

VOLKSWAGEN · POWERTRAIN

P1131

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1131 · Volkswagen

Bank 2 Sensor 1 Resistance Too High

P1131 on Volkswagen vehicles indicates that the engine control module has detected an excessively high resistance in the heater circuit of the oxygen sensor located in bank 2, sensor 1, which is the upstream sensor before the catalytic converter on the bank opposite cylinder one. The computer monitors the current flow through the sensor heater and flags this code when the resistance exceeds the expected threshold, typically because the heater element has degraded or the wiring has developed excessive resistance.

SYSTEM

Powertrain

CODE TYPE

**Volkswagen
specific**

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

**Fuel and air
metering**

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Slightly rough idle or hesitation during cold starts while the sensor heater is active
- Increased fuel consumption as the engine control module may default to a less efficient fueling strategy
- Occasional misfire codes or lean/rich mixture codes if the sensor response is also affected
- Failed emissions test due to the oxygen sensor monitor not completing
- In rare cases, a noticeable delay in closed-loop fuel control after a cold start

Common causes, most likely first

- 1 Failed heater element inside the bank 2 upstream oxygen sensor
- 2 Corroded or damaged electrical connector at the oxygen sensor
- 3 Chafed or broken wires in the sensor harness, especially near the exhaust manifold
- 4 High resistance in the sensor ground circuit or heater power supply
- 5 Poor connection at the engine control module connector for the sensor heater circuit
- 6 Aftermarket oxygen sensor with incorrect heater resistance specification
- 7 Contamination of the sensor element from coolant or oil ingress, which can also affect heater performance



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm the code is active and not a stored history code
- 2 Visually inspect the bank 2 sensor 1 connector and harness for corrosion, chafing, or loose pins
- 3 Measure the resistance of the oxygen sensor heater circuit with a multimeter and compare to the manufacturer's specification
- 4 Check the heater power supply and ground circuits for excessive voltage drop under load
- 5 If resistance is out of specification, replace the bank 2 sensor 1 oxygen sensor with an OEM-quality part
- 6 Clear the code and perform a road test to verify the heater circuit monitor completes and the code does not return
- 7 If the code persists, inspect the engine control module connector and wiring for intermittent faults

What the heater resistance code really tells you

- A high resistance code often sets because the heater element has aged and its resistance drifted upward, not because the sensor's signal output is faulty, so replacing the sensor is usually the correct fix.
Volkswagen oxygen sensor heaters are powered through a fuse and relay, and a blown fuse or failing relay can mimic a sensor failure by causing an open circuit that the module interprets as high resistance.
- The bank 2 sensor 1 location on many VW engines is difficult to access, and technicians sometimes damage the connector or harness during replacement, creating a new high-resistance fault.
- This code can be set by a poor ground connection at the engine block or chassis, so checking ground straps and cleaning mounting points is a worthwhile step before condemning the sensor.
On some Volkswagen models, the oxygen sensor heater circuit is monitored only after a cold start, so the code may not reappear immediately after clearing if the engine is already warm.

Can I keep driving with P1131?

You can generally continue driving with this code, but avoid extended idling and heavy load until it is repaired, because the engine may run richer and fuel economy will suffer. Have the fault diagnosed soon to prevent potential catalytic converter damage from prolonged rich operation.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific Volkswagen model
- Socket set and oxygen sensor wrench
- Contact cleaner and dielectric grease



Reading P1131

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Volkswagen): its meaning depends on the make.
- 1** Fuel and air metering.
- 31** The exact fault within that area.

Often seen with

P1129 Long Term Fuel Trim Bank 2 System Too Rich · **P1130** Long Term Fuel Trim Bank 2 System Too Lean · **P1129** Electric Throttle Control System · **P1130** Air/Fuel Sensor Circuit Range Performance Bank 1 Sensor 1 · **P1130** Front Oxygen Sensor Circuit Malfunction Open Circuit · **P1129** MAP Higher Than Expected · **P1130** Swirl Control Valve Control Solenoid Valve · **P1129** Downstream HO2S Sensors Swapped · **P1130** HO2S Bank 1 Sensor 1 Not Switching Fuel Control Limit Reached · **P1129** MAP Higher Than Expected · **P1130** HO2S Circuit Low Variance Bank 1 Sensor 1 · **P1129** Downstream Heated Oxygen Sensor Signals Reversed · **P1130** Lack of Upstream Heated Oxygen Sensor Switch Adaptive Fuel L · **P1130** HO2S Circuit Low Variance Bank 1 Sensor 1 · **P0155** O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 1) · **P0130** O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) · **P0135** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1)

See it working

Watch the animated explainer [How Variable Valve Timing Works: Cam Phaser and VVT Solenoid](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1131/>

