

GENERIC · POWERTRAIN

P0BA0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BA0

Hybrid/EV Battery Voltage Sense U Circuit Range/Performance

P0BA0 indicates the hybrid or electric vehicle battery pack's voltage sensing circuit for the 'U' module is reporting a voltage reading outside the expected range or behaving erratically. The battery energy control module compares this sense circuit's signal against other voltage taps and flags a range or performance fault when the reading is implausible or inconsistent.

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, with the vehicle driving normally
- Reduced electric-only range or the engine starting more frequently than usual
- Intermittent loss of hybrid assist or a transition to limp-home mode
- Charging system or battery pack state-of-charge display behaving erratically

Common causes, most likely first

- 1 Corroded, loose, or damaged voltage sense wire or connector at the battery module
- 2 Failed voltage sense circuit within the battery pack wiring harness
- 3 Faulty battery energy control module or voltage sensing interface
- 4 Internal cell or module voltage imbalance causing out-of-range readings
- 5 Water intrusion or contamination in the battery pack connector area
- 6 High-resistance ground connection shared with the voltage sensing circuit

How to diagnose and fix it

- 1 Retrieve all stored codes and freeze-frame data, then clear and road-test to confirm P0BA0 returns
- 2 Inspect the battery pack voltage sense connector and wiring for corrosion, looseness, or damage
- 3 Measure resistance and voltage drop on the sense circuit between the module and control unit
- 4 Compare the suspect sense circuit reading against adjacent cell/module voltages using a scan tool
- 5 Check the battery pack ground and chassis ground connections for high resistance
- 6 If wiring and grounds are good, perform a module voltage balance test to rule out internal cell faults
- 7 Replace the faulty voltage sense harness or battery energy control module as indicated by test results



Sense circuit faults often mimic cell failure

- A corroded sense connector can produce the same voltage imbalance pattern as a failing battery module, so always verify the circuit before condemning cells.
- This code can set intermittently from vibration or temperature changes and may not reappear during a short test drive, so wiggle-test the harness while watching live data.
- Some vehicles store P0BA0 alongside multiple cell voltage codes when the real fault is a shared ground or reference wire, not the individual sense line.
- The battery energy control module may substitute a calculated voltage when the sense circuit is faulty, masking the problem until performance degrades further.
- High-voltage safety procedures are mandatory before touching pack connectors, and a qualified hybrid technician should perform any invasive testing.

Can I keep driving with P0BA0?

The vehicle may remain drivable with only a warning light, but continued driving risks reduced hybrid performance or a sudden limp-home event. Avoid heavy electrical loads and long trips until the circuit is diagnosed, and do not attempt high-voltage repairs without proper training.

Tools that help

- Hybrid-capable scan tool with live battery cell voltage data
- Digital multimeter with high-voltage rated probes
- Insulation resistance tester
- Wiring diagram and connector pinout for the battery pack
- High-voltage safety gloves and insulated tools

Reading P0BA0

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
B	Hybrid propulsion.
A0	The exact fault within that area.

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **P0A9C** Hybrid/EV Battery Temperature Sensor A Circuit Range/Perform · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0BA1** Hybrid/EV Battery Voltage Sense U Circuit Low · **P0BBD** 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/p0ba0/>

