P0462: FUEL LEVEL SENSOR CIRCUIT LOW INPUT

OVERVIEW

Severity	:	Medium
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$200-$400**
Can I Still Drive?	:	**Yes**

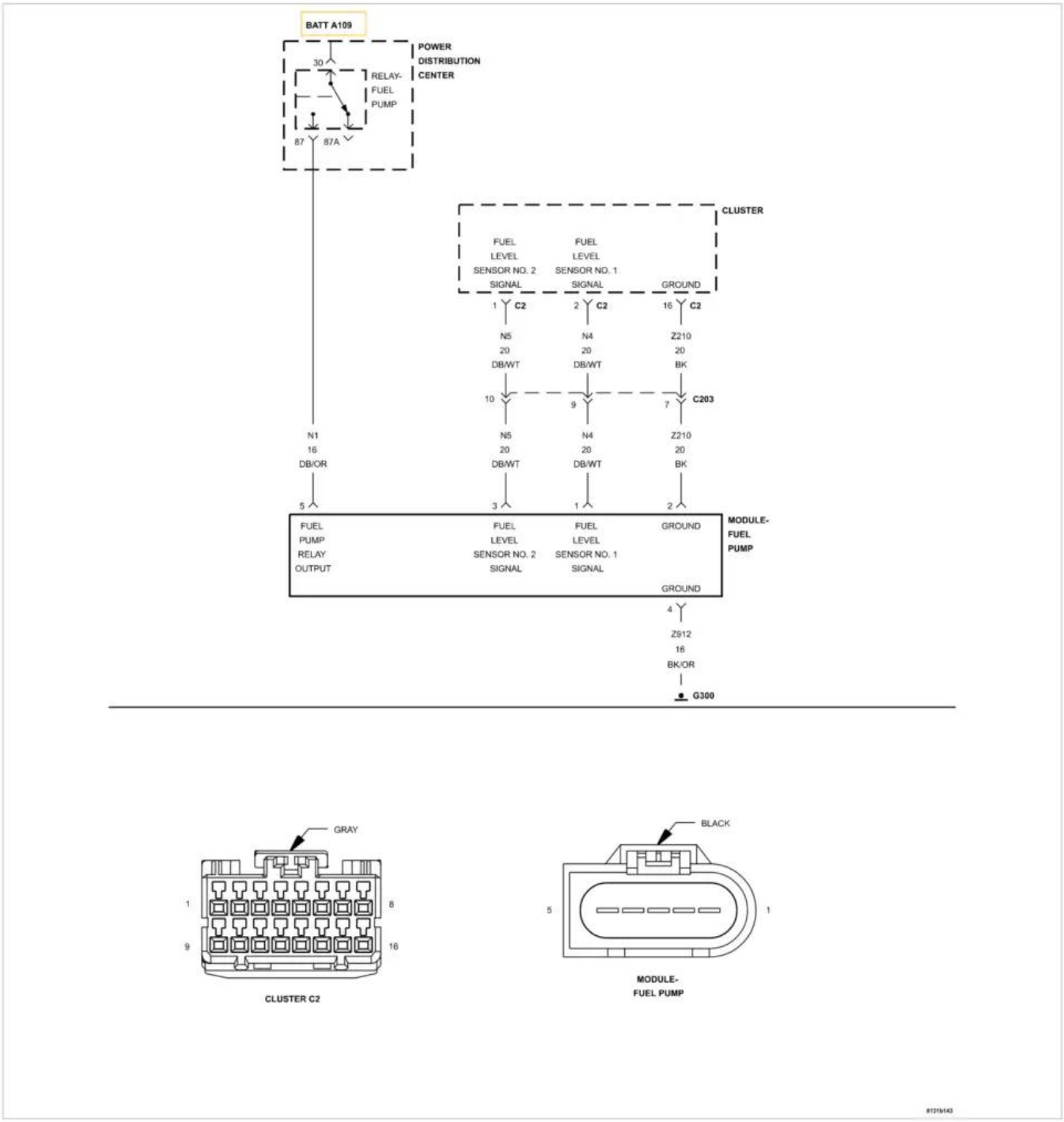
What Does The P0462 Code Mean?

The Fuel Level Sensor (FLS) is usually found mounted in the fuel tank, usually in the top of the fuel tank / fuel pump module. The FLS converts the mechanical fuel level into an electrical signal for the Powertrain Control Module (PCM). Typically, the PCM will then inform other controllers utilizing the vehicle's data communication bus.

