

GENERIC · POWERTRAIN

P0E1A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E1A

Hybrid/EV Battery Pack Coolant Pump B Control Circuit/Open

P0E1A indicates that the hybrid or electric vehicle battery pack coolant pump B control circuit is open, meaning the powertrain control module has detected no electrical continuity on the command side of that pump's circuit. The computer expects a complete path to operate the pump, and an open circuit prevents it from running, which can lead to battery overheating if left unaddressed.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

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 system power, sometimes accompanied by a turtle or limp-home indicator
- Battery pack temperature warning or a message that the high-voltage battery is overheating
- Active grille shutters or cooling fans running excessively as the system tries to compensate for the inoperative pump
- In some cases, the vehicle may refuse to start or enter a reduced-power mode after the battery reaches a threshold temperature

Common causes, most likely first

- 1 Open circuit in the coolant pump B power or ground wiring, often due to a broken wire or corroded connector
- 2 Failed coolant pump B motor or internal open winding
- 3 Blown fuse or faulty relay supplying power to the coolant pump B circuit
- 4 Damaged or disconnected electrical connector at the pump or at the control module
- 5 Faulty powertrain control module driver for the pump circuit, though this is less common
- 6 Rodent damage or chafed wiring harness along the pump circuit path



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related coolant pump or battery temperature codes before proceeding
- 2 Inspect the coolant pump B electrical connector and wiring for corrosion, damage, or loose pins
- 3 Check the fuse and relay that supply power to the coolant pump B circuit and replace if faulty
- 4 Measure resistance across the pump motor terminals to check for an open winding, comparing to specification
- 5 Perform a voltage drop test on the power and ground sides of the circuit while commanding the pump on with a scan tool
- 6 If the circuit tests good, command the pump with a bidirectional scan tool to confirm operation and replace the pump if it fails to run
- 7 Clear the code and verify the repair by running the vehicle through a drive cycle that activates the battery cooling system

What a pump circuit open really means

- An open circuit code does not always mean the pump itself has failed; a simple unplugged connector or a broken wire from road debris can set this code.
- Some vehicles will not command the coolant pump until the battery reaches a certain temperature, so the pump may test fine when cold and the code may be intermittent.
- A weak or failing 12-volt auxiliary battery can cause erratic module behavior and set false open-circuit codes on pump control circuits.
- After replacing a pump, some manufacturers require a relearn or adaptation procedure with a scan tool to avoid a repeat code.
- Corrosion inside a connector can create an open circuit that only appears under vibration or temperature changes, so wiggle tests are essential during diagnosis.

Can I keep driving with P0E1A?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, long trips, or high ambient temperatures because the battery pack may overheat without coolant circulation. If a battery temperature warning appears, stop driving and have the vehicle towed to prevent damage.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wire piercing probes or back probe pins
- Fuse puller and test light
- Service information for wiring diagrams and pump specifications



Reading P0E1A

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 1A** The exact fault within that area.

Often seen with

P0A93 Inverter A Cooling System Performance · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0E19** Hybrid/EV Battery Pack Coolant Heater B Control Performance · **P0E1B** Hybrid/EV Battery Pack Coolant Pump B Control Circuit Low · **P0E1C** Hybrid/EV Battery Pack Coolant Pump B Control Circuit High

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0e1a/>

