

GENERIC · POWERTRAIN

P0EE4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0EE4

A/C Refrigerant Distribution Valve B Control Circuit/Open

P0EE4 indicates that the powertrain control module has detected an open circuit or abnormal voltage on the control circuit for the air conditioning refrigerant distribution valve B. This valve directs refrigerant flow between the cabin evaporator and other heat exchangers, and the module sets the code when the commanded current does not match the expected value.

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

Symptoms you may notice

- The check engine light or A/C system warning light is illuminated on the dashboard.
- Often no symptoms besides the warning light, especially if the valve fails in a default position that still allows partial cooling.
- Reduced or inconsistent air conditioning cooling performance, particularly at low engine speeds or when the system is under high load.
- The A/C compressor may disengage or cycle rapidly as the module attempts to protect the system from improper refrigerant distribution.
- In some vehicles, the climate control panel may display a fault message or flash the A/C indicator.
- A noticeable delay in cooling after startup or a blend of warm and cold air from different vents.

Common causes, most likely first

- A broken, corroded, or disconnected wire in the control circuit between the module and the refrigerant distribution valve B.
- A failed refrigerant distribution valve B solenoid or actuator coil, causing an open circuit internally.
- A loose or damaged electrical connector at the valve, often due to vibration, heat, or moisture intrusion.
- Corrosion or pin damage at the module connector, especially in vehicles exposed to humid or salty environments.
- A short to ground or short to voltage on the control circuit that mimics an open condition.
- A faulty powertrain control module or climate control module driver, though this is less common and should be confirmed last.
- Aftermarket accessories or previous repairs that disturbed the valve wiring harness.



How to diagnose and fix it

- 1 Perform a visual inspection of the valve, its connector, and the wiring harness for obvious damage, corrosion, or loose pins.
- 2 Use a scan tool to command the refrigerant distribution valve B on and off while watching live data to confirm the circuit fault is present.
- 3 Disconnect the valve connector and measure resistance across the valve solenoid; compare to the manufacturer's specification to rule out an open coil.
- 4 Check for battery voltage and ground at the valve connector with the key on, using a multimeter or test light to verify power and ground integrity.
- 5 Perform a voltage drop test on the control circuit and ground circuit to identify high resistance or an open in the wiring.
- 6 If the circuit tests good, substitute a known-good valve or use a bidirectional scan tool to actuate the valve and observe system response.
- 7 Repair or replace the faulty wiring, connector, or valve as needed, then clear the code and verify the repair with a road test and live data review.

What the valve circuit test reveals

- A common oversight is replacing the refrigerant distribution valve without first checking the connector pins, because a backed-out or corroded terminal can set this code even when the valve itself is good.
- This code does not always mean the valve has failed; a shorted or open control wire from a previous repair, rodent damage, or a pinched harness can produce the same open-circuit indication.
- Technicians sometimes misdiagnose P0EE4 as a low refrigerant charge because the cooling symptom is similar, but the code specifically points to an electrical circuit fault rather than a pressure or charge issue.
- On vehicles with a shared bus or smart connector, a fault in another module on the same communication line can cause the control module to report an open circuit for the valve, so check for related communication codes before condemning the valve.
- The valve may default to a bypass or full-open position when the circuit fails, which can mask the electrical fault by still providing some cooling, leading drivers to delay repair until the system performance degrades further.

Can I keep driving with P0EE4?

You can generally continue driving with this code because the air conditioning system is not safety-critical, but avoid long trips in hot weather or heavy traffic where loss of cooling could cause discomfort or heat stress. Have the circuit inspected soon to prevent potential compressor damage from improper refrigerant distribution.



Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with resistance and voltage measurement functions
- Test light or power probe for circuit testing
- Wire terminal removal tools and electrical contact cleaner
- Vehicle-specific wiring diagram or service information access
- Basic hand tools for trim and connector access

Reading P0EE4

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
E	Hybrid propulsion.
E4	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 · **P0EE3** Hybrid/EV Battery Pack F Deterioration · **P0EE5** A/C Refrigerant Distribution Valve B Control Circuit Low

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0ee4/>

