

GENERIC · POWERTRAIN

P0B4E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0B4E

Hybrid/EV Battery Voltage Sense D Circuit Intermittent/Erratic

P0B4E means the hybrid or electric vehicle battery pack's voltage sensing circuit D is reporting a signal that cuts in and out or jumps around erratically, rather than a steady voltage reading. The battery energy control module detects these intermittent or noisy voltage samples from that specific sense line and flags the circuit as unreliable.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Hybrid propulsion

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the fault is brief and the module can still estimate pack voltage from other sense lines.
- A hybrid or EV system warning message on the dash, sometimes with reduced power or a forced limp mode.
- Intermittent loss of hybrid drive or the engine failing to auto-stop/restart as expected.
- A battery state-of-charge gauge that jumps or reads incorrectly for short periods.
- Charging or regenerative braking that behaves inconsistently during the fault.
- In rare cases, the vehicle may refuse to start or shift into gear because the pack voltage reading is untrustworthy.

Common causes, most likely first

- 1 A loose, corroded, or backed-out terminal or pin in the voltage sense circuit D connector or harness.
- 2 Chafed or intermittently shorted wiring in the sense harness where it rubs against the battery pack casing or a bracket.
- 3 A failing voltage sense circuit board or sensing module inside the high-voltage battery pack.
- 4 A poor internal connection at the battery cell or module tap point that the sense line monitors.
- 5 Water intrusion or contamination in the battery pack connector causing erratic resistance on the sense line.
- 6 A failing battery energy control module or its internal signal conditioning for that sense channel.
- 7 Heat-related expansion causing an intermittent open in a crimp or solder joint on the sense circuit.



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P0B4E, then clear the code and test-drive over bumps and varying temperatures to see if it returns.
- 2 Inspect the battery pack sense connector D for loose pins, corrosion, water intrusion, and pushed-back terminals; repair or repin as needed.
- 3 Wiggle-test the sense harness while watching live voltage data for that circuit to expose an intermittent open or short.
- 4 Measure resistance and voltage drop on the sense circuit D from the module connector to the battery pack tap point, comparing with the other sense circuits.
- 5 Check service information for the specific pack's sense-line routing and test the internal sense board or module if the external wiring proves good.
- 6 If the fault is internal to the high-voltage battery pack, follow the manufacturer's high-voltage safety procedure and repair or replace the affected sense module or pack component.
- 7 After repair, clear codes and verify the voltage reading for circuit D is stable across a full drive cycle before returning the vehicle.

Intermittent sense faults hide in connectors

- A code that sets only over rough roads or in hot weather usually points to a mechanical connector or crimp problem, not a failed battery pack.
- Technicians often replace the battery energy control module too quickly when the real fault is a single loose pin in the sense harness connector.
- P0B4E does not automatically mean the high-voltage battery is failing; it only says the voltage signal from one sense line is unreliable.
- Because the module can often estimate pack voltage from other sense lines, the vehicle may drive normally and the code may only appear as a stored history code.
- A weak 12-volt auxiliary battery can cause erratic module behavior and false intermittent sense codes, so check system voltage before condemning high-voltage components.

Can I keep driving with P0B4E?

The vehicle is usually safe to drive short distances to a repair shop, but avoid aggressive acceleration, heavy regenerative braking, and long trips until the fault is repaired. If the dash shows a high-voltage system warning or reduced power, stop driving and have the vehicle towed to prevent the pack from being managed with unreliable voltage data.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with min/max recording
- Back-probe pins and terminal test kit
- Manufacturer service information for high-voltage battery sense circuit routing
- Insulated high-voltage safety gloves and tools

Reading P0B4E

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
B	Hybrid propulsion.
4E	The exact fault within that area.

Often seen with

P0A1F Battery Energy Control Module A Performance · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B4C** Hybrid/EV Battery Voltage Sense D Circuit Low · **P0B4D** Hybrid/EV Battery Voltage Sense D Circuit High · **P0B4F** Hybrid/EV Battery Voltage Sense E 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/p0b4e/>

