

VOLKSWAGEN · POWERTRAIN

P1417

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1417 · Volkswagen

Fuel Level Sensor Signal Too Low

P1417 on Volkswagen vehicles means the engine control module has detected a fuel level sensor signal voltage that is lower than the expected range for the current conditions. The sensor circuit is reporting an abnormally low voltage, which the module interprets as a signal fault rather than a valid fuel level reading.

SYSTEM

Powertrain

CODE TYPE

Volkswagen
specific

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission
controls

Symptoms you may notice

- Fuel gauge reads empty or fluctuates erratically regardless of actual fuel level
- Low fuel warning light illuminated even when the tank is full
- Often no symptoms besides the warning light, with the gauge appearing normal
- Engine may run rough or stall if the module uses the fuel level signal for load calculation
- Incorrect fuel consumption or distance-to-empty readings on the trip computer

Common causes, most likely first

- Failed fuel level sensor in the tank, worn or contaminated by fuel deposits
- Damaged or corroded wiring between the fuel level sensor and the instrument cluster or engine control module
- Poor electrical connection at the fuel pump module connector or chassis ground point
- Faulty fuel pump module assembly where the sensor is integrated
- Instrument cluster or engine control module internal fault affecting the sensor signal circuit
- Contaminated fuel or water intrusion causing sensor resistance to drop below specification

How to diagnose and fix it

- Scan all modules for stored codes and verify P1417 is current, then check live fuel level sensor voltage data
- Inspect the fuel pump module connector and wiring for corrosion, chafing, or loose pins
- Measure resistance across the fuel level sensor at empty and full positions and compare to Volkswagen specifications
- Check the sensor ground circuit for excessive resistance and verify chassis ground integrity
- If resistance is out of range, remove the fuel pump module and inspect the sensor for wear or contamination
- Replace the fuel level sensor or fuel pump module assembly if testing confirms an internal fault
- Clear codes and verify the fuel gauge reads correctly through a full sweep after repair



Fuel level sensor faults that mimic wiring problems

- A fuel level sensor can fail intermittently, showing correct resistance when tested cold but dropping out once the tank is agitated or the fuel warms up during driving.
- Volkswagen fuel level sensors often share a connector with the fuel pump, so a loose or corroded pump connector can set P1417 without any sensor fault at all.
- The engine control module may use the fuel level signal for evaporative emission monitoring, so a low signal can trigger evap-related codes alongside P1417.
- Aftermarket fuel pump modules with poorly calibrated sensors are a common cause of repeat P1417 codes following a previous repair.
- A weak battery or charging system fault can cause the module to misread sensor voltage, so always verify system voltage before condemning the sensor.

Can I keep driving with P1417?

The vehicle remains safe to drive because the fuel level signal is not used for critical engine management on most Volkswagen models. Avoid relying on the fuel gauge for range estimation and refuel before the tank is below a quarter full until the fault is repaired.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Fuel pump module removal tool or spanner
- Vehicle-specific wiring diagram
- Fuel-safe container and hand pump for tank draining

Reading P1417

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Volkswagen): its meaning depends on the make.
4	Auxiliary emission controls.
17	The exact fault within that area.

Often seen with

P0455 EVAP System Leak Detected (Large) · **P0460** Fuel Level Sensor Circuit Malfunction · **P0461** Fuel Level Sensor Circuit Range/Performance · **P0462** Fuel Level Sensor Circuit Low Input · **P0463** Fuel Level Sensor Circuit High Input



See it working

Watch the animated explainer [Four-Stroke Engine Notebook: The Otto Cycle Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1417/>

