



P0ECB

A/C Refrigerant Temperature Sensor B Circuit High

P0ECB means the powertrain control module (PCM) has detected an abnormally high voltage on the signal circuit for the A/C refrigerant temperature sensor B, which is typically a second sensor used to monitor refrigerant temperature at a specific point in the system. The high voltage reading usually indicates an open circuit, a short to voltage, or a sensor that has failed in a way that drives the signal above the normal range.

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

Symptoms you may notice

- The air conditioning may stop cooling or blow warm air because the PCM disables the compressor to protect the system.
- The A/C compressor clutch may fail to engage at all, even when the climate control is set to maximum cooling.
- A warning light on the dashboard, often the A/C system indicator or a generic check engine light, depending on the vehicle.
- The climate control panel may flash or show a fault code for the A/C system on vehicles with automatic climate control.
- Often no symptoms besides the warning light, especially if the sensor is only used for monitoring and the system defaults to a safe strategy.
- In some vehicles, the cooling fans may run continuously or not at all because the PCM lacks a valid refrigerant temperature signal.

Common causes, most likely first

- 1 An open circuit in the signal wire between the A/C refrigerant temperature sensor B and the PCM, often due to a broken wire or corroded connector.
- 2 A short to voltage on the signal circuit, which can be caused by chafed wiring touching a power wire or a faulty component sharing the circuit.
- 3 A failed A/C refrigerant temperature sensor B that internally reads high resistance or open, sending a high voltage signal to the PCM.
- 4 Poor electrical connections at the sensor or PCM, including loose pins, water intrusion, or terminal corrosion.
- 5 A faulty PCM, although this is rare and should only be suspected after all other possibilities are ruled out.
- 6 Aftermarket accessories or improper wiring repairs that have disturbed the sensor circuit.



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data for P0ECB, then clear the code and verify whether it returns immediately or after a drive cycle.
- 2 Visually inspect the A/C refrigerant temperature sensor B and its connector for damage, corrosion, or loose pins, and check the wiring harness for obvious chafing or breaks.
- 3 Measure the sensor's resistance with a multimeter and compare it to the manufacturer's specification for the current temperature; a reading far out of range indicates a failed sensor.
- 4 Backprobe the signal circuit at the sensor connector and at the PCM to check for an open or a short to voltage, using a wiring diagram to identify the correct pins.
- 5 If the circuit tests good, substitute a known-good sensor or simulate the signal with a resistor box to see if the code changes, confirming whether the sensor or the PCM is at fault.
- 6 Repair any wiring faults found, such as splicing a new section of wire or replacing corroded terminals, then clear the code and road-test the vehicle with the A/C on to confirm the repair.
- 7 If the PCM is suspected, perform a thorough circuit integrity test before replacing it, as PCM failure is extremely rare and misdiagnosis is common.

What a high voltage reading really tells you

- A high voltage code on a temperature sensor circuit almost always means the circuit is open or shorted to voltage, not that the refrigerant is actually too hot, so chasing a cooling problem can send you down the wrong path.
- Some vehicles use the refrigerant temperature sensor to control the compressor clutch and cooling fans, so a fault can cause the A/C to stop working entirely even though the refrigerant charge is correct.
- A common mistake is replacing the sensor without checking the wiring harness, especially where it routes near hot components or sharp edges, because a chafed wire is a frequent cause of this code.
- On vehicles with automatic climate control, the A/C control module may store its own codes that can point to the same sensor, so scanning all modules is essential before condemning parts.
- The sensor's resistance changes with temperature, so testing it at the wrong temperature can give a false pass; always compare readings at the actual ambient or system temperature.

Can I keep driving with P0ECB?

You can usually drive the vehicle safely with this code because it primarily affects the air conditioning, but avoid using the A/C until the fault is repaired to prevent unnecessary compressor cycling or fan operation. If the engine cooling fans also stop working, monitor engine temperature closely and avoid heavy traffic or long idles.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Backprobe pins or breakout leads
- Resistor box or sensor simulator
- Basic hand tools for trim and connector removal

Reading P0ECB

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
E	Hybrid propulsion.
CB	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 · **P0ECA** A/C Refrigerant Temperature Sensor B Circuit Low ·
P0ECC A/C Refrigerant Temperature Sensor B Circuit Intermittent/Er

See it working

Watch the animated explainer [How an EGR Valve Works: Exhaust Gas Recirculation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0ecb/>

