

FORD · POWERTRAIN

P1466

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1466 · Ford

A/C Refrigerant Temperature Sensor Circuit Malfunction

P1466 on Ford vehicles indicates that the powertrain control module (PCM) has detected an abnormal signal from the air conditioning (A/C) refrigerant temperature sensor circuit. The PCM expects a specific voltage range from this sensor to properly manage A/C compressor operation and protect the system from over-temperature conditions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Medium	Intermediate	Auxiliary emission controls

Symptoms you may notice

- The air conditioning may blow warm air or not cool effectively.
- The A/C compressor clutch may fail to engage, preventing cooling.
- The A/C compressor may run continuously, risking system damage.
- The check engine light (malfunction indicator lamp) illuminates.
- Often no symptoms besides the warning light, especially if the fault is intermittent.

Common causes, most likely first

- Faulty A/C refrigerant temperature sensor.
- Damaged or corroded wiring or connector at the sensor.
- Open or short circuit in the sensor signal or ground circuit.
- PCM internal fault affecting the sensor reference voltage.
- Poor electrical connection at the PCM harness.
- Aftermarket or incorrect sensor installed previously.

How to diagnose and fix it

- Perform a visual inspection of the sensor and its wiring for obvious damage or corrosion.
- Use a scan tool to check for other codes and view live data for the A/C refrigerant temperature sensor.
- Measure the sensor resistance and compare to Ford specifications for the ambient temperature.
- Check for continuity and voltage drops in the sensor circuit between the sensor and PCM.
- If the sensor is out of specification, replace it with a genuine Ford part.
- Clear the codes and verify the repair by running the A/C and monitoring sensor data.
- If the code persists, diagnose the PCM and its connections as the final step.



Don't overlook the sensor connector

- A common cause is a loose or corroded connector at the sensor, which can mimic a failed sensor and is often missed during diagnosis.
- The A/C refrigerant temperature sensor is sometimes confused with the A/C pressure sensor, but they serve different purposes and have different diagnostic procedures.
- Intermittent faults can be caused by wire chafing near the compressor or along the harness routing, so wiggle tests are essential.
- The PCM may disable the A/C compressor to protect the system when this code sets, leading to a no-cooling complaint even if the sensor is only intermittently faulty.
- After replacing the sensor, the PCM may require a relearn procedure or several drive cycles before the code clears permanently.

Can I keep driving with P1466?

You can generally drive the vehicle with this code, but the air conditioning may not function properly, and prolonged driving with a faulty sensor could lead to compressor damage if the system is not protected. Avoid using the A/C until the fault is repaired to prevent potential costly damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Ford service information for wiring diagrams and resistance specifications
- Basic hand tools for sensor removal
- Wire repair kit with crimpers and heat shrink

Reading P1466

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Ford): its meaning depends on the make.
4	Auxiliary emission controls.
66	The exact fault within that area.

Often seen with

P1465 Additive Pump Short To B+ · **P1467** EVAP Canister Purge Solenoid Valve Short To B+ · **P1468** EVAP Canister Purge Solenoid Valve Short To Ground · **P1465** EPW Power · **P1465** A/C Relay Circuit Malfunction · **P1465** Heated Catalyst Battery Temperature Sensor 1 or 2 Plausibili · **P1467** Heated Catalyst Comparison Battery Voltages of Power Switch · **P1468** Heated Catalyst Battery Disconnecting Switch Plausibility · **P0532** A/C Refrigerant Pressure Sensor 'A' Circuit Low · **P0533** A/C Refrigerant Pressure Sensor 'A' Circuit High



See it working

Watch the animated explainer [How Push-Button Start Works: Keyless Ignition](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1466/>

