

GENERIC · POWERTRAIN

P00E1

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P00E1

Charge Air Cooler Coolant Temperature Sensor A Circuit High

P00E1 indicates that the powertrain control module has detected an abnormally high voltage on the signal circuit of the charge air cooler coolant temperature sensor, which is used to monitor the temperature of the coolant in the air-to-liquid intercooler system. The high voltage reading typically means the sensor circuit is open, shorted to voltage, or the sensor itself has failed, preventing accurate temperature feedback for charge air cooling strategy.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine performance or power derate due to protective strategies
- Poor fuel economy or increased emissions as the PCM substitutes default values
- In rare cases, overheating of the charge air cooler system if the fault masks a real temperature issue
- Intermittent drivability issues if the circuit fault is temperature or vibration sensitive

Common causes, most likely first

- 1 Open circuit in the sensor signal wire, such as a broken wire or disconnected connector
- 2 Short to voltage on the signal circuit, often from chafed wiring contacting a power wire
- 3 Failed charge air cooler coolant temperature sensor
- 4 Corroded or damaged sensor connector terminals causing high resistance
- 5 Faulty powertrain control module, though this is uncommon
- 6 Poor ground connection for the sensor circuit, leading to a reference voltage shift



How to diagnose and fix it

- 1 Verify the code with a scan tool and check live data for the charge air cooler coolant temperature sensor to confirm an abnormally high voltage reading
- 2 Inspect the sensor connector and wiring harness for obvious damage, corrosion, or loose pins, and repair as needed
- 3 Measure the sensor resistance with a multimeter and compare to specifications; replace the sensor if out of range
- 4 Check for continuity and voltage drops on the signal and ground circuits between the sensor and PCM to locate opens or shorts
- 5 If wiring is intact, substitute a known-good sensor or simulate the signal with a resistor box to see if the code changes
- 6 Clear the code and perform a road test to verify the repair, monitoring live data for normal temperature readings

Don't overlook the intercooler coolant pump

- A failing charge air cooler coolant pump can cause the sensor to read incorrectly, but the code may still set as high voltage if the sensor circuit is affected by heat or vibration.
- The sensor is often located in a difficult-to-reach area, and technicians may misdiagnose a wiring issue as a sensor failure without proper circuit testing.
- High voltage on the signal circuit can also be caused by a poor ground at the sensor, which shifts the reference voltage and is easily missed if only the signal wire is checked.
- This code does not always mean the sensor is bad; a short to voltage from a nearby circuit, such as an injector or ignition wire, can induce a false high reading.
- After repairs, the PCM may need to relearn the sensor's range, so clearing the code and performing a drive cycle is essential to confirm the fix.

Can I keep driving with P00E1?

It is generally safe to continue driving with this code, but avoid heavy loads or sustained high-speed driving that could stress the charge air cooling system. If the engine enters a reduced power mode or you notice overheating, have the vehicle inspected promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Resistor box for signal simulation
- Basic hand tools for connector and sensor access



Reading P00E1

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- E1** The exact fault within that area.

Often seen with

P00E0 Charge Air Cooler Coolant Temperature Sensor A Circuit Low · **P00E2** Charge Air Cooler Coolant Temperature Sensor A Intermittent/ · **P00E3** Exhaust Heat Exchanger Exhaust Bypass Valve A Stuck Open · **P00E4** Exhaust Heat Exchanger Exhaust Bypass Valve A Stuck Closed · **P00E5** Intake Air Temperature/Fuel Temperature Correlation

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00e1/>

