

CHRYSLER · POWERTRAIN

P1599

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1599 · Chrysler

A/C Pressure Sensor Voltage Too Low

P1599 on Chrysler vehicles means the powertrain control module (PCM) has detected a voltage signal from the air conditioning (A/C) pressure sensor that is lower than the expected range for the current operating conditions. The PCM uses this sensor to monitor refrigerant pressure so it can protect the compressor and manage engine load; a low voltage typically indicates a short to ground, an open circuit, or a faulty sensor.

SYSTEM

Powertrain

CODE TYPE

Chrysler specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The air conditioning may stop cooling or blow warm air because the PCM disables the compressor clutch to protect the system.
- The A/C compressor clutch may fail to engage at all, even when the climate control is set to maximum cooling.
- The check engine light (malfunction indicator lamp) illuminates on the dashboard.
- In some cases, the driver may notice no symptoms besides the warning light, especially if the A/C was not in use.
- The radiator cooling fan may run continuously or not at all because the PCM uses A/C pressure for fan control strategies.
- Poor engine idle quality or slight hesitation may occur if the PCM incorrectly adjusts engine load based on a faulty A/C pressure signal.

Common causes, most likely first

- 1 A short to ground in the signal wire between the A/C pressure sensor and the PCM, often due to chafed insulation or pinched wiring.
- 2 An open circuit in the sensor's reference voltage or ground circuit, which can be caused by a broken wire or corroded connector.
- 3 A failed A/C pressure sensor that internally shorts and pulls the signal voltage down.
- 4 Low refrigerant charge or a completely empty system, which can cause the sensor to output a lower-than-normal voltage.
- 5 Corroded or loose electrical connectors at the sensor or PCM, leading to high resistance and a voltage drop.
- 6 A faulty PCM driver circuit, though this is less common and should only be suspected after all other possibilities are ruled out.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in the climate control or body control modules that might provide additional context.
- 2 Inspect the A/C pressure sensor connector and wiring for corrosion, damage, or loose pins, and repair as needed.
- 3 Measure the reference voltage (typically 5 volts) at the sensor connector with the key on and engine off; if missing, trace the circuit back to the PCM.
- 4 Check the sensor's ground circuit for continuity to chassis ground; repair any open or high-resistance ground.
- 5 Backprobe the signal wire at the sensor and compare the voltage to the scan tool's A/C pressure reading; if the voltage is low and the reference and ground are good, replace the sensor.
- 6 If the sensor and wiring check out, inspect the PCM connectors for corrosion or damage and perform a wiggle test on the harness while monitoring the signal voltage.
- 7 Clear the code and verify the repair by running the A/C and confirming the sensor voltage and pressure reading are within normal range.

Don't overlook the refrigerant charge

- A low refrigerant charge is one of the most common causes of a low A/C pressure sensor voltage, so always check system pressures before condemning the sensor or wiring.
- The A/C pressure sensor on Chrysler vehicles often shares a 5-volt reference and ground with other sensors, so a fault in a shared circuit can set P1599 along with codes for other sensors.
- A shorted A/C pressure sensor can pull down the shared 5-volt reference, causing multiple sensor codes and driveability issues that seem unrelated to the A/C system.
- The PCM may set P1599 intermittently if the wiring harness rubs against a metal bracket or the engine moves excessively, so a wiggle test while monitoring live data is essential.
- Replacing the A/C pressure sensor without checking the connector and wiring is a common misdiagnosis; always perform voltage drop tests on both the power and ground sides of the circuit.

Can I keep driving with P1599?

You can generally drive the vehicle with P1599, but the air conditioning may be inoperative and the engine cooling fan strategy may be affected, which could lead to overheating in extreme conditions. Avoid using the A/C until the fault is repaired and monitor engine temperature closely if you must drive.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter (DMM)
- A/C manifold gauge set
- Wire piercing probes or backprobe pins
- Service information for wiring diagrams and connector pinouts



Reading P1599

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Chrysler): its meaning depends on the make.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 99** The exact fault within that area.

Often seen with

P1598 A/C Pressure Sensor Voltage Too High · **P1598** A/C Pressure Sensor Voltage Too High · **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 [How a MAF Sensor Works: Hot-Wire Airflow Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/chrysler-p1599/>

