



P1333 · BMW

Knock Sensor 4 High Input

P1333 on a BMW means the engine control module (DME) has detected an abnormally high voltage signal from the knock sensor assigned to cylinder 4, indicating a fault in that sensor's circuit or the sensor itself. The DME monitors the knock sensor's return voltage to detect engine knock, and a high input tells the module the signal is outside its expected range, so it may retard ignition timing as a protective measure.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Medium	Intermediate	Ignition system and misfire

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine performance or sluggish acceleration because the DME may default to a safe ignition timing map
- Poor fuel economy as the engine runs with retarded timing
- Occasional engine misfire or rough running under load if the fault affects knock detection
- In rare cases, a slight knocking or pinging sound if the DME cannot properly detect and correct knock

Common causes, most likely first

- 1 Faulty knock sensor 4 (open or shorted internally, or damaged by heat/age)
- 2 Damaged or corroded wiring harness and connector at the knock sensor
- 3 Poor electrical connection at the DME connector for the knock sensor circuit
- 4 Knock sensor installed with incorrect torque or loose mounting, altering its signal
- 5 Engine mechanical noise (e.g., loose internal components) mimicking a high knock signal
- 6 Water or oil contamination in the knock sensor connector causing high resistance
- 7 Failed DME internal circuit for the knock sensor input (rare)

How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data to confirm P1333 is current and not a ghost code
- 2 Visually inspect the knock sensor 4 and its wiring for damage, corrosion, or loose connection
- 3 Check the sensor's mounting bolt torque and ensure the mating surface is clean and free of debris
- 4 Measure resistance and voltage on the knock sensor circuit according to BMW service information
- 5 Swap the knock sensor with a known-good one from another cylinder to see if the code follows the sensor
- 6 Repair or replace damaged wiring or connector pins as needed
- 7 Clear codes and perform a road test to verify the repair, replacing the sensor if the code returns



Knock sensor 4 high input: what techs overlook

- A high input code often results from a poor ground or loose sensor mounting rather than a failed sensor, so always check torque and cleanliness before replacement.
- The DME may set P1333 due to interference from other engine noises, such as a failing timing chain tensioner, which can be misdiagnosed as a sensor fault.
- On some BMW engines, the knock sensor for cylinder 4 is located under the intake manifold, making it labor-intensive to access, so confirm the fault before committing to replacement.
- After replacing a knock sensor, the DME adaptation values may need to be reset with a capable scan tool to prevent the code from reappearing immediately.
- P1333 can be stored intermittently due to a chafed wire that only shorts when the engine moves under load, so wiggle-test the harness while monitoring live data.

Can I keep driving with P1333?

You can usually continue driving with P1333, but avoid heavy acceleration or towing until the fault is repaired, as the engine may be running with reduced timing advance and performance. Prolonged driving with a knock sensor fault can lead to increased emissions and potential engine damage if knock goes undetected.

Tools that help

- OBD-II scan tool with BMW-specific software
- Digital multimeter
- Torque wrench
- Socket set and extensions
- Wiring diagram and service information

Reading P1333

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (BMW): its meaning depends on the make.
3	Ignition system and misfire.
33	The exact fault within that area.

Often seen with

P1332 Cylinder 8 Knock Control Limit Attained · **P1332** Knock Sensor 4 Low Input · **P0325** Knock Sensor 1 Circuit Malfunction (Bank 1) · **P0327** Knock Sensor 1 Circuit Low Input (Bank 1) · **P0328** Knock Sensor 1 Circuit High Input (Bank 1)



See it working

Watch the animated explainer [How a MAP Sensor Works: Engine Vacuum and Load](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1333/>

