

GENERIC · POWERTRAIN

P0B31

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0B31

Hybrid/EV Battery D Voltage Low

P0B31 indicates that the hybrid or electric vehicle battery control module has detected an abnormally low voltage in the high-voltage battery pack section designated as 'D'. The computer compares the voltage of this section to expected values and flags the code when it falls below the calibrated threshold, which can affect battery performance and vehicle operation.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	High	Professional	Hybrid propulsion

Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Reduced electric-only driving range or the vehicle switching to gasoline engine more frequently
- Loss of power or reduced acceleration, especially under high electrical load
- The vehicle may enter a fail-safe mode or refuse to start
- Often no symptoms besides the warning light, especially if the voltage deviation is small

Common causes, most likely first

- 1 A weak or failing cell or module within battery section D
- 2 Poor electrical connection or corroded terminal at the battery section D wiring
- 3 Faulty voltage sensing harness or connector to the battery control module
- 4 Internal failure in the battery control module or its voltage measurement circuit
- 5 Battery pack imbalance due to age or uneven charging
- 6 Extreme cold or heat affecting battery voltage temporarily

How to diagnose and fix it

- 1 Use a scan tool to retrieve all hybrid system codes and freeze-frame data to confirm the fault
- 2 Visually inspect the battery section D wiring, connectors, and terminals for damage or corrosion
- 3 Measure the voltage of battery section D directly with a multimeter and compare to the scan tool data
- 4 Perform a battery pack voltage check and cell balance test according to the manufacturer's procedure
- 5 Check for technical service bulletins (TSBs) or software updates for the battery control module
- 6 If voltage is low, replace the faulty battery module or cell as needed
- 7 Clear codes and perform a road test to verify the repair



What Most Miss on P0B31

- A low voltage reading in one section often results from a single weak cell, not the entire pack, so testing individual cells is critical before condemning the whole battery.
- Corroded or loose connections at the voltage sense leads can mimic a failing module and are frequently overlooked during diagnosis.
- The code may set intermittently due to temperature extremes, so a repair should not be attempted without reproducing the fault under similar conditions.
- Some vehicles require a battery pack balancing procedure after module replacement, which if skipped can cause the code to return.
- The battery control module may store this code due to a software glitch, so checking for updates is a wise step before hardware replacement.

Can I keep driving with P0B31?

It is not safe to continue driving with this code because a low battery section can lead to reduced power, stalling, or further battery damage. Have the vehicle inspected by a qualified hybrid technician as soon as possible, and avoid heavy electrical loads or long trips.

Tools that help

- Hybrid/EV capable scan tool
- Digital multimeter (CAT III rated)
- Insulation tester (megohmmeter)
- Battery module testing equipment
- Safety gloves and insulated tools

Reading P0B31

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

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B2F** Hybrid/EV Battery D Voltage · **P0B30** Hybrid/EV Battery D Voltage Unstable · **P0B32** Hybrid/EV Battery D Voltage High



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/p0b31/>

