

GENERIC · POWERTRAIN

P0D74

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0D74

A/C Compressor Control Module Internal Temperature Sensor A Circuit Intermittent/Erratic

P0D74 means the air conditioning (A/C) compressor control module has detected an intermittent or erratic signal from its internal temperature sensor A circuit. The module monitors this sensor to protect the compressor from overheating, and when the signal jumps or drops out, it stores this code and may disable the compressor clutch to prevent damage.

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

Symptoms you may notice

- The A/C may stop cooling intermittently or not engage at all, especially after the system has been running for a while.
- The climate control panel may show a flashing or steady A/C warning light, or the compressor clutch may cycle rapidly.
- You might hear the compressor clutch engaging and disengaging repeatedly in a short period.
- In some vehicles, the blower motor and vent controls work normally but the air stays warm.
- Often no symptoms besides the warning light, because the fault is intermittent and the module may default to a safe strategy only under certain conditions.

Common causes, most likely first

- A failing internal temperature sensor inside the A/C compressor control module, often due to heat fatigue or contamination.
- An intermittent open or short in the sensor wiring harness, commonly at the connector or where the harness flexes near the compressor.
- Corroded, loose, or pushed-back terminals in the compressor control module connector.
- A poor ground connection for the compressor control module, causing erratic sensor readings.
- Internal circuit board faults in the compressor control module, such as cracked solder joints or moisture intrusion.
- Extreme underhood temperatures or a failing compressor that overheats and stresses the sensor circuit.
- Aftermarket or incorrect compressor control module replacement parts that do not match the original calibration.



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then clear the code and test-drive with the A/C on to see if P0D74 returns; note any freeze-frame data such as compressor run time and sensor voltage.
- 2 Visually inspect the compressor control module connector and the sensor wiring for chafing, heat damage, corrosion, or loose pins, and repair any obvious harness faults.
- 3 Measure the sensor circuit resistance or voltage at the module connector and compare with the manufacturer's specification while wiggling the harness to catch intermittent faults.
- 4 Check the compressor control module ground circuit for excessive voltage drop under load, and clean or tighten the ground as needed.
- 5 If the wiring and grounds are good, substitute a known-good compressor control module only if the sensor is not serviceable separately, then recheck for the code.
- 6 If the sensor is serviceable, replace the internal temperature sensor and retest the system through several full A/C cycles.
- 7 After repair, clear all codes and verify the A/C clutch engages smoothly and the compressor runs without intermittent cutouts during a road test.

Intermittent sensor faults that fool technicians

- A common misdiagnosis is replacing the entire A/C compressor when only the internal temperature sensor or its connector is at fault, so always test the sensor circuit before condemning the compressor.
- The code can set from a momentary glitch that leaves no current symptoms, so a simple clear-and-retest may not be enough; you need to monitor live sensor data over several drive cycles.
- Heat-soak after shutdown is a frequent trigger, meaning the fault may only appear after the vehicle sits hot and then restarts, which is why cold-bench testing of the module often passes.
- Poor grounds or a weak battery can cause erratic module behavior that mimics an internal sensor failure, so check charging and ground quality before replacing parts.
- Some vehicles use the same module for compressor control and other functions, so unrelated electrical faults or low system voltage can set this code as a side effect.

Can I keep driving with P0D74?

You can usually drive the vehicle, but the A/C may be intermittent or inoperative, and continued operation with a failing sensor could lead to compressor damage if the module cannot protect it. Avoid long trips in hot weather with the A/C on until the fault is diagnosed, and do not ignore repeated clutch cycling.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with min/max recording
- Back-probe kit or breakout box for connector testing
- Manufacturer service information for sensor specifications and wiring diagrams
- Hand tools for connector and panel access

Reading P0D74

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
D	Hybrid propulsion.
74	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
 · **P0645** A/C Clutch Relay Control Circuit · **P0D73** A/C Compressor Control Module Internal Temperature Sensor A · **P0D75** A/C Compressor Control Module Output Driver Temperature Sens

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0d74/>

