

GENERIC · POWERTRAIN

P2D64

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D64

Battery Charging System Negative Contactor C Stuck Open

The battery charging system negative contactor is a high-current relay that connects the battery's negative terminal to the vehicle's charging and power distribution circuits, and P2D64 means the control module has detected that this contactor's internal switch is stuck in the open position. The module commands the contactor closed but sees no corresponding drop in resistance or rise in voltage on the load side, so it flags the circuit as permanently open.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- The charging system warning light or a dedicated battery contactor fault light illuminates on the dashboard.
- The engine may crank slowly or fail to start because the battery is not being charged or is isolated from the vehicle's electrical loads.
- Electrical accessories such as lights, infotainment, and power windows may dim or operate erratically while the engine is running.
- The vehicle may enter a reduced-power or limp mode that limits electrical load to protect the battery.
- Often no symptoms besides the warning light, especially if the contactor is only intermittently stuck open and the vehicle still starts normally.

Common causes, most likely first

- 1 A failed negative contactor assembly with welded or corroded internal contacts that cannot close.
- 2 A broken or corroded control wire between the battery control module and the contactor coil.
- 3 A faulty battery control module that is not sending the close command or is misreading the contactor feedback signal.
- 4 High resistance in the contactor's ground circuit or in the main negative battery cable connections.
- 5 A weak or failing 12-volt battery that causes the control module to disable the contactor as a protection strategy.
- 6 Water intrusion or physical damage to the contactor connector or housing, leading to an open coil circuit.



How to diagnose and fix it

- 1 Perform a full battery test with a conductance tester and verify the 12-volt battery is fully charged and in good condition before condemning any contactor.
- 2 Clear the code and road-test the vehicle while monitoring live data for the negative contactor command and feedback status to see whether the fault is intermittent or hard.
- 3 Inspect the contactor connector, terminals, and the main negative cable for corrosion, looseness, or water intrusion, and repair any damaged wiring.
- 4 Measure resistance across the contactor coil and compare it to the manufacturer's specification to confirm the coil is intact.
- 5 Back-probe the control module connector and check for the command voltage and a good ground at the contactor coil while commanding the contactor on with a scan tool.
- 6 If the command and ground are present but the contactor does not close, replace the negative contactor assembly and retest the charging system.
- 7 If the contactor closes but the module still reports stuck open, diagnose the feedback circuit and the battery control module before replacing parts.

What a stuck-open contactor really means

- A stuck-open negative contactor often mimics a failed alternator, so technicians who replace the alternator first are chasing the wrong component and the code returns immediately.
- The contactor can test fine on a bench but fail under load because the contacts arc and pit internally, so a simple resistance check at the coil does not prove the main contacts are good.
- A weak or deeply discharged 12-volt battery is a common root cause because the control module may refuse to close the contactor to protect the system, setting P2D64 without any contactor defect at all.
- Corrosion inside the contactor housing from road splash or a missing underbody shield is frequently overlooked and causes intermittent open-circuit faults that only appear in wet weather.
- This code does not always mean the contactor itself has failed, because a poor ground at the battery control module or a chafed command wire can produce the same stuck-open report.

Can I keep driving with P2D64?

Do not continue driving normally because a stuck-open negative contactor can leave the battery disconnected from the charging system, leading to a sudden loss of electrical power and a no-start or stall. Limit driving to moving the vehicle to a safe location or a repair shop, and avoid relying on the vehicle for long trips until the fault is repaired.



Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with resistance and voltage measurement
- Battery conductance tester
- Factory service information for the specific vehicle's contactor control strategy
- Insulated hand tools and terminal pick set

Reading P2D64

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

Often seen with

P0562 System Voltage Low · **P0A0D** High Voltage System Interlock Circuit A High · **P0AFA** Hybrid/EV Battery System Voltage Low · **P2D63** Battery Charging System Negative Contactor C Stuck Closed · **P2D65** Battery Charging System Negative Contactor C Control Circuit

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/p2d64/>

