

GENERIC · POWERTRAIN

**P0EF0**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P0EF0

# Drive Motor A Control Module Overtemperature

P0EF0 indicates that the control module responsible for drive motor A has detected an internal or external condition causing its temperature to exceed a safe limit. The module continuously monitors its own thermal state and sets this code when the calculated temperature surpasses a calibrated threshold, typically to protect the power electronics from heat damage.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

## Symptoms you may notice

- Illumination of the check engine light or a dedicated hybrid/electric system warning lamp
- Reduced power output or a limp-home mode that limits vehicle speed and acceleration
- The vehicle may refuse to start or shift into drive if the module remains overheated
- In rare cases, a burning smell or visible coolant loss if the overheating is caused by a failed cooling circuit
- Often no symptoms besides the warning light, especially if the overheat event was brief and has since resolved

## Common causes, most likely first

- 1 Low or contaminated coolant in the drive motor control module's dedicated cooling loop
- 2 A failed coolant pump that circulates fluid through the module's heat sink
- 3 A restricted or blocked coolant passage inside the control module or its external radiator
- 4 A faulty temperature sensor internal to the control module that reports falsely high readings
- 5 Software calibration issues in the control module that misjudge thermal load under certain driving conditions
- 6 High ambient temperatures combined with sustained heavy load, such as prolonged uphill driving or towing
- 7 Internal component degradation in the control module's power stage that increases heat generation



## How to diagnose and fix it

- 1 Use a scan tool to retrieve the freeze-frame data and verify the actual module temperature reading against ambient conditions
- 2 Inspect the coolant level and condition in the drive motor control module's cooling circuit, topping up or flushing as needed
- 3 Test the coolant pump operation by commanding it on with a bidirectional scan tool and listening for pump activity
- 4 Check for coolant flow through the module by feeling inlet and outlet hoses for a temperature differential after the pump runs
- 5 Perform a visual inspection of the module's cooling fins and external radiator for debris, blockage, or damage
- 6 If the temperature sensor is serviceable, compare its resistance to specifications and replace if out of range
- 7 Re-flash or update the control module software if a known calibration issue exists, then clear the code and road-test

## Cooling system faults often mimic module failure

- A significant number of P0EF0 cases are caused by a simple coolant leak or a weak pump rather than a failed control module, so always pressure-test the cooling loop before condemning the electronics.
- The code can set intermittently from a one-time overheat event and may not return after clearing if the root cause was a temporary blockage or low coolant that has since been corrected.
- Some vehicles use the same coolant circuit for the drive motor and the control module, so a fault in the motor cooling path can trigger this code even when the module itself is healthy.
- Technicians sometimes replace the control module only to find the new unit also overheats, because the external radiator fan or pump relay was the real culprit all along.
- Freeze-frame data showing a temperature spike under high load but normal readings at idle points toward a flow restriction rather than a sensor or module defect.

## Can I keep driving with P0EF0?

Do not continue driving with this code active, because repeated overheating can permanently damage the drive motor control module and leave the vehicle in a no-start or limp condition. Have the vehicle towed to a qualified service facility if the warning lamp is accompanied by reduced power or a burning smell.

## Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Infrared thermometer for checking coolant hose temperatures
- Cooling system pressure tester
- Digital multimeter for sensor and circuit checks
- Factory service information for cooling system bleed procedures



## Reading P0EF0

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- F0** The exact fault within that area.

## Often seen with

**P0A3F** Drive Motor A Position Sensor Circuit · **P0A78** Drive Motor A Inverter Performance · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P0EF1** Battery Charger Coupler Unlock Disabled · **P0EF2** Drive Motor C Temperature Sensor Circuit

## See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0ef0/>

