

GENERIC · POWERTRAIN

P2D6F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D6F

Battery Charging System Positive Contactor D Control Circuit High

The battery charging system uses a high-voltage positive contactor to connect and disconnect the traction battery from the charging circuit, and this code sets when the control circuit for that contactor is detected as having an abnormally high voltage, indicating an open circuit or a short to voltage. The computer expects a specific voltage range on the control wire and flags the fault when the signal stays above the upper threshold.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or a dedicated charging system warning light
- The vehicle may refuse to enter a charging session or abort charging immediately
- Loss of high-voltage charging capability, leaving the vehicle reliant on its existing battery charge
- In some cases, the vehicle may not start or may enter a reduced power mode
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Open circuit in the contactor control wire, such as a broken wire or disconnected connector
- 2 Corroded or damaged pins in the contactor control circuit connector
- 3 Failed positive contactor coil or internal contactor assembly
- 4 Faulty battery management system or control module driver for the contactor circuit
- 5 Short to voltage on the control circuit from chafed wiring or a faulty component
- 6 Poor ground connection for the contactor or control module



How to diagnose and fix it

- 1 Connect a scan tool and record all stored codes and freeze-frame data to confirm P2D6F is current and not history
- 2 Visually inspect the contactor control circuit wiring and connectors for damage, corrosion, or loose pins
- 3 Measure resistance of the contactor coil and compare to the manufacturer's specification
- 4 Check for an open circuit or short to voltage on the control wire between the control module and the contactor
- 5 Verify the control module is commanding the contactor on and that the voltage signal at the contactor matches the command
- 6 If the circuit and coil test good, substitute a known-good contactor or control module to isolate the fault
- 7 Clear codes and perform a charging system test to confirm the repair

When the contactor circuit tests fine

- A high voltage on the control circuit often means the control module is not providing a ground path, which can be caused by a failed driver inside the module rather than a wiring fault.
Intermittent faults can be caused by vibration or temperature changes affecting a marginal connector, so wiggle-testing the harness while monitoring live data is essential.
 - Some vehicles set this code if the contactor coil is disconnected while the system is powered up, so always disable the high-voltage system properly before testing.
 - The code can be set by a low battery in the 12-volt system causing the control module to behave erratically, so check the 12-volt battery and charging system first.
- Do not overlook the ground circuit for the contactor or control module; a poor ground can cause a high voltage reading on the control wire.

Can I keep driving with P2D6F?

Do not continue driving if the vehicle warns of a high-voltage charging system fault, as this can lead to a loss of power or a no-start condition. Have the vehicle towed to a qualified technician if it will not start or if the warning light is accompanied by reduced power.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Insulation tester (megohmmeter) for high-voltage circuits
- Hand tools for connector and component access



Reading P2D6F

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- 6F** 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
· **P2D6E** Battery Charging System Positive Contactor D Control Circuit · **P2D70** Battery Charging System Negative Contactor D Circuit

See it working

Watch the animated explainer [How an Oxygen Sensor Works: Live 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d6f/>

