

GENERIC · POWERTRAIN

P0E7E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E7E

Auxiliary Cooling Coolant Temperature Sensor A Circuit High

P0E7E means the powertrain control module (PCM) has detected an abnormally high voltage on the signal circuit of the auxiliary cooling coolant temperature sensor A. This sensor monitors the temperature of the coolant in the auxiliary cooling loop, and a high voltage reading typically indicates an open circuit, a short to voltage, or a sensor that has failed in a way that drives the signal above the normal range.

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, often with no other noticeable symptoms.
- Auxiliary cooling fan may run continuously or not at all, depending on the failure mode.
- Reduced cooling performance for the auxiliary system, such as a cabin cooler or battery pack chiller.
- Possible overheating warning or derating of the auxiliary system if the PCM substitutes a default value.
- In some vehicles, the driver may notice a message indicating a cooling system fault or reduced power.
- No drivability complaints in many cases because the fault is isolated to the auxiliary cooling circuit.

Common causes, most likely first

- 1 Open circuit in the sensor signal wire, such as a broken wire or disconnected connector.
- 2 Corroded, loose, or damaged electrical connector at the sensor or PCM.
- 3 Sensor internal failure causing the signal voltage to stay high.
- 4 Short to voltage on the signal circuit, often from chafed wiring near a heat source or moving component.
- 5 Faulty PCM driver or internal circuit for the sensor input, though this is less common.
- 6 Poor ground connection for the sensor, which can skew the voltage reading high.

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in the auxiliary cooling system.
- 2 Inspect the sensor connector and wiring for corrosion, damage, or loose pins, and repair as needed.
- 3 Measure the sensor resistance and compare it to the manufacturer's specification for the current temperature.
- 4 Backprobe the signal circuit at the sensor and at the PCM to check for an open or short to voltage.
- 5 Check the sensor ground circuit for excessive resistance or an open circuit.
- 6 If the wiring and ground are good, replace the auxiliary cooling coolant temperature sensor A.
- 7 Clear the code and test-drive the vehicle to confirm the repair and ensure the code does not return.



Auxiliary coolant sensor high voltage traps

- A high voltage code often results from a simple unplugged connector after service work, so always check for a disconnected sensor before condemning parts.
- The auxiliary cooling system may use a separate coolant loop from the engine, and low coolant in that loop can cause the sensor to read out of range.
- Some vehicles set this code when the sensor circuit is open, but the sensor itself may still be good; resistance testing the sensor and wiring separately is essential.
- A short to voltage on the signal wire can be intermittent and may only appear when the harness is moved, so wiggle-test the wiring while monitoring live data.
- The PCM may default to a fixed temperature value when this code is set, masking the fault and making the auxiliary cooling system run on a fixed strategy.

Can I keep driving with P0E7E?

You can usually drive the vehicle with this code, but avoid heavy loads or conditions that demand maximum auxiliary cooling, such as towing or extended idling in hot weather. If the auxiliary system is critical for battery or cabin cooling, have it diagnosed promptly to prevent overheating or reduced performance.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the auxiliary cooling circuit
- Backprobe pins or breakout box
- Basic hand tools for connector and sensor access

Reading P0E7E

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
E	Hybrid propulsion.
7E	The exact fault within that area.

Often seen with

P0E7D Auxiliary Cooling Coolant Temperature Sensor A Circuit Low · **P0E7F** Auxiliary Cooling Coolant Temperature Sensor A Circuit Inter · **P0E80** Battery Charger B Temperature Sensor Circuit · **P0E81** Battery Charger B Temperature Sensor Circuit Range/Performan · **P0E82** Battery Charger B Temperature Sensor Circuit Low



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/p0e7e/>

