

GENERIC · NETWORK

U0502

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0502

Invalid Data Received From Door Control Module C

U0502 means the vehicle's main network gateway or body control computer received data from a door control module that it could not interpret as valid, so it flagged the message as corrupt or out of range. The code is set when the module is present on the network but its data frames fail the receiving module's plausibility or checksum validation.

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

Symptoms you may notice

- Often no symptoms besides the warning light, because the door module may still perform its basic functions
- One or more power windows, door locks, or mirrors may operate erratically or not at all
- The door-ajar warning may stay on or fail to illuminate when a door is actually open
- Interior lights or puddle lamps may behave incorrectly or stay on after the door is closed
- Remote keyless entry or push-button start may intermittently fail to recognize a door state
- A related module may log communication or configuration codes alongside U0502

Common causes, most likely first

- 1 A failing door control module that is powering up but transmitting corrupted or out-of-range data
- 2 Water intrusion or corrosion in the door module connector or door-to-body harness, common after window or weather-strip leaks
- 3 Damaged or chafed wiring in the flexible door boot where the harness bends with every open and close cycle
- 4 Low battery voltage or a weak ground at the door module causing the module to boot incorrectly and send invalid frames
- 5 A software or configuration mismatch after a module replacement or battery disconnect that leaves the door module uncalibrated
- 6 A network fault such as a shorted data line or a failing gateway module that distorts messages before they reach the receiver



How to diagnose and fix it

- 1 Scan all modules and record every stored and pending code, then verify battery voltage and charging system output before anything else
- 2 Inspect the door-to-body harness boot and the door module connector for chafing, water intrusion, and corrosion, repairing any damaged pins or wires
- 3 Check the door module's power and ground circuits under load with a multimeter or load test, cleaning and tightening grounds as needed
- 4 Clear the code and perform a road test that includes opening and closing each door, then recheck whether U0502 returns immediately or only intermittently
- 5 If the code is persistent, check for technical service bulletins and confirm the door module has the correct software and configuration for the vehicle
- 6 Substitute a known-good door control module of the same part number to confirm the fault follows the module before condemning it
- 7 After any module replacement, perform the required relearn or configuration procedure so the new module reports valid data to the network

Why door module data goes invalid

- U0502 is a data-validity code, not a no-communication code, so the door module is talking on the network but its message content is being rejected as implausible.
- A weak or failing battery is a frequent hidden cause because the door module can boot into a degraded state and transmit invalid frames without ever setting a low-voltage code.
- Technicians often replace the door module only to find the real fault is a corroded connector pin or a chafed wire in the door boot that corrupts the data line.
- After a door module replacement or a body control module reflash, a missing configuration or calibration step can set U0502 even though every part is good.
- The code can be set by a fault in the receiving module or gateway rather than the door module itself, so always confirm which module actually stored the code.

Can I keep driving with U0502?

The vehicle is generally safe to drive because the fault affects door convenience functions rather than engine or brake control, but do not ignore it if doors fail to latch, windows will not close, or the door-ajar warning becomes unreliable. Avoid leaving the vehicle unattended with a door that may not lock or a window that may not seal.



Tools that help

- OBD-II scan tool with bidirectional module communication capability
- Digital multimeter with min/max and load-test functions
- Wiring diagram and connector pinout for the door module circuits
- Trim removal tools for accessing the door module and harness boot
- Battery load tester or conductance tester

Reading U0502

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.
02	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 · **U0501** Invalid Data Received From Door Control Module B · **U0503** Invalid Data Received From Door Control Module D

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u0502/>

