

GENERIC · POWERTRAIN

P2E6F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E6F

Hybrid/EV Battery Pack A Cell Thickness Sensor Circuit Performance

P2E6F indicates that the hybrid or electric vehicle battery pack control module has detected a performance fault in the cell thickness sensor circuit for battery pack A, meaning the sensor's signal is outside the expected range or not responding as designed. The computer compares the sensor's output against expected values during key-on or self-test and flags the circuit when the reading is implausible or erratic.

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 service vehicle soon message
- Reduced electric-only range or forced engine operation in a plug-in hybrid
- Inability to charge the high-voltage battery or charging interrupted prematurely
- Power gauge or state-of-charge display behaving erratically
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Faulty cell thickness sensor or sensor assembly internal to the battery pack
- 2 Damaged or chafed wiring harness between the sensor and the battery control module
- 3 Corroded or loose electrical connector at the sensor or module
- 4 Battery control module software needing recalibration or update
- 5 Internal battery pack fault causing abnormal cell expansion that the sensor detects
- 6 Water intrusion or contamination in the sensor connector or pack housing



How to diagnose and fix it

- 1 Connect a scan tool and record all hybrid/EV battery-related freeze-frame and live data to confirm the fault is current
- 2 Visually inspect the sensor wiring and connector for damage, corrosion, or loose pins, and repair as needed
- 3 Perform a resistance and voltage drop test on the sensor circuit according to the manufacturer's service information
- 4 Check for technical service bulletins or software updates for the battery control module and apply if available
- 5 Substitute a known-good sensor or use a signal simulator to verify the circuit performance before replacing parts
- 6 If the sensor is internal to the pack, follow the manufacturer's procedures for pack removal and sensor replacement
- 7 Clear codes and perform a road test or self-test to verify the repair and ensure the code does not return

Hidden causes of P2E6F sensor faults

- A weak or failing 12-volt auxiliary battery can cause erratic sensor readings and set this code, so always load-test the 12-volt system first.
- The cell thickness sensor is often part of a larger battery pack monitoring harness, and a single damaged wire can affect multiple sensors, so inspect the entire circuit.
- After any repair, the battery control module may require a relearn or calibration procedure; skipping this step can cause the code to reappear immediately.
- This code does not always mean the sensor itself has failed; a mechanical issue such as a swollen cell can trigger the sensor to report out-of-range values.
- In some vehicles, the sensor signal is shared with other battery monitoring functions, so a fault in a related sensor can set P2E6F as a secondary code.

Can I keep driving with P2E6F?

You can usually drive the vehicle with this code, but avoid aggressive acceleration, prolonged high-speed driving, and charging if the hybrid system warning is active. Have the fault diagnosed promptly to prevent potential battery pack damage or a no-start condition.

Tools that help

- Hybrid/EV-capable scan tool with live data and bidirectional controls
- Digital multimeter with resistance and voltage drop capabilities
- Manufacturer service information for wiring diagrams and sensor specifications
- Insulation tester (megohmmeter) for checking high-voltage circuit integrity
- Basic hand tools for connector and panel access



Reading P2E6F

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 6F** The exact fault within that area.

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B24** Hybrid/EV Battery A Voltage Unstable · **P2E6E** Hybrid/EV Battery Pack A Cell Thickness Sensor Circuit Low · **P2E70** Hybrid/EV Battery Pack B Cell Thickness

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/p2e6f/>

