

VOLKSWAGEN · POWERTRAIN

P1446

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1446 · Volkswagen

Catalyst Temperature Circuit Short To Ground

P1446 on Volkswagen vehicles means the engine control module (ECM) has detected a short to ground on the catalyst temperature sensor circuit, which is used to monitor the temperature of the catalytic converter on certain models. The ECM expects a specific voltage range from the sensor and sees a signal that is pulled too low, indicating a wiring fault rather than a normal temperature reading.

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 (malfunction indicator lamp) on the dashboard.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- Possible slight decrease in fuel economy if the ECM enters a default operating strategy.
- Rough running or hesitation in some cases if the ECM misinterprets catalyst temperature and adjusts fueling.
- In rare instances, the engine may enter limp mode to protect the catalytic converter from overheating.
- No noticeable change in vehicle performance for many drivers.

Common causes, most likely first

- 1 Damaged or chafed wiring harness between the catalyst temperature sensor and the ECM, causing the signal wire to contact ground.
- 2 Corroded or loose electrical connector at the catalyst temperature sensor or at the ECM.
- 3 Internal short to ground within the catalyst temperature sensor itself.
- 4 Moisture intrusion into the sensor connector or wiring, leading to a ground path.
- 5 Faulty ECM (rare, but possible if the internal circuit for the sensor signal is shorted).
- 6 Aftermarket or improperly installed accessories (e.g., alarm systems, audio equipment) that tap into the wiring harness and create a ground short.
- 7 Physical damage to the sensor or wiring from road debris or exhaust work.



How to diagnose and fix it

- 1 Visually inspect the catalyst temperature sensor wiring and connector for obvious damage, corrosion, or contact with ground; repair as needed.
- 2 Disconnect the sensor and check for a short to ground on the signal wire using a digital multimeter (DMM) set to resistance or continuity; isolate the fault by wiggling the harness.
- 3 Check the sensor's internal resistance or voltage output according to Volkswagen service information to rule out an internal short.
- 4 Inspect the ECM connector for corrosion or loose pins, and check for a short to ground on the ECM side of the circuit.
- 5 If the wiring and sensor check out, perform a continuity test from the sensor connector to the ECM to ensure the signal wire is not shorted to ground along its length.
- 6 Replace the catalyst temperature sensor if it is found to be internally shorted, then clear the fault codes and verify the repair with a test drive.
- 7 If the fault persists after all external checks, suspect a faulty ECM and perform further diagnostics before replacement.

Common misdiagnosis traps for P1446

- A short to ground in the catalyst temperature circuit is often caused by a rubbed-through wire near the exhaust heat shield or where the harness passes through the body, not by a failed sensor.
- Technicians sometimes replace the catalytic converter unnecessarily because they misread P1446 as a catalyst efficiency code; this code specifically points to the temperature sensor circuit, not the converter's performance.
- Intermittent shorts can be temperature-dependent or vibration-related, so a wiggle test of the harness while monitoring live data is more effective than a static resistance check.
- Aftermarket electrical accessories wired into the same circuit can introduce a ground short that only appears when the accessory is powered on.
- The ECM may set P1446 along with other sensor codes if a common ground point is corroded, so always check ground connections in the engine bay.

Can I keep driving with P1446?

You can generally continue driving with P1446 because the fault is electrical and does not immediately affect engine operation, but avoid sustained high-speed or heavy-load driving until it is repaired. If the check engine light begins flashing or you notice performance changes, stop driving and seek professional diagnosis.



Tools that help

- Digital multimeter (DMM) with resistance and continuity functions
- OBD-II scan tool capable of reading Volkswagen-specific codes and live data
- Wiring diagram for the specific Volkswagen model and engine
- Basic hand tools for trim and connector removal
- Electrical contact cleaner and dielectric grease
- Jack and jack stands or ramps for accessing under-vehicle wiring

Reading P1446

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

Often seen with

P1445 Catalyst Temperature Sensor 2 Circuit Range Performance · **P1447** Catalyst Temperature Circuit Open Short To B+ · **P1445** EVAP Canister Purge Volume Control Valve · **P1447** EVAP Control System Purge Flow Monitoring · **P1445** EVAP Purge Flow Sensor Circuit High Voltage · **P1447** ELC System Closure Valve Flow · **P1445** Purge Flow Sensor Circuit Input High · **P1445** Diagnostic Module Tank Leakage DM-TL Pump Control Circuit Si · **P1447** Diagnostic Module Tank Leakage DM-TL Pump Too High During Sw · **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 [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1446/>

