

FORD · POWERTRAIN

P1231

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1231 · Ford

High Speed Fuel Pump Relay Activated

P1231 on Ford vehicles means the powertrain control module has commanded the high-speed fuel pump relay on, but the circuit feedback indicates the relay is still activated when it should not be. The computer detects an unexpected voltage on the relay control circuit that suggests the relay coil or driver is stuck on, which can cause the fuel pump to run continuously and flood the engine or drain the battery.

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

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the relay only sticks intermittently
- Extended cranking or a flooded engine after sitting, because the pump runs when it should be off
- Strong fuel odor from the tailpipe or engine bay due to excess fuel delivery
- Battery drain or a dead battery overnight if the relay remains energized with the key off
- Rough idle or black smoke from the exhaust as the engine runs rich
- Fuel pump running audibly with the key off or after the engine is shut down

Common causes, most likely first

- 1 High-speed fuel pump relay coil internally shorted or stuck closed
- 2 Short to power in the relay control wire between the powertrain control module and the relay
- 3 Faulty powertrain control module driver holding the relay ground circuit active
- 4 Corroded or damaged relay socket terminals causing unintended contact
- 5 Aftermarket alarm or remote start wiring tapped into the fuel pump circuit
- 6 Water intrusion into the relay box or fuse panel causing a short



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related fuel pump or relay codes before touching parts
- 2 Listen for the fuel pump running with the key off and confirm the relay is energized when it should not be
- 3 Swap the high-speed fuel pump relay with an identical known-good relay from the same fuse box and clear the code
- 4 Inspect the relay socket and wiring for corrosion, chafing, or signs of a short to power
- 5 Measure voltage on the relay control circuit at the powertrain control module connector with the key off to check for a short
- 6 Disconnect the powertrain control module and check whether the relay remains energized, which isolates a wiring short from a module fault
- 7 Repair or replace the faulty wiring, relay, or powertrain control module as indicated by the tests, then clear and recheck the code

When the relay is not the real culprit

- A short to power in the relay control wire is more common than a failed powertrain control module, so always ohm-test the wire before condemning the module.
- Aftermarket remote start or alarm systems spliced into the fuel pump circuit frequently cause this code by backfeeding voltage onto the relay control wire.
- The code can set intermittently from a relay that sticks only when hot, so a cold relay that tests fine does not rule out the relay as the cause.
- A weak battery or poor ground can cause the powertrain control module to misread the relay feedback circuit, so check charging system health first.
- Replacing the relay without checking the control wire often leads to a repeat failure when the underlying short remains.

Can I keep driving with P1231?

You can drive short distances to a repair shop, but avoid leaving the vehicle parked for long periods because a stuck relay can drain the battery or flood the engine. If you smell raw fuel or see the fuel pump running with the key off, stop driving and have it repaired immediately.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Relay puller or small flathead screwdriver
- Wiring diagram for the specific Ford model
- Test light



Reading P1231

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

Often seen with

P1235 Fuel Pump Control Circuit · **P1235** VSV 1/2/3 Circuit Range Performance · **P1233** Fuel Pump Driver Module Off-Line · **P1235** Fuel Pump Control Out of Range · **P0230** Fuel Pump Primary Circuit Malfunction · **P0231** Fuel Pump Secondary Circuit Low · **P0232** Fuel Pump Secondary Circuit High

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1231/>

