

GENERIC · POWERTRAIN

P0629

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0629

Fuel Pump 'A' Control Circuit High

P0629 means the engine computer has detected an abnormally high voltage on the control wire that operates the fuel pump relay or fuel pump control module. The computer expects to see a low-voltage command signal when the pump should run, but the circuit is reading voltage that is too high, indicating a short to power, an open ground path, or a failed control module.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Computer and output circuits

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Engine cranks but does not start because the fuel pump is not being commanded on
- Engine starts then stalls shortly after, or stalls intermittently while driving
- Extended cranking time before the engine fires
- Loss of power or hesitation under acceleration if the pump is running intermittently
- A faint fuel pump prime sound may be missing when the key is turned to run

Common causes, most likely first

- 1 Damaged or chafed control wire shorted to battery positive voltage
- 2 Corroded, loose, or disconnected ground at the fuel pump control module or relay
- 3 Failed fuel pump control module or fuel pump relay
- 4 Open circuit in the control wire between the computer and the fuel pump module
- 5 Water intrusion or corrosion in the fuel pump module connector
- 6 Failed engine computer driver circuit for the fuel pump control



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm when the code sets and whether other codes are present
- 2 Inspect the fuel pump control module and relay connectors for corrosion, water intrusion, and loose pins
- 3 Check the ground circuit at the fuel pump control module with a voltage drop test while commanding the pump on
- 4 Measure voltage on the control wire with a multimeter to confirm a short to power versus an open circuit
- 5 Disconnect the computer and the fuel pump module and perform a continuity and short-to-power test on the control wire
- 6 Substitute a known-good fuel pump relay or control module to rule out a failed component before replacing the computer
- 7 Repair the wiring harness or replace the failed module, clear the code, and verify the fuel pump command with a bidirectional scan tool

What the high-voltage reading really means

- A high-voltage code on a control circuit often points to a missing ground rather than a short to power, because the computer pulls the control line low to command the pump and a bad ground lets the line float high.
- Technicians frequently replace the fuel pump when the real fault is a corroded ground strap or a chafed control wire behind the fuel tank, so always verify the circuit before condemning the pump.
- The fuel pump control module on many vehicles is mounted under the rear seat or near the tank where road splash and salt attack the connector, causing intermittent high-voltage readings that do not appear during a quick key-on test.
- A failed fuel pump relay can backfeed voltage onto the control circuit and set P0629 even though the pump itself is healthy, so test the relay coil and contacts before chasing the harness.
- Some vehicles set P0629 only after a cold start or during a fuel pump prime test, so a road test with a scan tool logging the control circuit voltage is more reliable than a static meter check.

Can I keep driving with P0629?

If the engine still starts and runs normally, you can drive cautiously to a repair shop, but avoid hard acceleration and long trips because the pump command may fail without warning. If the engine cranks without starting or stalls repeatedly, stop driving and have the vehicle towed to prevent a no-start situation in traffic.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with voltage drop and continuity functions
- Wiring diagram for the fuel pump control circuit
- Test light or fused jumper wire for circuit testing
- Socket set and trim removal tools for access to the fuel pump module



Reading P0629

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- 29** The exact fault within that area.

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0230** Fuel Pump Primary Circuit Malfunction · **P0231** Fuel Pump Secondary Circuit Low · **P0232** Fuel Pump Secondary Circuit High · **P0628** Fuel Pump 'A' Control Circuit Low

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/p0629/>

