

BMW · POWERTRAIN

P1402

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1402 · BMW

Heated Catalyst Power Switch Overtemperature Condition Bank 1

P1402 on BMW vehicles indicates that the engine control module has detected an overtemperature condition within the heated catalyst power switch circuit for bank 1, which is the exhaust bank containing cylinder number one. The module monitors the power switch that controls current flow to the heated catalyst and sets this code when the switch or its circuit exceeds a safe thermal threshold, typically due to excessive resistance or a short.

SYSTEM

Powertrain

CODE TYPE

BMW specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A burning or hot electrical smell from the underhood or underbody area near the catalyst
- In rare cases, a slight hesitation or reduced engine performance if the catalyst heating is inhibited
- Possible intermittent warning light if the overtemperature condition is marginal
- No driver-perceptible change in most cases because the heated catalyst is primarily an emissions aid

Common causes, most likely first

- 1 Faulty heated catalyst power switch relay or control module internal failure
- 2 Corroded, loose, or damaged wiring and connectors in the heated catalyst power circuit
- 3 Short circuit to ground or power in the heated catalyst power switch circuit
- 4 Failed heated catalyst element causing excessive current draw and overheating
- 5 Engine control module software or hardware fault incorrectly reporting overtemperature
- 6 Poor ground connection for the heated catalyst circuit causing resistance and heat buildup



How to diagnose and fix it

- 1 Connect a BMW-compatible scan tool and read all stored codes and freeze-frame data to confirm P1402 and check for related codes
- 2 Visually inspect the heated catalyst power switch relay, wiring harness, and connectors for signs of overheating, melting, or corrosion
- 3 Measure resistance and voltage drop across the heated catalyst power switch circuit to identify excessive resistance or a short
- 4 Test the heated catalyst element resistance and compare to BMW specifications to rule out a failed catalyst drawing too much current
- 5 Check and clean all ground connections associated with the heated catalyst circuit
- 6 If the circuit tests normal, reprogram or replace the engine control module as per BMW diagnostic procedures
- 7 Clear codes and perform a road test to verify the repair and ensure the code does not return

Overtemperature code misdiagnosis traps

- A P1402 code often results from a poor ground connection rather than a failed power switch, so technicians who replace the switch without checking grounds may see the code return.
- The heated catalyst power switch is frequently integrated into a relay module that also controls other functions, and a fault in an unrelated circuit can cause overheating symptoms in the switch.
- On some BMW models, the heated catalyst is only active during cold starts, so the overtemperature condition may not set immediately and can be missed during a short test drive.
- A failing battery or charging system can cause low voltage that makes the power switch work harder and overheat, so always verify battery condition before condemning the switch.
- This code does not always mean the catalytic converter itself is failing; the overtemperature is in the power switch circuit, and replacing the catalyst without diagnosing the circuit is an expensive mistake.

Can I keep driving with P1402?

You can generally continue driving with P1402 because the heated catalyst is an emissions component and the engine will run normally, but avoid extended idling or repeated short trips that keep the catalyst heater active. Have the fault diagnosed soon to prevent potential wiring damage or a no-start condition if the circuit fails completely.

Tools that help

- BMW-compatible OBD-II scan tool with manufacturer-specific software
- Digital multimeter with resistance and voltage drop capabilities
- Wiring diagram for the heated catalyst circuit
- Basic hand tools for accessing relays and connectors
- Infrared thermometer to check for abnormal heat at the switch or wiring



Reading P1402

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

Often seen with

P1403 EGR Flow Deviation · **P1401** EGR Valve Power Stage Short To Ground · **P1400** EGR Valve Circuit Electrical Malfunction · **P1401** Sub-Throttle Position Sensor Range Performance Problem · **P1400** Sub-Throttle Position Sensor · **P1401** Fuel Tank Pressure Control System Performance · **P1400** Fuel Tank Pressure Control Solenoid Low Input · **P1400** EGRC Solenoid Valve · **P1401** EGR Temperature Sensor · **P1400** Manifold Differential Pressure Sensor Circuit · **P1401** EGR Lifting Sender B283 · **P1400** DPFE Sensor Circuit Low Input · **P1401** DPFE Sensor Circuit High Input · **P1401** EGR Control Solenoid Circuit Signal Low · **P1401** Exhaust Gas Recirculation Valve Position Circuit · **P1400** Exhaust Gas Recirculation Valve Position Control · **P1403** Exhaust Gas Recirculation System Valve 1 · **P1401** Differential Pressure Feedback Electronic Sensor Circuit High · **P1400** Differential Pressure Feedback Electronic Sensor Circuit Low · **P1403** Differential Pressure Feedback Electronic Sensor Hoses Reversed · **P1403** Loss Of 5 Volts To EGR Sensor · **P1401** Heated Catalyst Current Too High During Heating Bank 1 · **P1400** Heated Catalyst Battery Voltage or Current Too Low During Heating Bank 1 · **P1403** Carbon Canister Shut Off Valve Control Circuit Electrical · **P0420** Catalyst System Efficiency Below Threshold (Bank 1) · **P0430** Catalyst System Efficiency Below Threshold (Bank 2)

See it working

Watch the animated explainer [How Variable Valve Timing Works: Cam Phaser and VVT Solenoid](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1402/>

