

NISSAN · POWERTRAIN

P1167

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1167 · Nissan

HO2S11 Heater Circuit VS+ Fault Bank 1 Sensor 1

P1167 on Nissan vehicles indicates that the engine control module (ECM) has detected an abnormal voltage condition on the heater circuit of the upstream heated oxygen sensor (HO2S11) on bank 1, specifically a fault related to the VS+ (voltage supply positive) line. The ECM monitors the heater circuit to ensure the sensor reaches operating temperature quickly for accurate fuel control, and this code sets when the voltage on the VS+ circuit is outside the expected range during the heater test.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Nissan specific	Medium	Intermediate	Fuel and air metering

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 sensor heater still partially functions.
- Slightly rough idle or hesitation when the engine is cold due to delayed oxygen sensor readiness.
- Decreased fuel economy as the ECM may default to open-loop fuel control longer than normal.
- In some cases, a failed emissions test due to the stored trouble code.
- Rarely, a noticeable stumble or surge during light acceleration if the sensor signal is also affected.

Common causes, most likely first

- 1 Failed heater element inside the upstream heated oxygen sensor (HO2S11) on bank 1.
- 2 Open or shorted wiring in the VS+ circuit between the ECM and the oxygen sensor heater connector.
- 3 Corroded or loose electrical connector at the oxygen sensor or ECM.
- 4 Blown fuse or relay supplying power to the oxygen sensor heater circuit.
- 5 Faulty ECM driver for the heater circuit, though this is less common.
- 6 Damage to the wiring harness from heat, chafing, or rodent activity.



How to diagnose and fix it

- 1 Inspect the oxygen sensor heater circuit fuse and replace if blown, then check for shorts that may have caused the fuse to fail.
- 2 Visually inspect the HO2S11 connector and wiring for corrosion, damage, or loose pins, and repair as needed.
- 3 Measure the resistance of the oxygen sensor heater element with a multimeter and compare to the manufacturer's specification; replace the sensor if out of range.
- 4 Check for battery voltage and ground at the heater connector with the key on, engine off, to verify power and ground are present.
- 5 Perform a voltage drop test on the VS+ circuit to identify excessive resistance in the wiring or connectors.
- 6 If all external circuits test good, suspect a faulty ECM and perform further diagnostics before replacement.
- 7 Clear the code and perform a test drive to verify the repair and ensure the monitor runs to completion.

Don't overlook the VS+ circuit

- The VS+ line is often confused with the sensor signal circuit, but it is the power feed for the heater; testing it requires checking voltage with the heater commanded on by the ECM.
- A heater circuit code can set even if the sensor still produces a plausible signal, so replacing the sensor solely based on the code without testing the circuit can be a costly misdiagnosis.
- Nissan ECMs are known to be sensitive to resistance in the heater circuit, so a slightly corroded connector can trigger P1167 without a completely failed sensor.
- The heater element resistance changes with temperature, so always test the sensor when cold and compare to the specification for that temperature.
- Related codes such as P0135 (HO2S heater circuit bank 1 sensor 1) may also be present, but P1167 specifically points to the VS+ side of the circuit.

Can I keep driving with P1167?

You can generally continue driving with this code, but avoid extended idling and heavy loads until repaired, as the engine may run less efficiently and emissions may increase. If the check engine light flashes or you notice rough running, have the vehicle inspected promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire piercing probes or back probe pins
- Service manual with wiring diagrams for the specific Nissan model
- Socket set and oxygen sensor wrench



Reading P1167

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Nissan): its meaning depends on the make.
- 1** Fuel and air metering.
- 67** The exact fault within that area.

Often seen with

P1166 Bank 1 Long Term Fuel Trim Range 2 Upper Rich Limit Exceeded · **P1166** HO2S11 Heater Circuit Fault Bank 1 Sensor 1 · **P1168** Closed Loop Control Bank 2 · **P1166** HO2S11 Heater Circuit Fault Bank 1 Sensor 1 · **P1168** HO2S11 Label Circuit Low Voltage Fault Bank 1 Sensor 1 · **P1168** Fuel Rail Sensor In-Range Low Failure · **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)

See it working

Watch the animated explainer [How the EVAP System Works: Fuel Vapour and Leak Test](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/nissan-p1167/>

