

GENERIC · POWERTRAIN

P0D64

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0D64

Hybrid/EV Battery Pack Cooling Fan Enable Circuit/Open

P0D64 indicates that the hybrid or electric vehicle battery pack cooling fan enable circuit is open, meaning the battery energy control module has commanded the fan on but detected no continuity or incorrect voltage on the enable circuit. The computer monitors the control line for expected voltage changes when the fan is activated and flags this code when the circuit remains open or out of range.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Often no symptoms besides the warning light, especially in mild weather
- Reduced hybrid/EV performance or power limiting due to battery temperature management
- Active cooling fan may not run at all, leading to battery overheating in hot conditions
- Possible warning message about battery temperature or hybrid system fault
- In some cases, the vehicle may enter a reduced power mode or fail to start

Common causes, most likely first

- 1 Open or damaged wiring in the cooling fan enable circuit, such as a broken wire or corroded connector
- 2 Failed cooling fan assembly, including an open internal thermal fuse or motor winding
- 3 Faulty battery pack cooling fan relay or control module output driver
- 4 Poor electrical connection at the fan connector or battery energy control module harness
- 5 Blown fuse or fusible link supplying power to the fan enable circuit
- 6 Water intrusion or corrosion in the fan connector or wiring harness
- 7 Rarely, a software fault in the battery energy control module requiring reprogramming



How to diagnose and fix it

- 1 Perform a visual inspection of the cooling fan, its connector, and the wiring harness for damage, corrosion, or loose pins
- 2 Check all fuses and relays related to the battery cooling fan circuit and replace any that are blown or faulty
- 3 Use a scan tool to command the cooling fan on and verify whether it activates, listening for fan operation and checking for voltage at the fan connector
- 4 Measure resistance and continuity of the enable circuit from the battery energy control module to the fan connector to locate an open circuit
- 5 Test the cooling fan motor directly by applying power and ground to confirm whether the fan itself is functional
- 6 If the circuit and fan are good, check for voltage output from the battery energy control module on the enable circuit; if absent, diagnose the module or its programming
- 7 Repair or replace any damaged wiring, connectors, or components found during testing, then clear the code and verify the fan operates correctly

What a P0D64 code really tells you

- A common oversight is assuming the fan motor is bad when the actual problem is a corroded connector or chafed wire in the enable circuit, so always perform a voltage drop test under load.
- The code can set intermittently due to a loose ground connection for the fan or battery pack, which may not show up during a simple continuity check.
- Some vehicles use a pulse-width modulated (PWM) signal to control fan speed, and a failed driver in the control module can mimic an open circuit; scope testing the signal is often necessary.
- A battery cooling fan that never runs may not immediately cause drivability issues, but prolonged operation without cooling can accelerate battery degradation and lead to more severe faults.
- After repairs, the code may require several drive cycles or a specific relearn procedure to clear, so do not assume the fix failed if the light stays on briefly.

Can I keep driving with P0D64?

It is generally safe to drive with this code as long as the battery temperature remains normal, but avoid heavy acceleration, prolonged driving in hot weather, or fast charging until the fault is repaired. If the vehicle displays a battery overheating warning or enters reduced power mode, stop and seek service immediately.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter with voltage, resistance, and continuity functions
- Wiring diagram for the specific vehicle
- Test light or power probe
- Socket set and trim removal tools for accessing the fan and connectors



Reading P0D64

- P** Powertrain: engine, transmission and emissions.
- 0** 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

P0A0D High Voltage System Interlock Circuit A High · **P0A93** Inverter A Cooling System Performance · **P0D65** Hybrid/EV Battery Pack Cooling Fan Enable Circuit Low · **P0D66** Hybrid/EV Battery Pack Cooling Fan Enable Circuit High · **P0D67** Battery Charger Control Module A Performance

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0d64/>

