

GENERIC · POWERTRAIN

P0AB3

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0AB3

Hybrid/EV Battery Pack Air Temperature Sensor B Circuit Low

P0AB3 indicates that the hybrid or electric vehicle battery pack air temperature sensor B circuit is reporting a voltage lower than the manufacturer's expected range, which the battery energy control module interprets as a low signal fault. The computer has detected that the sensor's output is below the normal threshold, often indicating a short to ground, an open circuit, or a failed sensor.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or hybrid system warning light
- Often no symptoms besides the warning light, especially in mild weather
- Reduced hybrid battery cooling performance, leading to gradual power reduction
- Possible forced engine-on operation in hybrids to protect the battery pack
- In extreme cases, a message to service the hybrid system or limited electric-only operation
- Inconsistent battery temperature readings on a scan tool compared to ambient conditions

Common causes, most likely first

- 1 Faulty battery pack air temperature sensor B
- 2 Damaged or corroded wiring harness to sensor B
- 3 Poor electrical connection at the sensor or control module connector
- 4 Short to ground in the sensor signal circuit
- 5 Failed battery energy control module (BECM) or hybrid control module
- 6 Moisture intrusion or contamination in the sensor connector
- 7 Aftermarket accessories or improper previous repairs disturbing the circuit



How to diagnose and fix it

- 1 Connect a scan tool and record all hybrid battery temperature sensor readings to confirm sensor B is the outlier
- 2 Visually inspect sensor B, its connector, and the wiring harness for damage, corrosion, or loose pins
- 3 Measure resistance of sensor B and compare to the manufacturer's temperature-resistance chart
- 4 Check the sensor signal circuit for a short to ground using a multimeter with the sensor disconnected
- 5 Verify reference voltage and ground at the sensor connector with the key on
- 6 If wiring and sensor test good, perform a wiggle test on the harness while monitoring live data to catch intermittent faults
- 7 Replace the faulty sensor or repair the wiring as needed, then clear codes and verify the repair with a test drive

When sensor B is not the real culprit

- A low signal code often results from a short to ground in the wiring rather than a failed sensor, so always check the harness before replacing parts.
- Battery pack air temperature sensors are sometimes integrated into a larger harness or module, making connector inspection critical before condemning the sensor.
- In some hybrids, a low temperature reading can cause the control module to default to a conservative cooling strategy, masking the fault until battery performance degrades.
- Aftermarket hybrid battery repairs or improper jump-starting can disturb the sensor circuit and set this code without any component failure.
- The code can be set by a loose or corroded ground connection at the battery pack, which is often overlooked during diagnosis.

Can I keep driving with P0AB3?

It is generally safe to continue driving with this code, but avoid heavy electrical loads and prolonged high-speed driving until repaired, as battery cooling may be compromised. If the hybrid system warning light is also on or you notice reduced power, have the vehicle inspected promptly.

Tools that help

- OBD-II scan tool with hybrid battery live data capability
- Digital multimeter
- Manufacturer service information with wiring diagrams and resistance charts
- Socket and ratchet set
- Terminal pick and electrical contact cleaner



Reading P0AB3

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- A** Hybrid propulsion.
- B3** The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AB2** Hybrid/EV Battery Pack Air Temperature Sensor B Circuit Rang · **P0AB4** Hybrid/EV Battery Pack Air Temperature Sensor B Circuit High · **P0AB5** Hybrid/EV Battery Pack Air Temperature Sensor B Circuit Inte · **P0AFA** Hybrid/EV Battery System Voltage 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/p0ab3/>

