

GM · POWERTRAIN

P1287

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1287 · GM

Accelerator Pedal Position Sensor 3 Circuit Low Voltage

P1287 on a GM vehicle means the engine control module (ECM) has detected an abnormally low voltage signal from the third circuit of the accelerator pedal position (APP) sensor, which is a redundant sensor used to verify driver demand. The ECM compares this signal against the other APP sensor circuits and sets the code when the voltage falls below the expected threshold, often triggering reduced engine power mode.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Reduced engine power message or limp mode with limited throttle response
- Illuminated check engine light and possibly a flashing throttle warning lamp
- Hesitation or stumble when pressing the accelerator pedal
- Inconsistent or surging engine speed despite steady pedal input
- Often no symptoms besides the warning light if the fault is intermittent

Common causes, most likely first

- Worn or corroded accelerator pedal position sensor connector terminals
- Chafed or broken wire in the APP sensor 3 signal circuit
- Failed accelerator pedal position sensor assembly (internal potentiometer fault)
- Poor ground connection for the APP sensor at the pedal or chassis
- Water intrusion into the pedal sensor connector or harness
- ECM internal fault on the APP sensor 3 input circuit (rare)



How to diagnose and fix it

- 1 Inspect the APP sensor connector and harness for corrosion, water intrusion, or loose pins
- 2 Check the APP sensor 3 signal voltage with a scan tool while slowly pressing the pedal to confirm the low reading
- 3 Measure resistance and continuity of the APP sensor 3 circuit from the pedal connector to the ECM
- 4 Verify the sensor ground circuit has less than 0.1 volts drop under load
- 5 Replace the accelerator pedal position sensor assembly if the signal circuit and grounds test good
- 6 Clear the code and perform a throttle relearn or idle relearn procedure if required
- 7 Road test the vehicle through several ignition cycles to confirm the code does not return

Why APP Sensor 3 Codes Mislead

- A low voltage on APP sensor 3 can be caused by a poor ground shared with other sensors, so always check ground integrity before condemning the pedal assembly.
- Intermittent P1287 often appears only when the pedal is at a specific position, so a live data recording during a test drive is more reliable than a static voltage check.
- The APP sensor is a dual or triple redundant design, and a fault in one circuit may not disable the vehicle but will still set the code and reduce throttle authority.
- Aftermarket floor mats or pedal covers that restrict pedal travel can cause the ECM to see implausible APP voltages and set this code.
- A weak battery or charging system fault can cause low reference voltage to the APP sensor, mimicking a sensor failure and leading to unnecessary parts replacement.

Can I keep driving with P1287?

You can usually drive the vehicle to a repair shop, but expect reduced engine power and avoid heavy acceleration or highway merging until the fault is repaired. If the vehicle enters limp mode or the throttle becomes unresponsive, pull over safely and arrange a tow.

Tools that help

- Scan tool with live data and bidirectional control capability
- Digital multimeter with back-probing pins
- Wiring diagram for the APP sensor and ECM circuits
- Torx or hex bit set for pedal assembly removal
- Contact cleaner and dielectric grease for connector repair



Reading P1287

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (GM): its meaning depends on the make.
- 2** Fuel and air metering (injector circuits).
- 87** The exact fault within that area.

Often seen with

P1286 Fuel Injection Air Control Valve Circuit Short To B+ · **P1288** Turbocharge Bypass Valve Short To B+ · **P1286** Accelerator Pedal Position (APP) Sensor 3 Performance · **P1288** Accelerator Pedal Position Sensor 3 Circuit High Voltage · **P1286** Fuel Pulse In Range But Lower Than Expected · **P1288** Cylinder Head Temperature Sensor Out of Self-Test Range · **P1286** Accelerator Pedal Position Sensor Supply Voltage Too High · **P1288** Intake Manifold Short Runner Solenoid Circuit Open Or Shorted · **P1288** Switching Solenoid for Air Assisted Injection Valves Bank 2 · **P2122** Accelerator Pedal Position Sensor D Circuit Low · **P2127** Accelerator Pedal Position Sensor E Circuit Low · **P2138** Throttle/Pedal Position Sensor D/E Voltage Correlation

See it working

Watch the animated explainer [Fuel Trims Explained: Short-Term and Long-Term](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1287/>

