

GENERIC · POWERTRAIN

P00DB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P00DB

Ambient Air Temperature Sensor Circuit B Low

P00DB indicates that the powertrain control module has detected an abnormally low voltage signal from the ambient air temperature sensor circuit B, which is used to measure the outside air temperature. The circuit is typically a two-wire design where the sensor varies resistance with temperature, and the PCM interprets a low signal as either an extremely cold reading or a short to ground.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Low	Intermediate	Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the sensor reads only slightly low.
- Outside temperature display on the dashboard shows a fixed, implausibly cold value or dashes.
- Climate control system may default to a fixed temperature strategy or stop automatic air mixing.
- Cold-start fuel enrichment may be slightly off, causing rough idle or hesitation when the engine is cold.
- Remote start or heated mirror functions may be inhibited on vehicles that rely on ambient temperature data.
- In rare cases, the engine cooling fan may run continuously because the PCM misinterprets ambient temperature.

Common causes, most likely first

- Ambient air temperature sensor B itself has failed with an internal short or shifted resistance.
- Corroded, chafed, or broken wiring between the sensor and the PCM, particularly at the sensor connector.
- Water intrusion into the sensor connector or sensor housing causing a short to ground.
- A short to ground on the signal wire between the sensor and the PCM.
- Poor ground connection at the sensor return circuit, causing a low voltage reading.
- PCM internal fault on the ambient temperature input circuit, though this is the least likely cause.

How to diagnose and fix it

- 1 Inspect the ambient air temperature sensor B and its connector for corrosion, water intrusion, or physical damage.
- 2 Disconnect the sensor and measure its resistance at the current ambient temperature, then compare to the manufacturer's resistance chart.
- 3 Check the signal wire and ground wire for continuity and for shorts to ground using a digital multimeter.
- 4 Backprobe the sensor connector with the key on and compare the signal voltage to the expected range for the current temperature.
- 5 If wiring and sensor test good, substitute a known-good sensor and clear the code to see if it returns.
- 6 If the code persists with a known-good sensor and verified wiring, check the PCM connector for terminal tension and corrosion.
- 7 Clear the code after repair and verify the ambient temperature reading agrees with a known reference on a scan tool.

Why ambient sensor codes mislead

- A low signal does not always mean the sensor is bad; a short to ground anywhere on the signal wire will produce the same low-voltage reading at the PCM.
- The ambient air temperature sensor is often shared with the outside temperature display, so a dead display is a strong clue that the circuit, not the engine, is at fault.
- On many vehicles the ambient sensor is mounted behind the front bumper where it is exposed to road splash, making connector corrosion the most common root cause.
- Technicians sometimes replace the sensor only to find the code returns because the ground wire has high resistance at a splice or body ground point.
- A P00DB can be set by a momentary short during a jump start or battery replacement, so always check for a history code before condemning parts.

Can I keep driving with P00DB?

The vehicle remains safe to drive because the ambient air temperature sensor does not affect core engine operation, but you should avoid relying on the outside temperature display and address the code when convenient to prevent secondary climate control issues.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Manufacturer-specific resistance chart for the ambient temperature sensor
- Wire terminal pick and electrical contact cleaner
- Basic hand tools for bumper or trim removal if required



Reading P00DB

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

Often seen with

- P0071** Ambient Air Temperature Sensor Range/Performance · **P0072** Ambient Air Temperature Sensor Circuit Low · **P0073** Ambient Air Temperature Sensor Circuit High · **P00D9** Ambient Air Temperature Sensor Circuit B · **P00DC** Ambient Air Temperature Sensor Circuit B High

See it working

Watch the animated explainer [How a Helicopter Flies: Rotor and Tail in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00db/>

