

GENERIC · POWERTRAIN

P0CBB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0CBB

Hybrid/EV Battery Temperature Sensor P Circuit Intermittent/Erratic

P0CBB indicates that the hybrid or electric vehicle battery temperature sensor circuit for sensor 'P' is sending an intermittent or erratic signal to the battery energy control module. The computer detects this when the sensor's voltage or resistance readings jump unpredictably or drop out momentarily, rather than staying within a stable, plausible range for the battery's operating conditions.

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

Symptoms you may notice

- Illumination of the check engine light or hybrid system warning light, often with no other noticeable symptoms.
- Reduced electric-only driving range or the vehicle refusing to enter EV mode.
- Inconsistent battery cooling fan operation or unusual fan noise.
- A sudden drop in state of charge or power output, sometimes accompanied by a message to service the hybrid system.
- In rare cases, the vehicle may enter a limp mode that limits speed or power.

Common causes, most likely first

- 1 A faulty battery temperature sensor 'P' that has an internal intermittent connection or degraded thermistor element.
- 2 Damaged or chafed wiring in the sensor circuit, often where the harness bends near the battery pack or passes through a grommet.
- 3 Corroded or loose electrical connectors at the sensor or at the battery energy control module, allowing the signal to cut in and out.
- 4 A failing battery energy control module that misinterprets a stable sensor signal as erratic.
- 5 Extreme vibration or thermal cycling that causes a marginal solder joint inside the sensor to open intermittently.
- 6 Moisture intrusion into the sensor connector or harness, leading to variable resistance and erratic readings.



How to diagnose and fix it

- 1 Use a scan tool to record live data from the battery temperature sensor 'P' while wiggling the harness and connectors to reproduce the erratic signal.
- 2 Inspect the sensor connector and the module connector for corrosion, loose terminals, or pushed-out pins, and clean or repair as needed.
- 3 Perform a resistance test on the sensor at known temperatures and compare it to the manufacturer's specification to check for an intermittent open or short.
- 4 Check the continuity and resistance of each wire in the sensor circuit from end to end while flexing the harness to find a break.
- 5 If the sensor is accessible, swap it with a known-good sensor of the same type and see if the erratic reading follows the sensor or stays with the circuit.
- 6 If wiring and sensor test good, substitute a known-good battery energy control module only after confirming all other possibilities, as modules require programming.
- 7 After repair, clear the code and verify that the live data remains stable through a complete drive cycle that includes battery temperature changes.

Intermittent faults hide in plain sight

- A common mistake is to replace the battery temperature sensor immediately, but the erratic signal often originates from a chafed wire where the harness rubs against the battery pack frame.
- The code can set from a momentary glitch that lasts less than a second, so a sensor that tests perfectly on a bench may still be the culprit if the fault is vibration-induced.
- Technicians sometimes overlook the battery energy control module's ground connection; a poor ground can cause the module to see erratic sensor voltages even when the sensor circuit is sound.
- This code does not always mean the sensor is failing; a weak 12-volt auxiliary battery can cause unstable reference voltage to the module and mimic a sensor fault.
- On some vehicles, the same sensor circuit is shared with other temperature sensors, so a fault in a different sensor on the same bus can set P0CBB as a secondary code.

Can I keep driving with P0CBB?

You can usually continue driving to a repair shop, but avoid aggressive acceleration, sustained high-speed driving, and rapid charging until the fault is fixed, because an erratic temperature reading can prevent the battery management system from protecting the pack. If the vehicle enters a reduced-power mode or displays a high-voltage battery warning, stop safely and seek professional service.



Tools that help

- Scan tool with live data and graphing capability
- Digital multimeter with resistance and continuity functions
- Back probe pins or breakout leads
- Service information for wiring diagrams and sensor resistance specifications
- Insulated hand tools for connector and harness work

Reading P0CBB

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

Often seen with

P0CB9 Hybrid/EV Battery Temperature Sensor P Circuit Low · **P0CBA** Hybrid/EV Battery Temperature Sensor P Circuit High · **P0CBC** Drive Motor A Coolant Temperature Sensor Circuit · **P0CBD** Drive Motor A Coolant Temperature Sensor Circuit Range/Perfo · **P0CBE** Drive Motor A Coolant Temperature Sensor Circuit Low

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0cbb/>

