

GENERIC · POWERTRAIN

P0BC4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BC4

Hybrid/EV Battery Temperature Sensor E Circuit Low

P0BC4 indicates that the hybrid or electric vehicle battery temperature sensor E circuit is reporting a voltage lower than the manufacturer's expected range, which the battery energy control module interprets as a short to ground or an open circuit on the low side. The computer has detected a low signal voltage on the sensor's return circuit, meaning it cannot reliably determine the temperature of that specific battery module or sensor location.

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
- Reduced electric-only driving range or forced engine operation in a hybrid
- A noticeable drop in battery charging performance or regenerative braking strength
- Possible derating of power output, especially under high-load or high-temperature conditions
- Often no symptoms besides the warning light, particularly in mild ambient temperatures
- In rare cases, the vehicle may refuse to start or enter a limited-power mode

Common causes, most likely first

- 1 A short to ground or chafed wire on the sensor E signal or return circuit
- 2 An open circuit in the sensor E wiring harness, often at a connector terminal
- 3 A failed battery temperature sensor E itself, reading abnormally low resistance
- 4 Corrosion or water intrusion at the sensor connector or inline harness connector
- 5 A faulty battery energy control module or hybrid control module driver circuit
- 6 Damaged wiring from road debris, rodent activity, or previous service work near the battery pack



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data for P0BC4, then compare sensor E's temperature reading to other battery temperature sensors when the pack is at rest.
- 2 Visually inspect the sensor E harness and connector for chafing, corrosion, moisture, or loose terminals, and repair any obvious damage before replacing parts.
- 3 Disconnect the sensor E connector and measure resistance across the sensor; compare the value to the manufacturer's temperature-resistance chart for the ambient temperature.
- 4 With the sensor disconnected, check for continuity to ground on the signal circuit and for short-to-ground on the return circuit using a wiring diagram.
- 5 Backprobe the sensor E signal circuit at the control module connector and verify the voltage is within the expected range with the key on and sensor connected.
- 6 If wiring and sensor test good, substitute a known-good sensor or simulate the correct resistance at the connector to see if the code clears and the reading normalizes.
- 7 Clear the codes and perform a road test with the scan tool recording battery temperature data to confirm the repair and ensure no intermittent fault remains.

When sensor E is not the real culprit

- A low-voltage code on a temperature sensor circuit is more often a wiring fault than a failed sensor, so inspect the harness near the battery pack where heat, vibration, and moisture take their toll.
- On many hybrid packs, sensor E shares a common return wire with other temperature sensors, so a single short on that shared circuit can set multiple temperature sensor codes at once.
- The battery energy control module may set P0BC4 as a rationality fault when the sensor reading is plausible but inconsistent with other sensors during a key-on self-test, even if the circuit is electrically intact.
- A weak 12-volt auxiliary battery can cause erratic module communication and false low-voltage sensor codes on hybrid vehicles, so always verify system voltage before condemning the high-voltage harness.
- After any high-voltage battery service, the code may remain stored until the module completes a full sleep cycle and rechecks sensor rationality, so a simple clear-and-retest may be needed.

Can I keep driving with P0BC4?

You can generally drive the vehicle short distances at moderate speeds, but avoid aggressive acceleration, sustained high-speed driving, and extreme temperatures until the fault is repaired. Prolonged driving with a faulty battery temperature sensor can lead to inaccurate thermal management and potential battery damage, so schedule service promptly.



Tools that help

- OBD-II scan tool with hybrid battery data capability
- Digital multimeter with resistance and voltage measurement
- Manufacturer-specific wiring diagram for the battery temperature sensor circuit
- Backprobe pins or breakout leads for connector testing
- Insulated hand tools and personal protective equipment for high-voltage safety

Reading P0BC4

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
B	Hybrid propulsion.
C4	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 · **P0BC3** Hybrid/EV Battery Temperature Sensor E Circuit Range/Perform · **P0BC5** Hybrid/EV Battery Temperature Sensor E Circuit High · **P0BC6** Hybrid/EV Battery Temperature Sensor E Circuit Intermittent/

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/p0bc4/>

