

GENERIC · POWERTRAIN

P0B28

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0B28

Hybrid/EV Battery B Voltage Unstable

P0B28 indicates that the hybrid or electric vehicle's battery management system has detected unstable voltage from battery module B, meaning the voltage readings are fluctuating outside the expected range or not holding steady under load. The computer monitors individual cell group voltages and flags this code when the variation exceeds calibrated thresholds, often pointing to a weak cell, poor connection, or communication issue within that module.

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

Symptoms you may notice

- Illumination of the hybrid/EV system warning light or service vehicle soon message
- Reduced electric-only range or power output, sometimes entering limp mode
- Inconsistent state-of-charge readings or sudden drops in battery gauge
- Charging interruptions or failure to complete a full charge
- Often no symptoms besides the warning light, especially in early stages

Common causes, most likely first

- 1 Weak or failing battery cell within module B causing voltage sag under load
- 2 Corroded or loose inter-cell busbar connections or terminal hardware
- 3 Faulty voltage sensing harness or connector at the module
- 4 Battery management system (BMS) software glitch or outdated calibration
- 5 Internal BMS module fault or communication error on the CAN bus
- 6 Extreme temperature exposure affecting cell performance temporarily



How to diagnose and fix it

- 1 Retrieve all stored codes and freeze-frame data with a scan tool capable of hybrid/EV systems to confirm P0B28 and check for related codes
- 2 Perform a visual inspection of battery module B connections, looking for corrosion, loose fasteners, or damaged wiring
- 3 Measure voltage across individual cell groups in module B with a digital multimeter and compare to specifications
- 4 Check and clean the voltage sensing harness connector and pins at the module
- 5 Verify BMS software is up to date and perform any available calibration or relearn procedure
- 6 Load-test the battery module or perform a capacity test to identify weak cells
- 7 If a cell or module is confirmed faulty, replace the affected module or battery pack assembly as per manufacturer procedures

What the voltage instability really means

- A loose or corroded busbar connection can mimic a failing cell, so always check torque and cleanliness before condemning the battery module.
- The code may set intermittently due to a poor ground connection at the BMS or chassis, which is often overlooked during diagnosis.
- Temperature extremes can cause temporary voltage instability that triggers the code without a permanent fault, so clear the code and monitor after a full drive cycle.
- Some vehicles require a specific battery calibration procedure after any module service, and skipping it can cause the code to return.

Can I keep driving with P0B28?

You can usually drive the vehicle short distances to a service center, but avoid heavy acceleration, sustained high speeds, and deep discharges that stress the battery further. If the vehicle enters limp mode or shows multiple warning lights, stop driving and seek professional diagnosis immediately.

Tools that help

- Hybrid/EV-capable scan tool with live data and graphing
- Digital multimeter with CAT III rating
- Insulation tester (megohmmeter) for high-voltage circuit checks
- Torque wrench for battery terminal fasteners
- Battery module load tester or capacity tester



Reading P0B28

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

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B24** Hybrid/EV Battery A Voltage Unstable · **P0B27** Hybrid/EV Battery B Voltage · **P0B29** Hybrid/EV Battery B Voltage Low

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/p0b28/>

