

KIA · POWERTRAIN

P1115

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1115 · Kia

H02S12 Heater Circuit Low Voltage

P1115 on a Kia means the engine computer has detected low voltage on the heater circuit of the downstream oxygen sensor, identified as HO2S12 (Heated Oxygen Sensor, bank 1 sensor 2). The sensor's internal heater is not drawing the current the computer expects, so the exhaust sensor may stay cold and stop reporting accurate air-fuel data.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Kia specific	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Illuminated check engine light, often with no other symptoms besides the warning light
- Slightly higher fuel consumption because the engine computer falls back to a default fuel mixture
- Rough or unstable idle when the engine is cold and the sensor heater cannot warm the element
- A pending or stored P1115 that returns immediately after clearing if the circuit fault is still present
- In rare cases, a slight hesitation or stumble during light acceleration from a stop

Common causes, most likely first

- 1 Failed oxygen sensor heater element inside the HO2S12 sensor, which is the most common cause on higher-mileage Kia engines
- 2 Corroded, loose, or pushed-back pins in the oxygen sensor connector or the engine computer connector
- 3 Damaged or chafed heater circuit wiring between the sensor and the engine computer, often near the exhaust manifold or underbody
- 4 Blown fuse or faulty relay that supplies power to the oxygen sensor heater circuit
- 5 High-resistance ground connection for the heater circuit at the engine block or chassis
- 6 Engine computer driver circuit fault, which is rare but possible after a shorted heater element
- 7 Aftermarket oxygen sensor with incorrect heater resistance that does not match Kia specifications



How to diagnose and fix it

- 1 Check the fuse and relay that feed the oxygen sensor heater circuit, then confirm battery voltage at the heater supply wire with the key on
- 2 Inspect the HO2S12 connector for corrosion, loose pins, or water intrusion and clean or repair as needed
- 3 Measure the heater element resistance across the sensor heater terminals and compare it to Kia specifications for that engine
- 4 Check the heater ground circuit for excessive resistance using a voltage drop test while the circuit is loaded
- 5 Trace the heater wires for chafing or breaks and repair any damaged section with proper solder and heat shrink
- 6 If the circuit and fuse are good but the heater resistance is out of range, replace the HO2S12 sensor with an OEM-quality part
- 7 Clear the code, run the engine through a cold-start warm-up cycle, and verify the heater monitor passes without P1115 returning

Why the heater circuit fails on Kia

- A P1115 can set from a heater element that has partially failed and still shows continuity on a basic ohm test, so compare the measured resistance to the exact Kia specification rather than just checking for an open circuit.
- The downstream sensor heater shares power with other emissions components on many Kia models, so a blown fuse that feeds the HO2S12 heater may also disable the evaporative emissions purge circuit and set companion codes.
- Technicians often replace the oxygen sensor when the real fault is a corroded ground on the engine block, which raises heater circuit resistance and mimics a failed sensor heater.
- An aftermarket oxygen sensor with the wrong heater resistance can set P1115 even though the sensor is new, so verify the part number and resistance against the original Kia sensor.
- The engine computer may not command closed-loop fuel control until the downstream heater circuit passes its self-test, so a P1115 can cause a persistent rich or lean fuel trim pattern that looks like a different fault.

Can I keep driving with P1115?

You can usually drive the car with P1115 because the engine computer substitutes a default heater strategy, but avoid long periods of idling and heavy load until the fault is repaired. Prolonged driving with a cold downstream sensor can increase emissions and may eventually damage the catalytic converter.



Tools that help

- OBD-II scan tool with live data and readiness monitor capability
- Digital multimeter with ohm and voltage drop functions
- Fuse puller and test light
- Socket set and oxygen sensor wrench
- Wiring diagram for the specific Kia model and engine

Reading P1115

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Kia): its meaning depends on the make.

1 Fuel and air metering.

15 The exact fault within that area.

Often seen with

P0130 O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) · **P0135** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0136** O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P0171** System Too Lean (Bank 1)

See it working

Watch the animated explainer [How a CVT Works: Belt and Pulley Transmission](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/kia-p1115/>

