

BMW · POWERTRAIN

P1438

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1438 · BMW

Purge Control Valve Control Open Circuit

P1438 on a BMW means the digital motor electronics (DME) has detected an open circuit in the wiring that controls the purge control valve, which is part of the evaporative emissions system. The DME commands the valve to open and vent fuel vapor from the charcoal canister into the intake, but the electrical feedback circuit shows no continuity, so the valve cannot be actuated.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Low	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A faint fuel odor around the rear of the vehicle after refueling, especially when the purge valve is stuck open
- Slightly rough idle or a stumble just after a cold start if the valve is stuck open and allowing unmetered vapor into the intake
- A pending or stored P1438 code that returns immediately after clearing if the circuit is still open
- In some cases, a slight decrease in fuel economy due to improper vapor management
- No driveability complaints at all in many cases, because the purge valve only operates under specific conditions

Common causes, most likely first

- 1 Broken or chafed wire in the purge valve control circuit, often near the valve connector or where the harness passes through the engine bay
- 2 Corroded or loose electrical connector at the purge control valve, allowing an open circuit
- 3 Failed purge control valve solenoid with an open internal coil winding
- 4 Open circuit in the wiring between the DME and the purge valve, including a faulty splice or pin tension issue at the DME connector
- 5 Blown fuse that supplies power to the purge valve circuit (though this often sets additional codes)
- 6 Damage to the harness from heat, rodents, or previous repair work in the area



How to diagnose and fix it

- 1 Clear the code and perform a road test to confirm it returns, then check for any related evaporative emission codes that might narrow the circuit
- 2 Visually inspect the purge valve connector and the harness for damage, corrosion, or loose pins, and repair as needed
- 3 Measure the resistance of the purge valve solenoid with a multimeter and compare to BMW specifications; replace the valve if the coil is open
- 4 Disconnect the DME connector and check for continuity from the DME pin to the purge valve connector on the control wire; repair any open circuit
- 5 Check for power and ground at the purge valve connector with the key on and the valve commanded on using a scan tool; verify the DME is actually commanding the valve
- 6 If the circuit tests good but the code persists, substitute a known-good purge valve and recheck; if the code remains, suspect the DME driver
- 7 After repair, clear the code and perform a complete drive cycle to verify the evaporative system monitors run and pass

What a P1438 on BMW really tells you

- An open circuit does not always mean the valve itself has failed; a chafed wire near the valve connector or a corroded pin is just as common and far cheaper to fix.
- The purge valve only operates under specific conditions, so a stuck-open valve may cause a rough idle after refueling while a stuck-closed valve may cause a fuel odor or a slight fuel smell at the rear.
- BMW DMEs are sensitive to aftermarket purge valves with incorrect resistance; always verify the replacement valve meets the original specification.
- A P1438 can be set by a poor connection at the DME connector, especially if the vehicle has had previous engine work where the harness was disturbed.
- Do not overlook the possibility of a blown fuse that powers the purge valve circuit; check the fuse before condemning the valve or wiring.

Can I keep driving with P1438?

You can generally continue driving with a P1438 because the purge valve only affects evaporative emissions and does not compromise engine safety or performance. Avoid ignoring the code for long periods, as a stuck-open valve can cause a rough idle and a fuel smell, and have the circuit inspected at your next service.



Tools that help

- OBD-II scan tool with BMW-specific software or a capable generic scanner
- Digital multimeter for resistance and continuity checks
- Wire repair kit with crimp connectors and heat shrink
- Trim removal tools for accessing harnesses and connectors
- Factory wiring diagrams for the specific BMW model

Reading P1438

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

Often seen with

P0440 Evaporative Emission Control System Malfunction · **P0442** EVAP System Leak Detected (Small) · **P0444** EVAP Purge Control Valve Circuit Open · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak)

See it working

Watch the animated explainer **Four-Stroke Engine Cutaway: Intake to Exhaust** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1438/>

