

GM · POWERTRAIN

P1482

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1482 · GM

Catalyst Temperature Sensor Circuit Shorted Low

P1482 on a GM vehicle means the powertrain control module (PCM) has detected a short to ground on the catalyst temperature sensor signal circuit, reading a voltage lower than the expected range. The PCM uses this sensor to monitor the catalytic converter's internal temperature for proper efficiency and to protect the converter from overheating, so a low short prevents accurate temperature feedback.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light (malfunction indicator lamp) with no other noticeable symptoms in many cases
- Reduced engine performance or power if the PCM enters a limp-home mode
- Slightly higher fuel consumption due to altered fuel control strategies
- Failed emissions test because the catalyst monitor cannot run
- In rare cases, a rough idle or hesitation if the short affects shared sensor reference circuits
- No visible signs under the hood, as the fault is electrical and internal to the wiring or sensor

Common causes, most likely first

- 1 Catalyst temperature sensor internal failure shorting the signal circuit to ground
- 2 Chafed or damaged signal wire from the sensor to the PCM touching chassis ground
- 3 Corroded or loose connector pins at the sensor or PCM causing a short
- 4 Moisture intrusion into the sensor connector or wiring harness creating a ground path
- 5 Aftermarket sensor with incorrect resistance characteristics installed previously
- 6 PCM internal fault pulling the signal circuit low (rare but possible)



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data to confirm P1482 is active and not history
- 2 Visually inspect the catalyst temperature sensor wiring and connector for chafing, corrosion, or moisture
- 3 Disconnect the sensor and measure resistance across its terminals; compare to GM specifications for the ambient temperature
- 4 Check the signal circuit for continuity to ground with the sensor disconnected; repair any short found
- 5 If wiring is intact, substitute a known-good sensor and clear the code to see if it returns
- 6 Verify the PCM connector pins are clean and tight, and check for any signs of internal PCM damage
- 7 After repair, clear codes and run the catalyst monitor to confirm the fix and ensure no pending codes return

Don't replace the converter for P1482

- A shorted catalyst temperature sensor often sets P1482 without turning on the check engine light immediately; the PCM may need two consecutive trips to illuminate the lamp, so a single occurrence can be a ghost.
 - The catalyst temperature sensor on GM vehicles is sometimes called a bed temperature sensor, and its signal wire is easily pinched during transmission or exhaust work, leading to a short that mimics a failed sensor.
 - A short to ground on the signal circuit can also be caused by a failed sensor that internally shorts only when hot, so a cold resistance check may pass; testing while the exhaust is at operating temperature is more reliable.
 - Do not confuse P1482 with P0420 or P0430; those codes indicate catalyst efficiency below threshold, while P1482 is strictly an electrical circuit fault, and replacing the converter will not fix a wiring short.
- If the sensor is replaced and the code returns immediately, inspect the harness near the exhaust hanger and any aftermarket alarm or remote start wiring that may have tapped into the ground circuit.

Can I keep driving with P1482?

You can usually continue driving with P1482 because the engine will run in a default strategy, but avoid heavy loads or sustained high speeds that could overheat the converter without temperature feedback. Have the fault diagnosed soon to prevent potential catalytic converter damage and to pass emissions testing.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for resistance and continuity checks
- Wiring diagram for the specific GM vehicle
- Socket set and trim tools for accessing the sensor and harness
- Heat gun or infrared thermometer to test the sensor at operating temperature



Reading P1482

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

Often seen with

P1481 Glow Plug Failure · **P1481** EATX RPM pulse generator signal for misfire detection · **P1483** Engine Cooling System Performance · **P1481** Fan Secondary Low with High Fans On · **P1483** Power to Cooling Fan Exceeded Normal Draw · **P1481** EATX RPM Pulse Generator Signal For Misfire Detection · **P1483** Catalyst Temperature Sensor Circuit Shorted High · **P0135** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1) · **P0430** Catalyst System Efficiency Below Threshold (Bank 2)

See it working

Watch the animated explainer [Helicopter Flight Simulator: Learn the Three Controls](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1482/>

