

GENERIC · POWERTRAIN

P0EC6

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0EC6

A/C Refrigerant Temperature Sensor A Circuit High

P0EC6 means the air conditioning (A/C) refrigerant temperature sensor on circuit A is reporting a voltage higher than the computer expects, which usually indicates an open circuit or a sensor that has failed high. The control module compares the sensor signal to a plausible range and sets this code when the reading stays above the calibrated maximum for a set time.

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

Symptoms you may notice

- The A/C warning light or check engine light is illuminated on the dashboard.
- The air conditioning may blow warm or stop cooling altogether because the compressor is disabled.
- The A/C compressor clutch may fail to engage or may cycle rapidly.
- The climate control system may default to a fixed setting or show erratic vent temperatures.
- Often no symptoms besides the warning light, especially if the fault is intermittent or only affects a redundant signal.
- In some vehicles the cooling fans may run continuously as a fail-safe response.

Common causes, most likely first

- A broken, chafed, or disconnected wire in the sensor signal circuit, most often near the compressor or a sharp body edge.
- A failed A/C refrigerant temperature sensor that reads open or high resistance.
- Corroded or loose terminals at the sensor connector or at the control module connector.
- High resistance in a splice or connector caused by water intrusion or vibration.
- A faulty A/C control module or climate control head that misinterprets a good signal.
- A sensor installed with the wrong thread sealant or over-torqued, damaging its internal connection.
- A short to voltage on the signal circuit from a nearby harness, which can mimic a high reading.



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P0EC6, then clear the code and verify whether it returns immediately or only after a drive cycle.
- 2 Inspect the sensor connector and the harness run to the compressor for chafing, corrosion, or a loose pin, and repair any damaged wire.
- 3 Measure the sensor resistance with a multimeter and compare it to the expected value for the ambient temperature, replacing the sensor if it is open or out of range.
- 4 Back-probe the signal wire at the control module and check for a high voltage that does not change when the sensor is unplugged, which points to a short to voltage.
- 5 Check the sensor reference and ground circuits for excessive resistance with a voltage drop test under load.
- 6 If the wiring and sensor test good, substitute a known-good sensor or use a signal simulator to confirm whether the control module is misreading a correct input.
- 7 After repair, clear the code, run the A/C through several full cycles, and confirm the refrigerant temperature reading tracks ambient and vent temperature correctly.

What a high reading really tells you

- A high signal voltage almost always means an open circuit rather than a sensor that is reading hot, so inspect the wiring before condemning the sensor.
- Some vehicles use two refrigerant temperature sensors and set this code only when the two readings disagree, so a good sensor can still trigger the code if its partner is faulty.
- A short to voltage on the signal wire from a nearby harness can produce the same high reading as an open sensor, and unplugging the sensor will not change the scan tool value in that case.
- The A/C compressor may be intentionally disabled by the control module as a protection strategy, so a no-cooling complaint can be a symptom of this code rather than a separate compressor failure.
- Aftermarket refrigerant sealants and stop-leak products can contaminate the sensor tip and cause erratic high readings that come and go with temperature.

Can I keep driving with P0EC6?

You can usually drive the vehicle safely because the fault mainly affects air conditioning comfort, but avoid long trips in hot weather and do not keep clearing the code without diagnosing it. If the cooling fans run continuously or the engine temperature gauge behaves oddly, have it checked promptly.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Wire repair kit with crimp connectors and heat shrink
- Vehicle-specific wiring diagram
- Refrigerant thermometer or temperature probe



Reading P0EC6

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- C6** 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 · **P0EC5** A/C Refrigerant Temperature Sensor A Circuit Low · **P0EC7** A/C Refrigerant Temperature Sensor A Circuit Intermittent/Er

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0ec6/>

