

GENERIC · NETWORK

U0648

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0648

Lost Communication With Motor Electronics Coolant Pump C

U0648 is a network communication code indicating that a control module on the vehicle's Controller Area Network (CAN) bus has lost contact with the motor electronics coolant pump C, which is an electrically driven pump used for battery or electronics cooling. The module that set the code expected regular status messages from that pump over the data bus and stopped receiving them within the allowed time window.

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

Symptoms you may notice

- Illumination of the check engine light or a dedicated service warning for the hybrid or high-voltage cooling system
- Reduced power or a limp-home mode if the vehicle protects the electronics by limiting output
- Overheating warnings or a message that the high-voltage battery or power electronics are too hot
- The coolant pump may run continuously at full speed or not run at all, audible at key-on
- Often no symptoms besides the warning light when the pump still operates but its status message is missing
- Other unrelated modules may log communication codes if the bus fault is intermittent

Common causes, most likely first

- 1 A failing motor electronics coolant pump C, typically an internal electronics or brushless motor fault that stops it transmitting on the bus
- 2 Damaged, corroded or loose wiring and connectors between the pump and its power or CAN bus circuit
- 3 A blown fuse or poor ground connection supplying the pump, leaving it unpowered and silent on the network
- 4 A CAN bus fault such as a shorted or open data line, or a failed terminating resistor, disrupting messages from the pump
- 5 A software or configuration mismatch in the module that monitors the pump, especially after battery replacement or module programming
- 6 Low system voltage or a weak battery causing intermittent communication dropouts across the network
- 7 A faulty control module that incorrectly reports the pump as missing despite a healthy pump and wiring



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, record freeze-frame data, and verify that U0648 is current rather than historic
- 2 Inspect the pump connector and harness for corrosion, chafing, pushed pins and loose terminals, and check the pump fuse and ground
- 3 Measure battery voltage and charging output, then clear the code and test-drive to see whether the fault returns immediately or only under specific conditions
- 4 Use a scan tool to command the coolant pump on and observe live data for pump speed and status, confirming whether the pump responds and reports back
- 5 Perform a CAN bus integrity check with a multimeter or oscilloscope at the pump connector to rule out a data line fault before condemning the pump
- 6 If wiring and power are good but the pump does not communicate, substitute a known-good pump or perform a bidirectional test to confirm the pump is the failed component
- 7 After repair, clear codes, verify communication is restored, and check that the cooling system is bled and operating correctly under load

Why the pump can be silent but healthy

- A pump that runs perfectly when commanded can still set U0648 if its internal controller stops sending status frames on the CAN bus, so audible operation does not prove the pump is communicating.
- Technicians often replace the pump only to find a corroded connector pin or a chafed wire in the wheel well or underbody where the pump harness is exposed to road spray.
- Low battery voltage during cranking or after a jump start is a common trigger for intermittent U0648 on vehicles with sensitive network monitoring, and the code may not return once voltage is restored.
- The monitoring module may set U0648 when a software update or module replacement has not been properly configured, so check for technical service bulletins before parts replacement.
- A fault on the CAN bus elsewhere, such as a shorted module pulling the bus down, can prevent the pump's messages from getting through and set this code even though the pump itself is fine.

Can I keep driving with U0648?

If the only symptom is the warning light and the vehicle drives normally, you can drive cautiously to a repair shop, but avoid heavy loads, sustained high speeds or aggressive acceleration that raise electronics temperatures. If the vehicle enters limp mode or shows overheating warnings, stop driving and have it towed to prevent damage to the high-voltage battery or power electronics.



Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with CAN bus voltage measurement functions
- Oscilloscope for CAN bus signal integrity checks
- Wiring diagram and connector pinout for the specific vehicle
- Fuse puller and test light for power and ground checks
- Socket and trim tools to access the pump and harness

Reading U0648

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.
48	The exact fault within that area.

Often seen with

P0A93 Inverter A Cooling System Performance · **U0100** Lost Communication With ECM/PCM A · **U0140** Lost Communication With Instrument Panel Cluster · **U0647** Lost Communication With Motor Electronics Coolant Pump B · **U0649** Lost Communication With Coolant Pump D

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/u0648/>

