

GENERIC · POWERTRAIN

P205E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P205E

Reductant Tank Temperature Sensor A Circuit Intermittent/Erratic

P205E indicates that the powertrain control module (PCM) has detected an intermittent or erratic signal from the reductant tank temperature sensor 'A' circuit, which monitors the temperature of the diesel exhaust fluid (DEF) tank. The PCM expects a steady voltage or resistance value from this sensor, and when the signal jumps, drops out, or behaves unpredictably, the code is stored.

SYSTEM Powertrain	CODE TYPE Generic (all makes)	SEVERITY Medium	FIX DIFFICULTY Intermediate	AREA Fuel and air metering and auxiliary emission controls
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Symptoms you may notice

- Illumination of the check engine light (malfunction indicator lamp, MIL), often with no other noticeable symptoms.
- A driver information message warning of poor DEF quality or a DEF system fault.
- Possible reduction in engine power or speed limiting if the fault persists and the system enters limp mode.
- Inconsistent or inaccurate DEF level and temperature readings on the dashboard gauge.
- Difficulty clearing the code, as it may reset immediately after clearing if the intermittent fault is still present.

Common causes, most likely first

- 1 A faulty reductant tank temperature sensor with an internal intermittent connection or failing thermistor element.
- 2 Damaged, chafed, or corroded wiring in the sensor circuit, especially near the tank or where the harness flexes.
- 3 Loose or contaminated electrical connectors at the sensor or PCM, causing an erratic signal.
- 4 Water or DEF intrusion into the connector or sensor housing, leading to shorting or resistance changes.
- 5 A failing PCM driver circuit for the sensor, though this is less common than sensor or wiring issues.
- 6 Extreme temperature fluctuations or DEF freezing and expanding, which can stress the sensor and its wiring.



How to diagnose and fix it

- 1 Use a scan tool to record live data from the reductant tank temperature sensor and look for erratic or implausible values while wiggling the harness and connectors.
- 2 Visually inspect the sensor, its wiring, and connectors for damage, corrosion, or DEF residue, and repair or replace as needed.
- 3 Perform a resistance test on the sensor at known temperatures and compare to specifications to confirm the sensor is stable and within range.
- 4 Check for continuity and short-to-ground or short-to-power on each wire of the sensor circuit, repairing any faults found.
- 5 If wiring and sensor test good, substitute a known-good sensor or simulate the signal with a resistor box to see if the code returns.
- 6 Clear the code and perform a road test or drive cycle to verify the repair, monitoring live data for stability.
- 7 If the fault persists after all external checks, diagnose the PCM and its connections, replacing or reprogramming only as a last resort.

Intermittent sensor faults that fool technicians

- A common misdiagnosis is replacing the sensor when the real problem is a chafed wire hidden inside the loom where it rubs against the frame or tank bracket.
- The code can be set by a momentary glitch that occurs only when the vehicle is cold or after a rough road, so the sensor may test perfectly when the engine is warm.
- DEF crystallization around the sensor connector can create an intermittent short that appears only in damp weather, so look for white residue.
- Some vehicles use the same sensor for both temperature and level, and a failing level circuit can cause erratic temperature readings that set P205E.
- A weak battery or charging system can cause voltage spikes that confuse the PCM and set intermittent sensor codes, so always check system voltage first.

Can I keep driving with P205E?

You can generally continue driving with P205E, but avoid long trips or heavy loads until it is repaired because the fault may escalate to a derate or limp mode. If the engine warning light begins flashing or power is noticeably reduced, have the vehicle checked promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the reductant tank temperature sensor circuit
- Resistor box or sensor simulator
- Basic hand tools and electrical contact cleaner



Reading P205E

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- 5E** The exact fault within that area.

Often seen with

P203B Reductant Level Sensor A Circuit Range/Performance · **P205B** Reductant Tank Temperature Sensor A Circuit Range/Performance · **P205C** Reductant Tank Temperature Sensor A Circuit Low · **P205D** Reductant Tank Temperature Sensor A Circuit High · **P20BA** Reductant Heater A Control Performance

See it working

Watch the animated explainer [How a Car Thermostat Works: Wax Pellet and Cooling Fan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p205e/>

