

GENERIC · POWERTRAIN

# P0AEC

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P0AEC

### Hybrid/EV Battery Temperature Sensor D Circuit Intermittent/Erratic

P0AEC means the hybrid or electric vehicle battery pack's temperature sensor D is sending an intermittent or erratic signal to the battery energy control module. The computer has detected that the sensor's voltage or resistance reading jumps around or drops out unpredictably, rather than staying within a stable expected range.

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

### Symptoms you may notice

- Illumination of the hybrid system warning light or check engine light
- Often no symptoms besides the warning light, especially in mild weather
- Reduced electric-only driving range or forced engine operation in a hybrid
- A message on the dash advising that hybrid or EV service is required
- In rare cases, limited power output or a forced limp mode if the fault escalates
- Inconsistent battery cooling fan operation or unusual fan noise

### Common causes, most likely first

- 1 A faulty temperature sensor D itself, with an internal intermittent connection or failing thermistor element
- 2 Damaged, chafed, or corroded wiring in the sensor circuit, often near the battery pack connector or where the harness bends
- 3 Loose or contaminated electrical connector pins at the sensor or at the battery energy control module
- 4 A failing battery energy control module, though this is less common than sensor or wiring faults
- 5 Moisture intrusion into the sensor connector or harness, causing erratic resistance readings
- 6 Heat damage or vibration fatigue affecting the sensor or its wiring over time



## How to diagnose and fix it

- 1 Scan all hybrid and battery control modules for stored and pending codes, and record freeze-frame data to see when the intermittent fault occurs
- 2 Inspect the sensor D wiring and connector for chafing, corrosion, moisture, or loose pins, and repair as needed
- 3 Back-probe the sensor signal circuit at the battery energy control module and wiggle-test the harness while watching live temperature data for dropouts
- 4 Measure the resistance of sensor D at known temperatures and compare it to the manufacturer's temperature-resistance chart to confirm sensor accuracy
- 5 If the sensor is accessible, substitute it with a known-good sensor or a resistor of the correct value to see whether the erratic reading disappears
- 6 Check for technical service bulletins or software updates for the battery energy control module that address temperature sensor signal processing
- 7 Replace the faulty temperature sensor or the affected section of harness, then clear codes and verify that live data remains stable during a road test

## What intermittent sensor codes really mean

- An intermittent temperature sensor code often appears only during certain driving conditions, such as after a cold soak or when the battery pack is under heavy load, so a static test may show nothing wrong.
- A common misdiagnosis is replacing the battery pack itself when the actual fault is a chafed wire or a corroded connector pin that costs far less to repair.
- The battery energy control module may set this code based on a rationality check against other temperature sensors, so a sensor that reads plausibly but drifts can still trigger it.
- High-voltage battery cooling system faults, such as a failing fan or blocked duct, can cause temperature readings to swing and set an intermittent sensor code even when the sensor is good.
- After any repair, the code may remain stored until several drive cycles complete, so technicians should not assume the fix failed if the light stays on briefly.

## Can I keep driving with P0AEC?

You can usually continue driving with this code because the fault is intermittent and the battery management system often has safeguards, but avoid aggressive acceleration, sustained high speeds, and extreme temperatures until it is diagnosed. If the hybrid system warning light flashes or power is reduced, have the vehicle checked promptly.



## Tools that help

- Hybrid/EV-capable scan tool with live data and freeze-frame recording
- Digital multimeter with temperature probe and resistance measurement
- Back-probe kit and terminal test tools
- Manufacturer service information with wiring diagrams and temperature-resistance charts
- Insulated hand tools and personal protective equipment for high-voltage safety

## Reading P0AEC

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

## Often seen with

**P0AEA** Hybrid/EV Battery Temperature Sensor D Circuit Low · **P0AEB** Hybrid/EV Battery Temperature Sensor D Circuit High · **P0AED** Drive Motor Inverter Temperature Sensor A Circuit · **P0AEE** Drive Motor Inverter Temperature Sensor A Circuit Range/Perf · **P0AEF** Drive Motor Inverter Temperature Sensor A Circuit 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/p0aec/>

