

BMW · POWERTRAIN

P1513

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1513 · BMW

DISA Control Circuit Signal High

P1513 on a BMW means the engine control module (DME) has detected an abnormally high voltage on the signal circuit that controls the DISA (Differential Air Intake System) valve, which is the flap that changes intake runner length for better low-end torque and high-rpm airflow. The DME expects a variable signal that changes as the valve moves, but it is seeing a voltage that stays too high, indicating an open circuit, a short to power, or a faulty valve actuator.

SYSTEM

Powertrain

CODE TYPE

BMW specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- A noticeable loss of low-end torque and sluggish acceleration below 3,000 rpm.
- Rough or uneven idle quality, sometimes with a slight stumble.
- Reduced fuel economy because the DME may default to a less efficient intake path.
- In some cases, a faint rattle or buzzing from the intake manifold area when the engine is running.

Common causes, most likely first

- 1 Failed DISA valve actuator (the internal motor or solenoid that moves the flap).
- 2 Open or damaged wire in the DISA control circuit between the DME and the valve.
- 3 Corroded or loose electrical connector at the DISA valve.
- 4 Short to battery voltage on the signal wire, often from chafed insulation.
- 5 Faulty DME driver circuit, though this is rare compared to valve or wiring faults.
- 6 Internal mechanical binding of the DISA flap that prevents the actuator from reaching its commanded position.



How to diagnose and fix it

- 1 Use a scan tool to read live data for the DISA control circuit and confirm the signal voltage is stuck high.
- 2 Visually inspect the DISA valve connector and wiring for corrosion, looseness, or chafing, and repair as needed.
- 3 Disconnect the DISA valve and measure resistance across its actuator terminals; compare to BMW specifications for your engine.
- 4 Check the signal wire for a short to battery voltage with the key on and the DME disconnected; repair any short.
- 5 Test the DME output with a lab scope or bidirectional scan tool to command the DISA valve and observe signal changes.
- 6 If the actuator fails the resistance or functional test, replace the DISA valve assembly and clear the fault.
- 7 After repair, clear adaptations and perform a road test to verify the code does not return and the flap operates smoothly.

DISA valve faults that mimic wiring codes

- A sticking DISA flap can cause the actuator to draw high current and set a signal-high code even when the wiring is perfect, so always check for mechanical binding before condemning the harness.
- The DISA valve on many BMW engines is plastic and the internal gears strip over time, which changes the signal feedback and sets P1513 without any visible external damage.
- A weak battery or poor ground can cause the DME to misread the DISA signal as high, so verify charging system and ground integrity before replacing parts.
- Some aftermarket DISA valves have incorrect resistance values that trigger P1513 shortly after installation, so use a known-good OEM-style replacement.
- P1513 can be stored intermittently by a loose connector that only loses contact over bumps, so wiggle-test the harness while watching live data.

Can I keep driving with P1513?

You can usually drive the car with P1513, but expect reduced performance and possibly worse fuel economy; avoid heavy acceleration or towing until the fault is repaired, and do not ignore it because a sticking DISA flap can eventually damage the intake manifold.

Tools that help

- OBD-II scan tool with BMW-specific live data and bidirectional control
- Digital multimeter
- Lab scope (optional but helpful for signal analysis)
- Basic hand tools (socket set, screwdrivers, trim removal tools)
- Wiring diagram for your BMW model and engine



Reading P1513

- 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.
- 13** The exact fault within that area.

Often seen with

P1515 Intake Manifold Changeover Valve Circuit Short To Ground · **P1512** Intake Manifold Changeover Valve Circuit Short To B+ · **P1514** Intake Manifold Changeover Valve 2 Circuit Short To Ground · **P1512** Boost Pressure High · **P1515** Idle Air Control Solenoid Signal 3 Circuit High Input · **P1512** Idle Air Control Solenoid Signal 2 Circuit Low Input · **P1514** Idle Air Control Solenoid Signal 3 Circuit Low Input · **P1514** High Load Neutral Drive Fault · **P1515** A/T To M/T Codification · **P1514** High Load Neutral Drive Fault · **P1514** Throttle Body Performance · **P1515** Control Module Throttle Actuator Position Performance · **P1512** Intake Manifold Runner Control Stuck Closed · **P1514** Throttle Body Performance · **P1515** Control Module Throttle Actuator Position Performance · **P1512** DISA Control Circuit Signal Low · **P0171** System Too Lean (Bank 1) · **P0174** System Too Lean (Bank 2)

See it working

Watch the animated explainer [How an EGR Valve Works: Exhaust Gas Recirculation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1513/>

