

GENERIC · NETWORK

U05A4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U05A4

Particulate Matter Sensor Received Invalid Data From ECM/PCM

U05A4 is a communication fault where the particulate matter sensor reports to the engine control module (ECM) or powertrain control module (PCM) that the data it received from that module is invalid. The sensor is telling the ECM that the messages it is getting over the communication network are corrupted, missing expected values, or failing an internal plausibility check, so the sensor cannot trust the ECM's data and sets this code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Network	Generic (all makes)	Medium	Intermediate	Network communication

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message, often with no other noticeable symptoms.
- A particulate matter sensor-related warning or regeneration message on the dashboard in some vehicles.
- Reduced engine power or limp-home mode if the fault escalates and the ECM limits regeneration or torque.
- Poor fuel economy or more frequent active regeneration cycles noticed by the driver.
- In rare cases, a no-start or stalling condition if the communication bus is severely disrupted.
- Often no symptoms besides the warning light, especially when the fault is intermittent.

Common causes, most likely first

- 1 Corroded, loose, or damaged pins in the particulate matter sensor connector or ECM connector.
- 2 Chafed, shorted, or open wiring in the sensor signal or communication circuit between the sensor and the ECM.
- 3 A failing particulate matter sensor that is misinterpreting valid ECM data as invalid.
- 4 Software or calibration issues in the ECM or sensor module that cause message plausibility errors.
- 5 Low battery voltage or poor grounds that disrupt the communication network and corrupt messages.
- 6 A faulty ECM/PCM driver or internal communication fault, though this is less common.
- 7 Aftermarket accessories or poor previous repairs that introduce electrical noise onto the data bus.



How to diagnose and fix it

- 1 Connect a scan tool and record all stored, pending, and permanent codes, then check for related communication codes before clearing anything.
- 2 Inspect the particulate matter sensor connector and ECM connector for corrosion, loose pins, or pushed-back terminals, and repair as needed.
- 3 Perform a visual inspection of the wiring harness between the sensor and ECM for chafing, heat damage, or poor routing, and repair any damage.
- 4 Check battery voltage and ground connections, including the engine and chassis grounds, and correct any low-voltage or ground issues.
- 5 Use a scan tool to view live particulate matter sensor data and ECM message counters to see whether the invalid data is intermittent or constant.
- 6 If wiring and power are good, substitute a known-good particulate matter sensor or perform the manufacturer's sensor relearn/calibration procedure.
- 7 If the fault persists after sensor replacement, check for ECM software updates and follow the manufacturer's diagnostic flow for internal ECM communication faults.

What the sensor is really complaining about

- This code is set by the particulate matter sensor itself when it judges ECM data invalid, so replacing the ECM first is usually a costly mistake.
- A weak battery or bad ground can corrupt serial data messages and trigger U05A4 without any fault in the sensor or ECM.
- Intermittent U05A4 codes often appear after jump-starting or battery replacement, and may clear after a few drive cycles if no hard fault exists.
- The sensor and ECM share a communication bus, so a fault in another module on that bus can sometimes cause invalid data reports from the particulate matter sensor.
- Do not assume the sensor is defective just because this code is stored; check connector pin tension and wire integrity before condemning any part.

Can I keep driving with U05A4?

The vehicle is generally safe to drive with U05A4 if it is the only code and the engine runs normally, but avoid long trips or heavy load until the fault is diagnosed. If the check engine light flashes or the vehicle enters limp mode, stop driving and have it inspected promptly.



Tools that help

- OBD-II scan tool with live data and communication bus capabilities
- Digital multimeter for voltage, resistance, and continuity checks
- Wiring diagram or service information for the particulate matter sensor circuit
- Terminal pick and connector repair kit
- Battery load tester and charging system tester

Reading U05A4

U	Network: communication between the vehicle's control modules.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
5	Network communication.
A4	The exact fault within that area.

Often seen with

P2463 Diesel Particulate Filter Restriction - Soot Accumulation · **P24A0** Closed Loop Particulate Filter Regeneration Control At Limit · **U0100** Lost Communication With ECM/PCM A · **U0101** Lost Communication with TCM · **U0121** Lost Communication With Anti-Lock Brake System (ABS) Control

See it working

Watch the animated explainer [Car Won't Start? Step-by-Step No-Start Diagnosis](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u05a4/>

