

GENERIC · POWERTRAIN

P0CB3

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0CB3

Hybrid/EV Battery Temperature Sensor O Range/Performance

P0CB3 indicates that the hybrid or electric vehicle battery pack's temperature sensor 'O' is reporting a signal that is outside its expected range or is not performing as designed. The battery energy control module compares this sensor's output against other temperature sensors and expected values, and it has detected an irrational or out-of-range reading that does not match the actual thermal condition of the pack.

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 a dedicated hybrid system warning light
- Reduced electric-only driving range or a forced switch to gasoline engine operation in a plug-in hybrid
- A message on the dash advising that battery temperature is too high or too low, or that hybrid service is required
- Reduced power output or a limp-home mode that limits acceleration
- The vehicle may refuse to start or enter ready mode if the battery management system cannot confirm safe temperature
- Often no symptoms besides the warning light, especially if the sensor fault is intermittent

Common causes, most likely first

- 1 A faulty battery temperature sensor 'O' that has drifted in resistance or failed internally
- 2 Damaged or corroded wiring or connector pins at the sensor or at the battery energy control module
- 3 A poor electrical connection or chafed harness in the high-voltage battery pack area
- 4 Moisture intrusion into the sensor connector or the battery pack enclosure
- 5 A software or calibration issue in the battery energy control module that misinterprets a valid signal
- 6 A failing battery energy control module, though this is less common than sensor or wiring faults
- 7 Physical damage to the sensor or its mounting from impact or previous service work



How to diagnose and fix it

- 1 Connect a scan tool and record all battery temperature sensor readings to see whether sensor 'O' is stuck, erratic, or offset from the others
- 2 Visually inspect the sensor 'O' connector and harness for corrosion, chafing, or loose pins, and check for signs of moisture
- 3 Measure the resistance of sensor 'O' at known temperatures and compare it with the manufacturer's temperature-resistance chart
- 4 Back-probe the sensor signal circuit at the battery energy control module and compare the voltage with the sensor's actual output to rule out wiring resistance
- 5 Check for technical service bulletins or software updates for the battery energy control module that address temperature sensor rationality
- 6 Replace the faulty temperature sensor 'O' and clear the code, then verify that all temperature sensors read within a few degrees of each other after a drive cycle
- 7 If the wiring and sensor check out, perform a guided diagnostic for the battery energy control module and replace it only after confirming the module is misreporting a known-good signal

What a battery temperature sensor code really means

- A P0CB3 can be set by a sensor that is only slightly out of range at extreme temperatures, so the fault may not appear during a short test drive in mild weather.
- Technicians often replace the sensor only to find the real problem is a corroded connector pin or a chafed wire inside the battery pack, so resistance checks at the module are essential.
- The battery energy control module compares sensor 'O' with several other temperature sensors, and a single skewed sensor can cause the whole pack to be derated even when the battery is thermally fine.
- This code does not automatically mean the high-voltage battery is failing; the sensor and its wiring are separate from the battery cells and are often the only failed part.
- After any repair, the code may remain stored until the vehicle completes a full thermal cycle and the module sees consistent readings across all temperature sensors.

Can I keep driving with P0CB3?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, sustained high speeds, and extreme ambient temperatures because the battery management system may not be able to protect the pack without a valid temperature reading. If the vehicle enters a reduced-power mode or refuses to start, have it towed rather than forcing it.



Tools that help

- Hybrid/EV-capable scan tool with live battery temperature data
- Digital multimeter with resistance and voltage measurement
- Manufacturer service information with temperature-resistance charts and wiring diagrams
- Insulated hand tools and personal protective equipment rated for high-voltage work
- Back-probe kit and terminal test leads

Reading P0CB3

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
B3	The exact fault within that area.

Often seen with

P0A9C Hybrid/EV Battery Temperature Sensor A Circuit Range/Perform · **P0A9D** Hybrid/EV Battery Temperature Sensor A Circuit Low · **P0AC4** Hybrid/EV Powertrain Control Module Requested MIL Illuminati · **P0CB2** Hybrid/EV Battery Temperature Sensor O Circuit · **P0CB4** Hybrid/EV Battery Temperature Sensor O 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/p0cb3/>

