

Diverse functional limitations in the vehicle in combination with various warning and fault messages in the instrument cluster display

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| Topic number | LI54.21-P-079510 |
| Version | 1 |
| Function group | 54.21 - Control units / basic modules |
| Date | 7/16/25 |
| Validity | Model series 206, 214, 223, 236, 254 (all vehicles with powertrain control unit (N127) (CPC) of control unit variant "CPC3") |
| Reason for change | null |

Complaint

Diverse functional limitations in the vehicle in combination with various warning and fault messages in the instrument cluster display.

Cause

Communication timeouts mean that communication errors may occur in the on-board electrical system, which can result in various fault messages being displayed in the instrument cluster.

This could be down to delayed feedback from the drivetrain control unit (N127) (CPC) to other control units networked to the CAN bus.

Information:

- It may not be possible to attribute any communication errors stored in the control units on the CAN bus to a specific cause
- In rare instances, there may be a brief activation of the yellow warning lamp for engine diagnosis or there may be a sporadic delay with the start enable.
- There may not be any specific fault codes present that indicate a specific component.

Example image: Fault messages in instrument cluster:



The reason for this could be down to delayed feedback from the control unit CPC3 to other control units networked on the CAN bus.

| Attachments | |
|---|-------------|
| File | Description |
| 1.jpg  | |

Remedy

Do not replace any components!!!

1. Connect charger (see AR54.10-P-1127WT).

Note: An adequate voltage from the on-board electrical system battery must be guaranteed for the entire duration of the work procedure. Otherwise the control units could be damaged if an undervoltage occurs.

Information: Observe the operating instructions of the charger.

XENTRY Tips

Information: Use the charger to ensure an adequate voltage (at least 12.5 V) from the on-board electrical system battery.

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2. Connect diagnostic system (see AD00.00-P-2000-06FR).

Note: Always use the latest XENTRY Diagnostics software release.

Information: Strict compliance with the operation steps in XENTRY Diagnostics is absolutely essential.

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3. Select control unit N127 (CPC) via the direct link using XENTRY Diagnosis.

Information: To do so, select the following menu items: Control units view → Drive systems → N127 - "Power-train" control unit (CPC)

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4. Update software for control unit N127 (CPC) (see AR54.21-P-0014-01Y).

Info: To do so, select the following menu items: Adaptations → Control unit update → Update control unit software.

Information: You are then automatically guided through the steps "Update of control unit software" and "SCN coding". Always observe the following operation steps at all times

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5. Disconnect diagnostic device from vehicle (see AD00.00-P-2000-06FR).

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6. Disconnect charger from vehicle (see AR54.10-P-1127WT).

| WIS-References | | |
|---------------------|---|---|
| Document number | Title | Note |
| AR54.10-P-1127WT | Maintain on-board electrical system voltage for testing and diagnosis work on the vehicle | Maintain on-board electrical system voltage for testing and diagnosis work on the vehicle |
| AD00.00-P-2000-06FR | Connect/disconnect diagnostic device | |
| AR54.21-P-0014-01Y | Program control unit | |

Disclaimer

NOTE: The information contained in this document is intended for use by trained, professional technicians with the knowledge to properly and safely perform diagnosis and repairs on Mercedes-Benz vehicles, using Mercedes-Benz approved tools and equipment. It informs service technicians about conditions that could occur in certain vehicles and provides information that could assist in proper vehicle diagnosis, service, or repair. It does not indicate that a defect is present in any vehicle referenced in this document nor does it imply warranty coverage. DO NOT assume that a symptom or condition, or a described cause of a symptom or condition, affects any particular vehicle or groups of vehicles, or that a described repair applies to any particular vehicle or groups of vehicles. There can be multiple causes resulting in the same or similar symptoms or conditions described in this document, and trained professional service technicians must use their diagnostic skills to make evaluations on a case-by-case basis. The information contained in this document does not guarantee warranty coverage nor does it extend the vehicle's warranty in any way.

Symptoms

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| Overall vehicle > Power supply > Battery/On-board electrical system > Battery function > Damage |
| Communication/information > Assistance and warning systems > Parking assist > PARKTRONIC > Acoustic warning malfunction > General |
| Overall vehicle > Safety and locking system > Drive authorization system DAS > Electronic ignition lock/steering lock > Does not receive turn authorization |
| Overall vehicle > Safety and locking system > Drive authorization system DAS > Electronic ignition lock/steering lock > Malfunction |
| Overall vehicle > Power supply > Battery/On-board electrical system > Battery/on-board electrical system indicator lamp > Battery charge indicator/consumer shutoff > Illuminates white |
| Power generation > Engine management > Indicator lamp > Engine diagnosis > lit |
| Communication/information > Information display > Displays > Multifunction display > Function > Malfunction |
| Communication/information > Information display > Displays > Multifunction display > Multifunction display, error messages > Implausible messages despite properly functioning message systems |
| Communication/information > Information display > Indicator lamp > Malfunction |
| Communication/information > Information display > Indicator lamp > lit |
| Overall vehicle > Networking > Diagnosis/software > Software update (add-on) |
| Overall vehicle > Networking > Diagnosis/software > Current problems |
| Overall vehicle > Power supply > Battery/On-board electrical system > Battery/on-board electrical system display message > Battery/Alternator - Serviced Required |
| Overall vehicle > Networking > CAN/FlexRay communication > Malfunction |
| Overall vehicle > Networking > LIN communication > Malfunction |
| Overall vehicle > Networking > Gateway communication > Malfunction |
| Communication/information > Information display > Displays > Multifunction display > Multifunction display, error messages > Drivetrain - Malfunction (white warning message) |
| Overall vehicle > Power supply > Fuel cell > Malfunction |
| Communication/information > Assistance and warning systems > Blind spot assist > Malfunction |

Control unit/fault code

| Control unit | Fault text |
|---|------------|
| N127 - Control unit "Drivetrain" (PTCU) (CPC3AMG) | - |
| N127 - Control unit "Drivetrain" (PTCU) (CPC3) | - |

Operation numbers/damage codes

| Op. no. | Operation text | Time | Damage code | Note |
|---------|---|------|-------------|------|
| 541011 | Perform quick test | H | 5440Z | |
| 540991 | Program and code CPC3 control unit (after quick test) | H | 5440Z | |