

GENERIC · POWERTRAIN

P0D7B

OBD-II TROUBLE CODE

P0D7B

A/C Compressor Motor Phase U Current High

This code means the air conditioning (A/C) compressor motor controller has detected that the electrical current flowing through phase U of the three-phase motor is higher than the manufacturer's expected limit. The controller compares commanded output with measured current and flags an overcurrent condition that could damage the motor or its drive electronics.

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 entirely or blow warm air while the warning light is on.
- The compressor may fail to engage or may run only briefly before shutting down.
- A burning smell or visible smoke may come from the compressor area in severe cases.
- The climate control panel may show a fault or flash the A/C indicator.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- The engine may idle slightly rougher when the A/C is commanded on due to the load change.

Common causes, most likely first

- 1 A shorted or partially shorted phase U winding inside the A/C compressor motor.
- 2 Damaged or chafed wiring between the motor controller and the compressor, causing a short to ground or to another phase.
- 3 A failing motor controller or inverter module that misreads current or fails to regulate phase current properly.
- 4 A seized or mechanically binding compressor that forces the motor to draw excessive current.
- 5 Loose or corroded high-voltage connectors at the compressor or controller, creating resistance and heat.
- 6 Low or contaminated refrigerant oil causing poor lubrication and increased motor load.
- 7 A faulty current sensor inside the controller that reports false high current.



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm when the overcurrent was detected and whether it is intermittent.
- 2 Inspect the wiring harness and connectors at the compressor and controller for chafing, corrosion, or loose pins.
- 3 Measure the resistance of phase U to ground and to the other phases at the compressor terminals, comparing with specifications.
- 4 Check refrigerant charge and oil condition, and verify the compressor turns freely by hand if accessible.
- 5 Perform a current draw test on phase U with a clamp meter while commanding the A/C on, if the controller allows it.
- 6 Substitute a known-good controller or compressor only after electrical and mechanical checks pass, to avoid replacing good parts.
- 7 Clear the code and road-test with the A/C on to confirm the repair and ensure the code does not return.

What a phase U overcurrent really tells you

- A phase U current high code often appears when the compressor motor is failing, but a bad controller or wiring can mimic the same symptom, so always test the circuit before condemning the compressor.
- Intermittent overcurrent codes frequently trace to a loose high-voltage connector that heats up and increases resistance under load, which is easy to overlook during a static inspection.
- A mechanically binding compressor can draw excessive current without any electrical fault, so checking for free rotation and oil condition is as important as electrical testing.
- Some vehicles set this code when the refrigerant charge is low because the compressor runs hotter and less efficiently, increasing motor load and current draw.
- Do not assume the code means the compressor is dead; a current sensor drift inside the controller can report false high current and lead to unnecessary compressor replacement.

Can I keep driving with P0D7B?

You can drive the vehicle with this code, but avoid using the A/C until it is diagnosed because continued operation with an overcurrent fault can damage the compressor or controller. If you notice a burning smell or smoke, stop using the A/C immediately and have the system inspected.

Tools that help

- OBD-II scan tool with manufacturer-specific software
- Digital multimeter with resistance and continuity functions
- Clamp meter capable of measuring AC current
- Insulation tester (megohmmeter) for high-voltage circuits
- Refrigerant recovery and charging station
- Basic hand tools for connector and component access



Reading P0D7B

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- 7B** The exact fault within that area.

Often seen with

P0D7A A/C Compressor Motor Phase U Current Low · **P0D7C** A/C Compressor Motor Phase V Current Low ·
P0D7D A/C Compressor Motor Phase V Current High · **P0D7E** A/C Compressor Motor Phase W Current Low ·
P0D7F A/C Compressor Motor Phase W Current High

See it working

Watch the animated explainer [How a Catalytic Converter Works: 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0d7b/>

