

GENERIC · POWERTRAIN

P00B4

OBD-II TROUBLE CODE

P00B4

Radiator Coolant Temperature Sensor Circuit High

P00B4 means the engine control module (ECM) has detected an abnormally high voltage on the radiator coolant temperature sensor circuit, which usually indicates an open circuit, a poor connection, or a sensor that has failed in a way that raises signal voltage. The ECM expects the sensor to pull the reference voltage down as coolant temperature rises, so a high reading tells the computer the radiator coolant is colder than it actually is or that the circuit is broken.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Cooling fan may run continuously or not engage at the correct temperature
- Temperature gauge or dashboard coolant display reads colder than normal or stays at the bottom
- Poor fuel economy or slightly rough running if the ECM substitutes a default temperature value
- In some vehicles, a message on the driver information center about a temperature sensor fault
- Overheating risk if the fan strategy is affected and the driver ignores the warning light

Common causes, most likely first

- 1 Open or damaged wire in the radiator coolant temperature sensor signal circuit
- 2 Corroded, loose, or unseated electrical connector at the radiator coolant temperature sensor
- 3 Failed radiator coolant temperature sensor (internal open circuit or incorrect resistance)
- 4 Poor ground connection for the sensor circuit, including engine or chassis ground points
- 5 Faulty engine control module (ECM) driver or internal circuit, though this is less common
- 6 Aftermarket or incorrect sensor installed that does not match the vehicle's resistance curve
- 7 Harness damage from heat, chafing, or rodent activity near the radiator



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P00B4 to confirm the fault is active and note the reported temperature
- 2 Inspect the radiator coolant temperature sensor connector and harness for corrosion, looseness, or obvious damage
- 3 Measure sensor resistance with a multimeter and compare it to the manufacturer's temperature-resistance chart
- 4 Back-probe the signal circuit at the ECM connector and check voltage with the key on, engine off, looking for a stuck-high reading
- 5 Perform a voltage drop test on the sensor ground circuit to rule out a poor ground
- 6 Repair or replace the faulty wiring, connector, or sensor as indicated by the tests, then clear the code and verify the temperature reading rises smoothly during a road test
- 7 If the circuit and sensor test good but the code returns, follow the manufacturer's diagnostic flow for ECM internal fault confirmation before replacing the ECM

Radiator sensor faults that fool good technicians

- A radiator coolant temperature sensor is often a second, separate sensor from the engine coolant temperature sensor, so replacing the engine coolant sensor will not fix P00B4.
- The ECM may default to a fixed coolant temperature when the signal is high, which can mask driveability symptoms and make the fault appear intermittent.
- Corrosion inside the connector pins can create a high-resistance open circuit that only shows up when the engine bay is hot or wet, so wiggle-testing the harness is essential.
- A poor ground shared with other sensors can set P00B4 alongside unrelated codes, so always check ground integrity before condemning the sensor.
- Aftermarket sensors with the wrong resistance curve are a common cause of repeat high-voltage codes even when the original sensor was not defective.

Can I keep driving with P00B4?

You can usually drive a short distance to a repair shop, but avoid heavy loads, long trips, or stop-and-go traffic because the cooling fan may not activate correctly and the engine could overheat. If the temperature gauge climbs or the warning light flashes, stop safely and shut the engine off.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Back-probe kit or fine test leads
- Manufacturer's temperature-resistance chart for the sensor
- Basic hand tools for connector and sensor access
- Infrared thermometer for verifying actual coolant temperature

Reading P00B4

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
0	Fuel and air metering and auxiliary emission controls.
B4	The exact fault within that area.

Often seen with

P00B3 Radiator Coolant Temperature Sensor Circuit Low · **P0117** Engine Coolant Temperature Circuit Low Input · **P0118** Engine Coolant Temperature Circuit High Input · **P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P2184** Engine Coolant Temperature Sensor 2 Circuit Low

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00b4/>

