

NISSAN · POWERTRAIN

P1164

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1164 · Nissan

HO2S11 Circuit Fault Bank 1 Sensor 1

P1164 on Nissan vehicles indicates a fault in the heater circuit or signal circuit of the upstream heated oxygen sensor (HO2S) on bank 1, sensor 1. The engine control module (ECM) monitors the sensor's heater current and signal voltage, and it sets this code when the circuit behaves outside the expected range, such as an open, short, or excessive resistance.

SYSTEM

Powertrain

CODE TYPE

Nissan specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air
metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or stumbling during acceleration due to incorrect air-fuel mixture
- Poor fuel economy as the ECM defaults to a rich mixture
- Failed emissions test because the oxygen sensor is not switching properly
- Occasional engine surging or hesitation at steady speeds

Common causes, most likely first

- 1 Failed upstream oxygen sensor (bank 1, sensor 1) due to contamination or age
- 2 Damaged or corroded wiring or connector at the sensor or ECM
- 3 Blown fuse that supplies power to the oxygen sensor heater circuit
- 4 Exhaust leak before the sensor allowing outside air to affect readings
- 5 ECM software issue or internal fault, though rare
- 6 Contamination from coolant or oil burning in the engine

How to diagnose and fix it

- 1 Check for any related diagnostic trouble codes (DTCs) and freeze-frame data to confirm the fault condition
- 2 Inspect the oxygen sensor wiring and connector for damage, corrosion, or loose pins
- 3 Test the heater circuit resistance and supply voltage according to Nissan service information
- 4 Check the fuse for the oxygen sensor heater circuit and replace if blown
- 5 Perform a smoke test to rule out exhaust leaks before the sensor
- 6 Replace the upstream oxygen sensor if tests indicate a faulty sensor
- 7 Clear the codes and verify the repair with a test drive and live data monitoring



Before replacing the oxygen sensor

- A blown fuse for the oxygen sensor heater is a common cause that is often overlooked, so always check fuses before condemning the sensor.
- Exhaust leaks upstream of the sensor can cause false readings and set this code, so inspect the exhaust system carefully.
- The code may be set by a contaminated sensor from coolant or oil burning, which can also damage the catalytic converter if left unchecked.
- On some Nissan models, this code can be triggered by a faulty ECM ground or poor connection at the ECM, so verify grounds before replacement.
- Using a scan tool to monitor the oxygen sensor heater current and signal voltage can confirm whether the sensor or the circuit is at fault.

Can I keep driving with P1164?

You can usually drive with this code, but avoid prolonged driving because the engine may run rich, reducing fuel economy and potentially damaging the catalytic converter over time. Have the vehicle diagnosed promptly to prevent further issues.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Socket set and oxygen sensor socket
- Smoke machine for exhaust leak testing
- Vehicle service information for circuit testing

Reading P1164

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Nissan): its meaning depends on the make.
1	Fuel and air metering.
64	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) · **P0133** O2 Sensor Circuit Slow Response (Bank 1 Sensor 1) · **P0134** O2 Sensor Circuit No Activity (Bank 1 Sensor 1)



See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/nissan-p1164/>

