

GM · POWERTRAIN

P1534

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1534 · GM

A/C High Side Temperature Sensor Low Voltage

P1534 on a GM vehicle means the air conditioning (A/C) high side temperature sensor is reporting a voltage lower than the computer expects, which the control module interprets as an abnormally cold or shorted sensor signal. The computer has detected a low-voltage condition on the sensor circuit, typically below the normal operating range, and sets this code to flag a fault in the A/C high side temperature sensing circuit.

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 may blow warm air or fail to cool properly because the system cannot accurately monitor high side temperature.
- The A/C compressor may be disabled or the system may default to a protection mode, preventing cooling.
- The A/C control head may show erratic temperature readings or a flashing indicator.
- Often no symptoms besides the warning light, especially if the sensor signal is only slightly out of range.
- In some cases, the cooling fans may run continuously or not at all due to the missing temperature input.

Common causes, most likely first

- A short to ground in the high side temperature sensor signal circuit, often due to chafed or pinched wiring.
- A faulty high side temperature sensor that has internally shorted and is reporting low voltage.
- Corroded or loose electrical connectors at the sensor or the control module, causing high resistance or intermittent shorts.
- A defective A/C control module or climate control head that is misinterpreting the sensor signal.
- Moisture intrusion into the sensor connector or wiring harness, leading to a low-resistance path to ground.
- Aftermarket accessories or improper previous repairs that tapped into the sensor circuit and introduced a short.



How to diagnose and fix it

- 1 Connect a scan tool and read the live data for the A/C high side temperature sensor to confirm the low voltage reading and check for related codes.
- 2 Visually inspect the sensor and its wiring harness for obvious damage, corrosion, or loose connections, and repair as needed.
- 3 Disconnect the sensor and measure the voltage on the signal circuit with the key on; if it is near zero, check for a short to ground in the harness.
- 4 Measure the resistance of the sensor and compare it to the manufacturer's specification for the ambient temperature; replace the sensor if it is out of range.
- 5 Check the sensor reference voltage and ground circuits at the sensor connector to ensure the control module is providing the correct signals.
- 6 If the circuit and sensor test good, substitute a known-good sensor or use a scan tool to simulate the signal and see if the code clears.
- 7 Clear the code and verify the repair by running the A/C system and confirming the sensor voltage returns to normal and the code does not reset.

Don't overlook the wiring harness

- A common cause of P1534 that technicians miss is a short to ground in the sensor signal wire where it rubs against a metal bracket near the A/C compressor or condenser.
- The code can be set by a faulty A/C control module even when the sensor and wiring test perfectly, so module diagnostics should be part of the workflow.
- On some GM vehicles, the high side temperature sensor is part of the A/C pressure sensor assembly, and a failure of that combined unit can set this code without any obvious A/C performance issue.
- Intermittent low voltage can be caused by water intrusion into the sensor connector after a car wash or heavy rain, so check for green corrosion inside the pins.
- Do not replace the sensor blindly; a shorted signal wire will damage a new sensor or cause the code to return immediately after repair.

Can I keep driving with P1534?

You can usually drive the vehicle with this code, but the A/C may not function or may be disabled to protect the system. Avoid using the A/C until the fault is repaired, and do not ignore the code if you rely on air conditioning for defogging in humid or cold weather.



Tools that help

- Scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific GM vehicle
- Socket set and trim removal tools
- Sensor resistance specification chart

Reading P1534

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

Often seen with

P1535 Intake Camshaft Control Circuit Bank 2 Short To Ground · **P1535** A/C High Side Temperature Sensor Circuit · **P1599** Engine Stall Detected · **P1535** A/C High Side Temperature Sensor Circuit · **P1599** A/C Pressure Sensor Voltage Too Low · **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 [Helicopter Simulator: Take Off, Hover and Land](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1534/>

