

GENERIC · POWERTRAIN

P0BA5

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BA5

Hybrid/EV Battery Voltage Sense V Circuit Range/Performance

P0BA5 indicates that the hybrid or electric vehicle battery control module has detected an out-of-range or performance fault in the voltage sensing circuit for battery cell group V. The computer compares the voltage reported by this sense circuit against expected values and other cell groups, and it flags the code when the signal is implausible, erratic, or outside the allowable range.

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 driving range or a forced switch to gasoline engine operation
- A sudden drop in state of charge or inaccurate battery percentage display
- Entry into limp mode with reduced power output
- Possible failure to start or charge, depending on the severity of the sense circuit fault

Common causes, most likely first

- 1 Faulty voltage sense wire or connector at the battery cell group V tap point, often due to corrosion or vibration damage
- 2 Open or high-resistance connection in the sense circuit harness between the battery module and the control unit
- 3 Failed battery cell group V itself, causing the sensed voltage to fall outside the expected range
- 4 Malfunctioning battery control module or voltage sensing interface inside the pack
- 5 Loose or degraded terminal at the battery pack service disconnect or interlock
- 6 Water intrusion or contamination in the battery pack connector causing signal interference
- 7 Software calibration issue in the battery control module requiring reflash or update



How to diagnose and fix it

- 1 Retrieve all stored codes and freeze-frame data to confirm P0BA5 is active and not a history code from a previous event
- 2 Visually inspect the battery pack sense harness and connectors for corrosion, chafing, or loose pins, especially at cell group V
- 3 Measure the actual voltage at the cell group V sense terminals and compare it with the value reported by the scan tool
- 4 Perform a voltage drop test on the sense circuit wiring while wiggling the harness to reveal intermittent faults
- 5 Check for technical service bulletins or software updates for the battery control module that address voltage sense accuracy
- 6 If the sense circuit and connectors test good, perform a battery cell group capacity or balance test to evaluate cell V health
- 7 Replace the faulty sense harness, connector, or battery module as indicated by test results, then clear codes and verify the repair

Sense circuit faults that mimic bad battery packs

- A corroded or loose sense wire at the cell group V tap is far more common than an actual failing battery cell, so always verify the circuit before condemning the pack.
- Intermittent P0BA5 codes often appear only under vibration or temperature extremes, so a static voltage check may pass while the fault is still present.
- The battery control module may set this code when the sensed voltage is plausible but does not track other cell groups during charge or discharge, indicating a performance fault rather than a hard failure.
- Water intrusion into the battery pack connector can create a partial short that skews the voltage reading without any visible damage to the cell itself.
- Replacing a battery module without checking for a software update or recalibration can result in the same code returning shortly after the repair.

Can I keep driving with P0BA5?

You can usually drive the vehicle with this code if the hybrid system remains operational, but avoid aggressive acceleration, prolonged high-speed driving, and deep discharging of the battery until the fault is diagnosed. If the vehicle enters limp mode or the battery warning turns red, stop driving and arrange for service.

Tools that help

- Hybrid/EV-capable scan tool with live data and freeze-frame capability
- Digital multimeter with min/max recording
- Insulation resistance tester
- Battery pack service disconnect tool
- Wiring diagram and connector pinout reference



Reading P0BA5

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- B** Hybrid propulsion.
- A5** The exact fault within that area.

Often seen with

P0A09 DC/DC Converter Status Circuit Low Input · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0BA4** Hybrid/EV Battery Voltage Sense V Circuit · **P0BA6** Hybrid/EV Battery Voltage Sense V Circuit Low · **P0BB0** Hybrid/EV Battery Pack Voltage Variation Exceeded Limit

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/p0ba5/>

