

GENERIC · POWERTRAIN

P2E3E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E3E

Battery Charger B Module Forced Shutdown Voltage Performance

P2E3E indicates that the battery charger control module B has commanded a forced shutdown because the voltage it monitors exceeded a safe performance threshold. The powertrain control module (PCM) or hybrid control module detected that the charger's output voltage rose above the calibrated limit, triggering a protective shutdown to prevent damage to the battery or charger components.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message, often with no other noticeable symptoms.
- The high-voltage battery may not charge properly, leading to reduced electric-only range in hybrid vehicles.
- A warning message on the dash indicating a charging system fault or high-voltage battery issue.
- Possible reduction in vehicle power or entry into limp mode if the fault affects the hybrid system.
- In some cases, the vehicle may fail to start or run if the battery charger is integral to the starting system.

Common causes, most likely first

- 1 Faulty voltage sensing circuitry within the battery charger module B, causing it to read a higher voltage than actual.
- 2 A software glitch or corrupted calibration in the charger control module, leading to false shutdown commands.
- 3 High resistance or corrosion in the voltage sense wiring between the charger and the battery, skewing voltage readings.
- 4 An actual overvoltage condition from the charging system, such as a malfunctioning DC-DC converter or alternator.
- 5 A failing battery charger module B due to internal component degradation, such as a faulty voltage regulator.
- 6 Poor electrical connections at the charger module ground or power terminals, causing intermittent voltage spikes.
- 7 A malfunctioning battery pack that is not accepting charge properly, causing the charger to overshoot voltage.



How to diagnose and fix it

- 1 Inspect and clean all battery charger module B electrical connections, including grounds and voltage sense wires, for corrosion or looseness.
- 2 Use a diagnostic scan tool to retrieve freeze frame data and check for related codes in other modules to understand the conditions when the fault set.
- 3 Perform a voltage drop test on the charging circuit wiring to identify excessive resistance that could cause voltage misreads.
- 4 Check for technical service bulletins (TSBs) or software updates for the battery charger module that address forced shutdown issues.
- 5 Measure the actual charging voltage with a multimeter at the battery terminals and compare it to the voltage reported by the charger module to verify accuracy.
- 6 If the voltage sensing circuit is faulty, replace the battery charger module B and reprogram it as required.
- 7 After repairs, clear the codes and perform a road test to verify the charging system operates within specifications and the code does not return.

When the charger shuts down unexpectedly

- A common oversight is assuming the charger module is defective when the real problem is a poor ground connection causing voltage spikes that the module interprets as overvoltage.
- The code can be set by a momentary voltage spike during engine start or load dump, so checking for intermittent faults in the wiring is essential before replacing parts.
- On some vehicles, a weak or aging 12-volt auxiliary battery can cause erratic module behavior and set this code, even though the fault appears to be in the high-voltage charger.
- The forced shutdown is a protective strategy; clearing the code without addressing the root cause may lead to repeated shutdowns and potential damage to the high-voltage battery.
- Scan tool data may show the charger module reporting a higher voltage than actual at the battery, which points to a sensing error rather than a true overvoltage condition.

Can I keep driving with P2E3E?

If the check engine light is on but the vehicle drives normally, you can continue driving cautiously, but avoid heavy electrical loads and long trips until diagnosed. If the vehicle enters limp mode or shows charging system warnings, stop driving and seek professional service to prevent damage to the high-voltage battery.

Tools that help

- OBD-II scan tool with manufacturer-specific software
- Digital multimeter with voltage and resistance measurement
- Wiring diagram and service information for the specific vehicle
- Insulation tester for high-voltage circuit checks
- Basic hand tools for electrical connector inspection



Reading P2E3E

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 3E** The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A94** DC/DC Converter A Performance · **P2E3D** Battery Charger B Output Shorted · **P2E3F** Battery Charger B Module Forced Shutdown Voltage Low

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2e3e/>

