



P0BA7

Hybrid/EV Battery Voltage Sense V Circuit High

P0BA7 means the hybrid or electric vehicle battery control module has detected an abnormally high voltage on the dedicated sense circuit for battery module or cell group V. The computer compares this signal against expected values and flags the circuit as high when the voltage exceeds the calibrated threshold, indicating a wiring fault, a poor connection, or an internal battery pack issue rather than a normal charging condition.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	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, especially if the fault is intermittent
- Reduced electric-only range or the vehicle refusing to enter EV mode
- A sudden drop in state of charge or unexpected battery pack behavior
- Possible limp-home mode or reduced power output if the fault escalates
- In rare cases, a burning smell or warm spot near the battery pack from a poor connection

Common causes, most likely first

- 1 Corroded, loose, or damaged voltage sense wire between the battery module and the control unit
- 2 Failed voltage sense connector or terminal at the battery module or harness
- 3 Open or high-resistance ground connection shared by the sense circuit
- 4 Internal fault in the battery module or cell group causing an abnormal voltage reading
- 5 Faulty battery control module or hybrid control unit misinterpreting the sense signal
- 6 Water intrusion or contamination in the battery pack connector area
- 7 Harness chafing or pinched wiring along the sense circuit path



How to diagnose and fix it

- 1 Retrieve all stored codes and freeze-frame data, then clear codes and test-drive to confirm whether P0BA7 returns immediately or is intermittent
- 2 Inspect the voltage sense harness and connectors at the battery module and control unit for corrosion, looseness, or damage
- 3 Measure resistance and voltage drop on the sense circuit and its ground return, comparing against the manufacturer's specification
- 4 Perform a battery pack voltage measurement at the module terminals and compare with the scan tool's reported sense value to isolate a wiring versus module fault
- 5 Check for water intrusion or contamination in the battery pack connector area and dry or repair as needed
- 6 If wiring and connections are good, follow the manufacturer's diagnostic flow for the battery control module and module voltage sense accuracy
- 7 Replace the faulty battery module, sense harness, or control module only after confirming the fault is internal to that component

Sense circuit faults that mimic battery failure

- A high voltage sense code often comes from a simple loose or corroded connector pin rather than a failing battery module, so always inspect and wiggle-test the sense connector before condemning the pack.
- The sense circuit is a low-current signal path, so a small amount of corrosion or a slightly backed-out terminal can produce a high reading that looks like a module fault on the scan tool.
- Technicians sometimes replace an entire battery pack when the real problem is a chafed sense wire rubbing against the pack frame, which is far cheaper to repair.
- This code can set intermittently during aggressive driving or temperature swings when a marginal connection opens and closes, so a single clear-and-drive may not reproduce it.
- A shared ground point for multiple sense circuits can cause several voltage sense codes at once, so check for companion codes before assuming multiple modules have failed.

Can I keep driving with P0BA7?

The vehicle can usually be driven short distances to a service location, but avoid aggressive acceleration, heavy electrical loads, and long trips until the fault is repaired. If the hybrid system warning light flashes or the vehicle enters limp mode, stop driving and arrange a tow to prevent further battery pack damage.

Tools that help

- OBD-II scan tool with hybrid/EV battery data capability
- Digital multimeter with low-resistance and voltage-drop functions
- Manufacturer service information and wiring diagrams
- Insulated hand tools and personal protective equipment for high-voltage work
- Terminal pick and contact cleaner for connector inspection



Reading P0BA7

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- B** Hybrid propulsion.
- A7** The exact fault within that area.

Often seen with

P0A09 DC/DC Converter Status Circuit Low Input · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0BA5** Hybrid/EV Battery Voltage Sense V Circuit Range/Performance · **P0BA6** Hybrid/EV Battery Voltage Sense V Circuit Low · **P0BA8** Hybrid/EV Battery Voltage Sense V Circuit Intermittent/Errat

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/p0ba7/>

