

GENERIC · POWERTRAIN

# P0B5C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P0B5C

### Hybrid/EV Battery Voltage Sense G Circuit High

P0B5C means the hybrid or electric vehicle battery control module has detected an abnormally high voltage on the sensing circuit for battery module group G, which is one of several groups of cells monitored by the battery energy control module. The circuit is expected to report a voltage that tracks the actual cell group voltage, so a reading above the plausible range tells the module that the sense wire, connector, or internal sensing path is faulty.

| 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 starting more often than usual
- A sudden drop into limp mode or refusal to enter EV drive mode
- Inconsistent state-of-charge readings or a battery gauge that jumps around
- Possible no-start condition if the battery management system disables the high-voltage contactors

### Common causes, most likely first

- 1 A damaged, chafed, or open voltage sense wire between the battery module group G and the battery energy control module
- 2 Corroded or loose pins in the sense circuit connector at the module group or at the control module
- 3 A failed cell group or module causing the sensed voltage to sit outside the expected range
- 4 An internal fault in the battery energy control module's voltage sensing circuitry
- 5 High resistance in a splice or terminal within the sense harness
- 6 Water intrusion or contamination in the battery pack connector area affecting the sense circuit



## How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data, then record the reported voltage for group G before clearing anything
- 2 Inspect the sense harness and connector at module group G for chafing, corrosion, or loose pins, and compare the live sensed voltage against a manual measurement at the module terminals
- 3 Perform a voltage drop test on the sense wire and its ground reference to confirm whether the high reading comes from the wiring or from the cell group itself
- 4 Check the service information for the exact voltage window expected for group G and compare it with the module's live data to see whether the fault is intermittent or hard
- 5 If wiring and connectors pass, test the cell group with a battery module diagnostic routine or capacitance/voltage check to rule out a failing module
- 6 Replace the faulty sense harness or connector if resistance is out of specification, then clear codes and verify the reading returns to normal
- 7 If the sense circuit and cell group are proven good, follow the manufacturer's procedure to test or replace the battery energy control module

## Sense circuit faults that mimic bad battery modules

- A high voltage sense code is more often a wiring or connector problem than a genuinely overvoltage cell group, so technicians who replace the battery module first frequently find the code returns.
- The sense wire carries only a tiny signal current, so a small amount of corrosion or a slightly backed-out pin can push the reading high without any visible damage.
- Some battery energy control modules set this code when the sense circuit is open rather than truly high, because the internal pull-up resistor drives the reading to the top of its range.
- Intermittent codes that appear only over bumps or in cold weather point to a harness routing problem or a connector that loses tension, not to a failing cell.
- Clearing the code without checking live voltage data can hide a genuine cell group problem that will later cause a much more expensive pack failure.

## Can I keep driving with P0B5C?

The vehicle may remain driveable with only a warning light, but a high-voltage sense fault can cause the battery management system to shut down the pack without warning, so avoid long trips and do not ignore a sudden loss of power. Have the circuit inspected promptly, and do not clear the code repeatedly to keep driving.



## Tools that help

- OBD-II scan tool with hybrid/EV battery data capability
- Digital multimeter with min/max recording
- Manufacturer service information for sense circuit voltage specifications
- Insulated hand tools and high-voltage safety gloves
- Back-probe kit for connector testing without damage

## Reading P0B5C

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>0</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>B</b>  | Hybrid propulsion.                                                   |
| <b>5C</b> | 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 · **P0B5A** Hybrid/EV Battery Voltage Sense G Circuit Range/Performance · **P0B5B** Hybrid/EV Battery Voltage Sense G Circuit Low · **P0B5D** Hybrid/EV Battery Voltage Sense G 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/p0b5c/>

