

GENERIC · POWERTRAIN

P0BC6

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BC6

Hybrid/EV Battery Temperature Sensor E Circuit Intermittent/Erratic

P0BC6 indicates that the hybrid or electric vehicle battery temperature sensor E circuit is reporting intermittent or erratic signals to the battery energy control module. The computer detects this when the sensor's voltage or resistance readings jump abnormally or drop out momentarily, rather than following a smooth, predictable curve.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	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 a forced switch to gasoline engine operation in a plug-in hybrid.
- Inconsistent battery cooling fan operation, including the fan running constantly or not at all.
- 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-home mode or refuse to start in electric mode.

Common causes, most likely first

- 1 A faulty temperature sensor E itself, such as an internal short or open circuit that becomes intermittent with temperature changes.
- 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 resistance to fluctuate.
- 4 A failing battery energy control module, though this is less common and usually sets additional codes.
- 5 Extreme ambient temperature swings that temporarily push the sensor outside its normal operating range, triggering an erratic signal.
- 6 Moisture intrusion into the sensor connector or harness, causing intermittent shorts when the vehicle is driven in wet conditions.



How to diagnose and fix it

- 1 Inspect the sensor E wiring and connector for obvious damage, corrosion, or loose pins, and repair as needed before replacing any parts.
- 2 Use a scan tool to monitor the live temperature sensor E data while wiggling the harness and connectors to reproduce the erratic signal.
- 3 Measure the resistance of sensor E with a multimeter and compare it to the manufacturer's temperature-resistance chart to check for an out-of-spec sensor.
- 4 Perform a voltage drop test on the sensor circuit to identify excessive resistance in the wiring or connectors.
- 5 If the sensor is faulty, replace it with a new unit and clear the codes to verify the repair.
- 6 Check for technical service bulletins (TSBs) or software updates for the battery energy control module that may address false intermittent codes.
- 7 After repairs, road-test the vehicle under varying conditions and monitor live data to confirm the code does not return.

Intermittent sensor faults that fool technicians

- A loose ground connection for the battery pack or sensor circuit can cause erratic temperature readings that mimic a failed sensor, so always verify grounds before condemning parts.
- The code may set only under specific conditions, such as during rapid charging or after a cold soak, so a simple static test may not reveal the fault.
- Some vehicles use a shared reference voltage for multiple sensors; a fault in another sensor on the same circuit can pull down the voltage and set P0BC6 as a secondary code.
- Replacing the sensor without checking the connector for water intrusion often leads to a repeat failure, especially on vehicles driven in humid or salty environments.
- A weak 12-volt auxiliary battery can cause the battery energy control module to log erratic sensor codes, so always check the auxiliary battery's state of health first.

Can I keep driving with P0BC6?

You can usually continue driving with this code, but avoid aggressive acceleration, rapid charging, and extreme temperature exposure until it is diagnosed. If the hybrid system warning light comes on or the vehicle enters limp mode, pull over safely and arrange a professional inspection.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Back probe pins or breakout leads
- Heat gun and freeze spray for temperature testing



Reading P0BC6

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- B** Hybrid propulsion.
- C6** The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0BC5** Hybrid/EV Battery Temperature Sensor E Circuit High · **P0BC7** Hybrid/EV Battery Pack Cooling Fan 1 Sense Circuit/Open · **P0BC8** Hybrid/EV Battery Pack Cooling Fan 1 Sense Range/Performance

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/p0bc6/>

