

GENERIC · POWERTRAIN

P0C4C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0C4C

Hybrid/EV Battery Pack Coolant Pump A Supply Voltage Circuit Low

P0C4C indicates that the hybrid or electric vehicle battery pack coolant pump 'A' control circuit has a low supply voltage condition, meaning the pump is not receiving the voltage it needs to circulate coolant through the high-voltage battery. The computer detects this when the voltage on the pump's power supply circuit falls below the expected threshold, which can lead to inadequate battery cooling.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Often no symptoms besides the warning light, especially if the pump still operates intermittently
- Reduced hybrid/EV performance or power output due to battery temperature management
- Overheating of the high-voltage battery, which may trigger additional warnings or reduced charging rate
- Cooling fan running excessively or continuously as the system tries to compensate
- In rare cases, the vehicle may enter a limp mode or fail to start if battery temperature exceeds safe limits

Common causes, most likely first

- 1 Blown fuse or fusible link supplying power to the coolant pump circuit
- 2 Damaged or corroded wiring, connectors, or terminals in the pump's power supply circuit
- 3 Faulty coolant pump relay or power control module not delivering voltage
- 4 High resistance in the ground circuit for the coolant pump
- 5 Internal short or failure in the coolant pump motor causing excessive current draw and voltage drop
- 6 Poor connection at the battery pack coolant pump harness, often due to vibration or corrosion
- 7 Low voltage from the auxiliary battery or a charging system issue affecting overall supply



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in the hybrid/EV control module
- 2 Inspect the coolant pump fuse and relay, testing for power at the fuse and relay terminals
- 3 Perform a voltage drop test on the power and ground circuits at the pump connector to identify high resistance
- 4 Check the pump connector for corrosion, loose pins, or damaged wiring, and repair as needed
- 5 Measure the resistance of the pump motor and compare to specifications to rule out an internal short
- 6 If voltage supply is confirmed good and the pump does not operate, replace the coolant pump
- 7 Clear the code and test-drive the vehicle to confirm the repair and ensure the pump activates under all conditions

Don't overlook the simple power supply

- A low supply voltage code often results from a failing auxiliary battery or a poor ground connection rather than the pump itself, so always load-test the battery and check grounds first.
- The coolant pump may still run intermittently, masking the issue; a voltage drop test under load is more reliable than a simple static voltage check.
- Corrosion inside the pump connector is a common hidden cause, especially in areas with road salt or high humidity, and can create resistance that only appears when the pump is commanded on.
- This code can be set by a faulty relay that fails to close consistently, so testing the relay under load or swapping with a known-good relay is a quick diagnostic step.
- Do not assume the pump is defective based solely on this code; the hybrid control module may set it if it detects a voltage discrepancy even when the pump is functional, so follow the diagnostic flow carefully.

Can I keep driving with P0C4C?

It is generally safe to drive short distances to a repair shop, but avoid aggressive driving, heavy loads, or fast charging, as these increase battery heat and could worsen the condition. If the vehicle displays a high battery temperature warning or enters limp mode, stop driving and seek professional service immediately.

Tools that help

- OBD-II scan tool with hybrid/EV capability
- Digital multimeter with voltage drop testing capability
- Fuse puller and test light
- Relay tester or known-good relay
- Wiring diagram for the specific vehicle
- Basic hand tools for connector and component access



Reading P0C4C

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- 4C** The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A93** Inverter A Cooling System Performance · **P0C4D** Hybrid/EV Battery Pack Coolant Pump A Supply Voltage Circuit · **P0C4E** Drive Motor A Position Exceeded Learning Limit · **P0C4F** Drive Motor B Position Exceeded Learning Limit

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/p0c4c/>

