

GENERIC · POWERTRAIN

P0EB2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0EB2

A/C Compressor Motor Current Sensor Circuit High

P0EB2 indicates that the air conditioning (A/C) compressor motor current sensor circuit is reporting a voltage higher than the manufacturer's expected range. The powertrain control module (PCM) or hybrid control module monitors this sensor to ensure the electric A/C compressor is drawing the correct current, and it sets this code when the signal exceeds the high threshold.

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

Symptoms you may notice

- The A/C may stop cooling or blow warm air because the compressor is disabled.
- The climate control panel may show a fault or the A/C button may flash.
- The engine may idle slightly higher or the cooling fan may run constantly.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- In hybrid or electric vehicles, the high-voltage system may limit A/C operation to protect the compressor.

Common causes, most likely first

- A faulty A/C compressor motor current sensor or its internal electronics.
- Damaged, corroded, or shorted wiring in the sensor circuit, particularly where it passes near hot or moving components.
- A poor electrical connection at the sensor or at the control module connector.
- A short to voltage on the signal wire, often caused by chafed insulation.
- A failed A/C compressor motor drawing excessive current, which can damage the sensor over time.
- A malfunctioning control module that misinterprets the sensor signal, though this is less common.



How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data to confirm P0EB2 is current and not history.
- 2 Inspect the sensor wiring and connectors for damage, corrosion, or loose pins, and repair as needed.
- 3 Measure the sensor reference voltage and ground at the sensor connector with a digital multimeter; compare to manufacturer specifications.
- 4 Backprobe the signal wire and check the voltage with the A/C commanded on; a high voltage that does not change with load indicates a sensor or wiring fault.
- 5 If the signal circuit is shorted to voltage, isolate the wire and repair the short.
- 6 Replace the A/C compressor motor current sensor if the wiring and connectors are good and the signal remains out of range.
- 7 Clear the codes and verify the repair by running the A/C and confirming the sensor voltage stays within the specified range.

What the current sensor really monitors

- The current sensor is often integrated into the compressor control module or mounted on the high-voltage cable, so a high reading can be caused by a failing compressor rather than the sensor itself.
- A common misdiagnosis is replacing the A/C compressor when the actual fault is a chafed signal wire shorting to a 5-volt reference or battery voltage.
- On hybrid vehicles, the A/C compressor is high-voltage and the current sensor circuit is safety-critical; improper testing can lead to serious injury.
- Intermittent high readings can be caused by heat soak or vibration, so wiggle-test the harness while watching live data to catch the fault.
- The code can set without any A/C performance issue because the sensor circuit is monitored continuously, even when the compressor is off.

Can I keep driving with P0EB2?

You can usually continue driving because the A/C system will be disabled to protect the compressor, but avoid using the A/C until the fault is repaired. If the vehicle is a hybrid or electric model, have the high-voltage A/C system inspected by a qualified technician before driving extensively.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter (DMM)
- Backprobe pins or breakout box
- Wiring diagram for the specific vehicle
- Insulated hand tools for high-voltage safety (if applicable)



Reading P0EB2

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- B2** The exact fault within that area.

Often seen with

P0532 A/C Refrigerant Pressure Sensor 'A' Circuit Low · **P0533** A/C Refrigerant Pressure Sensor 'A' Circuit High
 · **P0EB1** A/C Compressor Motor Current Sensor Circuit Low · **P0EB3** A/C Compressor Motor Current Sensor Circuit Intermittent/Err · **P0EB4** A/C Compressor Motor Phase U Current Sensor Circuit

See it working

Watch the animated explainer [Manual Car Driving Simulator: Learn Clutch Control](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0eb2/>

