

GENERIC · POWERTRAIN

P0EC5

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0EC5

A/C Refrigerant Temperature Sensor A Circuit Low

P0EC5 means the air conditioning refrigerant temperature sensor on circuit A is reporting a voltage lower than the computer expects, which the control module interprets as an abnormally cold refrigerant reading or a short to ground. The computer sets this code when the sensor signal stays below the calibrated low threshold for a set time, indicating a fault in the sensor, its wiring, or the refrigerant circuit itself.

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

Symptoms you may notice

- The air conditioning may blow warm air or fail to cool the cabin properly.
- The A/C compressor clutch may not engage, or it may cycle on and off rapidly.
- The climate control system may default to a fixed setting or show a temperature sensor error.
- Often no symptoms besides the warning light, especially if the system still cools adequately.
- In some vehicles, the radiator cooling fan may run continuously or not at all due to shared sensor data.

Common causes, most likely first

- A failed refrigerant temperature sensor that reads low or has an internal short.
- A short to ground in the sensor signal wire or connector, often from chafing or moisture intrusion.
- A poor or corroded ground connection at the sensor or chassis, skewing the voltage reference.
- Low refrigerant charge or a system leak that changes the temperature-pressure relationship the sensor monitors.
- A faulty A/C control module or climate control head misinterpreting a valid signal.
- Aftermarket or incorrect sensor replacement with wrong resistance characteristics.



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm the sensor voltage is actually low and not a stored history code.
- 2 Inspect the sensor connector and wiring for corrosion, chafing, or moisture, and perform a wiggle test while watching live data.
- 3 Measure sensor resistance and compare to the manufacturer's temperature-resistance chart to verify sensor accuracy.
- 4 Check the sensor signal circuit for a short to ground using a multimeter with the sensor disconnected.
- 5 Verify system refrigerant charge and pressures, as low charge can mimic a sensor fault on some systems.
- 6 If wiring and charge are correct, replace the refrigerant temperature sensor and clear the code.
- 7 Recheck live data after repair and confirm the code does not return during a complete drive cycle with A/C operation.

What a low refrigerant reading really means

- A low voltage signal does not always mean the sensor failed; a shorted signal wire or a bad ground can pull the voltage down and fool even a good sensor.
- Some systems use the refrigerant temperature sensor to protect the compressor, so a false low reading can disable A/C entirely even when pressures are normal.
- Low refrigerant charge changes the temperature profile inside the system and can trigger this code on vehicles that infer temperature from pressure, so always check charge before condemning the sensor.
- Aftermarket sensors with incorrect resistance curves are a common cause of repeat P0EC5 codes, so use a sensor that matches the original specification.
- A code for sensor circuit A low can be set by a momentary glitch during extreme cold starts, so check for a history-only code before replacing parts.

Can I keep driving with P0EC5?

You can usually drive the vehicle safely, but the air conditioning may not work and the compressor could be disabled to protect the system. Avoid using the A/C until the fault is diagnosed, and do not ignore the code if the defroster relies on A/C operation for windshield clearing.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with resistance and voltage measurement
- Manufacturer's temperature-resistance chart for the sensor
- A/C manifold gauge set for pressure verification
- Basic hand tools and wire probe kit for connector testing



Reading P0EC5

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- C5** 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 · **P0EC4** A/C Refrigerant Temperature Sensor A Circuit Range/Performan · **P0EC6** A/C Refrigerant Temperature Sensor A Circuit 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/p0ec5/>

