

GENERIC · POWERTRAIN

P2239

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2239

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

P2239 means the engine computer detected an abnormally high current on the positive control circuit for the upstream oxygen sensor on bank 1, which is the sensor ahead of the catalytic converter. The sensor's heater or signal circuit is drawing more current than expected, so the computer sets this code to protect the circuit and flag a fault.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	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 engine stumble when the sensor is cold
- Poor fuel economy or rich-running behavior as the computer loses accurate oxygen feedback
- A slight hesitation or surge during acceleration
- In rare cases, a blown fuse that also disables other engine controls
- Failed emissions test due to the sensor circuit fault

Common causes, most likely first

- 1 Short to voltage on the oxygen sensor signal or heater control wire
- 2 Faulty oxygen sensor with an internal short in the heater element
- 3 Chafed or damaged wiring harness rubbing against a metal bracket or heat shield
- 4 Corroded or water-intruded connector at the sensor or engine computer
- 5 Failed engine computer driver for the oxygen sensor heater circuit
- 6 Aftermarket sensor with incorrect resistance or wiring pinout
- 7 Contamination of the sensor from coolant or oil entering the exhaust stream



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm the code is current and not history
- 2 Inspect the oxygen sensor connector and wiring for chafing, corrosion, or loose pins
- 3 Measure resistance across the sensor heater circuit and compare to the manufacturer's specification
- 4 Check for short to voltage on the control wire with a multimeter while wiggling the harness
- 5 Test the engine computer output with a bidirectional scan tool or lab scope if the circuit checks out
- 6 Replace the oxygen sensor if its internal heater resistance is out of range or shorted
- 7 Repair or replace damaged wiring and clear the code, then verify the repair with a road test

What a high current reading really means

- A high current reading on the positive control circuit often points to a short to voltage rather than a failed sensor, so testing the wire before replacing parts saves money.
- Many technicians replace the oxygen sensor first and later find a chafed harness behind the engine block that was the real cause of the repeated code.
- This code can be set by a sensor that is not faulty but has the wrong internal resistance due to an aftermarket part, so matching the original equipment specification matters.
- A weak or failing engine computer driver can mimic a sensor short, and this is often missed because the computer is rarely suspected until all other tests pass.
- The code does not always mean the sensor is dead; the computer may still use the sensor for fuel control until the fault is confirmed, so driveability may seem normal.

Can I keep driving with P2239?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or long trips because a shorted circuit can damage the engine computer or blow a fuse that disables other systems. If the check engine light is flashing or the engine runs poorly, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data and bidirectional controls
- Digital multimeter with resistance and voltage measurement
- Lab scope for observing the oxygen sensor signal and heater current
- Wiring diagram and connector pinout for the specific vehicle
- Socket set and oxygen sensor wrench
- Electrical contact cleaner and dielectric grease



Reading P2239

- 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).
- 39** The exact fault within that area.

Often seen with

P0130 O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) · **P0135** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P2238** O2 Sensor Positive Current Control Circuit Low (Bank 1 Sensor 1) · **P2240** O2 Sensor Positive Current Control Circuit/Open (Bank 2 Sensor 1)

See it working

Watch the animated explainer [How a Fuel Injector Works: Pulse Width and Spray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2239/>

