

GENERIC · POWERTRAIN

P0EB6

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0EB6

Hybrid/EV Battery Pack Voltage Sense Circuit Performance

P0EB6 indicates that the hybrid or electric vehicle battery pack voltage sensing circuit is not performing within the expected range, meaning the battery energy control module cannot reliably determine the pack's total voltage. The computer has detected that the voltage signal from the pack-level sensing circuit is erratic, out of range, or inconsistent with other voltage measurements, which can affect state-of-charge calculations and power management.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the hybrid/EV system warning light or service vehicle soon message
- Reduced electric-only driving range or forced engine operation in a plug-in hybrid
- Sudden loss of power or entering limp-home mode
- Inaccurate or fluctuating state-of-charge display on the dashboard
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Faulty or degraded cell voltage sensor or pack voltage sensor
- 2 Damaged, corroded, or loose wiring in the pack voltage sense circuit
- 3 Poor electrical connection at the battery pack connector or module terminals
- 4 Internal failure in the battery energy control module or voltage sensing interface
- 5 High-voltage interlock loop or service disconnect plug not fully seated
- 6 Software calibration issue in the battery control module requiring update



How to diagnose and fix it

- 1 Inspect the 12-volt auxiliary battery and charging system, as low voltage can cause false sensing errors
- 2 Check for technical service bulletins (TSBs) or software updates for the battery control module
- 3 Visually inspect the high-voltage battery pack connectors, wiring harness, and service disconnect for damage or corrosion
- 4 Measure the pack voltage sense circuit signal with a multimeter and compare to the module's reported value
- 5 Perform a voltage drop test on the sense circuit wiring and connectors to identify excessive resistance
- 6 If the sensor is accessible, test its resistance and output against manufacturer specifications
- 7 Replace the faulty voltage sensor or repair the wiring, then clear codes and verify the repair with a road test

Before condemning the hybrid battery pack

- A weak 12-volt battery is a surprisingly common trigger for this code because the battery control module may log voltage sensing faults when its own supply voltage dips during cranking or load changes.
- The voltage sense circuit often shares connectors with the high-voltage interlock loop, so a partially unseated service disconnect plug can set this code without any actual sensor failure.
- On many vehicles, the pack voltage sensor is integrated into the battery pack and not serviced separately, but the wiring harness and connectors are still repairable and should be ruled out first.
- This code can be set by a software glitch in the battery energy control module that misinterprets a normal voltage signal, so checking for calibration updates before replacing hardware is a cost-saving step.
- A voltage sense circuit performance code does not always mean the high-voltage battery is failing; it often points to a low-cost sensor or connection issue that is far cheaper to fix than a pack replacement.

Can I keep driving with P0EB6?

It is generally safe to drive with this code if the vehicle is operating normally, but avoid aggressive acceleration or relying on electric-only mode until the fault is diagnosed. If the vehicle enters limp mode or shows a significant loss of power, stop driving and have it towed to a qualified technician.

Tools that help

- OBD-II scan tool with hybrid/EV capability
- Digital multimeter (CAT III rated for high-voltage environments)
- Manufacturer service information and wiring diagrams
- Insulation tester or megohmmeter for high-voltage circuit checks
- Battery terminal and connector cleaning tools



Reading P0EB6

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- B6** The exact fault within that area.

Often seen with

P0AFA Hybrid/EV Battery System Voltage Low · **P0AFC** Hybrid/EV Battery Pack Sensor Module · **P0B3D** Hybrid/EV Battery Voltage Sense A Circuit Low · **P0EB5** A/C Compressor Motor Phase U Current Sensor Circuit Range/Pe · **P0EB7** A/C Compressor Motor Phase U Current Sensor Circuit High

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/p0eb6/>

