

GENERIC · POWERTRAIN

P0EF5

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0EF5

Drive Motor C Temperature Sensor Circuit High

P0EF5 indicates that the powertrain control module has detected an abnormally high voltage signal from the temperature sensor monitoring drive motor C, which is typically the rear traction motor in a multi-motor electric or hybrid vehicle. The sensor circuit is expected to produce a voltage within a calibrated range, and a high reading usually points to an open circuit, a poor connection, or a sensor that has failed in a way that drives the signal voltage up.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message, often with no other noticeable symptoms
- Reduced power or a limp-home mode if the control module derates the drive motor to protect it from perceived overheating
- A warning message on the instrument cluster indicating a drive motor temperature fault or high temperature
- Intermittent loss of propulsion or a sudden drop in available power during acceleration
- Possible activation of the cooling fan at high speed or continuous operation as the module tries to cool the motor
- In rare cases, the vehicle may refuse to start or shift into gear if the fault is treated as critical

Common causes, most likely first

- 1 A faulty drive motor C temperature sensor that has drifted or failed internally, producing a high resistance or open signal
- 2 Damaged or corroded wiring and connector terminals between the sensor and the control module, causing an open circuit
- 3 A poor ground connection at the sensor or at the control module, which can skew the voltage reading high
- 4 Moisture intrusion into the sensor connector or harness, leading to corrosion and increased resistance
- 5 A failed control module internal pull-up resistor or signal conditioning circuit, though this is less common
- 6 Aftermarket or improper repairs that have pinched or routed the sensor harness incorrectly, causing an intermittent open



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data for P0EF5, then clear the code and verify whether it returns immediately or only after a specific driving condition.
- 2 Visually inspect the drive motor C temperature sensor, its connector, and the harness routing for signs of damage, corrosion, or moisture intrusion.
- 3 Measure the sensor resistance with a multimeter at the sensor connector and compare it to the manufacturer's temperature-resistance chart for the current ambient temperature.
- 4 Back-probe the sensor signal circuit at the control module connector and check for a voltage that is higher than the expected range, which confirms an open circuit or high-resistance path.
- 5 Perform a voltage drop test on the sensor ground circuit and the signal circuit while wiggling the harness to expose intermittent faults.
- 6 If the wiring and connectors test good, replace the drive motor C temperature sensor with a quality part and clear the code to see if it resolves.
- 7 If the code persists after sensor replacement, diagnose the control module and its internal signal circuit, following the manufacturer's pinpoint tests before condemning the module.

High voltage does not always mean a bad sensor

- A high voltage reading on a temperature sensor circuit is most often caused by an open circuit or a disconnected connector rather than a sensor that has failed outright, so inspect connectors before replacing parts.
- The drive motor C temperature sensor is often integrated into the motor stator or a harness assembly, and on some vehicles the sensor is not serviceable separately, which changes the repair approach significantly.
- Intermittent high voltage codes can be caused by a harness that rubs against a motor mount or chassis point during acceleration and deceleration, so a wiggle test while monitoring live data is essential.
- A weak or corroded ground connection at the motor housing can cause the sensor signal to float high, and this is frequently overlooked because the ground is shared with other components.
- This code can be set by a low coolant level or a cooling system fault that causes the motor to actually overheat, so always check the motor cooling system before condemning the sensor circuit.

Can I keep driving with P0EF5?

You can usually continue driving if the only symptom is the warning light and the vehicle has full power, but avoid heavy acceleration or long uphill grades until the fault is repaired. If the vehicle enters limp mode or shows a high temperature warning, stop driving and have it towed to prevent damage to the drive motor.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Manufacturer service information with wiring diagrams and temperature-resistance charts
- Socket set and trim removal tools for accessing the sensor and harness
- Contact cleaner and dielectric grease for connector repairs

Reading P0EF5

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
E	Hybrid propulsion.
F5	The exact fault within that area.

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0C00** Drive Motor A Current Low · **P0EF3** Drive Motor C Temperature Sensor Circuit Range/Performance · **P0EF4** Drive Motor C Temperature Sensor Circuit Low · **P0EF6** Drive Motor C Temperature Sensor Circuit Intermittent/Erratic

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/p0ef5/>

