



P0AED

Drive Motor Inverter Temperature Sensor A Circuit

P0AED indicates that the vehicle's control module has detected an abnormal signal from the temperature sensor circuit that monitors the drive motor inverter, which is the power electronics unit that converts DC battery voltage to the three-phase AC needed by the traction motor. The computer compares the sensor's voltage or resistance reading against expected values and flags the circuit when the signal falls outside the valid range or behaves erratically.

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 no symptoms besides the warning light, especially if the fault is intermittent
- Reduced power output or a limp-home mode as the controller derates the inverter to protect it
- Possible shutdown of the electric drive system while driving, requiring a restart
- Inaccurate or missing inverter temperature data on a scan tool live-data display
- In rare cases, a burning smell or visible overheating at the inverter if the sensor fault masks a real thermal problem

Common causes, most likely first

- 1 Faulty inverter temperature sensor A, either open-circuit, shorted, or drifted out of calibration
- 2 Damaged, chafed, or corroded wiring in the sensor circuit, particularly at connectors exposed to heat and vibration
- 3 Loose or contaminated electrical connector pins at the sensor or at the control module
- 4 Internal failure in the control module's sensor input circuit, such as a failed pull-up resistor or analog-to-digital converter
- 5 Coolant flow restriction or low coolant level causing genuine inverter overheating that the sensor correctly reports
- 6 Aftermarket or incorrect sensor installed during a previous repair, with resistance characteristics that do not match the controller's expectations



How to diagnose and fix it

- 1 Connect a scan tool and record the inverter temperature sensor A live-data value cold and after a short drive to see whether the reading is plausible and rises smoothly
- 2 Visually inspect the sensor, its connector, and the harness routing for chafing, heat damage, coolant contamination, or loose pins
- 3 Measure the sensor's resistance or voltage at the sensor connector and compare it with the manufacturer's temperature-resistance chart
- 4 Check continuity and resistance of each wire in the sensor circuit from the sensor connector back to the control module, flexing the harness to reveal intermittent opens
- 5 Verify the inverter coolant level and flow, and confirm the cooling fan or pump operates, to rule out a genuine overheat condition
- 6 If the circuit and sensor test good, substitute a known-good sensor or use a signal simulator at the controller to determine whether the controller input is faulty
- 7 Clear the code and perform a road test with live data monitoring to confirm the repair, and replace the control module only after all circuit tests pass

What the inverter temperature code really means

- A P0AED is frequently set by a chafed harness near the inverter housing rather than by a failed sensor, so a thorough wiggle test of the wiring often finds the fault before any parts are replaced.
- The code can be stored intermittently by a momentary loss of signal during hard acceleration or over rough roads, and a sensor that tests perfectly on a bench may still be the culprit if the connector pins are marginal.
- Genuine inverter overheating from a clogged coolant passage or a failing electric coolant pump can trigger this code, so ignoring it as a simple sensor fault risks damaging expensive power electronics.
- Some vehicles use the same sensor circuit for multiple inverter phases or for both the inverter and motor temperature monitoring, so a single sensor fault can set companion codes that mislead a parts-swapping diagnosis.
- After replacing the sensor or control module, many platforms require a relearn or adaptation procedure, and skipping it can leave the code returning even though the repair was mechanically correct.

Can I keep driving with P0AED?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, sustained high speeds, and towing, because a genuine overheating condition or a derated inverter can leave you with reduced power or a sudden shutdown. If the warning light is accompanied by power loss, a burning smell, or repeated shutdowns, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live-data and hybrid/EV system capability
- Digital multimeter with temperature probe or resistance measurement
- Manufacturer service information with wiring diagrams and sensor resistance charts
- Back-probe kit and terminal test leads
- Insulated hand tools and a torque wrench for high-voltage connector work

Reading P0AED

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0AEA** Hybrid/EV Battery Temperature Sensor D Circuit Low · **P0AEB** Hybrid/EV Battery Temperature Sensor D Circuit High · **P0AEC** Hybrid/EV Battery Temperature Sensor D Circuit Intermittent/ · **P0C01** Drive Motor A Current 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/p0aed/>

