

GENERIC · POWERTRAIN

P0B61

OBD-II TROUBLE CODE

P0B61

Hybrid/EV Battery Voltage Sense H Circuit High

P0B61 indicates that the hybrid or electric vehicle battery pack's voltage sensing circuit for the 'H' phase is reporting a voltage higher than the manufacturer's expected range. The battery energy control module monitors this dedicated sense line to verify cell group voltages, and it sets the code when the signal exceeds the calibrated high threshold, which can be caused by a wiring fault, a failed sense circuit inside the pack, or an actual overvoltage condition in that section of the battery.

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 continuing to drive normally
- Reduced electric-only range or the engine running more frequently if the system limits battery use
- A sudden transition to limp mode or refusal to enter EV drive under certain conditions
- Inconsistent state-of-charge readings or erratic battery gauge behavior
- Possible charging system fault message if the high voltage is detected during recharge

Common causes, most likely first

- 1 Damaged, chafed, or corroded wiring in the voltage sense circuit between the battery pack and the control module
- 2 Loose or contaminated connector pins at the battery pack sense harness or module connector
- 3 Internal failure of the voltage sense circuit board or sensing harness inside the high-voltage battery assembly
- 4 A faulty battery energy control module misinterpreting a normal signal as high
- 5 An actual overvoltage condition in one section of the battery pack due to cell imbalance or a charging fault
- 6 High resistance in the sense circuit ground return causing a shifted voltage reading
- 7 Water intrusion or debris in the battery pack connector area leading to signal corruption



How to diagnose and fix it

- 1 Retrieve all stored codes and freeze-frame data with a scan tool capable of reading hybrid-specific modules, then record the reported sense voltage and compare it to other phase readings
- 2 Inspect the battery pack sense harness and connectors for chafing, corrosion, loose pins, or water intrusion, and repair any obvious damage
- 3 Measure resistance and voltage drop on the sense circuit from the battery pack connector to the control module, checking both the signal and ground paths
- 4 Perform a battery pack voltage measurement at the sense terminals with a high-impedance meter and compare it to the scan tool reading to determine if the fault is real or a reporting error
- 5 If the sense circuit checks out, follow the manufacturer's diagnostic flow for the battery energy control module, including software updates or module replacement if indicated
- 6 If an actual overvoltage is confirmed in the pack, diagnose the battery charging system and cell balance, and repair or replace the battery assembly as required
- 7 Clear codes and perform a road test with live data monitoring to confirm the sense voltage stays within range under load and during charging

Sense Circuit Checks Before Battery Replacement

- A high voltage sense code is frequently caused by a poor ground connection on the sense circuit rather than an actual battery overvoltage, so always verify the ground return before condemning the pack.
- Technicians often replace the high-voltage battery when the fault lies in a chafed sense wire behind the pack, so a thorough harness inspection with a wiggle test is essential.
- The code can be set intermittently by a loose connector pin that only loses contact during vibration or temperature changes, so freeze-frame data and a road test with live data are more revealing than a static check.
- Some vehicles set this code after a low-voltage auxiliary battery event causes the control module to reboot and misread the sense line, so check the 12-volt system before diving into high-voltage diagnostics.
- A sense circuit that reads high can also be caused by a failed cell group that is genuinely overcharged due to a charging fault, so cell voltage comparison across the pack is a critical step.

Can I keep driving with P0B61?

The vehicle may remain drivable, but continued operation with a high-voltage sense fault can lead to reduced power, limp mode, or further battery damage, so avoid aggressive driving and long trips until the fault is diagnosed. If the warning light is accompanied by a loss of power or a burning smell, stop driving and have the vehicle towed to a qualified hybrid technician.



Tools that help

- Hybrid-capable scan tool with live data and freeze-frame recording
- Digital multimeter with high-impedance probes rated for hybrid voltage
- Insulation tester or megohmmeter for high-voltage circuit checks
- Wiring diagram and connector pinout for the specific vehicle
- Battery pack lifting equipment if internal inspection is required

Reading P0B61

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

Often seen with

P0A1F Battery Energy Control Module A Performance · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B5F** Hybrid/EV Battery Voltage Sense H Circuit Range/Performance · **P0B60** Hybrid/EV Battery Voltage Sense H Circuit Low · **P0B62** Hybrid/EV Battery Voltage Sense H 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/p0b61/>

