

VOLKSWAGEN · POWERTRAIN

P1621

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1621 · Volkswagen

Engine Coolant Temperature Signal Short To Ground

P1621 on Volkswagen vehicles means the engine control module (ECM) has detected a short to ground on the engine coolant temperature (ECT) sensor signal circuit. The ECM expects a voltage between roughly 0.5 and 4.5 volts from the sensor, and a reading near zero volts for a set time triggers this fault.

SYSTEM

Powertrain

CODE TYPE

Volkswagen specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Temperature gauge reading cold or not moving even after the engine warms up
- Poor fuel economy or rich-running condition because the ECM substitutes a default coolant temperature
- Hard starting or rough idle when cold, as cold-start enrichment is misjudged
- Cooling fan running constantly or not at all due to lost temperature data
- In rare cases, an overheating warning if the ECM defaults incorrectly

Common causes, most likely first

- 1 Chafed or pinched signal wire shorting to ground between the ECT sensor and the ECM
- 2 Corroded or water-contaminated ECT sensor connector pins
- 3 Failed ECT sensor with an internal short to its ground path
- 4 Damaged ECM connector pins or moisture intrusion at the ECM harness
- 5 Aftermarket alarm or accessory wiring tapped into the sensor circuit
- 6 Failed ECM driver circuit (least common but possible after other causes are ruled out)

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P1621 before clearing anything
- 2 Inspect the ECT sensor connector and harness for corrosion, chafing, or moisture
- 3 Measure resistance across the ECT sensor and compare to the Volkswagen temperature-resistance chart
- 4 Back-probe the signal wire at the sensor and at the ECM to check for a short to ground with the key on
- 5 Disconnect the sensor and ECM connectors and check for continuity to ground on the signal wire
- 6 Repair any damaged wiring or replace the ECT sensor if it is internally shorted
- 7 Clear codes and verify the coolant temperature reading rises smoothly during a road test



Why P1621 is often a wiring fault

- The ECT sensor on many Volkswagen engines shares a ground reference with other sensors, so a short in an unrelated circuit can pull the coolant signal low and set P1621.
- A sensor that tests good on the bench can still set this code if the connector pins are pushed back or corroded, so always load-test the circuit rather than trusting a resistance reading alone.
- Volkswagen ECMs often default to a fixed coolant temperature when the signal is lost, which can mask driveability symptoms and lead technicians to replace the sensor unnecessarily.
- Aftermarket remote starters and alarm systems are frequently spliced into the coolant sensor wiring, creating a short to ground that only appears when the accessory is powered up.
- P1621 can be stored intermittently by water intrusion into the harness connector after engine washing or heavy rain, so check for green corrosion before condemning any part.

Can I keep driving with P1621?

You can usually drive the vehicle to a workshop, but avoid long trips and heavy load because the ECM is running on a default temperature and may not control cooling fans or fuel mixture correctly. If the temperature gauge behaves erratically or the engine overheats, stop and have it towed.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Wiring diagram for the specific Volkswagen model
- Contact cleaner and dielectric grease
- Heat-shrink tubing and soldering iron for harness repairs

Reading P1621

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Volkswagen): its meaning depends on the make.
6	Computer and output circuits.
21	The exact fault within that area.

Often seen with

P1622 Engine Coolant Temperature Signal Range Performance · **P1622** Electrohydraulic Shut-Off Actuator Y11 · **P1622** Immobilizer System Fault · **P1622** Cylinder Select · **P1622** MAP Cooling Control Circuit Electrical · **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/volkswagen-p1621/>

