

GENERIC · POWERTRAIN

P0E1B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E1B

Hybrid/EV Battery Pack Coolant Pump B Control Circuit Low

P0E1B means the hybrid or electric vehicle battery pack coolant pump B control circuit is reporting a low-voltage condition, so the computer has detected a short to ground, an open return path, or excessive current draw on that control wire. The battery pack cooling loop is critical for keeping the high-voltage pack at a safe operating temperature, so the controller flags this fault when the pump command circuit cannot maintain the expected voltage.

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

Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Often no symptoms besides the warning light if the pump still runs intermittently
- Reduced or disabled battery pack cooling, leading to limited power output or forced EV mode restrictions
- Overheating warnings for the high-voltage battery pack during sustained driving or fast charging
- Audible coolant pump noise that stops or changes pitch unexpectedly
- Possible reduced electric range or charging speed as the controller derates the pack

Common causes, most likely first

- 1 Damaged or chafed control circuit wiring between the battery coolant pump B and its control module
- 2 Corroded or loose electrical connector at the coolant pump B or at the control module
- 3 Failed coolant pump B motor with an internal short to ground
- 4 Faulty coolant pump control module or driver circuit inside the battery energy control module
- 5 Coolant intrusion into the pump connector or wiring harness causing a low-resistance path to ground
- 6 Blown fuse or damaged relay in the pump B power supply circuit
- 7 Poor ground connection shared by the pump B control circuit



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data for P0E1B before clearing anything
- 2 Visually inspect the coolant pump B connector, wiring harness, and ground points for corrosion, chafing, or coolant residue
- 3 Measure resistance and voltage drop on the pump B control circuit from the control module to the pump, comparing against the manufacturer's specification
- 4 Command the coolant pump B on with a bidirectional scan tool and verify actual pump operation and current draw
- 5 Check the pump B power supply fuse and relay, and confirm battery voltage at the pump connector with the key on
- 6 If the circuit tests good, substitute a known-good pump or perform an actuator test to isolate the pump from the control module
- 7 Repair or replace the faulty wiring, connector, pump, or control module as indicated, then clear codes and verify the repair with a road test

What a low pump circuit really means

- A low control circuit code does not always mean the pump has failed; a shorted or chafed control wire can set the same code while the pump itself is still functional.
- Coolant intrusion into the pump connector is a common hidden cause on hybrid and EV battery cooling systems, and it often looks like a pump failure until the connector is opened and inspected.
- Technicians sometimes replace the coolant pump only to find the control module driver circuit is shorted internally, so always test the control wire for a short to ground before condemning the pump.
- The battery pack coolant pump may run only under certain temperature or charging conditions, so a pump that appears dead during a quick key-on check can still be commanded on later by the controller.
- A weak or corroded ground shared with other battery cooling components can pull the control circuit low and set P0E1B without any fault in the pump or its dedicated wiring.

Can I keep driving with P0E1B?

You can usually drive a short distance to a repair shop, but avoid sustained high-speed driving, repeated fast charging, and heavy electrical loads until the fault is repaired. If the hybrid system warning turns red or the vehicle limits power, stop safely and have it towed to prevent battery pack overheating damage.



Tools that help

- Bidirectional scan tool with hybrid/EV battery cooling actuator tests
- Digital multimeter with voltage drop and resistance measurement
- Wiring diagram and connector pinout for the battery coolant pump B circuit
- Back probe kit for testing connectors without damage
- Insulation resistance tester for checking shorts to ground

Reading P0E1B

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0C73** Hybrid Battery Pack Cooling Pump Performance
 · **P0E1A** Hybrid/EV Battery Pack Coolant Pump B Control Circuit/Open · **P0E1C** Hybrid/EV Battery Pack Coolant Pump B Control Circuit High · **P0E1D** Hybrid/EV Battery Pack Coolant Pump B Control Performance

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/p0e1b/>

