

GENERIC · NETWORK

U0639

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0639

Lost Communication With Hybrid/EV Electronics Coolant Temperature Sensor B

U0639 is a network communication fault indicating that a control module on the vehicle's data bus has stopped receiving valid messages from the hybrid or electric vehicle electronics coolant temperature sensor B circuit. The computer did not detect an out-of-range temperature reading; instead, it logged a loss of the periodic serial data message that the sensor's reporting module normally broadcasts.

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

Symptoms you may notice

- Illumination of the check engine light, service vehicle soon message, or hybrid system warning lamp
- Often no symptoms besides the warning light, with the vehicle driving normally
- Reduced hybrid system power or a forced limp-home mode in some vehicles
- Electric cooling fans running continuously or not engaging at all
- Inaccurate or missing coolant temperature display on the instrument cluster
- Possible no-start condition if the hybrid control module refuses to close the contactors

Common causes, most likely first

- 1 Damaged, corroded, or disconnected wiring at the coolant temperature sensor B connector
- 2 Open or shorted signal circuit between the sensor and its reporting control module
- 3 Failed hybrid/EV electronics coolant temperature sensor B
- 4 Faulty control module that broadcasts the sensor message on the communication bus
- 5 Low battery voltage or poor grounds causing intermittent module communication dropouts
- 6 Water intrusion or heat damage in the harness near the hybrid electronics cooling circuit
- 7 Aftermarket accessories or improper prior repairs disturbing the data bus wiring



How to diagnose and fix it

- 1 Verify battery state of charge and perform a voltage drop test on the main grounds before any parts replacement
- 2 Inspect the coolant temperature sensor B connector and harness for corrosion, pushed pins, or chafed insulation
- 3 Measure resistance across the sensor and compare to the manufacturer's temperature-resistance chart
- 4 Check for continuity and short-to-ground on the signal and return circuits between the sensor and its module
- 5 Use a scan tool to confirm whether other modules on the same bus are also missing and to read live sensor data
- 6 Perform a wiggle test on the harness while watching live data to expose intermittent connection faults
- 7 Repair or replace the faulty sensor, pigtail, or module only after electrical testing confirms the failure

Why this code is rarely the sensor itself

- U0639 is a communication code, so the sensor may be reporting perfectly while the module that broadcasts its message has simply gone offline.
- A weak 12-volt battery is a frequent hidden cause because hybrid control modules drop off the bus when supply voltage sags during cranking or load spikes.
- Technicians often replace the coolant temperature sensor only to find the real fault is a corroded terminal in the harness connector or a chafed wire near the cooling fan shroud.
- This code can set alongside other U-codes when a single module or a shared bus segment fails, so always check whether multiple communication faults point to one common node.
- Some vehicles set U0639 after a low-voltage event or module reflash and will not clear until the module completes a full sleep-wake cycle.

Can I keep driving with U0639?

The vehicle is usually safe to drive short distances because the fault is a communication loss rather than an overheating condition, but avoid long trips or heavy electrical loads until the circuit is repaired. If the hybrid system warning lamp is on or power is reduced, have the vehicle inspected promptly to prevent cooling system damage.

Tools that help

- OBD-II scan tool with live data and module communication capabilities
- Digital multimeter with resistance and continuity functions
- Wiring diagram for the hybrid/EV coolant temperature sensor circuit
- Back probe pins or breakout box for connector testing
- Battery load tester and charging system tester



Reading U0639

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

Often seen with

P0A93 Inverter A Cooling System Performance · **P0A94** DC/DC Converter A Performance · **U0100** Lost Communication With ECM/PCM A · **U0638** Lost Communication With Hybrid/EV Electronics Coolant Temper · **U0640** Lost Communication With EVAP Fuel Vapor Temperature Sensor C

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u0639/>

