

MERCEDES-BENZ · POWERTRAIN

P1221

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1221 · Mercedes-Benz

CAN Communication ETC Or ETS Interrupted

P1221 on Mercedes-Benz vehicles means the engine control module has lost or interrupted its controller area network (CAN) communication link with the electronic traction control (ETC) or electronic traction system (ETS) module. The engine computer expects a continuous stream of messages from the traction control module over the CAN bus, and it has detected a gap or corruption in that data flow rather than a fault inside the traction system itself.

SYSTEM

Powertrain

CODE TYPE

Mercedes-Benz specific

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Fuel and air metering (injector circuits)

Symptoms you may notice

- The yellow ESP or ETS warning light illuminates steadily on the instrument cluster
- The engine may enter limp mode with reduced power and a rough or limited rev range
- The transmission may shift harshly or refuse to shift out of a single gear
- The speedometer, odometer, or cruise control may stop working or behave erratically
- Often no symptoms besides the warning light, especially if the interruption is intermittent
- Intermittent stalling or a no-crank condition if the CAN bus is severely disrupted

Common causes, most likely first

- 1 Corroded, loose, or water-damaged pins and connectors at the ETC/ETS module or engine control module
- 2 Chafed, pinched, or broken CAN bus wiring between the two modules, often near the firewall or wheel arch
- 3 A failing ETC/ETS module that drops off the CAN bus intermittently or completely
- 4 Low or unstable battery voltage causing the CAN transceiver to shut down or misbehave
- 5 A faulty engine control module CAN interface, though this is less common than wiring or module faults
- 6 Aftermarket accessories or poor previous repairs tapping into the CAN wiring and disturbing signal integrity
- 7 Water ingress into the ETC/ETS module connector or the module housing itself



How to diagnose and fix it

- 1 Read and record all stored codes in every module, then clear them and road-test to see whether P1221 returns immediately or only under specific conditions
- 2 Inspect the battery, charging system, and ground connections, because low voltage is a frequent trigger for CAN communication codes on Mercedes-Benz vehicles
- 3 Visually inspect the ETC/ETS module connector and the engine control module connector for corrosion, water intrusion, bent pins, and loose terminals
- 4 Perform a CAN bus resistance and voltage test at the diagnostic connector and at each module to confirm the bus is intact and correctly terminated
- 5 Wiggle-test the wiring harness between the two modules while watching live CAN communication status on a scan tool to expose intermittent breaks
- 6 If wiring and power are confirmed good, substitute a known-good ETC/ETS module or perform a module communication test to isolate the faulty unit
- 7 Repair or replace the damaged harness section or module, then clear codes and verify that CAN communication remains stable through several drive cycles

Why CAN codes are rarely the module itself

- A P1221 on a Mercedes-Benz is far more often a wiring or voltage problem than a failed ETC/ETS module, so technicians who replace the module first frequently see the code return within days.
- Low battery voltage during cranking can interrupt CAN communication long enough to set P1221 without leaving any other low-voltage code, so always load-test the battery before condemning a module.
- Water ingress into the ETC/ETS connector or the module housing is a known cause on several Mercedes-Benz platforms, and the corrosion is often hidden behind the connector seal where a visual check from outside will not reveal it.
- Aftermarket alarms, dash cameras, or phone kits spliced into CAN wiring can corrupt the bus signal and trigger P1221, so inspect for non-factory wiring before assuming a factory fault.
- P1221 does not mean the traction control system itself has failed; the ETC/ETS module may be functioning perfectly while only its communication path to the engine computer is interrupted.

Can I keep driving with P1221?

You can usually drive the vehicle to a workshop, but expect reduced engine power, harsh shifting, and disabled traction control, so avoid high speeds, heavy loads, and slippery road conditions until the fault is repaired.



Tools that help

- Mercedes-Benz-compatible scan tool with live CAN communication and module status capability
- Digital multimeter with resistance and voltage measurement
- Oscilloscope for CAN bus signal integrity testing
- Wiring diagram and connector pinout reference for the specific model
- Terminal pick and contact cleaner for connector inspection and repair
- Battery load tester and charging system tester

Reading P1221

P Powertrain: engine, transmission and emissions.

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

2 Fuel and air metering (injector circuits).

21 The exact fault within that area.

Often seen with

P1222 IFI Accelerator Pedal Position Sensor R252 · **P1222** Traction Control Output Circuit · **P1222** Injector Control Circuit Intermittent · **P1222** Traction Control Output Circuit Malfunction · **P1222** Injector Control Circuit Intermittent · **P1222** Pedal Position Sensor 2 Low Input · **P0600** Serial Communication Link Malfunction · **P0606** PCM Processor Fault · **U0121** Lost Communication With Anti-Lock Brake System (ABS) Control

See it working

Watch the animated explainer [Readiness Monitors and the OBD-II Drive Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mercedes-benz-p1221/>

