

VOLKSWAGEN · POWERTRAIN

P1448

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1448 · Volkswagen

Catalyst Temperature Sensor 2 Circuit Short To Ground

P1448 on Volkswagen vehicles means the engine control module has detected an abnormally low voltage on the signal circuit of the second catalyst temperature sensor, which is the post-catalyst sensor on the bank 1 exhaust. The computer interprets this near-zero voltage as a short directly to ground, so it flags the circuit fault and may disable catalyst monitoring until the problem is repaired.

SYSTEM

Powertrain

CODE TYPE

Volkswagen specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A stored P1448 code with no drivability complaints in many cases
- Slightly higher fuel consumption if the fault affects catalyst protection strategies
- Failed emissions inspection because the catalyst monitor will not complete
- In rare cases, a rough idle or hesitation if the shorted sensor circuit disturbs shared sensor reference voltage
- No obvious exhaust smell or overheating unless the sensor itself has failed internally

Common causes, most likely first

- 1 Damage to the sensor signal wire where it rubs against the exhaust heat shield or chassis, wearing through the insulation and contacting ground
- 2 Corrosion or water intrusion in the sensor connector, creating a conductive path to ground
- 3 Internal failure of the catalyst temperature sensor 2, shorting the signal element to its metal housing
- 4 A pinched or crushed harness section near the transmission bell housing or subframe during previous repairs
- 5 Loose or corroded ground strap between the engine and chassis, causing the sensor return path to float and appear shorted
- 6 Faulty engine control module driver on the sensor input, though this is rare and should be confirmed last



How to diagnose and fix it

- 1 Clear the code and test-drive to confirm it returns, then check freeze-frame data for the exact conditions when it set
- 2 Inspect the catalyst temperature sensor 2 connector and harness for chafing, corrosion, or pinched wires, repairing any damage found
- 3 Measure resistance from the sensor signal pin to a clean chassis ground with the sensor disconnected; a near-zero reading indicates a harness short
- 4 Disconnect the engine control module connector and check for continuity to ground on the signal circuit to isolate whether the short is in the harness or the module
- 5 If the harness tests good, measure the sensor element resistance and compare to the manufacturer's specification for the current exhaust temperature
- 6 Replace the catalyst temperature sensor 2 if it is internally shorted, using the correct Volkswagen part for the engine and emissions calibration
- 7 After repair, clear codes and run the catalyst monitor to completion to verify the fix and confirm readiness for emissions testing

What the short to ground really means

- A short to ground on this circuit often comes from the sensor wire touching the exhaust heat shield rather than from a failed sensor, so inspect the harness routing before buying parts.
- The engine control module may substitute a calculated catalyst temperature and keep the engine running normally, which is why many drivers notice nothing beyond the warning light.
- Water intrusion into the connector after steam cleaning or deep water fording can create a temporary short that sets P1448 intermittently and clears after the connector dries.
- A poor engine ground can make the sensor signal appear shorted to ground even when the sensor and harness are healthy, so always verify ground integrity before condemning the module.
- This code does not always mean the catalytic converter is failing; the sensor monitors converter temperature, and a circuit fault can set even when the converter is working correctly.

Can I keep driving with P1448?

The vehicle is generally safe to drive with P1448 because the engine management system substitutes a calculated catalyst temperature, but avoid ignoring it for long periods. Have the circuit inspected soon, especially before an emissions test, and avoid steam cleaning or pressure washing the engine bay until the fault is repaired.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with resistance and continuity functions
- Wiring diagram for the specific Volkswagen model and engine
- Jack and jack stands or ramps for underbody harness inspection
- Contact cleaner and dielectric grease for connector service
- Heat-resistant wire loom and electrical tape for harness repair

Reading P1448

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Volkswagen): its meaning depends on the make.
4	Auxiliary emission controls.
48	The exact fault within that area.

Often seen with

P1447 Catalyst Temperature Circuit Open Short To B+ · **P1449** Catalyst Temperature Sensor 2 Circuit Open Short To B+ · **P1447** EVAP Control System Purge Flow Monitoring · **P1449** Evaporative Check Solenoid Circuit · **P1449** Canister Drain Cut Valve Open Or Short 1.8L · **P1447** ELC System Closure Valve Flow · **P1447** Diagnostic Module Tank Leakage DM-TL Pump Too High During Sw · **P1449** Diagnostic Module Tank Leakage DM-TL Pump Too High · **P0136** O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1) · **P0430** Catalyst System Efficiency Below Threshold (Bank 2)

See it working

Watch the animated explainer [How a Turbocharger Works, Step by Step](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1448/>

