

FORD · POWERTRAIN

P1115

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1115 · Ford

Intake Air Temperature B (IAT2) Circuit High Input

The Powertrain Control Module (PCM) has detected an abnormally high voltage on the Intake Air Temperature 2 (IAT2) circuit, which typically indicates an open circuit, a faulty sensor, or a wiring problem. This sensor measures the temperature of the air after the turbocharger or intercooler on Ford EcoBoost and other forced-induction engines, and a high voltage reading usually means the PCM is seeing a signal above the normal range, often due to a disconnected or damaged sensor.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Low	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Reduced engine performance or power, especially under boost.
- Poor fuel economy or rough running conditions.
- In rare cases, the engine may enter limp mode or exhibit hesitation during acceleration.
- Inconsistent idle quality or stalling when the engine is cold.

Common causes, most likely first

- 1 A disconnected, damaged, or faulty Intake Air Temperature 2 (IAT2) sensor.
- 2 An open circuit in the signal wire between the IAT2 sensor and the PCM.
- 3 Corroded or damaged connector pins at the sensor or PCM.
- 4 A short to voltage on the signal circuit, though less common than an open circuit.
- 5 A failed PCM, which is rare but possible after other causes are ruled out.
- 6 Aftermarket air intake modifications that disturb the sensor wiring or placement.



How to diagnose and fix it

- 1 Visually inspect the IAT2 sensor and its connector for damage, corrosion, or loose pins.
- 2 Check the sensor resistance with a multimeter and compare to Ford specifications for the current temperature.
- 3 Perform a wiggle test on the wiring harness while monitoring live data to detect intermittent opens.
- 4 Measure voltage on the signal circuit at the sensor connector with the key on, engine off, to verify reference voltage.
- 5 Check continuity of the signal and ground circuits from the sensor to the PCM.
- 6 If the sensor and wiring are good, substitute a known-good sensor to see if the code clears.
- 7 As a last resort, diagnose the PCM for internal faults after all other possibilities are eliminated.

Common Misdiagnosis Traps for IAT2 High Voltage

- A high voltage reading on the IAT2 circuit almost always means an open circuit, not a rich condition, so replacing the sensor without checking wiring often leads to a repeat failure.
- The IAT2 sensor is frequently located in the intake manifold after the intercooler on Ford EcoBoost engines, where heat and vibration can crack the sensor housing or damage the connector.
- Aftermarket air intake systems can inadvertently leave the IAT2 sensor unplugged or stress the wiring, setting this code without any driveability complaint.
- A poor ground connection at the PCM can cause a high voltage signal on the IAT2 circuit, so always verify grounds before condemning the sensor.
- This code can be stored alongside P0113 (Intake Air Temperature Circuit High) if the primary IAT sensor shares the same reference or ground circuit, so check both sensors if multiple codes are present.

Can I keep driving with P1115?

The vehicle is generally safe to drive with this code because the PCM substitutes a default intake air temperature value, but you may notice reduced performance or fuel economy. Avoid heavy acceleration or towing until the fault is repaired, and address it promptly to prevent potential long-term issues.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific Ford model
- Basic hand tools for connector and sensor access
- Wire piercing probes or back-probe kit



Reading P1115

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Ford): its meaning depends on the make.
- 1** Fuel and air metering.
- 15** The exact fault within that area.

Often seen with

P1114 Bank 1 Sensor 2 Resistance Too High · **P1114** Intake Air Temperature Sensor Circuit Low Input · **P1114** Engine Coolant Temperature Sensor Intermittent · **P1114** Intake Air Temperature B (IAT2) Circuit Low Input · **P1114** Engine Coolant Temperature (ECT) Sensor Circuit Intermittent · **P00B4** Radiator Coolant Temperature Sensor Circuit High · **P0111** Intake Air Temperature Circuit Range/Performance · **P0112** Intake Air Temperature Circuit Low Input · **P0113** Intake Air Temperature Circuit High Input

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/ford-p1115/>

