

GENERIC · POWERTRAIN

P2D5E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D5E

Battery Charging System Positive Contactor C Control Circuit/Open

P2D5E indicates that the battery charging system's positive contactor control circuit for the C contactor is open, meaning the powertrain control module (PCM) has detected an interruption in the electrical path that commands the contactor to close. The PCM expects a complete circuit when activating the contactor, but the open circuit prevents current flow, so the contactor cannot be energized.

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

Symptoms you may notice

- Illumination of the battery warning light or service vehicle soon message on the dashboard.
- The vehicle may fail to start or enter a ready-to-drive state because the high-voltage battery contactor does not close.
- Reduced or absent charging system performance, leading to a low 12-volt battery over time.
- Inability to charge the high-voltage battery in plug-in or electric vehicles.
- Often no symptoms besides the warning light if the fault is intermittent or only affects a redundant circuit.

Common causes, most likely first

- 1 Broken or chafed wire in the contactor control circuit, especially near connectors or harness bends.
- 2 Corroded or loose electrical connector at the contactor or PCM, causing high resistance or an open circuit.
- 3 Failed positive contactor coil (open winding) inside the battery pack or power distribution unit.
- 4 Faulty PCM driver circuit that cannot supply the control signal to the contactor.
- 5 Blown fuse or open relay that supplies power to the contactor control circuit.
- 6 Damage to the wiring harness from rodent activity, road debris, or improper previous repairs.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in other modules before proceeding.
- 2 Inspect the contactor control circuit wiring and connectors for visible damage, corrosion, or looseness.
- 3 Measure resistance across the contactor coil to confirm it is within specification and not open.
- 4 Check for power and ground signals at the contactor connector while commanding the contactor on with a scan tool.
- 5 Test the control circuit from the PCM to the contactor for continuity and short-to-ground or short-to-power faults.
- 6 If the circuit and coil test good, suspect the PCM and perform pinpoint tests according to the manufacturer's service information.
- 7 Repair or replace the faulty wiring, connector, contactor, or PCM as needed, then clear codes and verify the repair.

Contactor Circuit Checks Before Parts Replacement

- A common oversight is assuming the contactor itself has failed when the actual problem is a corroded connector pin that creates an open circuit under load.
- The code can set intermittently due to vibration or temperature changes, so a wiggle test of the harness while monitoring live data often reveals the fault.
- On some vehicles, the positive contactor control circuit is shared with other functions, so a fault in a seemingly unrelated system can trigger this code.
- The PCM may set this code even if the contactor is mechanically stuck closed, because the control circuit open is detected before the contactor is commanded to close.
- Always check for technical service bulletins (TSBs) for the specific vehicle, as some models have known harness routing issues that cause this code.

Can I keep driving with P2D5E?

Do not continue driving with this code active, as the high-voltage battery may be disconnected and the vehicle could lose power unexpectedly. Have the vehicle towed to a qualified repair facility for diagnosis and repair.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with resistance and continuity functions
- Wiring diagram and service information for the specific vehicle
- Test light or logic probe for circuit testing
- Insulation piercing probes or back probe pins
- Torque wrench and basic hand tools for connector and component access



Reading P2D5E

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- 5E** The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A0E** High Voltage System Interlock Circuit A Intermittent · **P0A1F** Battery Energy Control Module A Performance · **P2D5D** Battery Charging System Positive Contactor C Stuck Open · **P2D5F** Battery Charging System Positive Contactor C Control Circuit

See it working

Watch the animated explainer [Disc Brake Trainer: How Car Brakes Stop a Wheel](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d5e/>

