

GM · POWERTRAIN

P1492

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1492 · GM

Battery Temperature Sensor Voltage Too High

P1492 on a GM vehicle means the battery temperature sensor circuit is reporting a voltage higher than the powertrain control module expects, which the computer interprets as an open circuit or a sensor reading that is out of range. The PCM uses this sensor to adjust charging strategy and protect the battery, so a high voltage signal tells it the battery is colder than it actually is or that the circuit is broken.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Low	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light or service vehicle soon message, often with no other noticeable symptoms
- Battery warning light or charging system message on the driver information center
- Battery may overcharge or undercharge over time, leading to a no-start or shortened battery life
- Poor fuel economy or unusual charging system behavior in cold weather
- Remote start or other battery management features may be disabled
- In rare cases, the engine may crank slowly or stall if the battery has been chronically mischarged

Common causes, most likely first

- 1 Battery temperature sensor connector unplugged, corroded, or damaged at the battery
- 2 Open or high-resistance wire in the sensor signal circuit between the sensor and the PCM
- 3 Failed battery temperature sensor, reading open or skewed high
- 4 Poor ground connection for the sensor return circuit at the battery or chassis
- 5 Damaged or chafed wiring harness near the battery tray or engine mount
- 6 Faulty PCM driver or internal circuit for the battery temperature input (rare)



How to diagnose and fix it

- 1 Inspect the battery temperature sensor connector and wiring for corrosion, looseness, or physical damage, and clean or repair as needed
- 2 Measure sensor resistance with a multimeter and compare to the GM specification for the ambient temperature; replace the sensor if it is open or out of range
- 3 Check for battery voltage on the signal circuit with the key on and sensor disconnected; if voltage is present, repair the short to voltage
- 4 Perform a voltage drop test on the sensor ground circuit and repair any excessive resistance
- 5 Backprobe the signal wire at the PCM and wiggle the harness to look for intermittent opens; repair chafed or broken wires
- 6 Clear the code and verify the battery temperature reading on a scan tool matches actual battery temperature after a cold soak
- 7 If all circuits and the sensor test good, follow the GM diagnostic flow for PCM replacement only after confirming the PCM is the fault

Battery temperature sensor faults that fool technicians

- A loose or corroded battery temperature sensor connector is far more common than a failed sensor, especially on vehicles with a history of battery replacement or service work.
- The sensor is often mounted on the battery tray or integrated into the negative battery cable, so a replacement battery cable can fix the code if the sensor is part of the assembly.
- A high voltage reading can be caused by a poor ground on the sensor return circuit, which many technicians overlook while chasing the signal wire.
- This code does not always mean the sensor is bad; a chafed harness near the battery or engine mount can create an intermittent open that only sets the code on rough roads.
- The PCM may use battery temperature to control charging voltage, so ignoring this code can lead to overcharging, battery swelling, or repeated battery failures.

Can I keep driving with P1492?

You can usually keep driving with P1492 because the fault mainly affects charging strategy and does not cause an immediate safety risk. Avoid long trips or heavy electrical loads until it is repaired, and have the charging system checked soon to prevent battery damage.

Tools that help

- Scan tool with live data capability
- Digital multimeter
- Wire terminal pick and electrical contact cleaner
- GM service information or wiring diagram for the battery temperature sensor circuit
- Basic hand tools for battery and connector access



Reading P1492

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (GM): its meaning depends on the make.
- 4** Auxiliary emission controls.
- 92** The exact fault within that area.

Often seen with

P1491 Vacuum Cut Valve Bypass Valve · **P1493** EVAP Canister Purge Control Valve Solenoid Valve · **P1491** EGR Valve Lift Insufficient Detected · **P1491** Radiator Fan Control Relay Circuit Open Or Shorted · **P1493** Battery Temperature Sensor Voltage Too Low · **P1491** Radiator Fan Control Relay Circuit Open Or Shorted · **P1493** Battery Temperature Sensor Voltage Too Low · **P0562** System Voltage Low · **P0563** System Voltage High · **P0AFA** Hybrid/EV Battery System Voltage Low

See it working

Watch the animated explainer [How the EVAP System Works: Fuel Vapour and Leak Test](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1492/>

