

GENERIC · POWERTRAIN

P0C8B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0C8B

Hybrid/EV Battery Temperature Sensor I Circuit High

P0C8B means the hybrid or electric vehicle battery pack's temperature sensor I circuit is reporting a voltage higher than the manufacturer's expected range, which the battery energy control module interprets as an open circuit or a signal shorted to voltage. The computer has detected an abnormally high signal on that specific sensor input, so it cannot trust the temperature reading for that sensor.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	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, especially if the pack is not near a temperature limit
- Reduced electric-only operation or a forced switch to the gasoline engine if the vehicle is a plug-in hybrid
- A noticeable drop in charging rate or a refusal to accept a full charge on some models
- Possible derating of power output or a limp-home mode when the fault is active
- In rare cases, a message that the high-voltage battery is too hot or too cold despite normal ambient conditions

Common causes, most likely first

- 1 A failed battery temperature sensor I, typically an internal open circuit in the thermistor element
- 2 Damaged or chafed wiring between the sensor and the battery energy control module, often at a harness bend or pass-through
- 3 A loose, corroded, or backed-out terminal in the sensor connector or the module connector
- 4 Water intrusion or contamination in the sensor connector or the battery pack enclosure
- 5 A faulty battery energy control module that misreads the sensor voltage or has an internal driver fault
- 6 A short to voltage on the signal wire from the sensor to the module, sometimes caused by adjacent high-voltage cable chafing
- 7 High resistance in a ground or reference circuit shared by the temperature sensor string



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P0C8B, then verify the battery temperature sensor I reading on a live data stream against ambient and pack temperatures
- 2 Inspect the sensor connector and the module connector for corrosion, water intrusion, loose terminals, and pushed-out pins, and clean or repair as needed
- 3 Measure resistance across the sensor I thermistor at the connector and compare it to the manufacturer's temperature-resistance chart to confirm an open or skewed sensor
- 4 Check the signal wire for a short to voltage and the ground or reference wire for excessive resistance with a multimeter, wiggle-testing the harness while watching the reading
- 5 If the sensor is internal to the battery pack, follow the manufacturer's high-voltage safety procedure and service the sensor or pack assembly as directed
- 6 If wiring and sensor test good, substitute a known-good battery energy control module only after confirming power, ground, and communication to it
- 7 Clear the code, perform any required battery pack calibration or learn procedure, and road-test to confirm the code does not return

What a high sensor I reading really means

- A high voltage on a temperature sensor circuit almost always means an open circuit or a short to voltage, not a genuinely hot battery, so do not replace the pack based on this code alone.
- Many battery packs use several temperature sensors wired in a string, and a single open sensor can pull the shared reference voltage high and set codes for more than one sensor at once.
- Intermittent P0C8B codes that appear only over bumps or in wet weather usually point to a harness or connector problem rather than a failed sensor.
- Some battery energy control modules set this code when the sensor reading is plausible but outside a learned range, so a sensor that tests good on the bench can still be the cause if its resistance curve has drifted.
- High-voltage cable or component work near the pack can induce this code if a signal wire is disturbed, so check recent repair history before condemning the sensor.

Can I keep driving with P0C8B?

You can usually drive the vehicle with P0C8B because the module defaults to a safe temperature estimate, but avoid aggressive driving, fast charging, and long trips until it is diagnosed. If the vehicle enters a reduced-power mode or shows a high-voltage battery warning, stop and have it inspected rather than continuing.



Tools that help

- OBD-II scan tool with hybrid battery live data and freeze-frame capability
- Digital multimeter with resistance and voltage measurement
- Manufacturer service information with temperature-resistance charts and high-voltage safety procedures
- Insulated high-voltage gloves and safety equipment
- Back-probe kit and terminal removal tools
- Battery pack lifting or access equipment if the sensor is internal

Reading P0C8B

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
8B	The exact fault within that area.

Often seen with

P0A9C Hybrid/EV Battery Temperature Sensor A Circuit Range/Perform · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0C8A** Hybrid/EV Battery Temperature Sensor I Circuit Low · **P0C8C** Hybrid/EV Battery Temperature Sensor I Circuit Intermittent/ · **P0C8D** Hybrid/EV Battery Temperature Sensor J Circuit

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/p0c8b/>

