

GENERIC · POWERTRAIN

P0BA3

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BA3

Hybrid/EV Battery Voltage Sense U Circuit Intermittent/Erratic

P0BA3 indicates that the hybrid or electric vehicle battery pack control module has detected an intermittent or erratic signal on the voltage sense circuit for battery module 'U'. The computer expects a stable voltage reading from this specific cell group, but the signal is dropping out or fluctuating beyond acceptable limits.

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
- Reduced electric-only range or the gasoline engine running more often than usual
- A sudden drop in state of charge or inconsistent battery gauge readings
- The vehicle may enter a reduced power mode or fail to start in electric mode
- Often no symptoms besides the warning light, especially if the glitch is brief

Common causes, most likely first

- 1 Loose, corroded, or damaged wiring or connector pins on the voltage sense circuit for module U
- 2 A failing cell group or battery module U causing unstable voltage under load
- 3 Internal fault in the battery pack control module or its sensing circuitry
- 4 Chafed or intermittently shorted sense wire harness near the battery pack
- 5 Poor terminal tension at the module voltage sense connector
- 6 Heat or vibration damage to the sense wire or its insulation



How to diagnose and fix it

- 1 Inspect and clean the voltage sense connector and pins for module U, checking for corrosion or looseness
- 2 Perform a wiggle test on the sense harness while monitoring live voltage data to reproduce the intermittent fault
- 3 Compare the module U voltage reading with adjacent modules to identify an outlier
- 4 Check service information for any technical service bulletins or software updates for the battery pack control module
- 5 Load test the battery module U or perform a capacity test if the voltage reading is consistently low
- 6 Repair or replace the faulty sense wire or connector if resistance or intermittent continuity is found
- 7 If the sense circuit is intact, replace the battery pack control module or module U as directed by the manufacturer's diagnostic flow

Intermittent sense codes often hide simple wiring faults

- A voltage sense circuit can test perfectly at rest and only act up under vibration or temperature change, so a wiggle test with a live data display is more revealing than a static meter check.
- Many technicians replace a battery module when the real problem is a backed-out terminal or a chafed wire that only loses contact on rough roads.
- The code does not always mean the battery is failing; a poor connection at the sense connector can mimic a weak cell group and trigger the same intermittent fault.
- High-voltage battery sense wires are often routed near heavy cables, and insulation damage from rubbing can cause erratic readings that appear only during certain driving conditions.
- After any repair, the battery pack control module may need a relearn or adaptation drive cycle before the code will clear and stay cleared.

Can I keep driving with P0BA3?

You can usually drive the vehicle, but avoid aggressive acceleration, heavy electrical loads, and long trips until the fault is diagnosed, because an intermittent sense signal can lead to reduced power or a sudden hybrid system shutdown.

Tools that help

- OBD-II scan tool with hybrid battery live data capability
- Digital multimeter with min/max recording
- Insulated hand tools for high-voltage safety
- Wiring diagram and connector pinout for the battery pack
- Battery module load tester or capacity tester



Reading P0BA3

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- B** Hybrid propulsion.
- A3** The exact fault within that area.

Often seen with

P0A9C Hybrid/EV Battery Temperature Sensor A Circuit Range/Perform · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B24** Hybrid/EV Battery A Voltage Unstable · **P0BA2** Hybrid/EV Battery Voltage Sense U Circuit High · **P0BA4** Hybrid/EV Battery Voltage Sense V Circuit

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/p0ba3/>

