

BMW · POWERTRAIN

P1137

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1137 · BMW

O2 Sensor Heater Circuit Signal Intermittent Bank 1 Sensor 2

P1137 on BMW vehicles means the engine control module (DME) has detected an intermittent fault in the heater circuit for the downstream oxygen sensor on bank 1, which is sensor 2 after the catalytic converter. The DME monitors the heater element's current draw and response time, and this code sets when the signal from the heater circuit drops out or fluctuates outside expected parameters.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Low	Intermediate	Fuel and air metering

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the sensor heater still works intermittently.
- A pending or stored check engine light that may clear on its own and return after several drive cycles.
- Slightly higher fuel consumption during cold starts because the sensor takes longer to reach operating temperature.
- Occasional rough idle or hesitation when the engine is cold and the sensor is not heating properly.
- In rare cases, a noticeable decrease in fuel economy or a rich-running condition if the sensor stays cold.
- No drivability complaints at all in many cases, which is why this code is frequently overlooked.

Common causes, most likely first

- 1 Faulty oxygen sensor heater element inside the downstream sensor (bank 1 sensor 2) that opens or shorts intermittently with temperature changes.
- 2 Damaged or corroded wiring harness connector at the sensor, often from heat exposure or water intrusion.
- 3 Chafed or broken wires in the heater circuit between the sensor and the DME, commonly near the exhaust or transmission tunnel.
- 4 Loose or oxidized ground connection for the oxygen sensor heater circuit on the engine or chassis.
- 5 DME internal driver fault for the heater circuit, though this is less common than sensor or wiring issues.
- 6 Aftermarket or incorrect oxygen sensor installed previously that does not match BMW heater specifications.
- 7 Exhaust leaks upstream of the sensor causing temperature fluctuations that affect heater circuit monitoring.



How to diagnose and fix it

- 1 Clear the code and perform a test drive with a scan tool recording freeze-frame data and heater circuit live parameters to confirm the fault is intermittent.
- 2 Visually inspect the downstream oxygen sensor connector and wiring for corrosion, chafing, or heat damage, and repair any damaged terminals or wires.
- 3 Measure the heater element resistance at the sensor connector with a multimeter and compare to BMW specifications for that engine; replace the sensor if resistance is out of range or open.
- 4 Check the heater circuit ground point for tightness and cleanliness, and verify voltage supply to the heater with the key on.
- 5 Perform a wiggle test on the harness while monitoring heater circuit current on the scan tool to expose intermittent wiring faults.
- 6 If wiring and sensor test good, check for exhaust leaks near the sensor that could cause temperature-related intermittent faults.
- 7 Replace the downstream oxygen sensor with an OEM or equivalent BMW-specified part if all electrical checks pass but the code returns, then clear adaptations and retest.

Why this code often fools technicians

- A heater circuit that tests fine when cold can fail only after the exhaust heats the sensor, so resistance checks must be repeated when the fault is active or after a hot soak.
- The downstream sensor on BMW inline-six engines is often exposed to oil leaks from the valve cover gasket, which degrades the connector and causes intermittent heater faults that look like a bad sensor.
- This code can be set by a weak battery or charging system fluctuation that momentarily drops heater current below the DME threshold, so always check battery voltage and charging system first.
- Replacing the sensor without checking the heater circuit ground and supply voltage often leads to a repeat failure, because a corroded ground can mimic a failed heater element.
- A P1137 can appear alongside mixture adaptation codes if the sensor heater fault causes lazy downstream switching, so diagnose the heater circuit before condemning the catalytic converter.

Can I keep driving with P1137?

This code is safe to drive with in most cases because it only affects the downstream sensor heater and does not impair engine operation, but avoid long periods of cold-start short trips until it is repaired. Have the fault diagnosed soon to prevent secondary issues such as increased emissions or a misdiagnosed catalytic converter.



Tools that help

- OBD-II scan tool with BMW-specific software or live data capability
- Digital multimeter with resistance and voltage measurement
- Wiring diagram for the specific BMW model and engine
- Socket set and oxygen sensor wrench
- Contact cleaner and dielectric grease for connector repair

Reading P1137

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

Often seen with

P1136 Long Term Fuel Trim Add Fuel Bank 1 System Too Lean · **P1138** Long Term Fuel Trim Add Fuel Bank 2 System Too Lean · **P1136** HO2S Bank 1 Sensor 1 Heater Circuit High Input · **P1138** HO2S Bank 1 Sensor 2 Signal Above 0.45v AF Ratio Too Rich · **P1136** Control Box Fan Circuit · **P1138** Lack Of HO2S12 Switches Sensor Indicates Rich · **P1136** HO2S Rich Average Bank 1 Sensor 1 · **P1138** O2 Sensor High Voltage During Decel Fuel Cutoff · **P1138** Lack of Downstream Heated Oxygen Sensor Switch Sensor Indica · **P1136** HO2S Rich Average Bank 1 Sensor 1 · **P1138** HO2S Bank 1 Sensor 2 Rich Or High Voltage · **P1136** O2 Sensor Heater Circuit High Voltage Bank 1 Sensor 1 · **P1138** O2 Sensor Heater Circuit Low Voltage Bank 1 Sensor 2 · **P0135** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [How a Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1137/>

