

GENERIC · POWERTRAIN

P0C4B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0C4B

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

P0C4B indicates that the hybrid or electric vehicle battery pack coolant pump 'A' control circuit has detected a supply voltage fault, typically an open circuit or low voltage condition on the power feed to the pump. The computer monitors the voltage on the pump's supply circuit and sets this code when the voltage falls outside the expected range, meaning the pump may not receive adequate power to circulate coolant through the high-voltage battery pack.

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 hybrid system warning light
- Often no symptoms besides the warning light, especially if the pump is still partially functioning
- Reduced hybrid/EV performance or a message to service the hybrid system
- Possible overheating of the high-voltage battery pack, which may trigger additional codes or power limiting
- In some cases, the vehicle may enter a fail-safe mode with reduced power
- No noticeable change in driving if the fault is intermittent and the pump operates normally most of the time

Common causes, most likely first

- 1 Open or damaged wire in the coolant pump supply circuit (e.g., broken wire, corroded connector, or loose terminal)
- 2 Blown fuse or faulty relay that supplies power to the coolant pump
- 3 Failed coolant pump motor (internal open circuit or short)
- 4 Poor ground connection for the pump circuit
- 5 Faulty hybrid/EV control module (less common)
- 6 Corrosion or water intrusion in the pump connector or wiring harness
- 7 Aftermarket accessories or improper previous repairs tapping into the circuit



How to diagnose and fix it

- 1 Check the fuse and relay for the coolant pump circuit and replace if blown or faulty
- 2 Inspect the pump connector and wiring for corrosion, damage, or loose pins; clean or repair as needed
- 3 Measure voltage at the pump connector with the key on and pump commanded on; compare to battery voltage to confirm an open circuit
- 4 Perform a voltage drop test on the supply and ground circuits to locate excessive resistance
- 5 Test the coolant pump directly by applying power and ground to confirm it operates; replace if it does not
- 6 If the pump and wiring are good, check the hybrid/EV control module for proper output signals and reprogram or replace if necessary
- 7 Clear the code and verify the repair by running the vehicle and ensuring the pump operates and the code does not return

Coolant pump supply faults often misdiagnosed

- A common mistake is replacing the coolant pump when the real problem is a corroded connector or chafed wire in the supply circuit, so always perform a voltage drop test before condemning the pump.
- This code can be set by a weak or failing 12-volt auxiliary battery, as low system voltage can cause the pump control module to misreport a supply fault.
- Some vehicles use a pulse-width modulated (PWM) signal to control the pump; a standard multimeter may not show the correct average voltage, so an oscilloscope or a scan tool with live data is more reliable.
- The coolant pump may run only under certain conditions (e.g., when the battery is hot or during charging), so an intermittent open circuit might not appear during a quick check; monitor live data while driving or charging.
- Related codes such as P0C4A, P0C4C, or P0C4D may also be present, indicating a circuit range or performance issue, which can help pinpoint whether the fault is in the supply, ground, or control circuit.

Can I keep driving with P0C4B?

It is generally not recommended to continue driving with this code because a failed coolant pump can lead to overheating of the high-voltage battery, which may cause reduced power, battery damage, or a safety shutdown. If you must drive, avoid heavy acceleration and long trips, and monitor for any warning messages indicating the hybrid system is overheating.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Test light
- Wire repair kit (splices, heat shrink, electrical tape)
- Fuse puller or test light for fuse checking
- Oscilloscope (optional for PWM signal analysis)



Reading P0C4B

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A93** Inverter A Cooling System Performance · **P0C4A** Hybrid/EV Battery Pack Coolant Pump A Control Performance · **P0C4C** Hybrid/EV Battery Pack Coolant Pump A Supply Voltage Circuit · **P0C4D** Hybrid/EV Battery Pack Coolant Pump A Supply Voltage Circuit

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/p0c4b/>

