

GENERIC · POWERTRAIN

P0113

OBD-II TROUBLE CODE

P0113

Intake Air Temperature Circuit High Input

P0113 means the engine computer has seen the intake air temperature sensor signal go higher than the expected range, which tells it the incoming air is colder than the sensor circuit can legitimately report. The computer compares the sensor voltage to its programmed limits and sets this code when the signal stays above the high threshold for a calibrated time.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Low	Intermediate	Fuel and air metering

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or hesitation when the engine is cold
- Poor fuel economy or rich-running smell from the exhaust
- Hard starting or extended cranking in cold weather
- Black smoke or soot from the tailpipe in severe cases
- Occasionally no symptoms besides the warning light

Common causes, most likely first

- 1 Open or broken wire in the intake air temperature sensor signal circuit
- 2 Corroded, loose, or pushed-back terminal at the sensor or computer connector
- 3 Failed intake air temperature sensor reading out of range
- 4 High resistance in a splice or connector along the sensor circuit
- 5 Damaged wiring harness from chafing, heat, or rodent damage
- 6 Faulty engine computer driver circuit, though this is rare

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm the code and see when it set
- 2 Inspect the intake air temperature sensor connector and wiring for corrosion, looseness, or damage
- 3 Measure sensor resistance with a multimeter and compare it to the temperature-resistance chart for the vehicle
- 4 Back-probe the signal circuit at the computer and check voltage with the key on, engine off
- 5 Check for continuity and resistance on the signal and ground circuits between the sensor and computer
- 6 Repair or replace the faulty wiring, connector, or sensor as indicated by the tests
- 7 Clear the code and verify the repair with a test drive and live data review



What the high input really means

- A high input code almost always means an open circuit or a sensor reporting an unrealistically cold temperature, not a sensor that has failed hot.
- Many intake air temperature sensors are integrated into the mass airflow sensor housing, so a faulty sensor can require replacing the whole assembly.
- The computer may substitute a default intake air temperature value and run acceptably, which is why drivers often notice no symptoms until the code is read.
- Rodent damage to the harness near the air box is a commonly missed cause of this code on vehicles parked outdoors.
- A poor ground connection shared with other sensors can pull the intake air temperature signal high and set this code along with others.

Can I keep driving with P0113?

The vehicle is generally safe to drive with P0113 because the computer substitutes a default air temperature and adjusts fueling accordingly. Avoid heavy towing or aggressive driving until the fault is repaired, and address it promptly if you notice rough running or poor fuel economy.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Temperature-resistance chart for the intake air temperature sensor
- Wire terminal pick and connector release tools
- Electrical tape and heat-shrink tubing for harness repairs

Reading P0113

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
1	Fuel and air metering.
13	The exact fault within that area.

Often seen with

P0101 Mass/Volume Air Flow Circuit Range/Performance · **P0102** Mass/Volume Air Flow Circuit Low Input · **P0111** Intake Air Temperature Circuit Range/Performance · **P0112** Intake Air Temperature Circuit Low Input · **P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg



See it working

Watch the animated explainer [EV Powertrain Trainer: How an Electric Car Drives](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0113/>

