

GENERIC · NETWORK

U3539

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U3539

High Voltage System Interlock Circuit M

U3539 indicates that the high-voltage interlock loop circuit M has reported a voltage above the expected range, which the vehicle's control module interprets as a potential safety breach. The interlock is a low-voltage safety loop that runs through high-voltage connectors and covers; when its voltage is too high, the module sets this code to prevent high-voltage exposure.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Network	Generic (all makes)	High	Professional	Network communication

Symptoms you may notice

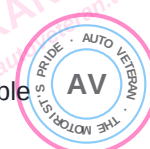
- Illumination of the high-voltage system warning light or service vehicle soon message
- Vehicle may refuse to start or enter 'Ready' mode, especially in hybrid and electric models
- Reduced power or limp-home mode with limited electric propulsion
- High-voltage system may be automatically disabled, preventing charging or driving
- Often no symptoms besides the warning light if the fault is intermittent
- Possible audible alert or message on the driver information display

Common causes, most likely first

- 1 Damaged or corroded high-voltage interlock connector pins or terminals
- 2 Frayed, pinched, or open interlock loop wiring between high-voltage components
- 3 Failed high-voltage component cover switch or interlock switch inside a connector
- 4 Water intrusion or contamination in a high-voltage connector causing high resistance
- 5 Loose or improperly seated high-voltage connector after recent service
- 6 Faulty high-voltage control module or interlock detection circuit internal failure
- 7 Aftermarket accessories or improper repairs that disturb the interlock circuit

How to diagnose and fix it

- 1 Inspect all high-voltage connectors for proper seating, corrosion, or damage, and reseal any loose connectors
- 2 Check the interlock loop wiring for continuity and signs of chafing, pinching, or rodent damage
- 3 Measure interlock circuit voltage at the control module connector and compare to manufacturer specifications
- 4 Test individual interlock switches or cover switches for correct operation using a multimeter
- 5 Inspect for water intrusion or contamination in high-voltage connectors and dry or clean as needed
- 6 If the interlock circuit is intact, diagnose the high-voltage control module for internal faults
- 7 Clear the code and perform a road test to verify the repair, ensuring the interlock loop remains stable



Interlock faults are not always the big battery

- A common oversight is assuming the high-voltage battery itself has failed when the fault is simply a loose interlock pin in a connector that was disturbed during routine service.
- The interlock loop is a low-voltage safety circuit, so a high-voltage insulation tester is not needed for diagnosis; a standard multimeter and wiring diagram are usually sufficient.
- Some vehicles set U3539 when the 12-volt auxiliary battery is weak or failing, as low system voltage can cause the interlock detection circuit to misread.
- After any high-voltage component replacement, the interlock loop must be fully seated and latched; a partially engaged connector can set this code intermittently.
- This code does not always mean the high-voltage system is unsafe to touch, but proper safety procedures and personal protective equipment are mandatory before probing any high-voltage circuit.

Can I keep driving with U3539?

Do not continue driving with this code active, as the vehicle may disable the high-voltage system unexpectedly or refuse to start, and there is a potential safety risk if the interlock circuit is compromised. Have the vehicle inspected by a qualified high-voltage technician before further use.

Tools that help

- Digital multimeter with low-voltage and resistance measurement
- Manufacturer-specific scan tool capable of reading hybrid/EV control module data
- High-voltage safety gloves and insulated tools
- Wiring diagram and connector pinout reference for the vehicle
- Trim removal tools for accessing connectors and panels

Reading U3539

U Network: communication between the vehicle's control modules.

3 Generic (SAE) code: it means the same thing on every OBD-II vehicle.

5 Network communication.

39 The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AA6** Hybrid/EV Battery Voltage System Isolation Fault
 · **U0111** Lost Communication With Battery Energy Control Module 'A' · **U3538** High Voltage System Interlock Circuit L High · **U3540** High Voltage System Interlock Circuit N High



See it working

Watch the animated explainer [How a Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u3539/>

