

GENERIC · POWERTRAIN

P2E71

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E71

Hybrid/EV Battery Pack B Cell Thickness Sensor Circuit High

P2E71 indicates that the battery management system has detected an abnormally high voltage on the signal circuit for the cell thickness sensor of battery pack B, which monitors physical swelling or expansion of the cells. The computer sets this code when the sensor's output exceeds the expected range, often due to a wiring fault, sensor failure, or internal battery pack issue.

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

Symptoms you may notice

- Illumination of the hybrid/EV system warning light or service vehicle soon message
- Reduced electric driving range or power output as the system limits battery use
- Inability to charge the high-voltage battery or charging interrupted prematurely
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Possible audible alert or message on the driver information display indicating a battery fault

Common causes, most likely first

- 1 Faulty cell thickness sensor or its internal circuitry
- 2 Damaged or chafed wiring harness between the sensor and the battery management module
- 3 Corroded or loose electrical connector at the sensor or module
- 4 High-voltage battery pack degradation causing actual cell swelling and sensor over-travel
- 5 Battery management module software glitch or internal fault
- 6 Water intrusion or contamination in the sensor connector or harness
- 7 Improper previous repair or aftermarket accessory interfering with the sensor circuit



How to diagnose and fix it

- 1 Perform a visual inspection of the cell thickness sensor, its connector, and wiring for damage, corrosion, or loose pins
- 2 Use a scan tool to read live data from the cell thickness sensor and compare with manufacturer specifications
- 3 Check the sensor signal circuit for shorts to voltage or ground, and measure resistance to confirm integrity
- 4 Inspect the high-voltage battery pack for physical swelling or damage that could cause sensor over-range
- 5 If wiring and connectors are good, test the sensor with a multimeter or oscilloscope to verify operation
- 6 Replace the cell thickness sensor if faulty, following high-voltage safety procedures
- 7 Reprogram or replace the battery management module if the sensor and wiring are confirmed good but the code persists

Cell thickness sensor faults often misdiagnosed

- A high voltage on the sensor circuit can be caused by a simple loose connector, so always check connector pin tension before condemning the sensor.
The code may set intermittently due to vibration or temperature changes, making it important to wiggle-test wiring while monitoring live data.
- Actual cell swelling from battery degradation can trigger this code, so a thorough battery health check is essential even if the sensor tests good.
- Some vehicles require a battery management system relearn or calibration after sensor replacement, which if skipped can cause the code to return.
This code is specific to pack B; misreading it as pack A can lead to replacing the wrong sensor if the vehicle has multiple packs.

Can I keep driving with P2E71?

It is generally safe to drive with this code if the vehicle operates normally, but avoid aggressive acceleration or high-speed driving and schedule service soon. If the hybrid/EV system warning light is accompanied by reduced power or charging issues, limit driving to reach a repair facility.

Tools that help

- OBD-II scan tool with hybrid/EV battery data capability
- Digital multimeter
- Oscilloscope for signal analysis
- Insulated hand tools for high-voltage safety
- Manufacturer service information for wiring diagrams and specifications



Reading P2E71

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AFA** Hybrid/EV Battery System Voltage Low · **P2E70** Hybrid/EV Battery Pack B Cell Thickness · **P2E72** Hybrid/EV Battery Pack B Cell Thickness Sensor 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/p2e71/>

