

GENERIC · POWERTRAIN

P0E13

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E13

Hybrid/EV Battery Pack Coolant Heater A Control Circuit Low

P0E13 indicates that the hybrid or electric vehicle battery pack coolant heater control circuit is reporting a low voltage condition, meaning the control module has detected a short to ground or an abnormally low signal on the heater's activation circuit. The computer expects a certain voltage on the control wire when the heater is commanded on or off, and a low reading falls outside the acceptable range.

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 service vehicle soon message
- Often no symptoms besides the warning light, especially in mild weather
- Reduced or disabled battery pack heating, which may delay fast charging or reduce range in cold temperatures
- Possible derating of hybrid or EV performance to protect the battery pack
- In some cases, a no-start condition if the battery management system inhibits operation due to the fault
- A stored freeze-frame showing low control circuit voltage when the heater was commanded on

Common causes, most likely first

- 1 A short to ground in the coolant heater control wire, often from chafing against a metal bracket or heat shield
- 2 A failed coolant heater element or internal heater control module shorting the control circuit
- 3 Corroded, loose, or water-intruded connector pins at the heater or battery management controller
- 4 A faulty battery management controller or control module driver internally shorted low
- 5 Rodent damage or pinched wiring harness along the heater circuit path
- 6 Aftermarket accessories or improper previous repairs tapping into the heater circuit
- 7 A poor ground connection shared with the heater circuit causing a false low reading



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P0E13, then inspect the coolant heater harness and connectors for visible damage, corrosion, or moisture
- 2 Disconnect the heater connector and measure resistance from the control circuit to ground to check for a short, comparing to manufacturer specifications
- 3 Back-probe the control circuit at the battery management controller and command the heater on with a scan tool to verify the voltage signal changes as expected
- 4 Inspect and test the shared ground points for the heater circuit and clean or tighten any suspect connections
- 5 If the circuit tests good, substitute a known-good coolant heater or control module to isolate an internal short
- 6 Repair or replace the shorted harness section, connector pins, or failed heater component as indicated by testing
- 7 Clear codes, perform any required relearn or adaptation procedures, and verify the heater operates correctly with no return of the fault

What a low heater circuit really means

- A low control circuit code does not automatically condemn the heater; a shorted section of harness or a corroded connector often mimics a failed heater and is far cheaper to fix.
- Many vehicles set this code only after a commanded heater self-test, so the fault may not appear until the first cold morning or a specific charging event.
- Water intrusion into the heater connector is a common cause that visual inspection from above misses; unplug the connector and look for green corrosion or moisture inside.
- A shared ground that is loose or corroded can pull the control circuit voltage low and set this code even when the heater and wiring are otherwise healthy.
- Aftermarket accessories or previous repairs that tapped into the heater circuit can create a low-resistance path to ground that the module interprets as a circuit fault.

Can I keep driving with P0E13?

You can generally drive the vehicle with this code, but avoid relying on fast charging or maximum performance in cold weather because battery heating may be disabled. If the vehicle enters a reduced-power mode or refuses to start, have it inspected before continuing to drive.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with back-probe pins
- Wiring diagram and connector pinout for the specific vehicle
- Insulation piercing probes or breakout box
- Trim removal tools and a flashlight or inspection mirror



Reading P0E13

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A0F** Engine Failed to Start · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P0E14** Hybrid/EV Battery Pack Coolant Heater A Control Circuit High · **P0E15** Hybrid/EV Battery Pack Coolant Heater A 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/p0e13/>

