



P0DEC

Hybrid/EV Battery Pack Coolant Control Valve C Control Circuit High

P0DEC indicates that the powertrain control module has detected an abnormally high voltage on the control circuit for the hybrid or electric vehicle battery pack coolant control valve 'C'. This valve regulates coolant flow through the high-voltage battery pack, and a high-voltage condition on its control circuit typically points to an open circuit, a short to voltage, or a faulty valve actuator.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message, often with no other noticeable symptoms.
- Reduced hybrid or electric vehicle performance, possibly entering a limp mode to protect the battery pack.
- Inability to charge the high-voltage battery or charging that stops prematurely.
- Overheating of the battery pack, which may trigger additional warnings or power reduction.
- A coolant leak or unusual coolant smell if the valve fails in a position that causes pressure buildup.
- No noticeable symptoms besides the warning light in many cases, especially if the valve fails in a default position that still allows some coolant flow.

Common causes, most likely first

- 1 An open circuit in the control wire between the coolant control valve and the powertrain control module, often due to a broken wire or loose connector.
- 2 A short to voltage on the control circuit, which can be caused by chafed wiring contacting a power source.
- 3 A failed coolant control valve actuator, such as a burned-out solenoid or stuck armature, causing high resistance or an open circuit.
- 4 Corroded or damaged electrical connectors at the valve or the control module, leading to increased resistance.
- 5 A faulty powertrain control module driver circuit, though this is less common and should be confirmed after other causes are ruled out.
- 6 Internal damage to the valve from debris or coolant contamination that affects the actuator's electrical characteristics.



How to diagnose and fix it

- 1 Perform a visual inspection of the coolant control valve, its connectors, and the wiring harness for signs of damage, corrosion, or loose connections.
- 2 Use a scan tool to command the coolant control valve through its range and observe the control circuit voltage and valve response to confirm the fault.
- 3 Disconnect the valve connector and measure the resistance of the valve actuator; compare to the manufacturer's specification to check for an open or shorted coil.
- 4 Check for voltage on the control circuit with the key on and the valve disconnected; if voltage is present when it should not be, trace the circuit for a short to voltage.
- 5 Perform a voltage drop test on the ground circuit and the control circuit while the valve is commanded on to identify excessive resistance.
- 6 If the wiring and connectors are good, substitute a known-good valve or perform a functional test to see if the code clears and the system operates correctly.
- 7 After repairs, clear the diagnostic trouble codes and verify that the code does not return during a test drive that includes activation of the coolant control valve.

Diagnosing P0DEC Without Throwing Parts

- A high-voltage code on a control circuit often results from a simple open circuit rather than a failed valve, so always check the wiring and connectors before replacing the valve.
- The coolant control valve may share power or ground with other components, so a fault in a related circuit can set this code even if the valve itself is fine.
- Some vehicles use a pulse-width-modulated signal to control the valve; a high-voltage code can be set if the signal wire is shorted to power, which may not be obvious without an oscilloscope.
- After replacing the valve, the cooling system must be bled properly to prevent air pockets that can cause the new valve to overheat and fail prematurely.
- This code can be intermittent, so a wiggle test of the harness while monitoring the control circuit voltage can reveal a poor connection that only acts up under certain conditions.

Can I keep driving with P0DEC?

It is generally not safe to continue driving with this code because the battery pack may not be cooled properly, leading to overheating and potential damage. Avoid heavy acceleration or long drives, and have the vehicle inspected by a qualified technician as soon as possible.



Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Oscilloscope (optional for signal analysis)
- Socket set and trim removal tools

Reading P0DEC

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
D	Hybrid propulsion.
EC	The exact fault within that area.

Often seen with

P0DE8 Hybrid/EV Battery Pack Coolant Control Valve C Control Circu · **P0DE9** Hybrid/EV Battery Pack Coolant Control Valve C Performance/S · **P0DEA** Hybrid/EV Battery Pack Coolant Control Valve C Stuck On · **P0DEB** Hybrid/EV Battery Pack Coolant Control Valve C Control Circu · **P0DED** Pedestrian Alert Control Module Circuit/Open

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/p0dec/>

