

GENERIC · POWERTRAIN

P0CD7

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0CD7

Hybrid/EV Battery Pack Coolant Temperature Sensor B Circuit Low

P0CD7 means the hybrid or electric vehicle battery pack coolant temperature sensor B circuit is reporting a voltage lower than the manufacturer expects, so the battery control module cannot trust the coolant temperature reading. The computer sets this code when the sensor signal stays below the low threshold for a calibrated time, indicating a short to ground, an open return, or a sensor that has failed low.

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

Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Often no symptoms besides the warning light when the fault is intermittent
- Reduced electric-only range or forced engine operation as the battery management system limits power
- Active grille shutters or coolant pump may run continuously or not at all
- Possible battery pack overheating warning in severe cases
- Charging may be disabled or slowed on plug-in models

Common causes, most likely first

- 1 Coolant temperature sensor B internally shorted or failed low
- 2 Damaged sensor wiring chafed against the battery pack housing or a bracket
- 3 Corroded or pushed-back terminal in the sensor connector
- 4 Open or high-resistance ground return shared with other battery pack sensors
- 5 Faulty battery energy control module driver circuit for sensor B
- 6 Coolant contamination or air pockets causing the sensor to read outside its expected range
- 7 Aftermarket or incorrect sensor installed during prior battery service



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P0CD7, then clear the code and verify whether it returns immediately or only after a drive cycle
- 2 Inspect the sensor B connector and harness for corrosion, chafing, or pushed pins, and perform a wiggle test while watching live coolant temperature data
- 3 Measure sensor B resistance and compare it to the manufacturer's temperature-resistance chart, checking for a shorted element
- 4 Backprobe the sensor signal and ground circuits at the control module to check for a short to ground or an open return path
- 5 Check coolant level and bleed the battery pack cooling loop if air pockets are suspected, then recheck sensor readings
- 6 Replace the coolant temperature sensor B if resistance testing confirms it is out of specification, and clear the code
- 7 If the harness and sensor test good, diagnose the battery energy control module internal driver circuit before replacing the module

Why sensor B low is rarely the sensor alone

- A low signal code is more often a short to ground in the harness than a failed sensor, especially where the battery pack harness rubs against the pack frame or a mounting bracket.
- Technicians who replace the sensor without checking the shared ground return for the battery pack sensors often see the code return because an open ground pulls the signal low.
- P0CD7 can set intermittently from coolant aeration after a battery pack coolant service, so a proper vacuum fill and bleed procedure is part of the repair.
- Some vehicles use the same coolant temperature sensor signal for both battery thermal management and cabin climate control, so a low reading can also cause unexpected HVAC behavior.
- The code does not always mean the battery is overheating; it means the control module cannot trust the temperature input, and the system may default to a conservative power limit.

Can I keep driving with P0CD7?

You can usually drive the vehicle, but the battery management system may limit power, disable electric-only mode, or block charging, so avoid sustained high-speed driving and fast charging until the fault is repaired. If the hybrid system warning light flashes or the vehicle enters limp mode, stop and have it towed.



Tools that help

- OBD-II scan tool with hybrid module access and live data
- Digital multimeter with backprobe pins
- Manufacturer service information for temperature-resistance charts and connector pinouts
- Coolant vacuum fill and bleed tool
- Insulated hand tools and personal protective equipment for high-voltage battery work

Reading P0CD7

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
D7	The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0C73** Hybrid Battery Pack Cooling Pump Performance
 · **P0CD5** Hybrid/EV Battery Pack Coolant Temperature Sensor B Circuit · **P0CD6** Hybrid/EV Battery Pack Coolant Temperature Sensor B Circuit · **P0CD8** Hybrid/EV Battery Pack Coolant Temperature Sensor B 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/p0cd7/>

