



P1271 · BMW

Ambient Air Pressure Sensor Electrical

P1271 on BMW vehicles indicates that the engine control module (DME) has detected an electrical fault in the ambient air pressure sensor circuit, which measures barometric pressure for altitude compensation. The computer compares the sensor signal voltage against expected values and flags the code when the circuit is open, shorted, or the signal is out of range.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or poor engine performance at high altitudes due to incorrect air density calculations
- Slightly reduced fuel economy as the DME defaults to a fixed pressure value
- In rare cases, a stumble or hesitation during acceleration if the sensor signal is erratic
- No drivability issues in most cases because the DME substitutes a default barometric pressure reading

Common causes, most likely first

- 1 Failed ambient air pressure sensor (integrated into the DME on many BMW models)
- 2 Corroded, damaged, or disconnected wiring or connector at the sensor
- 3 Open or short circuit in the sensor signal or ground circuit
- 4 Water intrusion into the sensor or connector causing electrical faults
- 5 Faulty DME internal circuit for the sensor (if sensor is internal to DME)
- 6 Poor electrical connection at the DME harness connector

How to diagnose and fix it

- 1 Use a BMW-specific scan tool to read live data from the ambient air pressure sensor and compare with actual barometric pressure
- 2 Visually inspect the sensor and its connector for corrosion, water damage, or loose pins
- 3 Check the sensor reference voltage and ground at the connector with a multimeter
- 4 Perform a wiggle test on the wiring harness while monitoring sensor data to detect intermittent faults
- 5 If the sensor is external, replace it and clear the code; if internal to the DME, verify wiring integrity before condemning the DME
- 6 Clear the fault memory and perform a road test to confirm the repair



Hidden Causes of P1271 You Should Check

- On many BMW engines, the ambient air pressure sensor is integrated into the DME, so a faulty sensor often means replacing or reprogramming the DME rather than a simple sensor swap.
- A weak or failing battery can cause voltage spikes that set this code intermittently, so always check battery health and charging system before replacing parts.
- The DME may substitute a default barometric pressure value when the sensor fails, masking drivability symptoms and leading some technicians to overlook the code.
- Water intrusion into the DME compartment or sensor connector is a common cause on BMW models with poorly sealed cowl drains, so inspect for moisture damage.
- This code can be set by a loose or corroded ground connection at the DME, which is often misdiagnosed as a failed sensor or DME.

Can I keep driving with P1271?

You can generally continue driving with P1271 because the engine management system substitutes a default pressure value, but avoid sustained high-altitude driving or heavy load until the fault is repaired to prevent poor performance or increased emissions.

Tools that help

- BMW-specific scan tool (e.g., INPA, ISTA, or compatible OBD-II scanner)
- Digital multimeter
- Wiring diagram for the specific BMW model
- Socket set and trim removal tools
- Contact cleaner and dielectric grease

Reading P1271

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

Often seen with

P0106 MAP/Barometric Pressure Circuit Range/Performance · **P0107** MAP/Barometric Pressure Circuit Low Input · **P0108** MAP/Barometric Pressure Circuit High Input · **P2227** Barometric Pressure Circuit Range/Performance · **P2228** Barometric Pressure Circuit Low



See it working

Watch the animated explainer [Helicopter Flight Simulator: Learn the Three Controls](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1271/>

