

GM · POWERTRAIN

P1598

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1598 · GM

## A/C Pressure Sensor Voltage Too High

P1598 on a GM vehicle means the powertrain control module (PCM) has detected a voltage signal from the air conditioning (A/C) refrigerant pressure sensor that is higher than the normal operating range. The PCM uses this sensor to monitor refrigerant pressure so it can protect the compressor and manage engine load, and a high voltage usually indicates an open circuit, a faulty sensor, or a wiring problem rather than a refrigerant issue.

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

### Symptoms you may notice

- The A/C compressor may stop engaging or the cooling performance may drop noticeably.
- The A/C control panel may flash or show a climate control fault message on some GM models.
- The engine cooling fans may run constantly or not at all because the PCM uses A/C pressure for fan strategy.
- A stored P1598 may be the only sign, with no noticeable symptoms besides the warning light.
- In some cases the PCM may disable the A/C compressor clutch to protect the system, leaving only outside air through the vents.

### Common causes, most likely first

- An open or high-resistance circuit in the A/C pressure sensor signal wire, often due to a broken wire or corroded connector.
- A failed A/C refrigerant pressure sensor that internally shorts or sends a fixed high voltage.
- A poor ground connection at the sensor or PCM, causing the reference voltage to float high.
- A disconnected or improperly seated sensor connector after recent engine or A/C service.
- A PCM internal fault on the sensor input circuit, though this is less common than wiring or sensor failure.
- Contamination or debris in the sensor connector causing intermittent high voltage signals.



## How to diagnose and fix it

- 1 Connect a scan tool and read the A/C pressure sensor voltage in live data to confirm it is stuck high or out of range.
- 2 Visually inspect the sensor connector and wiring harness for damage, corrosion, or loose pins, and repair as needed.
- 3 Check the sensor reference voltage and ground at the connector with a multimeter to rule out wiring or PCM supply issues.
- 4 Backprobe the signal wire and compare sensor voltage to actual refrigerant pressure using a manifold gauge set to verify sensor accuracy.
- 5 If wiring and ground are good but the signal remains high, replace the A/C pressure sensor and clear the code.
- 6 After repair, clear the code and verify the A/C compressor engages and live data shows a normal voltage range.
- 7 If the code returns with a known-good sensor and verified wiring, suspect a PCM fault and perform further pinpoint tests before replacement.

## What a high A/C sensor voltage really means

- A high voltage code almost never means the refrigerant charge is too high; it points to an electrical open or sensor fault, so do not add refrigerant before testing the circuit.
- The A/C pressure sensor on many GM vehicles shares a 5-volt reference and ground with other sensors, so a short in a shared circuit can set P1598 along with other sensor codes.
- A disconnected sensor connector is a common cause after engine air filter or belt service, and it can set P1598 without any A/C performance complaint if the ambient temperature is low.
- Some GM models use the A/C pressure signal for cooling fan control, so a faulty sensor can cause fan run-on or overheating complaints that seem unrelated to the A/C.
- Clearing the code without repairing the circuit often leads to a repeat visit, because the PCM rechecks the voltage as soon as the A/C is requested.

## Can I keep driving with P1598?

You can usually drive the vehicle with P1598 stored, but the A/C may be disabled and cooling fan operation may be affected, so avoid heavy stop-and-go traffic in hot weather. Have the circuit tested soon to prevent compressor damage or engine overheating from improper fan control.



## Tools that help

- Scan tool with live data capability
- Digital multimeter
- Manifold gauge set for A/C pressure comparison
- Wire terminal pick and connector repair kit
- Service information for GM wiring diagrams and sensor specifications

## Reading P1598

**P** Powertrain: engine, transmission and emissions.

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

**5** Vehicle speed, idle control and auxiliary inputs.

**98** The exact fault within that area.

## Often seen with

**P1599** Engine Stall Detected · **P1599** A/C Pressure Sensor Voltage Too Low · **P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P0532** A/C Refrigerant Pressure Sensor 'A' Circuit Low · **P0533** A/C Refrigerant Pressure Sensor 'A' Circuit High · **P0645** A/C Clutch Relay Control Circuit

## See it working

Watch the animated explainer [Readiness Monitors and the OBD-II Drive Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1598/>

