

GENERIC · POWERTRAIN

P2E30

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E30

Battery Charger B Module Supply Voltage Low

P2E30 indicates that the powertrain control module (PCM) has detected a low supply voltage at the battery charger control module B, which is typically part of the high-voltage battery charging system on electrified vehicles. The PCM monitors the voltage feed to this module and sets the code when the signal falls below the expected threshold for a calibrated time, indicating a power supply problem rather than a charging performance issue.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Often no symptoms besides the warning light, especially if the low voltage is intermittent
- Reduced or disabled high-voltage charging, leading to longer charge times or inability to charge
- A warning message on the dash indicating a charging system fault or limited power
- Possible no-start condition if the low-voltage battery is also affected
- In some cases, the vehicle may enter a reduced power mode or fail to start

Common causes, most likely first

- 1 Blown fuse or fusible link supplying power to the battery charger control module B
- 2 Corroded, loose, or damaged wiring or connector at the module or in the supply circuit
- 3 High resistance in the power supply circuit due to chafed wires or poor grounds
- 4 Faulty battery charger control module B internal power supply
- 5 Low-voltage battery weak or failing, causing system voltage to drop under load
- 6 Charging system fault from the DC-DC converter not maintaining proper voltage
- 7 PCM or control module software error causing false detection



How to diagnose and fix it

- 1 Check for any related technical service bulletins (TSBs) or software updates for the PCM and charger module
- 2 Inspect and test the fuse and relay that supply power to the battery charger control module B
- 3 Perform a voltage drop test on the power and ground circuits at the module connector
- 4 Check the low-voltage battery state of charge and load test it; recharge or replace if weak
- 5 Inspect connectors for corrosion, tightness, and pin fit; repair or replace as needed
- 6 If all circuits test good, substitute a known-good module or follow manufacturer diagnostics to test the charger module
- 7 Clear codes and verify the repair by test-driving and monitoring live data for the supply voltage parameter

Don't overlook the low-voltage battery

- A weak or failing 12-volt battery is a common root cause because it drags down the supply voltage to the charger module during startup or high load.
- The code can set intermittently due to a loose ground connection that only acts up under vibration or temperature changes.
- A blown fuse may be a symptom of a shorted module or wiring, so replacing the fuse without finding the short often leads to a repeat failure.
- Some vehicles use a dedicated voltage supply line that passes through a junction box; corrosion inside the box is easily missed during visual inspection.
- The PCM may set this code even when the high-voltage battery charges normally, so don't assume the charger itself is faulty without testing the supply circuit.

Can I keep driving with P2E30?

If the vehicle drives normally and only the warning light is on, you can usually continue driving, but avoid relying on high-voltage charging and schedule service soon. If the vehicle fails to start or shows a reduced power message, stop driving and have it towed to avoid being stranded.

Tools that help

- Digital multimeter (DMM)
- Test light
- Fuse puller
- Battery load tester
- OBD-II scan tool with live data capability
- Wiring diagram for the specific vehicle



Reading P2E30

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

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **P2E31** Battery Charger B Module Supply Voltage High · **P2E32** Battery Charger A Module Forced Shutdown Voltage Performance · **U0111** Lost Communication With Battery Energy Control Module 'A'

See it working

Watch the animated explainer **V6 Engine Explained: 60° Bank and Firing Order** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2e30/>

