

GENERIC · NETWORK

U0161

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0161

Lost Communication With Compass Module

U0161 is a generic network communication code indicating that the module responsible for the compass display (often integrated into the rearview mirror or a dedicated compass module) has stopped communicating with other controllers on the vehicle's data bus. The computer has detected a loss of expected messages from the compass module, typically for a set number of consecutive cycles, and has stored this code as a result.

SYSTEM Network	CODE TYPE Generic (all makes)	SEVERITY Low	FIX DIFFICULTY Intermediate	AREA Lost communication with a control module
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Symptoms you may notice

- Compass heading display is blank, stuck, or shows dashes instead of a direction
- Other electronic features on the same data bus may behave erratically, such as intermittent radio or climate control operation
- Often no symptoms besides the warning light, especially if the compass display is the only affected feature
- A warning message on the driver information center stating 'Service Compass Module' or similar
- In some vehicles, the compass module shares a bus with other body systems, so unrelated accessories may also stop responding

Common causes, most likely first

- Faulty compass module itself, often due to internal electronics failure or water intrusion
- Damaged or corroded wiring harness or connector at the compass module, particularly in the overhead console or mirror area
- Blown fuse or poor ground connection supplying power to the compass module
- Communication bus wiring fault (open, short, or high resistance) between the compass module and the rest of the network
- Failed body control module (BCM) or gateway module that mediates communication on the bus
- Low battery voltage or charging system issue causing modules to drop offline intermittently



How to diagnose and fix it

- 1 Verify battery voltage and charging system output; low voltage can cause communication codes across multiple modules
- 2 Check all fuses related to the compass module and body control system, and inspect the ground connections for cleanliness and tightness
- 3 Inspect the wiring harness and connector at the compass module for corrosion, chafing, or loose pins; repair as needed
- 4 Use a scan tool to check for communication with the compass module and perform a network test to see if the module is alive on the bus
- 5 If the module is not communicating, check for power and ground at the module connector with a multimeter; if power and ground are good, suspect the module
- 6 Perform a voltage drop test on the communication bus lines to rule out wiring faults between the module and the gateway or BCM
- 7 If all electrical checks pass, replace the compass module and verify communication is restored; clear the code and road test

Compass module faults you might overlook

- A weak or failing battery is a common culprit for U0161 because the compass module may be one of the first to drop offline when voltage sags during cranking, yet the battery still starts the engine fine.
- The compass module is often integrated into the rearview mirror assembly, so a faulty mirror can set this code even though the mirror's other functions (auto-dimming, map lights) appear to work normally.
- Water leaks from a sunroof drain or roof antenna can corrode the overhead console connectors and cause intermittent communication loss that only appears in wet weather.
- U0161 can be set by a completely unrelated module on the same bus that is shorting the data lines, so always check for other communication codes before condemning the compass module.
- After replacing the compass module, some vehicles require a calibration drive in an open area to relearn the magnetic heading, and skipping this step may leave the compass display inaccurate even though the code is gone.

Can I keep driving with U0161?

The vehicle remains safe to drive because the compass is a convenience feature and does not affect engine, steering, or braking operation. You can continue driving, but avoid relying on the compass display and address the issue when convenient to prevent potential bus communication problems from affecting other systems.



Tools that help

- OBD-II scan tool with network communication capabilities
- Digital multimeter
- Trim removal tools for overhead console or mirror cover
- Wiring diagram for the specific vehicle
- Test light or power probe

Reading U0161

- U** Network: communication between the vehicle's control modules.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Lost communication with a control module.
- 61** The exact fault within that area.

Often seen with

U0100 Lost Communication With ECM/PCM A · **U0140** Lost Communication With Instrument Panel Cluster · **U0155** Lost Communication With Body Control Module · **U0160** Lost Communication With Audible Alert Control Module · **U0162** Lost Communication With Navigation Display Module

See it working

Watch the animated explainer **Four-Stroke Engine Cutaway: Intake to Exhaust** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u0161/>

