

BMW · POWERTRAIN

P1157

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1157 · BMW

O2 Sensor Heater Circuit High Voltage Bank 2 Sensor 2

P1157 on a BMW means the engine control module (DME) has detected an abnormally high voltage on the heater circuit for the downstream oxygen sensor on bank 2, which is the sensor after the catalytic converter. The DME monitors the heater current and voltage to ensure the sensor reaches operating temperature quickly, and a high-voltage reading indicates an open circuit, excessive resistance, or a short to voltage in the heater wiring or sensor itself.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Slightly increased fuel consumption because the downstream sensor may not heat up properly, affecting closed-loop fueling.
- Occasional rough idle or hesitation when the engine is cold, as the sensor feedback is delayed.
- A stored pending or permanent fault code that may cause the vehicle to fail an emissions inspection.
- In rare cases, a noticeable decrease in power or throttle response if the DME enters a limp-home mode.

Common causes, most likely first

- 1 Failed oxygen sensor heater element inside the bank 2 sensor 2 (downstream) sensor, causing an open circuit.
- 2 Corroded, damaged, or disconnected electrical connector at the sensor or along the harness.
- 3 Broken or chafed wire in the heater circuit between the sensor and the DME, leading to an open circuit.
- 4 Short to voltage in the heater wiring, often from contact with a hot exhaust component or another circuit.
- 5 Faulty DME driver for the heater circuit, though this is less common and should be confirmed after other checks.
- 6 Poor ground connection for the heater circuit, which can cause erratic voltage readings.



How to diagnose and fix it

- 1 Use a scan tool to read and record all stored codes and freeze-frame data, then clear codes and test-drive to confirm P1157 returns.
- 2 Visually inspect the bank 2 sensor 2 heater connector and wiring for corrosion, damage, or loose pins, and repair as needed.
- 3 Measure the resistance of the sensor heater element with a multimeter and compare to BMW specifications; replace the sensor if out of range.
- 4 Check for voltage on the heater circuit with the key on, engine off, to verify the DME is supplying the correct signal and that there is no short to voltage.
- 5 Perform a voltage drop test on the ground side of the heater circuit to rule out high resistance in the ground path.
- 6 If wiring and sensor test good, suspect the DME; however, confirm by checking for other DME-related faults or using a known-good DME for testing.
- 7 After repairs, clear codes and complete a drive cycle to verify the heater circuit monitor passes and the code does not return.

What BMW Technicians Check Before Replacing the Sensor

- A high-voltage code often results from an open heater circuit rather than a short, so checking continuity and resistance of the heater element is more reliable than assuming the sensor is dead.
- The bank 2 sensor 2 heater circuit shares power and ground paths with other sensors on some BMW models, so a fault in a neighbouring circuit can set P1157 without any issue in the sensor itself.
- Aftermarket oxygen sensors sometimes have heater resistances that differ from the BMW original, causing repeat codes even when the sensor is new; always verify resistance against factory specifications.
- A corroded connector can mimic a failed sensor, so always inspect and clean the pins before condemning the sensor, especially on vehicles driven in salt-belt regions.
- The DME may set P1157 intermittently if the heater circuit is marginal, so a single occurrence does not always mean a hard failure; monitor live data for heater current and voltage over several drive cycles.

Can I keep driving with P1157?

You can generally continue driving with P1157 because the fault mainly affects emissions and cold-start sensor performance, but avoid long periods of idling or heavy load until it is repaired. Have the vehicle diagnosed soon to prevent potential catalytic converter damage from unmonitored fueling and to ensure the emissions system remains compliant.



Tools that help

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

Reading P1157

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (BMW): its meaning depends on the make.

1 Fuel and air metering.

57 The exact fault within that area.

Often seen with

P1156 Manifold Absolute Pressure Sensor Circuit Open/Short To Ground · **P1158** Manifold Absolute Pressure Sensor Circuit Range Performance · **P1158** Lack Of HO2S22 Switches Sensor Indicates Rich · **P1156** HO2S Rich Average Bank 2 Sensor 1 · **P1158** HO2S Bank 2 Sensor 2 Rich Or High Voltage · **P1158** Lack of Downstream Heated Oxygen Sensor Switch Sensor Indicates Rich · **P1156** HO2S Rich Average Bank 2 Sensor 1 · **P1158** HO2S Bank 2 Sensor 2 Rich Or High Voltage · **P1156** O2 Sensor Heater Circuit Low Voltage Bank 2 Sensor 2 · **P1158** Fuel Trim Adaptation Additive Bank 1 Low · **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 [Fuel Trims Explained: Short-Term and Long-Term](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1157/>

