

GENERIC · POWERTRAIN

P00B2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P00B2

Radiator Coolant Temperature Sensor Circuit Range/Performance

P00B2 means the engine computer has detected that the radiator coolant temperature sensor signal is outside the expected range or is not behaving rationally compared with other temperature inputs. The computer compares the sensor voltage against a plausible operating window and flags the code when the reading is too high, too low, or inconsistent during warm-up.

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

- Illumination of the check engine light, often with no other noticeable symptoms
- Electric radiator fan running continuously or not engaging at all
- Temperature gauge reading abnormally high, low, or fluctuating
- Poor fuel economy or rough running during cold starts
- Overheating warning or reduced engine power in some vehicles
- Incorrect climate control operation or cabin heat performance

Common causes, most likely first

- 1 Faulty radiator coolant temperature sensor
- 2 Damaged or corroded sensor electrical connector
- 3 Chafed, open, or shorted wiring in the sensor circuit
- 4 Coolant level low or air pockets around the sensor
- 5 Thermostat stuck open or closed affecting warm-up rate
- 6 Engine control module software or internal circuit fault



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm when the fault sets
- 2 Visually inspect the sensor connector and wiring for corrosion, chafing, or looseness
- 3 Measure sensor resistance with a multimeter and compare with a temperature chart
- 4 Check coolant level and bleed the cooling system to remove air pockets
- 5 Back-probe the sensor signal wire at the engine control module to verify continuity and voltage
- 6 Replace the radiator coolant temperature sensor if resistance is out of specification
- 7 Clear codes and perform a road test with live data to confirm the repair

Why the radiator sensor code misleads

- A low coolant level or trapped air can cause the sensor to read erratically even when the sensor itself is perfectly good.
- The radiator coolant temperature sensor is often confused with the engine coolant temperature sensor, but they serve different circuits and can set different codes.
- A stuck-open thermostat can make the engine warm up too slowly, causing the computer to flag the sensor as irrational during a cold start.
- Corroded terminals inside the connector often mimic a failed sensor, so always inspect the plug before replacing parts.
- Some vehicles use the radiator sensor primarily for fan control, so a fault may not affect the dashboard gauge at all.

Can I keep driving with P00B2?

You can usually drive short distances at moderate speed, but avoid heavy loads, towing, or long trips until the fault is repaired. If the temperature gauge climbs into the red or you see an overheating warning, stop safely and shut the engine off immediately.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Socket and ratchet set
- Coolant refractometer or hydrometer
- Wiring diagram for the sensor circuit



Reading P00B2

- 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.
- B2** The exact fault within that area.

Often seen with

P00B3 Radiator Coolant Temperature Sensor Circuit Low · **P00B4** Radiator Coolant Temperature Sensor Circuit High · **P0115** Engine Coolant Temperature Circuit Malfunction · **P0116** Engine Coolant Temperature Circuit Range/Performance · **P0117** Engine Coolant Temperature Circuit Low Input

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/p00b2/>

