

GENERIC · POWERTRAIN

# P0A2E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P0A2E

### Drive Motor A Temperature Sensor A Circuit Intermittent

P0A2E indicates that the powertrain control module has detected an intermittent fault in the temperature sensor circuit for drive motor A, which is the main traction motor in most hybrid and electric vehicles. The circuit signal momentarily drops out or becomes erratic, rather than failing completely, so the computer cannot trust the motor temperature reading at all times.

| 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 service vehicle soon message, often with no other symptoms besides the warning light.
- Reduced power output or a limp-home mode triggered when the motor temperature reading becomes unreliable.
- Intermittent activation of the motor over-temperature warning on the dashboard.
- Possible stalling or refusal to start in some hybrid models when the fault is active during key-on.
- Slight hesitation or power fluctuation during acceleration if the controller derates the motor based on a false hot reading.

### Common causes, most likely first

- 1 A loose, corroded, or partially backed-out terminal in the motor temperature sensor connector or its inline harness connector.
- 2 Chafed or intermittently shorted wiring in the sensor harness where it routes near hot or moving components.
- 3 A failing temperature sensor element that opens or drifts only when hot or cold, producing an intermittent signal.
- 4 Water or oil intrusion into the sensor connector causing temporary resistance changes.
- 5 A faulty powertrain control module or motor control unit with an intermittent internal driver circuit, though this is less common.
- 6 Poor ground connection shared by the sensor circuit, causing the reference voltage to fluctuate.



## How to diagnose and fix it

- 1 Inspect the motor temperature sensor connector and harness for corrosion, loose pins, or chafing, and repair any damaged terminals or wiring.
- 2 Clear the code and perform a wiggle test on the sensor harness while watching live temperature data to reproduce the intermittent fault.
- 3 Measure the sensor resistance at the connector when cold and again after warming the motor, comparing to the manufacturer's expected values to catch an intermittent element.
- 4 Check the sensor reference voltage and ground at the connector with a multimeter, looking for drops or spikes that indicate a wiring or ground fault.
- 5 If the sensor is suspect, replace it only after confirming the circuit is sound, since the sensor is often buried inside the motor housing.
- 6 If all external circuits and the sensor test good, diagnose the control module for intermittent internal faults before replacement.

## Intermittent faults hide in connectors

- Many P0A2E cases are fixed by cleaning and tightening the sensor connector terminals rather than replacing the sensor itself, because vibration and thermal cycling loosen pin tension over time.
- A temperature sensor that tests perfectly on a cold bench can still set this code when hot, so always test the sensor at operating temperature and wiggle the harness while monitoring live data.
- This code does not always mean the motor is overheating; it means the computer cannot trust the temperature signal, so the motor may be perfectly cool while the controller derates power for safety.
- Shared ground points on the motor control harness can cause intermittent temperature readings on multiple sensors, so check for other temperature-related codes before condemning the sensor.
- Aftermarket scan tools sometimes show this code as pending or history only, and a cheap tool may not capture the freeze-frame data needed to see exactly when the intermittent drop occurred.

## Can I keep driving with P0A2E?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration, towing, or long uphill grades because the controller may suddenly reduce power if the temperature signal drops out. If the vehicle enters limp mode or the motor over-temperature warning appears, stop safely and have it towed.

## Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with min/max recording
- Back-probe kit or breakout box for connector testing
- Wiring diagram for the motor temperature sensor circuit
- Heat gun and contact cleaner for intermittent fault reproduction



## Reading P0A2E

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <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>2E</b> | The exact fault within that area.                                    |

## Often seen with

**P0A2B** Drive Motor A Temperature Sensor A Circuit Range/Performance · **P0A2C** Drive Motor A Temperature Sensor A Circuit Low · **P0A2D** Drive Motor A Temperature Sensor A Circuit High · **P0A2F** Drive Motor A Over Temperature · **P0A3F** Drive Motor A Position Sensor Circuit

## 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/p0a2e/>

