is established



Wiring into PDM & ECS



- Red wire can be run to the Positive side of the bus bar or battery
- Black wire can be run to the Negative side of the bus bar or battery
- Blue wire will need to go into Pin W (AI1) on the 21 pin connector for ECS
- No splicing will be required
- If there is already a wire on pin W, remove It, as it is not needed on J1939 engine systems
- **NOTE:** If this engine is mechanically controlled, there may not be enough available inputs to support a fuel level sensor.

 SENSOR [1, 2, 3, 4]



From	Cavity	To	Conductor	Color	Notes
SENSOR.1	1	C1.A	W1.Red		12/24V
SENSOR.2	2	C1.B	W2.Black		0V
SENSOR.3	3				
SENSOR.4	4	C1.C	W3.Blue		SIGNAL

ECS/NEXUS Programming

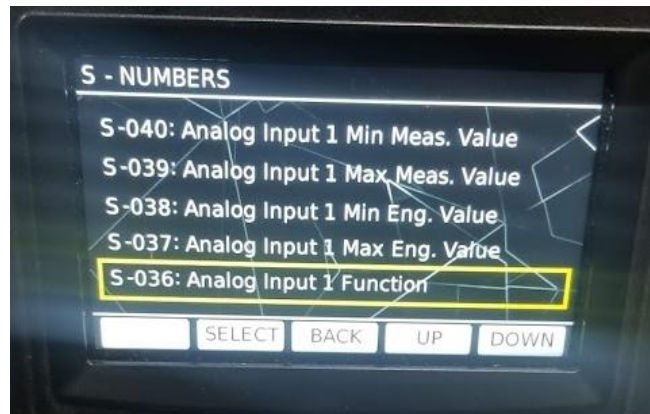
Old software version



Newer software versions



Software version



- Locate the OEM MENU on the panel
- Use 6400 for passcode
- Find - S36: Analog Input 1 Function
- change setting to **“0-5V Fuel Level”**
- Back out of the menu options (controller setup complete)

Calibration

- Video: <https://www.youtube.com/watch?v=UwLaJhj7rTI>
 - Or scan the QR code on the sticker on the side of the sensor.
 - Note: Magnets have two poles. If the sensor doesn't respond to one side of your magnet, flip the magnet over and use the other side.
1. Plug the new sensor into the harness and turn on the keyswitch power.
 2. Hold the sensor **in air** to calibrate the empty point, the calibration LED will illuminate continuously after 8 seconds.
 3. While the LED is on, hold a magnet flat and central to the "CAL" point on the sensor lid (see Fig 1) until the LED flashes quickly and turns off. **The empty point is now calibrated.**
 4. Next, **unplug** the harness and **immerse** the sensor to the required full point in the fluid. **Do not** fully submerge the fuel level sensor, remember that there will be some stack-up from the tank bung that will never allow the sensor to be fully submerged.
 5. **Plug** in the harness and the calibration LED will double-blink continuously, whilst double blinking, position the magnet flat and central to the "CAL" point on the sensor lid and the LED will turn off. **The full point is now calibrated.**
 6. If the calibration LED turns off before applying the magnet, power down the sensor and repeat steps 3 & 4.
 7. **Verify** the empty and full calibration by powering up the sensor and connecting the harness. Move the sensor up and down in the fluid between the calibrated empty and full points, the fuel level reading will increase or decrease depending on the fluid height. Check that the sensor outputs at full and empty are correct.

Calibration Troubleshooting

LED Status:

- Steady light after 8 seconds = Empty calibration mode initiated.
- Rapid 5-second flashing on magnet detection = Empty calibration in progress
- Double blink with no magnet present = Full calibration mode initiated
- Ceases to blink upon magnet detection = Full calibration successful.
- Ceases to blink with no magnet detection = Calibration procedure has timed out.



ECS/NEXUS Fuel level



- The fuel level sender when programmed correctly, will give you a percentage of fuel remaining in a tank as shown on the left

Installation



- Carefully thread into fuel tank after cutting to length and calibrating
- DO NOT twist the sensor body, use a wrench on the nut instead.
- Use pipe adapters as needed