

GENERIC · NETWORK

U0542

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0542

Invalid Data Received From Headlamp Control Module A

U0542 means the vehicle's main computer received data from the headlamp control module that it judged invalid or out of range for the current operating conditions. The computer detected a message that was missing expected parameters, contained implausible values, or failed its internal consistency check, so it flagged the module as sending corrupt information.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Network	Generic (all makes)	Medium	Intermediate	Network communication

Symptoms you may notice

- The warning light on the dashboard is often the only thing the driver notices, with no change in how the car drives.
- Headlamps may stay on high beam, stay off, or default to a fixed brightness regardless of the switch position.
- Automatic high-beam assist, adaptive front lighting, or cornering lamps may stop working or behave erratically.
- A message such as 'Headlamp System Fault' or 'Service Lighting System' may appear on the driver information display.
- In some vehicles the headlamps may flicker or turn on and off intermittently while driving.

Common causes, most likely first

- A failing or internally faulty headlamp control module that is transmitting corrupted data frames.
- Corroded, loose, or damaged wiring and connectors on the controller area network (CAN) bus between the headlamp module and the main computer.
- Low or unstable battery voltage causing the headlamp module to reset or send incomplete messages.
- A software or calibration mismatch in the headlamp control module after a replacement or reprogramming event.
- Water intrusion into the headlamp module or its connector, common on vehicles with lamps mounted low in the bumper.
- A faulty body control module or gateway module that is corrupting messages before they reach the main computer.



How to diagnose and fix it

- 1 Connect a scan tool and record all stored codes in every module, then clear U0542 and verify whether it returns immediately or only after a drive cycle.
- 2 Inspect the headlamp control module connectors and the CAN bus wiring for corrosion, chafing, or pushed-back pins, and repair any damage found.
- 3 Load-test the battery and charging system to confirm stable voltage, since low voltage can make the headlamp module send invalid data.
- 4 Check for technical service bulletins or software updates for the headlamp control module and the main computer that address communication faults.
- 5 If wiring and power are good, substitute a known-good headlamp control module of the same part number and recheck for the code.
- 6 After any module replacement, perform the required programming and calibration so the new module communicates correctly with the rest of the network.
- 7 Clear all codes and complete a full drive cycle with the headlamps operated in every mode to confirm the fault does not return.

What the headlamp module data check really means

- U0542 is a data-validity code, not a circuit-failure code, so replacing the headlamp module before checking power and ground is a common and expensive misdiagnosis.
- A weak battery or a failing alternator can set this code on vehicles that sit for long periods, because the headlamp module boots up and sends incomplete messages during low-voltage cranking.
- Aftermarket LED or HID bulb conversions can draw unexpected current and cause the headlamp module to report implausible data, setting U0542 even though the module itself is healthy.
- On some vehicles the headlamp control module shares a power feed with the body control module, so a blown fuse or corroded ground on that shared circuit can set U0542 along with unrelated body codes.
- The code can be stored historically after a one-time low-voltage event and may never return, so always check the freeze-frame data and status before authorizing repairs.

Can I keep driving with U0542?

The car is generally safe to drive because the fault affects lighting data rather than engine or brake control, but avoid driving at night or in poor visibility until the headlamps are confirmed to work in all modes. If the headlamps default to high beam or fail to switch, park the vehicle and have it inspected before continuing.



Tools that help

- OBD-II scan tool with module-level and CAN bus capability
- Digital multimeter for voltage and continuity checks
- Battery load tester
- Wiring diagram and connector pinout for the headlamp control module
- Trim removal tools for accessing module connectors

Reading U0542

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

Often seen with

U0140 Lost Communication With Instrument Panel Cluster · **U0541** Invalid Data Received From Entrapment Control Module B · **U0543** Invalid Data Received From Headlamp Control Module B

See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u0542/>

