



U0050

Vehicle Communication Bus C (+) High

U0050 is a generic network code indicating that the vehicle's communication bus, specifically the CAN (Controller Area Network) C (+) high-speed line, has been detected at an abnormally high voltage level. The computer that monitors this bus has seen the C (+) signal exceed its normal operating range, which can disrupt communication between multiple electronic control modules.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Network	Generic (all makes)	High	Professional	Network wiring and bus faults

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) or a dedicated network warning light.
- Multiple dashboard warning lights (e.g., ABS, airbag, traction control) may turn on simultaneously.
- The engine may start and run normally, or it may crank but not start if communication is severely disrupted.
- Intermittent or complete failure of various electronic systems such as radio, climate control, or power windows.
- The transmission may enter limp mode or shift erratically due to lost communication with the powertrain control module (PCM).
- Often no symptoms besides the warning light, especially if the fault is intermittent and communication is not fully lost.

Common causes, most likely first

- 1 A short to voltage on the CAN C (+) high wire, often caused by chafed insulation contacting a power source.
- 2 A faulty control module connected to the bus that is internally shorting the C (+) line to battery voltage.
- 3 Corroded or damaged connector pins at any module on the network, creating high resistance or intermittent shorts.
- 4 Water intrusion into a wiring harness or connector, leading to corrosion and voltage leakage.
- 5 Aftermarket accessories improperly wired into the CAN bus circuit, introducing stray voltage.
- 6 A defective terminating resistor or bus transceiver inside a module, causing improper voltage levels.
- 7 Damaged or pinched wiring harness due to accident damage or improper routing during previous repairs.



How to diagnose and fix it

- 1 Use an OBD-II scan tool to read all stored codes and identify which modules are communicating and which are not.
- 2 Obtain the vehicle-specific wiring diagram for the CAN C (+) bus and locate all modules and splice points on that circuit.
- 3 Measure the voltage on the CAN C (+) wire at the data link connector (DLC) with the key on, engine off; compare to specification (typically around 2.5 volts for CAN high).
- 4 Disconnect modules one at a time while monitoring the bus voltage to see if the high voltage condition disappears, isolating the faulty module or wiring segment.
- 5 Inspect the harness and connectors for signs of chafing, corrosion, or water intrusion, especially near high-current devices or aftermarket installations.
- 6 Repair or replace any damaged wiring, connectors, or modules as identified, then clear codes and verify proper bus voltage and communication.
- 7 Perform a road test and recheck for codes to confirm the repair is complete and no intermittent faults remain.

When the bus voltage reads high

- A common oversight is assuming the code points to the module that set it, but U0050 often originates from a different module on the bus that is shorting the line.
- Aftermarket alarms, remote starters, or improperly installed stereos are frequent culprits because they tap into the CAN bus and can introduce voltage spikes.
- The code can be set by a low battery or charging system fault that causes voltage spikes on the bus, so always check battery and alternator health first.
- Some vehicles use multiple CAN buses (e.g., powertrain, body, chassis), and U0050 specifically refers to the C (+) line; misreading it as a different bus can lead to wrong diagnostics.
- Intermittent U0050 codes that appear only in wet weather often indicate water intrusion in a connector or harness, which visual inspection may miss without disassembly.

Can I keep driving with U0050?

If the vehicle is drivable and only the warning light is on, you may cautiously drive to a repair shop, but avoid long trips or high-speed driving. If multiple systems have failed or the engine runs poorly, stop driving and have the vehicle towed to prevent unsafe operation or further damage.

Tools that help

- OBD-II scan tool with live data and network communication capabilities
- Digital multimeter (DMM) with voltage and resistance measurement
- Vehicle-specific wiring diagram (factory service information)
- Breakout box or back-probe kit for connector testing
- Insulated hand tools for module disconnection and harness repair



Reading U0050

- U** Network: communication between the vehicle's control modules.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Network wiring and bus faults.
- 50** The exact fault within that area.

Often seen with

U0001 Loss of Bus Communication · **U0051** Vehicle Communication Bus C (-) Open · **U0052** Vehicle Communication Bus C (-) Low · **U0100** Lost Communication With ECM/PCM A · **U0140** Lost Communication With Instrument Panel Cluster

See it working

Watch the animated explainer [Fuel Trims Explained: Short-Term and Long-Term](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u0050/>

