

GENERIC · POWERTRAIN

P0AF6

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0AF6

Drive Motor Inverter Temperature Sensor B Circuit Intermittent/Erratic

P0AF6 indicates that the powertrain control module has detected an intermittent or erratic signal from the temperature sensor circuit that monitors the drive motor inverter, which is the power electronics unit that converts DC battery voltage to AC for the traction motor. The circuit voltage or resistance is jumping around in a way that does not match expected temperature behavior, so the module cannot trust the sensor reading and sets this code.

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

Symptoms you may notice

- Illumination of the check engine light or a dedicated hybrid/electric system warning lamp, often with no other noticeable symptoms
- Intermittent power reduction or limp mode that may appear and disappear without warning
- Brief hesitation or loss of drive torque during acceleration, especially when the inverter is under load
- A message on the driver information display indicating a hybrid or electric system fault
- Reduced electric-only range or forced engine operation in a plug-in hybrid, if the fault affects inverter protection strategy
- In rare cases, the vehicle may refuse to start or shift into gear after the code sets

Common causes, most likely first

- 1 A failing inverter temperature sensor that has become thermally intermittent or has a cracked internal element
- 2 Corroded, loose, or backed-out terminals in the sensor connector or at the inverter harness plug
- 3 Chafed or pinched wiring in the sensor circuit where the harness passes near hot or vibrating components
- 4 A poor ground connection for the inverter assembly or sensor return circuit, causing a floating reference voltage
- 5 Internal fault in the drive motor inverter assembly, such as a cold solder joint on the sensor circuit board
- 6 Water intrusion or coolant seepage into the inverter housing or connector, altering circuit resistance
- 7 Intermittent signal interference from a failing inverter component that shares the same reference voltage



How to diagnose and fix it

- 1 Inspect the inverter temperature sensor connector and harness for corrosion, loose pins, or chafing, and clean or repair as needed
- 2 Back-probe the sensor signal and ground wires at the inverter connector and wiggle the harness while watching live data to catch an intermittent drop-out
- 3 Measure the sensor resistance with a multimeter at known temperatures and compare to the manufacturer's resistance chart to confirm sensor drift
- 4 Check the sensor circuit for short-to-ground or short-to-voltage faults with the key on and the module disconnected
- 5 Verify the inverter assembly ground strap and sensor return circuit have less than one ohm resistance to chassis ground
- 6 Replace the inverter temperature sensor if resistance testing proves it is erratic, then clear the code and verify the live data reads steadily
- 7 If the sensor and wiring test good, diagnose the inverter assembly itself for internal circuit board faults before condemning the unit

Intermittent inverter sensor faults that fool technicians

- A sensor that tests perfectly at room temperature can still be intermittent when the inverter heats up during a drive, so resistance checks must be repeated hot and cold.
- The code often sets from a momentary glitch that leaves no pending fault, so a simple key cycle may clear the light and hide the problem until the next heat cycle.
- Technicians sometimes replace the inverter assembly when the real fault is a five-dollar pigtail connector with a terminal that loses tension only when the harness is warm.
- A weak 12-volt battery or a failing DC-DC converter can cause erratic reference voltages that mimic a bad sensor, so always check system voltage stability first.
- The drive motor inverter temperature sensor is sometimes shared with a phase current sensor reference, so a fault in that shared circuit can set P0AF6 without the temperature sensor being defective.

Can I keep driving with P0AF6?

You can usually continue driving to a repair shop if the vehicle is not in limp mode, but avoid heavy acceleration, sustained high speeds, and towing until the fault is repaired because an erratic inverter temperature reading can lead to unexpected power reduction. If the vehicle repeatedly enters limp mode or refuses to start, stop driving and arrange a tow.



Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter with temperature probe
- Back-probe kit or breakout box for connector testing
- Manufacturer service information with sensor resistance charts and wiring diagrams
- Insulated hand tools and terminal removal tools for connector repair

Reading P0AF6

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
A	Hybrid propulsion.
F6	The exact fault within that area.

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0AF5** Drive Motor Inverter Temperature Sensor B Circuit High · **P0AF7** 14 Volt Power Module Internal Temperature Too High · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0C76** Hybrid/EV Battery System Discharge Time Too Long

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/p0af6/>

