

GENERIC · POWERTRAIN

P0AB4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0AB4

Hybrid/EV Battery Pack Air Temperature Sensor B Circuit High

P0AB4 means the hybrid or electric vehicle battery pack's air temperature sensor B circuit is reporting a voltage higher than the manufacturer's expected range, which the battery energy control module interprets as an open circuit or a sensor reading that is too cold. The computer has detected a high signal on the sensor B circuit, typically because the circuit is open, the sensor has failed, or the wiring has a break.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or a hybrid system warning light, often with no other symptoms besides the warning light.
- Reduced hybrid battery cooling performance, which may lead to a gradual loss of electric-only range or reduced power.
- The hybrid system may enter a fail-safe mode that limits charging or discharging of the high-voltage battery.
- In some vehicles, the engine may run more often or the vehicle may refuse to enter EV mode.
- A stored code P0AB4 may be accompanied by other battery temperature sensor codes or hybrid battery performance codes.

Common causes, most likely first

- 1 An open or high-resistance fault in the sensor B signal circuit, such as a broken wire or a disconnected connector.
- 2 A failed battery pack air temperature sensor B that reads out of range or has an internal open circuit.
- 3 Corrosion or water intrusion at the sensor connector or in the wiring harness near the battery pack.
- 4 A poor ground connection for the sensor B circuit, causing the signal voltage to float high.
- 5 A fault inside the battery energy control module or its connector, though this is less common.
- 6 Damage to the wiring harness from rodents, chafing, or prior service work near the battery pack.



How to diagnose and fix it

- 1 Scan all modules for codes and record freeze-frame data to confirm P0AB4 is active and not a history code.
- 2 Inspect the battery pack air temperature sensor B connector and wiring for corrosion, looseness, or obvious damage.
- 3 Measure the sensor B resistance with a multimeter and compare it to the manufacturer's temperature-resistance chart.
- 4 Check the signal circuit voltage at the sensor connector with the key on and compare it to the expected range.
- 5 Perform a voltage drop test on the ground circuit and repair any excessive resistance.
- 6 If the sensor is out of specification, replace the sensor and clear the codes.
- 7 If the wiring is faulty, repair the open or high-resistance circuit and verify the repair with a test drive.

What a high battery air temp signal really means

- A high signal voltage on a temperature sensor circuit almost always indicates an open circuit or a sensor that has failed open, not a genuinely hot battery, so do not assume the battery is overheating.
The sensor B circuit may share a common ground or reference voltage with other battery temperature sensors, so a fault in one sensor can affect the readings of others and set multiple codes.
- Rodent damage to the wiring harness near the battery pack is a frequent cause that is easily missed during a visual inspection if the harness is not fully exposed.
- A loose or corroded connector pin can cause an intermittent high signal that only sets the code under certain vibration or temperature conditions, so wiggle tests are valuable.
Replacing the sensor without checking the wiring harness can lead to a repeat code if the real fault is a broken wire or a bad ground.

Can I keep driving with P0AB4?

You can usually drive the vehicle with this code, but avoid heavy acceleration or long trips that rely on the hybrid battery until it is repaired. If the vehicle enters a reduced-power mode or shows a hybrid system warning, have it checked promptly to prevent further battery stress.

Tools that help

- OBD-II scan tool with hybrid module capability
- Digital multimeter
- Back probe pins or breakout leads
- Wiring diagram for the battery temperature sensor circuit
- Socket set and trim removal tools for accessing the sensor



Reading P0AB4

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- A** Hybrid propulsion.
- B4** The exact fault within that area.

Often seen with

P0AB3 Hybrid/EV Battery Pack Air Temperature Sensor B Circuit Low · **P0AB5** Hybrid/EV Battery Pack Air Temperature Sensor B Circuit Inte · **P0AB6** Engine Mount B Control Circuit/Open · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0AFC** Hybrid/EV Battery Pack Sensor Module

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/p0ab4/>

