

BMW · POWERTRAIN

P1152

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1152 · BMW

O2 Sensor Heater Circuit Low Voltage Bank 2 Sensor 1

P1152 on BMW vehicles indicates that the engine control module (DME) has detected a low voltage condition on the heater circuit for the pre-catalytic converter oxygen sensor on bank 2, sensor 1. The DME monitors the heater circuit for expected current flow and voltage drop; low voltage means the circuit is drawing too little current or the voltage supply is insufficient, which prevents the sensor from reaching operating temperature quickly.

SYSTEM

Powertrain

CODE TYPE

BMW specific

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Slightly increased fuel consumption during cold starts because the sensor remains in open-loop longer.
- Occasional rough idle or hesitation when the engine is cold.
- In some cases, a stored fault for oxygen sensor heater performance or a pending code without a hard light.
- Rarely, a noticeable decrease in fuel economy if the sensor stays cold and the system remains in open-loop.

Common causes, most likely first

- 1 Failed oxygen sensor heater element (open circuit or high resistance) inside the bank 2 sensor 1.
- 2 Corroded, damaged, or disconnected wiring or connector at the sensor or along the harness to the DME.
- 3 Blown fuse that supplies power to the oxygen sensor heater circuit.
- 4 Poor ground connection for the heater circuit, often at the engine block or chassis.
- 5 Faulty relay that supplies power to the oxygen sensor heaters (if equipped).
- 6 Internal fault in the DME driver circuit for the heater, though this is less common.
- 7 Aftermarket sensor with incorrect heater resistance or poor quality connector.



How to diagnose and fix it

- 1 Check the fuse for the oxygen sensor heater circuit and replace if blown, then verify the new fuse does not blow immediately.
- 2 Inspect the wiring and connector at bank 2 sensor 1 for corrosion, chafing, or loose pins; repair or replace as needed.
- 3 Measure the resistance of the heater element at the sensor connector and compare to BMW specifications; replace the sensor if out of range.
- 4 With the key on, check for battery voltage at the heater supply wire and verify the ground circuit has low resistance; repair any open or high-resistance path.
- 5 If voltage supply and ground are good, test the heater control signal from the DME; if the driver is faulty, the DME may require replacement or repair.
- 6 Clear the fault codes and perform a drive cycle to confirm the heater circuit operates correctly and the code does not return.

Common misdiagnosis traps for P1152

- A low voltage code does not always mean the sensor is bad; a corroded ground or a weak battery/charging system can cause the heater circuit voltage to drop below threshold.
- On many BMW engines, bank 2 sensor 1 is difficult to access, and technicians sometimes replace the wrong sensor (bank 1) due to misidentification; always confirm bank and sensor location.
- Aftermarket oxygen sensors often have heater resistances that differ from the OEM part, leading to repeat low voltage codes even when the sensor is new.
- The heater circuit is powered through a fuse that may also supply other components; a blown fuse can cause multiple codes, so check for additional faults before replacing the sensor.
- Intermittent faults can be caused by a harness that rubs against the chassis or exhaust shield; wiggle-test the harness while monitoring heater circuit voltage.

Can I keep driving with P1152?

You can generally continue driving with this code because the engine will still run, but the oxygen sensor may not heat up quickly, leading to higher cold-start emissions and slightly worse fuel economy. Avoid extended idling and schedule diagnosis soon to prevent secondary codes or catalytic converter damage over time.

Tools that help

- OBD-II scan tool with BMW-specific software
- Digital multimeter
- Fuse puller or test light
- Socket set and oxygen sensor wrench
- Wiring diagram for the specific BMW model



Reading P1152

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

Often seen with

P1150 Oxygen Sensor Control Bank 2 Out Of Range · **P1151** Bank 1 Long Term Fuel Trim Range 1 Lower Lean Limit Exceeded · **P1150** Air/Fuel Sensor Circuit Range Performance Bank 1 Sensor 2 · **P1150** Front Oxygen Sensor Heater Circuit High Input · **P1151** Rear Oxygen Sensor Heater Circuit High Input · **P1150** HO2S Bank 2 Sensor 1 Not Switching Fuel Control Limit Reached · **P1151** HO2S Bank 2 Sensor 1 Signal Below 0.45v AF Ratio Too Lean · **P1150** Lack of Upstream Heated Oxygen Sensor Switch Adaptive Fuel L · **P1151** Lack of Upstream Heated Oxygen Sensor Switch Sensor Indicate · **P1151** O2 Sensor Heater Circuit Signal Intermittent Bank 2 Sensor 1 · **P0135** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P0155** O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 1)

See it working

Watch the animated explainer [How Drive-by-Wire Works: Electronic Throttle Body](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1152/>

