

GENERIC · POWERTRAIN

P2238

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2238

O2 Sensor Positive Current Control Circuit Low (Bank 1 Sensor 1)

P2238 means the engine computer has detected that the electrical current on the signal line of the upstream oxygen sensor on bank 1 is lower than the expected range during its self-test. The sensor's positive current control circuit is not returning the current the computer commands, so the computer cannot trust the air-fuel ratio signal from that sensor.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or unstable engine speed when the sensor signal is erratic
- Poor fuel economy because the computer defaults to a rich or open-loop fuel strategy
- Hesitation or stumble during acceleration from a stop
- Failed emissions test due to incorrect air-fuel ratio control
- In rare cases, a slight sulfur or rotten egg smell from the exhaust if the engine runs rich

Common causes, most likely first

- 1 Failed upstream oxygen sensor (bank 1 sensor 1) with an open or high-resistance internal circuit
- 2 Damaged or corroded wiring harness between the sensor and the engine computer
- 3 Loose, dirty, or water-intruded sensor connector causing high resistance on the signal circuit
- 4 Blown fuse or faulty relay supplying power to the oxygen sensor heater circuit
- 5 Engine computer driver circuit fault for the oxygen sensor current control
- 6 Exhaust leak before the sensor allowing outside air to skew the current reading
- 7 Contamination of the sensor tip from coolant, oil, or silicone sealant



How to diagnose and fix it

- 1 Inspect the oxygen sensor connector and wiring for corrosion, chafing, or loose pins, and clean or repair as needed
- 2 Check the oxygen sensor heater circuit fuse and relay, and verify power and ground at the sensor connector
- 3 Measure the resistance of the sensor's signal circuit and compare to the manufacturer's specification
- 4 Perform a voltage drop test on the signal wire between the sensor and the engine computer to rule out high resistance
- 5 Check for exhaust leaks upstream of the sensor using a smoke test or by listening for ticking when cold
- 6 Replace the bank 1 sensor 1 oxygen sensor if all wiring and power checks pass but the current remains low
- 7 Clear the code and perform a road test with a scan tool to confirm the repair and that the monitor completes

What P2238 does not always mean

- A low current reading on the positive control circuit often comes from a poor connection at the sensor plug rather than a failed sensor, so always inspect the pins before replacing parts.
Some vehicles set P2238 when the oxygen sensor heater circuit is weak, even though the code description focuses on the signal current, so test the heater supply first.
- An exhaust leak just ahead of the sensor can pull in outside air and make the sensor report a lean condition that mimics a low current fault, so a smoke test is a smart early step.
- Replacing the oxygen sensor without checking the engine computer's driver circuit can lead to a repeat failure if the computer itself is damaged.
This code can appear after engine work where the sensor connector was disturbed or the sensor was contaminated by coolant or oil, so review recent repairs before condemning the sensor.

Can I keep driving with P2238?

You can usually drive the vehicle with P2238 set, but avoid heavy acceleration, towing, or long trips until it is diagnosed because the engine may run rich and damage the catalytic converter over time. If the check engine light starts flashing or the engine runs poorly, stop driving and have it inspected promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the oxygen sensor circuit
- Smoke machine for exhaust leak testing
- Sensor socket or wrench
- Contact cleaner and dielectric grease



Reading P2238

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 2** Fuel and air metering (injector circuits).
- 38** The exact fault within that area.

Often seen with

P0130 O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) · **P0131** O2 Sensor Circuit Low Voltage (Bank 1 Sensor 1) · **P0132** O2 Sensor Circuit High Voltage (Bank 1 Sensor 1) · **P2237** O2 Sensor Positive Current Control Circuit/Open (Bank 1 Sens · **P2243** O2 Sensor Reference Voltage Circuit/Open (Bank 1 Sensor 1)

See it working

Watch the animated explainer [EV Powertrain Trainer: How an Electric Car Drives](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2238/>

