

GENERIC · POWERTRAIN

P2CD4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2CD4

A/C Refrigerant Pressure Sensor A/B Correlation

P2CD4 indicates that the powertrain control module (PCM) has detected a correlation error between two air conditioning (A/C) refrigerant pressure sensor signals, labeled A and B, which may be separate sensors or redundant outputs within one sensor. The PCM compares these signals to verify that the A/C system pressure reading is plausible, and it sets this code when the two signals disagree beyond a calibrated threshold for a specified time.

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

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) on the dashboard.
- The air conditioning compressor may be disabled, resulting in no cold air from the vents.
- Intermittent A/C operation, where cooling cuts in and out unpredictably.
- A stored code P2CD4 in the PCM with no other drivability symptoms.
- Often no symptoms besides the warning light, especially if the A/C system still functions normally.
- Possible slight delay or fluctuation in A/C cooling performance under varying engine loads.

Common causes, most likely first

- 1 Faulty A/C refrigerant pressure sensor A or B, including internal signal drift or failure.
- 2 Damaged, chafed, or corroded wiring in the sensor circuit, causing intermittent or high-resistance connections.
- 3 Loose or corroded electrical connectors at either pressure sensor or at the PCM.
- 4 Low refrigerant charge or improper system pressure, leading to out-of-range sensor signals.
- 5 A restriction or blockage in the A/C system that causes abnormal pressure readings.
- 6 PCM software calibration issue or internal PCM fault affecting signal processing.
- 7 Aftermarket or incorrect sensor installed that does not meet OEM signal specifications.



How to diagnose and fix it

- 1 Verify the stored code and check for any related A/C system codes using a scan tool.
- 2 Inspect the A/C refrigerant pressure sensor connectors and wiring for damage, corrosion, or loose pins.
- 3 Measure the reference voltage and ground at each sensor connector to confirm proper power and ground.
- 4 Compare live data from sensor A and sensor B with a scan tool while the A/C is operating to see if the signals diverge.
- 5 Check the A/C system refrigerant charge and pressures with a manifold gauge set to rule out low charge or system restrictions.
- 6 If wiring and pressures are normal, test each sensor's output signal with a multimeter or oscilloscope and replace the faulty sensor.
- 7 After repairs, clear the code and verify that it does not return during a complete A/C operation cycle.

When two pressure sensors disagree

- A common oversight is assuming the sensor is defective when the real problem is a poor ground connection shared by both sensors, which skews one signal relative to the other.
- Low refrigerant charge can cause both sensors to read outside their normal correlation window, so always verify system pressures before condemning a sensor.
- On some vehicles, sensor A and sensor B are redundant outputs inside a single pressure transducer, meaning one internal failure can set this code without any external wiring issue.
- The PCM may disable the A/C compressor as a protective measure when this code is active, so a no-cooling complaint can be a symptom rather than the root cause.
- Aftermarket sensors with incorrect resistance curves are a frequent cause of recurring correlation codes even after replacement.

Can I keep driving with P2CD4?

The vehicle remains safe to drive because this fault primarily affects the air conditioning system and does not impair engine operation or safety systems. Avoid using the A/C until the fault is repaired, as continued operation with a pressure correlation error may risk compressor damage or further system faults.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Manifold gauge set for A/C system pressures
- Oscilloscope for signal analysis
- Wire terminal removal tools and electrical contact cleaner



Reading P2CD4

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- D4** 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
 · **P0534** Air Conditioner Refrigerant Charge Loss · **P0645** A/C Clutch Relay Control Circuit · **P2CD5**
 Turbocharger/Supercharger Bypass Valve C Stuck

See it working

Watch the animated explainer [How a Fuel Injector Works: Pulse Width and Spray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2cd4/>

