



P0EBC

A/C Compressor Motor Phase V Current Sensor Circuit High

P0EBC indicates that the powertrain control module has detected an abnormally high current reading from the phase V current sensor circuit of the air conditioning compressor motor. This sensor monitors the electrical current drawn by one phase of the compressor's three-phase motor, and a high signal suggests a short to voltage, a faulty sensor, or a wiring problem that could damage the compressor or its control module.

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

Symptoms you may notice

- The air conditioning system may stop cooling entirely or blow warm air.
- The A/C compressor clutch may fail to engage, or the compressor may run intermittently.
- A warning light on the dashboard, often the check engine light or a dedicated A/C system indicator.
- Possible electrical burning smell or blown fuses related to the A/C compressor circuit.
- In some cases, no symptoms besides the warning light, especially if the fault is intermittent.

Common causes, most likely first

- 1 Faulty A/C compressor motor phase V current sensor.
- 2 Damaged or chafed wiring in the phase V current sensor circuit, causing a short to voltage.
- 3 Corroded or loose electrical connectors at the sensor or compressor.
- 4 Failed A/C compressor motor (internal short or winding fault) causing excessive current draw.
- 5 Faulty A/C compressor control module or inverter.
- 6 Water intrusion or contamination in the sensor or connector.
- 7 Less commonly, a problem with the powertrain control module itself.



How to diagnose and fix it

- 1 Perform a visual inspection of the A/C compressor, its wiring harness, and connectors for obvious damage, corrosion, or loose connections.
- 2 Use a scan tool to retrieve all stored codes and freeze-frame data, and check for related codes in other modules.
- 3 Measure the resistance and voltage on the phase V current sensor circuit according to the manufacturer's specifications, looking for shorts to voltage or ground.
- 4 Test the current sensor output signal with an oscilloscope or multimeter while the A/C is commanded on, comparing to expected values.
- 5 If the sensor circuit tests normal, check the compressor motor windings for shorts or excessive current draw using a clamp meter.
- 6 Replace the faulty current sensor or repair the wiring as needed, then clear codes and verify the repair with a test drive.
- 7 If the compressor motor or control module is faulty, replace the affected component and recheck the system operation.

What a high phase V current really means

- A high current sensor signal often indicates a short to voltage in the sensor circuit rather than a failed sensor, so always check wiring before replacing parts.
- The phase V current sensor is part of the compressor's inverter assembly on many hybrid and electric vehicles, and a fault here can disable the entire A/C system to protect the high-voltage components.
- Intermittent faults can be caused by heat or vibration affecting the sensor or its connector, so wiggle-test the harness while monitoring live data.
- This code can be set by a low battery or charging system issue that causes voltage spikes, so check the vehicle's charging system before condemning the sensor.
- Replacing the compressor without diagnosing the current sensor circuit can lead to repeat failures if the root cause is a wiring short.

Can I keep driving with P0EBC?

You can usually continue driving safely because the A/C system is disabled to protect the compressor, but avoid using the A/C until the fault is repaired. Prolonged driving with the code present may lead to further electrical damage or compressor failure, so schedule diagnosis soon.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope
- Clamp meter
- Wiring diagram and service information

Reading P0EBC

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

Often seen with

P0EBB A/C Compressor Motor Phase V Current Sensor Circuit Low · **P0EBD** A/C Compressor Motor Phase V Current Sensor Circuit Intermittent · **P0EBE** A/C Compressor Motor Phase W Current Sensor Circuit · **P0EBF** A/C Compressor Motor Phase W Current Sensor Circuit Range/Performance · **P0EC0** A/C Compressor Motor Phase W Current Sensor Circuit Low

See it working

Watch the animated explainer [How a CVT Works: Belt and Pulley Transmission](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0ebc/>

