

GENERIC · POWERTRAIN

P2D73

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D73

Battery Charging System Negative Contactor D Control Circuit/Open

P2D73 indicates that the powertrain control module has detected an open circuit or control fault in the negative contactor circuit of the battery charging system. The negative contactor is a high-current relay that connects or disconnects the battery's negative terminal from the charging system, and the PCM monitors its control wire for expected voltage changes when commanding the contactor on or off.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

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 experience a completely dead electrical system if the contactor remains open
- Intermittent charging system failure, with the battery not receiving charge while the engine runs
- Electrical accessories may flicker or operate erratically due to unstable ground connection
- Often no symptoms besides the warning light, especially if the fault is in the control circuit only and the contactor still closes

Common causes, most likely first

- 1 Open or damaged control wire between the PCM and the negative contactor coil
- 2 Corroded or loose electrical connector at the negative contactor or PCM
- 3 Failed negative contactor coil (open winding) preventing the relay from energizing
- 4 Blown fuse or fusible link supplying power to the contactor control circuit
- 5 PCM internal driver failure for the contactor control output
- 6 High resistance in the ground circuit for the contactor coil
- 7 Aftermarket alarm or remote start installation tapping into the contactor control wiring



How to diagnose and fix it

- 1 Verify the stored code and check for any related charging system codes using a scan tool
- 2 Inspect the negative contactor and its connectors for corrosion, looseness, or physical damage
- 3 Check the fuse or fusible link that powers the contactor control circuit and replace if blown
- 4 Measure resistance across the contactor coil to confirm it is within specification and not open
- 5 Back-probe the control wire at the PCM and command the contactor on with a scan tool to verify voltage changes
- 6 Perform a voltage drop test on the ground circuit for the contactor coil to rule out high resistance
- 7 If all circuits test good, substitute a known-good contactor or test the PCM driver with a noid light before replacing the PCM

What the negative contactor code really means

- A P2D73 can be set by a simple loose ground bolt on the contactor mounting bracket, which many technicians overlook while chasing wiring harness faults.
The code does not always mean the contactor itself has failed; the control circuit open is more common than a defective relay, so test the wire before replacing parts.
- Aftermarket accessories wired into the negative contactor control circuit can introduce intermittent opens that only appear when the accessory is active.
- Some vehicles use a smart charging system where the negative contactor is pulse-width modulated, and a scope is needed to see the control signal rather than a simple voltmeter.
A weak or failing battery can cause the PCM to set this code if system voltage drops during contactor command, so always load-test the battery first.

Can I keep driving with P2D73?

If the warning light is on but the vehicle starts and runs normally, you can drive cautiously to a repair shop, but avoid long trips and heavy electrical loads. If the engine cranks slowly, the battery light is accompanied by dimming lights, or the vehicle fails to start, stop driving and have it towed to prevent being stranded.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Test light or noid light
- Wire piercing probes or back-probe kit
- Service information for wiring diagrams and connector pinouts



Reading P2D73

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

Often seen with

P0560 System Voltage Malfunction · **P0562** System Voltage Low · **P0563** System Voltage High · **P2D72** Battery Charging System Negative Contactor D Stuck Open · **P2D74** Battery Charging System Negative Contactor D Control Circuit

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d73/>

