

What does code U0100 mean?

Code U0100 stands for Lost Communication with ECM/PCM

The [powertrain control module](#) (PCM) is the computer responsible for engine management. Like the other computers (known as modules) onboard your vehicle, the PCM communicates over a bus. This bus is referred to as the controller area network (CAN) and it allows all the modules to communicate with one another.

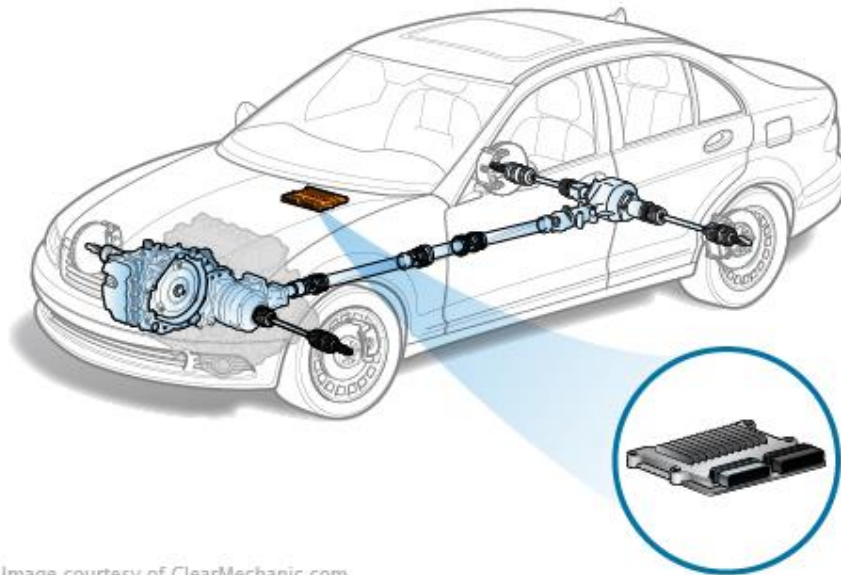


Image courtesy of ClearMechanic.com

Powertrain Control Module

There are two CAN buses: CAN High and CAN low. CAN High has a communication rate, or baud rate, of 500k bits/second. CAN low has a baud rate of 125k bits/second. Both lines are wrapped together in a twisted pair wiring harness. At each end of the data link, there's a terminating resistor.

Modules communicate back and forth on the CAN bus. Code U0100 indicates the PCM is not able to send or receive CAN communication signals.

U0100 symptoms

- An illuminated [check engine light](#)
- [Vehicle will not start](#)

Get it diagnosed by a professional

[Find a shop in your area](#)

Common causes for U0100

Code U0100 is typically caused by one of the following:

- A faulty PCM
- A problem with the control module circuit
- A problem with the CAN bus

How to diagnose and repair U0100

Perform a preliminary inspection

Sometimes U0101 can pop up intermittently, or it can result from a dead battery. Clear the code and see if it returns. If it does, the next step is to perform a visual inspection. A trained eye can check for issues such as broken wires and loose connections. If a problem is found, the issue should be repaired and the code cleared. If nothing is discovered, check for technical service bulletins (TSBs). TSBs are recommended diagnostic and repair procedures put out by the vehicle manufacturer. Finding a related TSB can greatly reduce diagnostic time.

Check the battery

Before proceeding, a technician will make sure the battery is fully charged. The PCM needs a proper power supply to function. Charge or replace the battery as needed.

Check for other trouble codes

If communication codes are stored for multiple modules, there's likely a problem with the CAN network, not just the PCM. In this case, diagnosis will shift to checking network integrity. The CAN bus should be checked for circuit problems, such as shorts to power and ground. This is often done using a digital multimeter (DMM). The DMM is connected between the two network pins at the data link connector.

There are two terminating resistors at each end of the CAN bus. If one of those resistors fails, the bus will still operate. However, if they both fail, the bus will typically shut down. A professional will check the integrity of these resistors by checking their resistance. To do this, a DMM (set to ohms) is connected to the diagnostic port. A normal reading should be approximately 60 ohms. The network is checked for shorts and opens in the same fashion.

A savvy technician may also test the network with a breakout box. A breakout box is a measurement tool used to test CAN communication signals and listen to network communication. The box is connected directly to the vehicle diagnostic port.

Check the PCM

First, a technician will use a diagnostic scan tool to try to communicate with the PCM. A scan tool plugs into the vehicle's diagnostic port. Once plugged in, it acts like another module on the network, communicating back and forth.

If the PCM does not respond to the scan tool, the next step is to figure out why. The PCM's circuit must be checked before condemning the module itself. Like any other electronic device, the PCM must have good power and ground. A digital multimeter (DMM) is used to check the integrity of both. If an open or short is found in the circuit, the factory wiring diagram must be traced to isolate the problem. Then, the issue can be repaired.

By now, all signs point to a faulty PCM. However, before the PCM is replaced, its software should be checked. In some cases, reprogramming the PCM with updated software will get it working properly. If this doesn't yield any results, the PCM is probably faulty and will need to be replaced. After replacement, it will need to be reprogrammed.

Other diagnostic codes related to U0100

All the 'U' codes are network communication codes. Codes [U0100](#) to [U0300](#) are lost communication with XX module codes.

Code U0100 technical details

U0100 is monitored when the ignition is on, battery voltage is at a certain level and other key modules are configured correctly.
