

GENERIC · POWERTRAIN

P00EB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P00EB

Intake Air Temperature Sensor 3 Circuit High Bank 1

P00EB is a generic powertrain code indicating that the engine control module has detected an abnormally high voltage signal on the intake air temperature sensor 3 circuit for bank 1. The sensor 3 is typically a second or auxiliary intake air temperature sensor used on some engines to monitor air temperature at a different location, and a high voltage reading usually means the circuit is open or the sensor's internal resistance has increased beyond the expected range.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

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.
- Rough idle or hesitation when the engine is cold, as the computer may misjudge air density.
- Poor fuel economy or rich-running condition due to incorrect temperature input.
- Intermittent stalling or surging during acceleration in some cases.
- Failed emissions test due to incorrect air-fuel ratio calculations.
- A stored freeze-frame data showing intake air temperature reading far below actual ambient temperature.

Common causes, most likely first

- 1 Open circuit in the sensor 3 signal wire, such as a broken wire or disconnected connector.
- 2 Failed intake air temperature sensor 3 due to an internal open circuit or high resistance.
- 3 Corroded or damaged electrical connector pins at the sensor or engine control module.
- 4 High resistance in the ground circuit for sensor 3, causing a voltage offset.
- 5 Engine control module internal fault on the sensor input channel, though this is less common.
- 6 Aftermarket wiring modifications or poor previous repairs introducing resistance.
- 7 Extreme cold ambient temperatures combined with a sensor at the edge of its range, though this usually sets a different code.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check live data for intake air temperature sensor 3 to confirm an abnormally low reading.
- 2 Inspect the sensor 3 connector and wiring for looseness, corrosion, or physical damage, and repair as needed.
- 3 Measure the resistance of the sensor 3 with a multimeter and compare it to the manufacturer's temperature-resistance chart.
- 4 Check for continuity and voltage drop on the signal and ground circuits between the sensor and the engine control module.
- 5 If the wiring and connector are good but the sensor resistance is out of specification, replace the sensor.
- 6 Clear the code and perform a road test to verify the repair and ensure the code does not return.
- 7 If the code persists after all checks, diagnose the engine control module or seek professional help for module testing.

What a high voltage reading really means

- A high voltage on an intake air temperature sensor circuit almost always indicates an open circuit or a sensor with excessive resistance, not a short to power, because the sensor is a negative temperature coefficient thermistor that lowers resistance as temperature rises.
- Many vehicles use multiple intake air temperature sensors for different purposes, and sensor 3 is often located in the intake manifold or after the turbocharger, so a code for sensor 3 does not always point to the primary sensor near the air filter.
- A common misdiagnosis is replacing the sensor when the real problem is a chafed wire harness near a hot exhaust component or a corroded ground splice that affects multiple sensors.
- The engine may run acceptably with this code because the computer can substitute a default intake air temperature value, so the absence of driveability symptoms does not mean the fault is unimportant for emissions and fuel economy.
- On some vehicles, a faulty sensor 3 can cause the computer to command an incorrect fuel mixture that leads to carbon buildup or spark plug fouling over time, even if the driver notices nothing initially.

Can I keep driving with P00EB?

The vehicle is generally safe to drive with this code because the engine control module substitutes a default temperature value, but you should avoid heavy acceleration or towing until the fault is repaired to prevent potential rich-running conditions. Have the circuit inspected soon to maintain fuel economy and emissions compliance.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire piercing probes or back-probe kit
- Service information with wiring diagrams and resistance charts
- Basic hand tools for connector and sensor access

Reading P00EB

- 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.
- EB** The exact fault within that area.

Often seen with

P00E9 Intake Air Temperature Sensor 3 Circuit Range/Performance Ba · **P00EA** Intake Air Temperature Sensor 3 Circuit Low Bank 1 · **P00EC** Intake Air Temperature Sensor 3 Circuit Intermittent/Erratic · **P0112** Intake Air Temperature Circuit Low Input · **P0113** Intake Air Temperature Circuit High Input

See it working

Watch the animated explainer [How a Car Thermostat Works: Wax Pellet and Cooling Fan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00eb/>

