

GENERIC · POWERTRAIN

P0D66

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0D66

Hybrid/EV Battery Pack Cooling Fan Enable Circuit High

P0D66 indicates that the hybrid or electric vehicle battery pack cooling fan enable circuit is reading a voltage higher than expected, which the control module interprets as an open circuit or a short to voltage. The computer commands the fan on by supplying a ground or a low-voltage signal, but the feedback on the enable circuit stays high, so the fan never receives the command to run.

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 with no other symptoms
- Reduced hybrid battery charging or discharging performance, leading to lower fuel economy
- The battery cooling fan may run continuously at full speed or not run at all
- A warning message on the dashboard indicating a hybrid system fault or reduced power
- Overheating of the high-voltage battery pack in severe cases, which may trigger additional codes
- The vehicle may enter a fail-safe mode that limits engine power or disables electric-only operation

Common causes, most likely first

- 1 A broken or corroded wire in the cooling fan enable circuit, often at a connector or where the harness bends
- 2 A faulty cooling fan assembly with an internal open circuit in the enable winding or control module
- 3 A short to voltage on the enable circuit caused by chafed insulation touching a power wire
- 4 A failed battery pack cooling fan control module or relay that keeps the enable line at battery voltage
- 5 Corrosion or water intrusion in the connector at the fan or the control module, leading to high resistance
- 6 A poor ground connection for the fan or control module, which can cause the enable circuit to float high
- 7 A software glitch or internal fault in the hybrid battery energy control module that misreads the enable circuit



How to diagnose and fix it

- 1 Connect a scan tool and record all stored codes, then clear the codes and test-drive to see if P0D66 returns immediately or only under certain conditions
- 2 Visually inspect the cooling fan enable circuit wiring and connectors for damage, corrosion, or loose pins, especially near the fan and the control module
- 3 Use a digital multimeter to measure voltage on the enable circuit at the fan connector with the key on and the fan commanded on; compare to the manufacturer's specification
- 4 Check the resistance of the fan enable circuit from the control module to the fan connector to detect an open or high resistance
- 5 Test the cooling fan assembly by applying power and ground directly to the fan motor to confirm it operates, and check the enable circuit resistance if accessible
- 6 Inspect and test the cooling fan control module or relay, if equipped, for proper operation and replace if faulty
- 7 If all external circuits and components test good, consult the factory service information for pinpoint tests of the hybrid battery energy control module and reprogram or replace it as needed

Why the fan enable circuit reads high

- A common mistake is to replace the cooling fan assembly when the real problem is a chafed wire in the enable circuit that shorts to a nearby power wire only when the engine moves under load.
- The enable circuit is often a low-current signal wire, so a high resistance connection that would not affect a power circuit can still cause this code by preventing the control module from pulling the line low.
- Some vehicles use a pulse-width modulated signal on the enable circuit, and a standard multimeter may show an average voltage that looks normal even when the signal is distorted; an oscilloscope is needed for accurate diagnosis.
- This code can be set by a weak or failing 12-volt auxiliary battery if the hybrid control module misinterprets voltage spikes during cranking, so always check battery health and charging system first.
- A cooling fan that runs continuously after the vehicle is shut off can indicate a short to voltage in the enable circuit, which may drain the battery and set P0D66 along with other codes.

Can I keep driving with P0D66?

You can usually drive the vehicle short distances at moderate speeds, but avoid heavy acceleration, long uphill climbs, or sustained high-speed driving that would demand maximum battery cooling. If the hybrid system warning or reduced power message appears, pull over safely and arrange a professional diagnosis to prevent battery damage.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope for signal analysis
- Wire piercing probes and jumper wires
- Factory service information or wiring diagrams
- Basic hand tools for connector and panel removal

Reading P0D66

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

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **P0AC4** Hybrid/EV Powertrain Control Module Requested MIL Illuminates · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0D65** Hybrid/EV Battery Pack Cooling Fan Enable Circuit Low · **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/p0d66/>

