

GENERIC · POWERTRAIN

P0667

OBD-II TROUBLE CODE

P0667

PCM/ECM/TCM Internal Temperature Sensor Range/Performance

P0667 indicates that the powertrain control module (PCM), engine control module (ECM), or transmission control module (TCM) has detected an out-of-range or erratic signal from its internal temperature sensor. The computer compares the sensor's output against expected values and sets this code when the reading falls outside the normal operating window or behaves unpredictably.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light or service engine soon light
- Often no symptoms besides the warning light
- Intermittent rough running or stalling when the module is hot
- Transmission shifting irregularities if the TCM is affected
- Reduced fuel economy or driveability due to incorrect temperature compensation
- Hard starting or no-start condition in extreme cases

Common causes, most likely first

- 1 Faulty internal temperature sensor inside the PCM, ECM, or TCM
- 2 Corroded, loose, or damaged wiring or connectors at the module
- 3 Poor electrical ground connection to the module
- 4 Overheating of the module due to a blocked cooling path or engine bay heat
- 5 Internal circuit board fault or solder joint failure within the module
- 6 Software or calibration issue in the module requiring reflash
- 7 Voltage supply or reference signal instability affecting sensor readings



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in other modules
- 2 Inspect the module's electrical connectors and wiring for corrosion, looseness, or damage
- 3 Check and clean the module's ground connections to ensure a solid return path
- 4 Measure the sensor's signal circuit resistance and compare to manufacturer specifications
- 5 Monitor live data for the internal temperature sensor to see if the reading is erratic or stuck
- 6 If the sensor is internal and accessible, replace it; otherwise, the module may require replacement or repair
- 7 After repair, clear codes and perform a road test to confirm the fix and ensure the code does not return

When the module itself is the culprit

- A common oversight is condemning the module immediately; always rule out wiring and ground issues first because they can mimic an internal sensor failure.
- The internal temperature sensor is often not serviceable separately, meaning the entire module may need replacement, but some modules can be repaired by a specialist.
- Heat soak after engine shutdown can cause intermittent failures that only appear when the module is hot, so testing when cold may miss the fault.
- This code can be set by a low battery or charging system issue that causes voltage spikes, so check the battery and alternator before replacing the module.
- On some vehicles, the internal temperature sensor is part of a circuit that also monitors other parameters, so a failure may also trigger related codes like P0666 or P0668.

Can I keep driving with P0667?

You can generally continue driving with this code, but avoid heavy loads or long trips until it is diagnosed, as the fault may cause driveability issues or leave you stranded if the module fails completely.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket set and trim removal tools
- Heat gun or temperature probe for testing sensor response



Reading P0667

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- 67** The exact fault within that area.

Often seen with

P0562 System Voltage Low · **P0601** Internal Control Module Memory Checksum Error · **P0606** PCM Processor Fault · **P0666** PCM/ECM/TCM Internal Temperature Sensor Circuit · **P0668** PCM/ECM/TCM Internal Temperature Sensor Circuit Low

See it working

Watch the animated explainer **V6 Engine Explained: 60° Bank and Firing Order** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0667/>

