

GENERIC · POWERTRAIN

P0AEF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0AEF

Drive Motor Inverter Temperature Sensor A Circuit Low

P0AEF indicates that the hybrid or electric vehicle's control module has detected an abnormally low voltage signal from the temperature sensor that monitors the drive motor inverter. The inverter converts direct current (DC) from the battery to alternating current (AC) for the motor, and this sensor helps prevent overheating by reporting the inverter's temperature; a low signal means the circuit is likely shorted to ground or the sensor has failed.

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 hybrid system warning light, often with no other noticeable symptoms.
- Reduced power output or a limp-home mode as the vehicle limits current to protect the inverter.
- Possible shutdown of the hybrid system while driving, requiring a restart.
- Inconsistent or inaccurate temperature readings on a scan tool data stream.
- In rare cases, the inverter may overheat if the sensor under-reports temperature, leading to thermal warnings.

Common causes, most likely first

- 1 A short to ground in the sensor signal circuit, often due to chafed or pinched wiring.
- 2 A faulty inverter temperature sensor that has drifted or failed internally.
- 3 Corroded or loose electrical connectors at the sensor or control module.
- 4 A defective hybrid control module or inverter assembly with an internal fault.
- 5 Moisture intrusion into the sensor or connector, causing a low-resistance path to ground.
- 6 Aftermarket or improper repairs that damaged the sensor circuit.



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and sensor voltage reading to confirm the low signal condition.
- 2 Visually inspect the sensor wiring and connectors for damage, corrosion, or loose pins, and repair as needed.
- 3 Disconnect the sensor and measure its resistance; compare to the manufacturer's specification to determine if the sensor is faulty.
- 4 Check the signal circuit for a short to ground using a multimeter; isolate the short by disconnecting sections of the harness.
- 5 If the sensor is faulty, replace it according to service information, then clear the code and verify the repair.
- 6 If the circuit and sensor test good, diagnose the hybrid control module or inverter assembly for internal faults.
- 7 Perform a road test with the scan tool monitoring sensor voltage to ensure the signal remains within normal range under all conditions.

What a low inverter temperature signal really means

- A low signal does not always mean the sensor is bad; a short to ground in the wiring is equally common and often overlooked.
- The inverter temperature sensor is sometimes integrated into the inverter assembly, making replacement more involved than a simple sensor swap.
- Intermittent codes can be caused by vibration or heat affecting a marginal connection, so wiggle-testing the harness while monitoring data is crucial.
- This code can set alongside other inverter-related codes if the control module detects multiple faults, so address all codes systematically.
- Some vehicles use multiple temperature sensors in the inverter; P0AEF refers specifically to sensor A, so verify which sensor is designated A in the service information.

Can I keep driving with P0AEF?

It is generally safe to drive with this code if the vehicle is not in limp mode, but avoid heavy acceleration or sustained high loads that could cause the inverter to overheat. If the hybrid system warning light is on or performance is reduced, have the vehicle inspected promptly to prevent potential damage.

Tools that help

- OBD-II scan tool with hybrid/EV capability
- Digital multimeter
- Wiring diagram and service information
- Insulation resistance tester (megohmmeter)
- Basic hand tools for connector and panel access



Reading P0AEF

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A94** DC/DC Converter A Performance · **P0AEE** Drive Motor Inverter Temperature Sensor A Circuit Range/Perf · **P0AF0** Drive Motor Inverter Temperature Sensor A Circuit High · **P0AFA** Hybrid/EV Battery System Voltage Low

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/p0aef/>

