

BMW · POWERTRAIN

P1503

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1503 · BMW

Idle Speed Control Valve Closing Solenoid Control Circuit Signal Low

P1503 on a BMW indicates that the engine control module (DME) has detected a low signal on the control circuit for the closing solenoid of the idle speed control valve. The computer commands the idle valve to close, but the electrical feedback on that specific solenoid's circuit is lower than expected, suggesting a wiring fault, a failing solenoid, or a problem inside the valve assembly itself.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the idle valve still moves freely and the low signal is intermittent.
- Rough or fluctuating idle, sometimes surging when the engine is cold or when the air conditioning compressor engages.
- Idle speed that hangs high or drops too low when you come to a stop, because the closing solenoid cannot be controlled precisely.
- Stalling when you release the throttle or when the engine returns to idle after cruising.
- A slight hesitation or stumble just off idle, particularly when pulling away from a stop.
- In some cases, the engine may run at a fixed fast idle because the DME defaults to a limp-home strategy.

Common causes, most likely first

- Damaged, chafed, or corroded wiring in the idle speed control valve harness, especially where it bends near the valve or passes through the intake manifold area.
- A failing closing solenoid inside the idle speed control valve, often due to worn brushes or a burnt coil winding.
- Oil or carbon contamination inside the idle valve causing the solenoid plunger to stick and draw abnormal current, which the DME interprets as a low signal.
- Loose or corroded pins at the idle valve connector or at the DME harness connector.
- A short to ground on the control wire between the DME and the idle valve, which pulls the signal low.
- A faulty DME driver circuit, though this is rare and should only be suspected after all wiring and valve tests pass.
- A poor engine ground or voltage supply issue that affects the reference voltage the DME uses to monitor the circuit.



How to diagnose and fix it

- 1 Clear the fault code and road-test the vehicle to see if P1503 returns; an intermittent code may be caused by a one-time glitch, but it should not be ignored if it reappears.
- 2 Visually inspect the idle speed control valve connector and the harness for chafing, corrosion, or loose pins, and repair any damaged wiring before replacing parts.
- 3 Measure the resistance of the closing solenoid at the valve connector and compare it to BMW specifications for your engine; an open or shorted winding confirms a faulty valve.
- 4 Back-probe the control wire at the DME connector and check for a short to ground with the ignition off; repair any shorted section of the harness.
- 5 Remove the idle speed control valve and clean the internal passages and plunger with a suitable carburetor or throttle body cleaner, then reinstall and re-test.
- 6 If the wiring and solenoid resistance test good but the code persists, substitute a known-good idle speed control valve and re-check; if the code clears, replace the valve.
- 7 As a last resort, after all other tests pass, check the DME driver circuit with an oscilloscope or substitute a known-good DME to rule out an internal driver fault.

What most technicians miss on P1503

- A low signal on the closing solenoid circuit is often caused by a short to ground in the harness where it rubs against the engine lifting eye or the intake manifold bracket, not by a failed valve.
- Oil contamination from a leaking valve cover gasket or a faulty PCV system can coat the idle valve solenoid and change its resistance, setting P1503 without any visible wiring damage.
- The idle speed control valve on many BMW engines has two solenoids (opening and closing); a fault in the opening solenoid will usually set a different code, so P1503 specifically points to the closing side and the valve may still idle reasonably well.
- A weak battery or a failing voltage regulator can cause the DME to misread solenoid feedback, so always check charging system voltage before condemning the valve.
- After replacing the idle valve, the DME may need a short adaptation drive cycle before the code stays cleared; clearing the code and immediately returning the car to the customer can result in a false comeback.

Can I keep driving with P1503?

You can usually drive the car to a workshop, but expect an unstable idle, possible stalling at low speeds, and reduced engine response when pulling away. Avoid heavy traffic and prolonged idling until the fault is repaired, and do not ignore the code because a sticking idle valve can eventually cause a no-start or unsafe stall in traffic.



Tools that help

- OBD-II scan tool with BMW-specific software or a capable generic scanner
- Digital multimeter with back-probe pins
- Hand tools for removing the idle speed control valve (screwdrivers, small sockets)
- Carburetor or throttle body cleaner and lint-free rags
- Oscilloscope (optional, for checking the DME driver signal)

Reading P1503

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (BMW): its meaning depends on the make.

5 Vehicle speed, idle control and auxiliary inputs.

03 The exact fault within that area.

Often seen with

P1502 Fuel Pump Relay Circuit Short To B+ · **P1504** Intake Air System Bypass Leak Detected · **P1502** Radiator Fan Function Problem · **P1502** Vehicle Speed Sensor Intermittent Malfunction · **P1504** Vehicle Speed Output Circuit · **P1502** Invalid or Missing Vehicle Speed Message or Brake Data · **P1504** Intake Air Control Circuit Malfunction · **P1502** Theft Deterrent System No Password Received · **P1504** Vehicle Speed Output Circuit · **P1502** Idle Speed Control Valve Closing Solenoid Control Circuit Si · **P1504** Idle Speed Control Valve Closing Solenoid Control Open Circu · **P0505** Idle Control System Malfunction · **P0506** Idle Control System RPM Lower Than Expected · **P0507** Idle Control System RPM Higher Than Expected

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-p1503/>

