

GENERIC · POWERTRAIN

P0E2A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E2A

Drive Motor Inverter Temperature Sensor H Circuit Low

P0E2A indicates that the powertrain control module has detected an abnormally low voltage on the signal circuit for the 'H' temperature sensor that monitors the drive motor inverter. This sensor is critical for the inverter's thermal management, and a low signal typically means the circuit is shorted to ground or the sensor's internal resistance has dropped.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

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 output or limp mode as the inverter controller derates to protect against overheating.
- Inconsistent or inaccurate temperature readings on a scan tool, sometimes showing implausibly low values.
- In rare cases, the vehicle may refuse to start or shift into gear if the inverter fault triggers a safety shutdown.
- Intermittent warning lights if the low signal is caused by a loose connection or chafed wire.

Common causes, most likely first

- 1 A short to ground in the signal wire between the inverter temperature sensor and the control module.
- 2 A failed inverter temperature sensor with an internal short that pulls the signal voltage low.
- 3 Corroded, loose, or damaged electrical connectors at the sensor or controller.
- 4 A faulty control module driver circuit that incorrectly reads the sensor signal as low.
- 5 Harness damage from heat, vibration, or rodent chewing that exposes the signal wire to ground.
- 6 Aftermarket accessories or improper repairs that inadvertently ground the sensor circuit.



How to diagnose and fix it

- 1 Use a scan tool to verify the code and check live data for the inverter temperature sensor H to confirm the low reading.
- 2 Visually inspect the sensor, connectors, and wiring harness for obvious damage, corrosion, or loose pins.
- 3 Disconnect the sensor and measure its resistance; compare to the manufacturer's specification to rule out a failed sensor.
- 4 With the sensor disconnected, check the signal wire for continuity to ground to detect a short circuit.
- 5 If the circuit is intact, substitute a known-good sensor or simulate the signal with a resistor box to see if the code changes.
- 6 Repair any wiring faults by soldering and sealing the affected section, then clear the code and verify the fix with a test drive.
- 7 If all external checks pass, follow the manufacturer's diagnostic flow for the control module, which may require replacement or reprogramming.

Inverter sensor low signal traps to avoid

- A low signal code often results from a short to ground in the wiring rather than a failed sensor, so resistance checks of the harness are essential before replacing parts.
- Some vehicles use multiple temperature sensors in the inverter, and the 'H' designation may refer to a specific location; always consult the service information for the exact circuit.
- The code can be set intermittently by water intrusion into connectors, especially in hybrid and electric vehicles that operate in wet conditions.
- A faulty control module is a rare cause, but it should only be suspected after all wiring and sensor tests have passed and the manufacturer's diagnostic procedure points to it.
- Clearing the code without repairing the underlying issue may lead to repeated derating events or overheating damage, so root-cause diagnosis is critical.

Can I keep driving with P0E2A?

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 vehicle enters reduced power mode or shows overheating warnings, stop driving and seek professional diagnosis immediately.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter with resistance and continuity functions
- Wiring diagram or service information for the specific vehicle
- Resistor box or sensor simulator for signal testing
- Soldering iron and heat-shrink tubing for wire repairs



Reading P0E2A

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 2A** The exact fault within that area.

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A78** Drive Motor A Inverter Performance · **P0C00** Drive Motor A Current Low · **P0E29** Drive Motor Inverter Temperature Sensor H Circuit Range/Perf · **P0E2B** Drive Motor Inverter Temperature Sensor H Circuit High

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/p0e2a/>

