



P1114 · Ford

Intake Air Temperature B (IAT2) Circuit Low Input

The Powertrain Control Module (PCM) monitors the Intake Air Temperature 2 (IAT2) sensor circuit and has detected a voltage signal that is lower than the expected range for the current conditions. This low input indicates the sensor is reporting an unrealistically cold air charge, or the circuit is shorted to ground or to a voltage reference.

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 (Malfunction Indicator Lamp).
- Often no symptoms besides the warning light, especially in mild weather.
- Poor fuel economy or rich-running condition due to incorrect air density calculation.
- Rough idle or hesitation on acceleration in some cases.
- Reduced engine performance or power delivery.
- In rare cases, a no-start condition if the PCM misinterprets the signal as extreme cold.

Common causes, most likely first

- 1 Faulty Intake Air Temperature 2 (IAT2) sensor itself, reading low resistance.
- 2 Short to ground in the signal circuit between the sensor and PCM.
- 3 Damaged or chafed wiring harness causing a short to ground.
- 4 Corroded or loose electrical connector at the sensor or PCM.
- 5 Water intrusion into the sensor connector or wiring.
- 6 PCM internal fault (less common).

How to diagnose and fix it

- 1 Use a scan tool to verify the IAT2 PID value and compare it to ambient temperature after a cold soak.
- 2 Visually inspect the IAT2 sensor connector and wiring for corrosion, damage, or water intrusion.
- 3 Disconnect the sensor and check for a short to ground on the signal circuit using a multimeter.
- 4 Measure the resistance of the IAT2 sensor and compare to Ford specifications for the current temperature.
- 5 If the circuit is shorted, repair the wiring harness and clear the code.
- 6 Replace the IAT2 sensor if it is out of specification, then clear codes and verify the repair.
- 7 If all else fails, check for a faulty PCM following Ford diagnostic procedures.



Common Misdiagnosis Traps for P1114

- A shorted IAT2 sensor can read plausible temperatures when cold, so always compare the PID to ambient after an overnight soak.
- The IAT2 sensor is often integrated into the Mass Air Flow (MAF) sensor on some Ford engines, so replacing the MAF may be necessary.
- Wiring chafing near the intake manifold or sharp edges is a frequent cause that is missed during visual inspection.
- A low input code can be set by a poor ground connection at the sensor, not just a short to ground.
- Do not replace the PCM until all wiring and sensor tests are completed, as PCM failure is rare.

Can I keep driving with P1114?

The vehicle is generally safe to drive with this code, but you may experience reduced fuel economy or slight performance issues. Avoid towing or heavy loads until repaired, and address the fault promptly to prevent potential long-term engine management problems.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Ford service information or wiring diagrams
- Basic hand tools (socket set, screwdrivers)
- Electrical contact cleaner

Reading P1114

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

Often seen with

P1115 Oxygen Sensor Heater Circuit Short To Ground Bank 1 Sensor 1 · **P1115** Engine Torque Control Cut Signal Circuit High Input · **P1115** H02S12 Heater Circuit Low Voltage · **P1115** Engine Coolant Temperature Sensor Intermittent · **P1115** Intake Air Temperature B (IAT2) Circuit High Input · **P1115** Engine Coolant Temperature (ECT) Sensor Circuit Intermittent · **P1115** Coolant Temperature Sensor Plausibility · **P0102** Mass/Volume Air Flow Circuit Low Input · **P0103** Mass/Volume Air Flow Circuit High Input · **P0112** Intake Air Temperature Circuit Low Input · **P0113** Intake Air Temperature Circuit High Input



See it working

Watch the animated explainer [How Coil-on-Plug Ignition Works: Coil and Spark Plug](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1114/>

