

NISSAN · POWERTRAIN

P1798

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1798 · Nissan

Coolant Temperature Circuit

P1798 on Nissan vehicles indicates that the engine control module (ECM) has detected an abnormal signal from the engine coolant temperature (ECT) sensor circuit, typically an open circuit or a voltage reading outside the expected range. The ECM uses this sensor to calculate fuel enrichment, ignition timing, and cooling fan operation, so a faulty signal can affect driveability and emissions. The code is stored when the ECM sees an ECT sensor voltage that is implausible for the current engine conditions.

SYSTEM

Powertrain

CODE TYPE

Nissan specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- Illumination of the check engine light (CEL) on the dashboard, often with no other noticeable symptoms.
- Poor fuel economy or rich-running condition because the ECM defaults to a fixed coolant temperature value.
- Hard starting or rough idle when the engine is cold, especially in low ambient temperatures.
- Inaccurate or non-functioning temperature gauge on the instrument cluster.
- Cooling fans that run continuously or fail to activate, leading to overheating or prolonged warm-up.
- In rare cases, the engine may enter limp mode or exhibit hesitation during acceleration.

Common causes, most likely first

- 1 Faulty engine coolant temperature (ECT) sensor giving an incorrect resistance value.
- 2 Damaged or corroded wiring harness between the ECT sensor and the ECM, including open or short circuits.
- 3 Loose, dirty, or corroded electrical connector at the ECT sensor.
- 4 Failed thermostat stuck open, causing the engine to run colder than expected and setting an implausible signal code.
- 5 Low coolant level or air pockets in the cooling system affecting sensor readings.
- 6 ECM internal fault or software issue misinterpreting the sensor signal (rare but possible).
- 7 Aftermarket or incorrect ECT sensor installed previously, with resistance characteristics that do not match Nissan specifications.



How to diagnose and fix it

- 1 Verify coolant level and condition; top up or bleed the cooling system if air pockets are suspected.
- 2 Perform a visual inspection of the ECT sensor connector and wiring for damage, corrosion, or looseness; clean and reseat as needed.
- 3 Use a scan tool to read live ECT sensor data and compare it with actual engine temperature using an infrared thermometer; a large discrepancy indicates a sensor or wiring fault.
- 4 Measure resistance across the ECT sensor terminals and compare with Nissan's temperature-resistance chart for the specific model; replace the sensor if out of specification.
- 5 Check for continuity and voltage drop on the signal and ground circuits between the ECT sensor and ECM; repair any open or short circuits.
- 6 If wiring and sensor test good, inspect the thermostat operation by monitoring coolant temperature during warm-up; replace a stuck-open thermostat.
- 7 Clear the code and perform a drive cycle to confirm the repair; if the code returns, suspect an intermittent wiring fault or ECM issue requiring further diagnosis.

Coolant Sensor Traps That Fool Many Technicians

- A stuck-open thermostat is a common cause of P1798 on Nissan vehicles because the engine never reaches normal operating temperature, making the ECT signal appear implausible to the ECM even when the sensor itself is fine.
- Corrosion inside the ECT sensor connector pins often goes unnoticed during a quick visual check, so always back-probe the terminals and check for green or white deposits that can add resistance.
- Aftermarket ECT sensors with incorrect resistance curves are a frequent source of repeat P1798 codes; always verify the sensor's part number and resistance against the factory service manual for your specific Nissan model.
- The ECM may substitute a default coolant temperature value when the sensor signal is lost, allowing the engine to run almost normally, which is why many drivers ignore the warning light until fuel economy or cold-start issues appear.
- On some Nissan models, a failing cooling fan control module can cause the ECM to see unrealistic temperature changes and set P1798 even though the ECT sensor circuit is electrically sound.

Can I keep driving with P1798?

You can usually drive short distances to a repair shop, but avoid sustained high-speed driving or heavy loads because the ECM may not control cooling fans or fuel mixture correctly, risking overheating or poor emissions. If the temperature gauge reads abnormally high or you notice coolant loss, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live data capability
- Infrared thermometer
- Digital multimeter
- Factory service manual or wiring diagram for the specific Nissan model
- Basic socket and wrench set
- Coolant refractometer or hydrometer

Reading P1798

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Nissan): its meaning depends on the make.

7 Transmission.

98 The exact fault within that area.

Often seen with

P0115 Engine Coolant Temperature Circuit Malfunction · **P0116** Engine Coolant Temperature Circuit Range/Performance · **P0117** Engine Coolant Temperature Circuit Low Input · **P0118** Engine Coolant Temperature Circuit High Input · **P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg

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/nissan-p1798/>

