



U059E

Invalid Data Received From NOx Sensor A

The engine control module (ECM) received a data message from the nitrogen oxide (NOx) sensor that it considers invalid, meaning the sensor's internal processor reported a fault or sent values outside the expected range. This is a communication fault, not a direct performance fault, so the ECM cannot trust the NOx sensor's readings and may disable certain emissions strategies.

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

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode in some vehicles as a protective strategy
- Poor fuel economy or increased diesel exhaust fluid (DEF) consumption
- Failed emissions inspection due to readiness monitors not completing
- In rare cases, rough running or hesitation if the ECM defaults to a rich or derated fuel strategy

Common causes, most likely first

- 1 Faulty NOx sensor with an internal electronics failure
- 2 Damaged or corroded wiring or connector at the NOx sensor
- 3 Open or shorted controller area network (CAN) bus wiring between the sensor and ECM
- 4 Low or degraded battery voltage causing communication glitches
- 5 Water intrusion into the sensor connector or control module
- 6 Aftermarket or incorrect NOx sensor installed previously
- 7 ECM software issue or internal fault (less common)

How to diagnose and fix it

- 1 Scan all modules for related communication and NOx sensor codes, and record freeze-frame data
- 2 Visually inspect the NOx sensor connector and wiring for corrosion, chafing, or loose pins
- 3 Check battery voltage and charging system output to rule out low-voltage communication errors
- 4 Perform a voltage drop test on the sensor's power and ground circuits
- 5 Check CAN bus resistance and signal integrity with an oscilloscope if communication faults persist
- 6 Verify sensor part number and software compatibility, then replace the NOx sensor if wiring and power are good
- 7 Clear codes and perform a drive cycle to confirm the repair and complete emissions monitors



What the NOx sensor message really means

- U059E is a communication code, so replacing the sensor without checking the wiring and power supply often leads to a repeat failure.
- A weak or failing battery can cause intermittent invalid data messages from the NOx sensor even when the sensor itself is healthy.
- Some vehicles require a software update or sensor calibration after replacement, and skipping this step can set the code again.
- The NOx sensor contains a small control module, so heat damage or water intrusion at the connector can corrupt its data without any visible sensor damage.
- This code can be stored alongside diesel particulate filter (DPF) or selective catalytic reduction (SCR) codes, so diagnose the communication fault first before chasing emissions performance codes.

Can I keep driving with U059E?

The vehicle is generally safe to drive short distances to a repair shop, but avoid heavy loads or long trips because the ECM may be running a default emissions strategy that increases DEF consumption or reduces power. If the engine enters limp mode, have the vehicle towed rather than driven at speed.

Tools that help

- OBD-II scan tool with manufacturer-specific software
- Digital multimeter
- Oscilloscope for CAN bus signal testing
- Wire terminal pick and connector cleaning tools
- Battery load tester

Reading U059E

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.
9E	The exact fault within that area.

Often seen with

P2200 NOx Sensor Circuit (Bank 1 Sensor 1) · **P2201** NOx Sensor Circuit Range/Performance (Bank 1 Sensor 1) · **P2A00** O2 Sensor Circuit Range/Performance (Bank 1 Sensor 1) · **U0100** Lost Communication With ECM/PCM A · **U059F** Invalid Data Received From NOx Sensor B



See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u059e/>

