



P0B8B

Hybrid/EV Battery Voltage Sense Q Circuit

P0B8B indicates that the hybrid or electric vehicle battery pack controller has detected an abnormal voltage reading on the sense circuit for cell group Q, which is a specific subset of battery cells within the high-voltage pack. The computer compares the voltage reported by the Q circuit against expected values and other cell groups, and it sets this code when the signal is out of range, erratic, or inconsistent with the rest of the pack.

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

Symptoms you may notice

- Illumination of the hybrid or EV system warning light, often accompanied by a message to service the high-voltage battery
- Reduced electric-only range or a switch to limp-home mode that limits power output
- Inconsistent state-of-charge readings or sudden drops in the battery gauge
- The vehicle may refuse to start or enter ready mode if the battery management system deems the pack unsafe
- Often no symptoms besides the warning light, especially if the voltage deviation is small and the controller can still balance the pack
- In rare cases, a noticeable shudder or power cut during acceleration if the faulty sense circuit causes the controller to misjudge cell health

Common causes, most likely first

- 1 A faulty voltage sense wire or connector at the Q cell group, often due to corrosion, vibration damage, or a loose terminal
- 2 A failed cell voltage sensor or sensing module that reports incorrect voltages for the Q group
- 3 A weak or failing battery cell within the Q group that genuinely produces a lower or unstable voltage under load
- 4 A poor connection or damaged pin in the battery management system (BMS) harness connector that serves the Q circuit
- 5 A software glitch or calibration error in the BMS that misinterprets the Q circuit signal
- 6 A short or open in the sense circuit wiring caused by chafing against the battery pack housing or other components
- 7 A failing BMS control module that cannot accurately process the voltage signals from multiple cell groups



How to diagnose and fix it

- 1 Use a scan tool to retrieve all stored codes and freeze-frame data, then record the reported voltage for cell group Q and compare it with neighbouring groups to confirm the fault is isolated to that circuit.
- 2 Visually inspect the sense wiring and connector for the Q cell group, looking for corrosion, loose pins, chafed insulation, or signs of overheating, and repair any obvious damage before proceeding.
- 3 Perform a voltage drop test on the sense circuit while the battery is under a light load, checking that the wiring resistance is within specification and that the connector pins are tight.
- 4 Swap the voltage sensor or sensing module from a known-good cell group (if accessible and serviceable) to see if the fault follows the sensor or stays with the Q group, which isolates the sensor from the cell.
- 5 Measure the actual voltage of the Q cell group directly at the cell terminals using a high-impedance meter, and compare it with the value reported by the BMS to determine whether the cell itself is weak or the sensing circuit is lying.
- 6 If the cell group voltage is genuinely low or unstable, perform a battery pack capacity test or cell balancing procedure as recommended by the manufacturer to assess whether the cells need replacement or rebalancing.
- 7 After any repair, clear the codes and perform a battery pack relearn or calibration drive cycle as specified for the vehicle, then verify that P0B8B does not return and that cell group voltages remain consistent.

Before condemning the hybrid battery pack

- A loose or corroded sense connector at the Q cell group is a far more common cause of P0B8B than a failed battery pack, and it can often be fixed with a simple terminal cleaning and re-seating.
The code does not automatically mean the battery pack needs replacement; many cases are resolved by repairing the sense wiring or replacing a relatively inexpensive voltage sensor module.
- Technicians sometimes overlook that the BMS may set this code after a low-voltage event or a jump-start, and a simple recalibration or software update can clear it without any hardware repair.
- A weak cell in group Q can produce a voltage deviation only under load, so a static voltage check may look normal; a load test or a road test with live data logging is often needed to expose the fault.
- Related codes for other cell groups (such as P0B8A or P0B8C) may also be stored if the root cause is a shared power or ground circuit for multiple sensors, so always check for companion codes before replacing parts.

Can I keep driving with P0B8B?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, sustained high speeds, and deep discharging the battery until the fault is repaired. If the vehicle enters limp mode or refuses to start, have it towed to avoid further stress on the battery pack.



Tools that help

- Hybrid/EV-capable scan tool with live data and battery pack monitoring functions
- Digital multimeter with high-impedance settings and a low-voltage measurement range
- Insulation tester or megohmmeter for checking high-voltage circuit integrity
- Manufacturer service information for battery pack wiring diagrams and torque specifications
- Battery pack lifting equipment or safe access tools for reaching the sense connectors

Reading P0B8B

P Powertrain: engine, transmission and emissions.

0 Generic (SAE) code: it means the same thing on every OBD-II vehicle.

B Hybrid propulsion.

8B The exact fault within that area.

Often seen with

P0A04 Motor Electronics Coolant Temperature Sensor Circuit Intermi · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B8A** Hybrid/EV Battery Voltage Sense P Circuit Intermittent/Errat · **P0B8C** Hybrid/EV Battery Voltage Sense Q Circuit Range/Performance · **P0B8D** Hybrid/EV Battery Voltage Sense Q Circuit Low

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/p0b8b/>