The PCM receives this voltage signal to determine how much fuel it has in the fuel tank, monitoring fuel usage and thereby determining fuel economy. This code is set if this input does not match normal operating voltages stored in the PCM's memory. It also looks at the voltage signal from the FLS sensor to determine if it is correct at initial Key On.

P0462 is typically set because of electrical (FLS sensor circuit) issues. These cannot be overlooked in the troubleshooting stage, especially when dealing with an intermittent problem.

Troubleshooting steps may vary depending upon manufacturer, type of FLS sensor and wire colors.



P0462 wiring diagram

Related fuel level sensor circuit trouble codes include:

- P0460 Fuel Level Sensor Circuit Malfunction
- P0461 Fuel Level Sensor Circuit Range/Performance
- P0463 Fuel Level Sensor Circuit High Input
- P0464 Fuel Level Sensor Circuit Intermittent

What Are The Symptoms Of The P0462 Code?

Symptoms of a P0462 engine code may include:

- Malfunction Indicator Lamp (MIL) illuminated
- Decrease in perceived fuel economy
- Decrease in Distance to Empty mileage
- Incorrect fuel level on gauge in instrument cluster – always reads wrong

What Are The Potential Causes Of The P0462 Code?

Typically the causes for this code to set are:

- Short to ground in the signal circuit to the FLS sensor- possible
- Failed FLS Sensor / internally shorted – likely
- Failed PCM – unlikely

How Can You Fix The P0462 Code?

Check Technical Service Bulletin

A good starting point is always a technical service bulletin (TSB) search for your particular vehicle. The vehicle manufacturer may have a PCM flash/reprogram to cover this issue, and it pays to check on this before you find you've gone down a long/wrong path.

A good example of this is on Ford products where an aftermarket remote start system has been installed. It can cause a false code to be set. There is a TSB covering this subject and should be followed in order to properly diagnose this condition.

Auxiliary fuel tanks are covered in this TSB as well. Gravity feed tanks are not recommended for use on these systems and when refueling Ford trucks. It is recommended to refuel the main tanks with the ignition switch in the off position.

Locate The Fuel Level Sensor

Next, locate the Fuel Level Sensor (FLS) on your particular vehicle. This sensor is usually found mounted in the fuel tank or possibly even in the top of the fuel tank / fuel pump module. Once located, visually inspect the connector and wiring. Look for scraping, rubbing, bare wires, burn spots or melted plastic. Pull the connector apart and carefully inspect the terminals (the metal parts) inside the connector.

See if they look burned or have a green tint indicating corrosion. Use electrical contact cleaner and a plastic bristle brush if cleaning of the terminals is needed. Let dry and apply electrical grease where the terminals contact.

Clear The Diagnostic Trouble Codes

If you have a scan tool, clear the diagnostic trouble codes from memory, and see if P0462 code returns. If it does not, then the connections were most likely your problem.

This is the most common area of concern for this code, as the fuel tank connections have the greatest number of issues with corrosion.

If the P0462 code does return, we will need to test the FLS sensor and its associated circuits. With the Key Off, disconnect the electrical connector at the FLS sensor. Connect a Digital Voltmeter (DVOM) black lead to the ground or low reference terminal at the FLS sensor wiring harness connector. Connect the red lead of the Digital Voltmeter to the signal terminal at the FLS sensor wiring harness connector. Turn Key On Engine Off. Check manufacturer's specifications; voltmeter should read either 12 volts or 5 volts. If the voltage is incorrect, repair the power or ground wire, or replace the PCM.

If the prior test passed, connect one lead of an ohmmeter to the signal terminal at the FLS sensor and the other lead to the ground or low reference terminal at the sensor. The ohmmeter reading should not be zero ohms nor should it be infinite. Check manufacturers specifications on the resistance of the sensor to accurately test the resistance to fuel level (1/2 tank of fuel might read 80 ohms). If the ohmmeter readings do not pass, replace the FLS.

If all prior tests have passed and you continue to get a P0462, this would most likely indicate a failed FLS sensor, although a failed PCM could not be ruled out until the FLS sensor had been replaced. If unsure, seek assistance from a trained automotive diagnostician. PCMs must be programmed, or calibrated to the vehicle in order to be installed correctly.

Severity Description

Severity usually not as severe. Because it is an electrical failure, the PCM can compensate for it. The compensation usually means that the fuel gauge reads Empty or Full all the time.

Reference Sources

Diagnostic Trouble Code (DTC) Charts and Descriptions for P0462 - Pages 75-76.