

GENERIC · POWERTRAIN

P2E1E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E1E

Drive Motor A Phase X Current Sensor Circuit High

P2E1E indicates that the computer monitoring the current sensor for one phase of drive motor A has detected a signal voltage that is higher than the expected range for the operating conditions. This high signal suggests the sensor circuit is reporting excessive current or that the sensor itself, its wiring, or the motor control system has a fault that pushes the signal above normal limits.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

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 or limp mode as the motor controller limits current to protect the drive motor and inverter
- Intermittent hesitation or shudder during acceleration if the high signal is erratic
- Possible shutdown of the electric drive system while driving in severe cases
- A stored history of related overcurrent or phase current codes in the motor controller

Common causes, most likely first

- 1 Faulty phase current sensor internal to the drive motor or inverter assembly
- 2 Damaged or chafed wiring in the current sensor circuit, causing a short to voltage or high resistance
- 3 Loose or corroded connector pins at the current sensor or motor controller harness
- 4 Failed motor controller or inverter module that misinterprets or corrupts the sensor signal
- 5 Excessive actual current draw from a shorted motor winding or phase-to-phase fault
- 6 Water intrusion or contamination in the sensor or connector causing signal distortion



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear codes and test-drive to see if P2E1E returns immediately
- 2 Inspect the current sensor harness and connectors for chafing, corrosion, loose pins, or signs of overheating
- 3 Measure the sensor reference voltage and signal voltage at the sensor connector with a digital multimeter and compare to manufacturer specifications
- 4 Perform a resistance and insulation test on the motor phase windings to rule out an actual overcurrent condition
- 5 Check for technical service bulletins or software updates for the motor controller that address current sensor signal processing
- 6 If the circuit and motor test good, substitute a known-good current sensor or motor controller to isolate the faulty component
- 7 After repair, clear codes and verify the current sensor signal reads within normal range during a road test with live data

What a high phase current signal really means

- A high signal voltage does not always mean the sensor is bad; a short to voltage in the harness or a contaminated connector can push the signal high without any sensor fault.
- Many technicians replace the expensive motor controller first, but a simple chafed wire near a mounting bracket is a far more common cause of this code.
- The current sensor is often integrated into the motor or inverter assembly, so a sensor replacement may require replacing the entire unit on some vehicles.
- Actual overcurrent from a failing motor winding can set this code, so always test the motor phases before condemning the sensor circuit.
- Intermittent high signals often appear only under vibration or temperature extremes, so a wiggle test of the harness while monitoring live data is essential.

Can I keep driving with P2E1E?

If the vehicle is in limp mode or the warning light is accompanied by reduced power, avoid highway driving and seek service promptly. Continued driving with an actual overcurrent fault can damage the motor or inverter, so limit driving to a short distance to a repair facility.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter with min/max recording
- Insulation tester or megohmmeter for motor winding tests
- Oscilloscope for capturing current sensor signal waveforms
- Terminal pick and wire repair kit for connector inspection



Reading P2E1E

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 1E** The exact fault within that area.

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A40** Drive Motor A Position Sensor Circuit Range/Performance · **P2E1D** Drive Motor A Phase X Current Sensor Circuit Low · **P2E1F** Drive Motor A Phase Y Current 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/p2e1e/>

