

GENERIC · NETWORK

U0631

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0631

Lost Communication With Engine Coolant Temperature Sensor 5

U0631 is a network communication code indicating that a control module on the vehicle's controller area network (CAN) bus has lost contact with the engine coolant temperature sensor number 5. The computer detected that expected messages from this sensor, or from the module that reports its data, stopped arriving within the required time window, so it flagged the missing communication.

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

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) on the dashboard, often with no other noticeable symptoms.
- Erratic or inaccurate coolant temperature gauge readings, or the gauge may stay cold or peg hot.
- Poor fuel economy or driveability issues if the powertrain control module substitutes a default coolant temperature value.
- Cooling fan may run continuously or fail to activate because the module lacks valid temperature data.
- Remote start or cabin heating functions may be disabled as a protective measure.
- Other communication-related warning lights or messages may appear if multiple modules share the same bus segment.

Common causes, most likely first

- 1 Damaged or corroded wiring or connector terminals at the engine coolant temperature sensor 5 or its in-line harness connectors.
- 2 Open or shorted circuit in the signal or reference voltage wiring between the sensor and the module that publishes its data on the CAN bus.
- 3 Faulty engine coolant temperature sensor 5 itself, internally open or shorted.
- 4 A module on the CAN bus that is not transmitting the sensor data due to internal failure or a lost power/ground feed.
- 5 CAN bus wiring fault, such as a chafed or open data line, that isolates the module responsible for reporting sensor 5.
- 6 Low battery voltage or poor grounds causing intermittent module communication dropouts.
- 7 Aftermarket accessories or improper electrical repairs that introduce noise or load on the CAN bus.



How to diagnose and fix it

- 1 Verify battery voltage and condition, and check that all grounds and power feeds to the relevant modules are clean and tight.
- 2 Inspect the engine coolant temperature sensor 5 connector and the full wiring harness for corrosion, chafing, or loose pins.
- 3 Use a scan tool to read live data for coolant temperature sensor 5 and compare it with actual engine temperature to confirm the signal is missing or implausible.
- 4 Perform a resistance and voltage drop test on the sensor and its circuits according to the manufacturer's specification.
- 5 Check for continuity and resistance on the CAN bus data lines, looking for opens, shorts to ground, or shorts to voltage.
- 6 If wiring and sensor test good, substitute a known-good sensor or module to isolate the faulty component before replacement.
- 7 Clear the code and perform a road test to confirm the repair, ensuring the code does not return after a complete drive cycle.

Before you replace the coolant sensor

- A missing coolant temperature signal often causes the powertrain control module to default to a fixed value, so the engine may run reasonably well and mask the underlying communication fault.
- The code can be set by a module that simply lost power or ground, not by the sensor itself, so always check fuses and grounds before condemning the sensor.
- Intermittent CAN bus faults from chafed wiring near hot exhaust components or sharp body seams are a common cause that only appears during certain driving conditions.
- Aftermarket remote starters or alarm systems tapped into the CAN bus can disrupt communication and set U0631 without any factory component being defective.
- A weak battery or failing alternator can cause multiple modules to drop offline momentarily, storing communication codes like U0631 that clear after a proper voltage repair.

Can I keep driving with U0631?

You can usually continue driving to a repair shop because the engine will run on default temperature values, but avoid heavy loads or long trips until the fault is fixed. If the temperature gauge behaves erratically or the cooling fan runs constantly, keep driving to a minimum to prevent overheating.



Tools that help

- OBD-II scan tool with live data and CAN bus capability
- Digital multimeter with resistance and voltage drop functions
- Wiring diagram for the specific vehicle
- Terminal pick and electrical contact cleaner
- Test light or logic probe for CAN bus signal testing

Reading U0631

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.
31	The exact fault within that area.

Often seen with

P0115 Engine Coolant Temperature Circuit Malfunction · **P0117** Engine Coolant Temperature Circuit Low Input
 · **P0118** Engine Coolant Temperature Circuit High Input · **U0100** Lost Communication With ECM/PCM A ·
U0140 Lost Communication With Instrument Panel Cluster

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/u0631/>

