

GENERIC · POWERTRAIN

P0B1E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0B1E

Hybrid/EV Battery Pack Voltage Sense D Circuit

P0B1E indicates that the hybrid or electric vehicle battery pack voltage sense circuit D is reporting a voltage outside the range expected by the battery energy control module. The computer compares this sense circuit's reading against other voltage sense circuits and the total pack voltage, and it sets the code when the discrepancy exceeds a calibrated threshold.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

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, with the vehicle continuing to drive normally
- Reduced electric-only range or the engine starting more frequently than usual
- A sudden drop into limp mode or refusal to enter EV drive mode
- Inaccurate state-of-charge or range display on the dashboard

Common causes, most likely first

- 1 A faulty voltage sense wire harness or connector at the battery pack, often due to corrosion or vibration damage
- 2 A failed battery pack voltage sense module or sensing circuit board
- 3 A weak or failing hybrid battery pack module causing voltage readings to drift
- 4 Loose or degraded high-voltage interlock or pack terminal connections
- 5 A software calibration issue in the battery energy control module
- 6 A defective battery energy control module itself, though this is less common



How to diagnose and fix it

- 1 Retrieve all stored codes and freeze-frame data with a scan tool capable of reading hybrid battery data
- 2 Inspect the voltage sense circuit D wiring and connectors for corrosion, chafing, or loose pins
- 3 Measure the sense circuit voltage at the battery pack connector and compare it with the scan tool reading
- 4 Perform a battery pack voltage measurement across the affected module group and compare with neighboring sense circuits
- 5 Check for and apply any available battery energy control module software updates
- 6 Replace the faulty voltage sense harness or sensing module if wiring and connections test good
- 7 Clear codes and perform a battery pack relearn or calibration drive cycle as required

What the voltage sense code hides

- A single skewed voltage sense circuit often points to a failing battery module rather than the sensor itself, so technicians who replace only the sense board may see the code return.
- Corrosion inside a high-voltage connector can create a small resistance that shifts the sense voltage just enough to set the code without any visible damage.
- The code can be set by a low 12-volt auxiliary battery causing the battery energy control module to log implausible readings during startup.
- After any hybrid battery service, the voltage sense circuits must be reinitialized or the code may persist even with good hardware.
- P0B1E is sometimes stored alongside misfire or idle codes when the hybrid system limits engine assist, so always diagnose the battery fault first.

Can I keep driving with P0B1E?

The vehicle may remain drivable, but continued driving risks a sudden loss of hybrid assist or limp mode, so keep trips short and avoid heavy acceleration or long grades until the fault is repaired.

Tools that help

- Hybrid-capable scan tool with battery pack data display
- Digital multimeter with high-voltage rated probes
- Insulation tester or megohmmeter
- Battery pack service information and wiring diagrams
- Hand tools for connector and trim removal



Reading P0B1E

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- B** Hybrid propulsion.
- 1E** The exact fault within that area.

Often seen with

P0A04 Motor Electronics Coolant Temperature Sensor Circuit Intermi · **P0A9C** Hybrid/EV Battery Temperature Sensor A Circuit Range/Perform · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B1D** Hybrid/EV Battery Pack Voltage Sense C Circuit Intermittent/ · **P0B1F** Hybrid/EV Battery Pack Voltage Sense D Circuit Range/Perform

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/p0b1e/>

