

GENERIC · POWERTRAIN

P2EB4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2EB4

Hybrid/EV Battery Inductive Charger High Voltage Interlock Circuit/Open

P2EB4 indicates that the vehicle's computer has detected an open or fault in the high-voltage interlock loop circuit specifically for the inductive charger system on a hybrid or electric vehicle. The interlock is a low-voltage safety circuit that runs through the charger's high-voltage connectors and covers; when the circuit is broken, the computer sets this code and typically disables high-voltage charging to prevent shock hazards.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- The high-voltage battery may not accept a charge when the vehicle is plugged in, leaving the state of charge unchanged.
- A red or yellow high-voltage warning light illuminates on the dashboard, often accompanied by a message to service the charging system.
- The vehicle may refuse to start or enter 'ready' mode because the high-voltage system is disabled.
- The inductive charger may make no sound or fail to initiate the charging session, with the charge port indicator remaining off.
- In some cases, the only symptom is the warning light, and the vehicle continues to drive normally on stored battery power.
- If the fault is intermittent, charging may work sporadically or stop unexpectedly mid-session.



Common causes, most likely first

- 1 A damaged or disconnected high-voltage interlock connector at the inductive charger, often due to corrosion, loose pins, or a partially unseated plug.
- 2 A faulty charger cover or service disconnect switch that does not fully close the interlock loop, such as a broken latch or misaligned actuator.
- 3 Broken or chafed interlock wiring harness between the charger and the battery management system, sometimes caused by rodent damage or vibration.
- 4 A failed inductive charger assembly internal interlock circuit, where the low-voltage loop inside the charger has an open trace or failed connector.
- 5 Water intrusion into the charger connector or housing, leading to corrosion and an open circuit in the interlock pins.
- 6 A software glitch in the charger control module or battery energy control module that incorrectly reports an open interlock.
- 7 A poor ground connection for the interlock circuit, causing the computer to see an open when the loop is actually intact.

How to diagnose and fix it

- 1 Inspect the inductive charger connectors and covers for proper seating, corrosion, or damage, and reseal any loose connectors after cleaning the pins.
- 2 Check the interlock loop continuity with a multimeter at the charger connector and compare to the service information for expected resistance.
- 3 Verify the charger cover switch or service disconnect is fully engaged and that its internal switch closes the loop when latched.
- 4 Inspect the interlock wiring harness for chafing, rodent damage, or loose pins, and repair any damaged sections with proper high-voltage-rated wire and terminals.
- 5 Clear the code and perform a charging system test to see if the fault returns; if it does, follow the manufacturer's diagnostic flow for the interlock circuit.
- 6 If the interlock circuit is intact up to the charger, test the charger assembly's internal interlock continuity and replace the charger if it is open internally.
- 7 After repair, clear codes and verify that charging initiates and that no high-voltage warnings remain after a complete charge cycle.



Interlock faults that mimic charger failure

- A common misdiagnosis is to replace the entire inductive charger when the real problem is a corroded interlock pin in the connector, which costs far less to repair.
- The interlock circuit is a low-voltage safety loop, so a break anywhere in the loop, including at the battery pack service disconnect, can set this code even if the charger itself is fine.
- Some vehicles set P2EB4 after a low 12-volt battery or a jump start because the modules log a false interlock open during voltage spikes; clearing the code after restoring stable voltage often resolves it.
- Aftermarket charging accessories or improper previous repairs that bypass the interlock can trigger this code, so check for non-factory wiring near the charge port.
- The code does not always mean the high-voltage system is unsafe to touch; it means the computer cannot verify the safety loop is closed, so follow proper high-voltage safety procedures before probing any orange cables.

Can I keep driving with P2EB4?

Do not continue driving or charging if the high-voltage warning is active, because the vehicle may disable the high-voltage system and leave you stranded, and an open interlock can indicate a potential shock hazard. Have the vehicle inspected by a qualified high-voltage technician before attempting further use.

Tools that help

- Digital multimeter with low-voltage and continuity modes
- Manufacturer-specific scan tool capable of reading hybrid/EV codes and data
- High-voltage safety gloves and insulated tools
- Service information with interlock circuit diagrams and resistance specifications
- Terminal pick and contact cleaner for connector inspection

Reading P2EB4

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
E	Hybrid propulsion.
B4	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 · **P0C76** Hybrid/EV Battery System Discharge Time Too Long · **P2EB5** Hybrid/EV Battery Inductive Charger Input 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/p2eb4/>

