



P0CE5

Hybrid/EV Battery Pack Coolant Control Valve Position Sensor Circuit Range/Performance

P0CE5 means the hybrid or electric vehicle battery pack coolant control valve position sensor is reporting a signal outside its expected range or behaving erratically, so the computer cannot trust the valve's actual position. The powertrain control module (PCM) sets this code when the sensor voltage or rationality check fails during commanded valve movement or steady-state operation.

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 hybrid system warning light, often with no other symptoms
- Reduced hybrid/EV performance or a forced limp mode due to battery temperature management being compromised
- Active grille shutters or coolant pump may run continuously as the system tries to cool the pack
- In extreme cases, a message to pull over safely because the high-voltage battery is overheating
- Inconsistent cabin heating or cooling if the coolant control valve also routes coolant to the heater core
- A stored freeze-frame showing the valve commanded to one position while the sensor reports another

Common causes, most likely first

- 1 Coolant control valve actuator motor binding or failing, preventing the valve from reaching the commanded position
- 2 Position sensor internal failure or contamination causing an erratic or out-of-range signal
- 3 Wiring harness damage (chafed, corroded, or pinched wires) between the sensor and the PCM
- 4 Coolant contamination or debris (scale, sludge, or wrong coolant mix) clogging the valve and restricting movement
- 5 Low or aerated coolant level causing the valve to overheat and the sensor to read incorrectly
- 6 PCM software calibration issue or a faulty PCM driver circuit for the valve
- 7 Connector terminal fretting or water intrusion at the valve or PCM connector



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data for P0CE5 before clearing anything
- 2 Inspect the coolant level, condition, and specific gravity; top up or flush if contaminated or low
- 3 Visually inspect the valve connector, sensor wiring, and PCM connector for corrosion, chafing, or loose terminals
- 4 Back-probe the position sensor signal and ground circuits and compare voltage to the manufacturer's specification while commanding the valve with a scan tool
- 5 Command the coolant control valve through its full range with the scan tool and watch for smooth sensor voltage change without dropouts or spikes
- 6 If the valve binds or the sensor signal is erratic, remove the valve and check for mechanical obstruction or debris; replace the valve assembly if damaged
- 7 After repair, clear codes, perform any required valve calibration or coolant bleed procedure, and verify the code does not return during a road test with the battery at operating temperature

What the valve sensor code hides

- A low coolant level or air pocket is the most common cause of this code on systems that have never been serviced, because the valve overheats and the sensor drifts before any mechanical damage occurs.
- The code can set intermittently from a single glitch during a cold start, so a pending P0CE5 with no drivability complaint often clears after a coolant top-up and a calibration drive cycle.
- Technicians who replace the valve without checking the coolant condition frequently see the new valve fail within months because debris from the old coolant contaminates the new sensor.
- A failing hybrid battery coolant pump can cause the same valve position error by creating pressure fluctuations that force the valve off its commanded position, so always check pump operation and coolant flow.
- Some vehicles use the same valve to route coolant to the cabin heater, so a P0CE5 may be accompanied by a no-heat complaint that points to the valve rather than the sensor itself.

Can I keep driving with P0CE5?

You can usually drive a short distance to a repair shop, but avoid heavy acceleration, long climbs, or high ambient temperatures because the battery pack may overheat if the valve is stuck. If the hybrid system warning turns red or the vehicle enters limp mode, stop safely and have it towed.

Tools that help

- OBD-II scan tool with hybrid/EV module access and bidirectional valve control
- Digital multimeter with back-probe pins
- Coolant refractometer or test strips
- Hand tools for valve removal and connector access
- Vacuum coolant refill tool to avoid air pockets



Reading P0CE5

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- E5** The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A93** Inverter A Cooling System Performance · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P0CE4** Hybrid/EV Battery Pack Coolant Control Valve Position Sensor · **P0CE6** Hybrid/EV Battery Pack Coolant Control Valve Position Sensor

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/p0ce5/>

