



P0D21

Battery Charger A Output Voltage Too Low

P0D21 indicates that the vehicle's battery charger system, typically the onboard charger in a plug-in hybrid or electric vehicle, has reported an output voltage that is below the expected threshold during charging. The control module monitors the charger's output and sets this code when the voltage fails to reach the commanded level within a specified time, often due to a fault in the charger, high-voltage wiring, or the battery pack itself.

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

Symptoms you may notice

- Charging indicator may show a fault or stop charging prematurely
- The vehicle may not accept a charge or charging time is significantly longer
- A warning light or message on the dash indicating a charging system problem
- Reduced electric driving range or the vehicle may default to gasoline engine operation
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Faulty onboard battery charger module
- 2 High-voltage cable or connector damage, corrosion, or loose connection
- 3 Low or failing 12-volt auxiliary battery affecting charger control electronics
- 4 Software glitch in the charger control module requiring reprogramming
- 5 High-voltage battery pack issue causing the charger to reduce output
- 6 Blown fuse or relay in the charger power circuit
- 7 Ground connection problem for the charger or high-voltage system



How to diagnose and fix it

- 1 Perform a visual inspection of the charging port, high-voltage cables, and connectors for damage or corrosion
- 2 Check the 12-volt battery state of charge and condition, as low voltage can cause false charger codes
- 3 Use a scan tool to read all stored codes and freeze-frame data, then clear the code and test-drive to see if it returns
- 4 Measure the charger's output voltage with a multimeter at the high-voltage battery terminals during charging, following manufacturer safety procedures
- 5 Check fuses and relays related to the charger circuit and replace any that are faulty
- 6 Inspect and test the high-voltage wiring for continuity and insulation resistance, repairing or replacing as needed
- 7 If all else checks out, reprogram or replace the onboard charger module according to the manufacturer's diagnostic flow

Charger voltage codes often misdiagnosed

- A weak 12-volt battery can cause the charger control module to misreport output voltage, so always load-test the auxiliary battery before condemning the charger.
- Intermittent P0D21 often stems from a poor ground connection at the charger or high-voltage junction box, which is easily overlooked during visual inspection.
- Some vehicles set this code when the charging station's voltage is unstable, so verify the external charging equipment before diagnosing the vehicle.
- The code can be stored by a software bug in the charger module; checking for and applying the latest software update is a valid first step on affected models.
- High-voltage battery degradation may cause the charger to reduce output to protect the pack, setting this code without any charger fault.

Can I keep driving with P0D21?

If the vehicle is a plug-in hybrid, it can often be driven on the gasoline engine, but avoid long trips relying on electric power. For a pure electric vehicle, driving range may be severely limited, so plan to have the fault diagnosed promptly and avoid depending on the vehicle for essential journeys.

Tools that help

- OBD-II scan tool with manufacturer-specific software
- Digital multimeter with high-voltage rating
- Insulation resistance tester
- Battery load tester
- Safety gloves and insulated tools for high-voltage work



Reading P0D21

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AA6** Hybrid/EV Battery Voltage System Isolation Fault
 · **P0D20** Battery Charger A Output Voltage Performance · **P0D22** Battery Charger A Output Current Performance · **P0D23** Battery Charger A Output Shorted

See it working

Watch the animated explainer [How a Padlock Works: Pin Tumbler Lock in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0d21/>

