

GENERIC · POWERTRAIN

P0E22

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E22

Hybrid/EV Battery Pack Coolant Control Valve C Control Circuit Driver Current/Temperature Too High

P0E22 indicates that the hybrid or electric vehicle battery pack coolant control valve 'C' circuit has detected a driver current or temperature that is too high. The battery energy control module monitors the valve driver and sees excessive current draw or overheating, which usually points to a shorted valve solenoid, damaged wiring, or a failing driver inside the control module.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or hybrid system warning light, often with no other noticeable symptoms
- Reduced hybrid/EV battery cooling performance, which may lead to power derating or reduced electric range in hot conditions
- Intermittent or permanent loss of cabin climate control in some vehicles that share the battery coolant loop
- Possible overheating warning or shutdown if the valve remains stuck and battery temperature rises
- A buzzing or clicking noise from the coolant valve area when the ignition is turned on
- In rare cases, the vehicle may enter a fail-safe mode limiting speed or power output

Common causes, most likely first

- 1 Shorted or internally damaged coolant control valve solenoid winding causing excessive current draw
- 2 Chafed, pinched, or shorted wiring in the valve control circuit (power, ground, or signal)
- 3 Corroded or loose electrical connector at the coolant control valve
- 4 Failed driver circuit inside the battery energy control module or hybrid control module
- 5 Coolant contamination or debris causing the valve to bind, which increases driver current as it forces the valve to move
- 6 Overheating of the valve driver due to a poor ground connection or high ambient temperatures
- 7 Aftermarket or incorrect valve replacement with wrong resistance specifications



How to diagnose and fix it

- 1 Use a scan tool to verify P0E22 is current and check for related codes in the hybrid battery control module; record freeze-frame data if available
- 2 Visually inspect the coolant control valve connector and wiring harness for corrosion, chafing, or loose pins, and repair as needed
- 3 Measure the resistance of the coolant control valve solenoid and compare to the manufacturer's specification; replace the valve if out of range
- 4 Check the valve control circuit for shorts to power or ground using a multimeter and wiring diagram; repair any damaged wires
- 5 Test the driver output from the battery energy control module with an oscilloscope or bidirectional scan tool if the valve and wiring test good
- 6 If the driver is faulty, replace or reprogram the battery energy control module according to the manufacturer's procedure
- 7 Clear codes and perform a road test with the scan tool monitoring valve command and current to confirm the repair

Hidden causes of P0E22 valve driver faults

- A binding valve due to contaminated coolant can mimic an electrical driver fault, so always inspect coolant condition and flow before condemning the valve or module.
- The driver current/temperature too high condition can be set by a poor ground connection at the valve or module, which is often overlooked during diagnosis.
- In some vehicles, the coolant control valve is part of a larger coolant manifold assembly, and a fault in an adjacent valve can affect the shared driver circuit.
- After replacing a valve or module, a relearn or calibration procedure is often required; skipping it can cause the code to return immediately.
- The code can be stored intermittently due to heat soak after shutdown, so a cold-start test may not reproduce the fault; always check for history codes and freeze-frame data.

Can I keep driving with P0E22?

It is generally safe to drive with P0E22 if the vehicle is not overheating and no power derating is active, but avoid heavy loads, sustained high speeds, and hot ambient conditions until the fault is repaired. If the hybrid system warning light is on or battery temperature rises, stop driving and seek service to prevent battery damage.



Tools that help

- OBD-II scan tool with hybrid/EV battery module capability
- Digital multimeter with resistance and current measurement
- Oscilloscope for driver circuit analysis
- Manufacturer-specific wiring diagrams and service information
- Socket and wrench set for valve replacement
- Coolant drain pan and replacement coolant

Reading P0E22

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0E20** Hybrid/EV Battery Pack Coolant Control Valve A Control Circuit · **P0E21** Hybrid/EV Battery Pack Coolant Control Valve B Control Circuit · **P0E23** Drive Motor Inverter Temperature Sensor G Circuit

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/p0e22/>

