



P01AC

Alternative Fuel Tank Temperature Sensor Circuit Low

P01AC indicates that the powertrain control module has detected a voltage signal from the alternative fuel tank temperature sensor that is lower than the expected range for the current operating conditions. The sensor circuit is reporting a value that suggests an open circuit, a short to ground, or a sensor resistance that is too low, which can affect fuel system calculations and alternative fuel operation.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the malfunction indicator lamp on the dashboard, often with no other noticeable symptoms.
- Rough running or poor driveability when the vehicle is operating on the alternative fuel, particularly during cold starts.
- Reduced fuel economy or incorrect fuel level or temperature readings on the driver information display.
- Difficulty starting or stalling when running on the alternative fuel, especially in low ambient temperatures.
- The vehicle may default to gasoline operation and refuse to switch to alternative fuel mode.
- In rare cases, a no-start condition if the control module relies heavily on the alternative fuel tank temperature signal for fueling strategy.

Common causes, most likely first

- 1 A faulty alternative fuel tank temperature sensor that has drifted out of specification or failed internally.
- 2 Damaged or chafed wiring between the sensor and the powertrain control module, causing a short to ground or an open circuit.
- 3 Corroded or loose electrical connectors at the sensor or at the control module, introducing excessive resistance.
- 4 A short to ground in the sensor signal circuit, often due to wire insulation rubbed through against a metal component.
- 5 An open circuit in the sensor ground circuit, which can cause the signal voltage to read lower than normal.
- 6 A failed or malfunctioning powertrain control module, although this is the least likely cause and should only be suspected after all other possibilities are ruled out.



How to diagnose and fix it

- 1 Connect a scan tool and verify that P01AC is the only code stored; record freeze-frame data to see the sensor voltage at the time of the fault.
- 2 Visually inspect the alternative fuel tank temperature sensor and its wiring harness for obvious damage, corrosion, or loose connections.
- 3 Measure the sensor resistance with a multimeter and compare it to the manufacturer's specification for the current ambient temperature.
- 4 Backprobe the sensor connector and check the signal voltage with the key on, engine off; a reading near zero volts indicates a short to ground or an open sensor.
- 5 Disconnect the sensor and check for continuity between the signal wire and ground; if continuity exists, repair the short to ground in the harness.
- 6 Check the sensor ground circuit for continuity to the control module ground; repair any open or high-resistance condition.
- 7 If the wiring and connectors are intact and the sensor resistance is out of specification, replace the alternative fuel tank temperature sensor and clear the code.

What the tank temperature sensor really does

- Many vehicles set P01AC intermittently due to a poor connection at the sensor pigtail, so a wiggle test of the harness while watching live data can reveal a fault that a static resistance check misses.
- A short to ground in the signal circuit can be caused by a pinched wire under the vehicle, especially where the harness passes near the fuel tank or along the frame rail.
- The alternative fuel tank temperature sensor is often integrated into a combined pressure and temperature sensor assembly, so a failure of the pressure portion may not set a separate code but can still affect fuel strategy.
- Technicians sometimes replace the sensor only to find the connector terminals have spread and lost tension; always check terminal drag and pin fit before condemning the sensor.
- This code can be set by a low battery or charging system issue that causes the control module to misread sensor voltage during cranking, so verify battery and ground integrity first.

Can I keep driving with P01AC?

You can generally drive the vehicle with P01AC illuminated, but avoid extended operation on the alternative fuel and do not ignore rough running or stalling, as the engine may default to gasoline or enter a reduced-power mode. Have the fault diagnosed promptly to prevent potential driveability issues and further component damage.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire piercing probes or backprobe pins
- Electrical contact cleaner
- Vehicle-specific service information for sensor resistance specifications

Reading P01AC

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
1	Fuel and air metering.
AC	The exact fault within that area.

Often seen with

P0180 Fuel Temperature Sensor A Circuit Malfunction · **P0183** Fuel Temperature Sensor A Circuit High Input · **P01AB** Alternative Fuel Tank Temperature Sensor Range/Performance · **P01AD** Alternative Fuel Tank Temperature Sensor Circuit High · **P01AE** Alternative Fuel Tank Temperature Sensor Circuit Intermittent

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01ac/>

