

GENERIC · POWERTRAIN

P2D61

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D61

Battery Charging System Positive Contactor C Control Circuit High

P2D61 indicates that the powertrain control module has detected a high voltage condition on the control circuit for the positive contactor of the battery charging system. This means the control wire is seeing voltage above the expected range, which can prevent the contactor from closing and disrupt charging system operation.

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

Symptoms you may notice

- Illumination of the battery warning light or charging system malfunction indicator on the dashboard.
- The vehicle may fail to start or experience a no-crank condition if the contactor does not close.
- Reduced or absent charging system output, leading to a discharged battery over time.
- Often no symptoms besides the warning light, especially if the fault is intermittent or only affects control circuit monitoring.
- Possible electrical accessories malfunctioning or dimming lights if system voltage drops.
- In some cases, the vehicle may enter a reduced power mode or set related codes.

Common causes, most likely first

- 1 A short to voltage on the control circuit wiring between the PCM and the positive contactor, often due to chafed insulation or pinched wires.
- 2 A faulty positive contactor relay or solenoid coil with an internal short to power.
- 3 Corrosion or water intrusion in the contactor connector or PCM connector causing unintended voltage feedback.
- 4 A failed powertrain control module driver circuit holding the control line high.
- 5 Aftermarket accessories or improper wiring repairs tapping into the control circuit and introducing voltage.
- 6 A poor ground connection for the contactor or PCM, causing reference voltage shifts.



How to diagnose and fix it

- 1 Inspect the control circuit wiring for visible damage, chafing, or signs of shorting to nearby power wires, and repair as needed.
- 2 Disconnect the contactor and measure voltage on the control circuit at the contactor connector with the key on; compare to specification to confirm the high-voltage condition.
- 3 Check the contactor coil resistance and compare to the manufacturer's specification to rule out an internally shorted coil.
- 4 Inspect and clean the contactor and PCM connectors for corrosion, water intrusion, or loose terminals, and apply dielectric grease if recommended.
- 5 Perform a voltage drop test on the control circuit and grounds to identify excessive resistance or unintended voltage sources.
- 6 If the circuit and contactor test good, use a scan tool to command the contactor on and off while monitoring control circuit voltage to isolate a PCM driver fault.
- 7 Replace the positive contactor or the PCM only after all wiring and connector tests confirm the fault is internal to the component.

Hidden causes of a high control circuit code

- A shorted contactor coil can back-feed voltage onto the control circuit even when the PCM is not commanding it on, mimicking a wiring short.
- Water intrusion into the contactor connector is a common cause on vehicles with underhood fuse boxes or battery trays that collect debris and moisture.
- Aftermarket alarm or remote start installations often tap into charging system control wires and can introduce unintended voltage, so always check for non-factory wiring.
- The code can set intermittently due to a loose ground that shifts reference voltage, so a wiggle test of harnesses and grounds is essential before replacing parts.
- A high control circuit code does not always mean the contactor itself has failed; the PCM driver or a shorted wire is just as likely, so follow the diagnostic flow rather than guessing.

Can I keep driving with P2D61?

If the warning light is on and the charging system is not operating, the vehicle may stall or fail to restart once the battery drains, so limit driving to a short distance to a safe location or repair shop. Avoid long trips and heavy electrical loads until the fault is diagnosed and repaired.



Tools that help

- Digital multimeter with voltage and resistance measurement
- Scan tool with bidirectional control capability
- Wiring diagram for the specific vehicle
- Test light or logic probe
- Dielectric grease and electrical contact cleaner

Reading P2D61

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

Often seen with

P0560 System Voltage Malfunction · **P0A0D** High Voltage System Interlock Circuit A High · **P0A0E** High Voltage System Interlock Circuit A Intermittent · **P2D60** Battery Charging System Positive Contactor C Control Circuit · **P2D62** Battery Charging System Negative Contactor C Circuit

See it working

Watch the animated explainer [How Push-Button Start Works: Keyless Ignition](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d61/>

