

HV DC/DC converter N83/1 HV voltage divider, reduction in resistance leads to 12 V battery warning message

Topic number	LI54.10-P-079534
Version	3
Function group	54.10 - Battery, power supply, voltage converter
Date	8/8/25
Validity	EQS 297 and 296 (12-module HV batteries)
Reason for change	Adaptation of the diagnosis procedure description Add diagnosis procedure attachment

Complaint

Red 12 V battery warning message in IC

DTC stored in EZS or currently: B161609

No DTC in DC/DC converter

DC/DC converter is not providing any output voltage or output current

Cause

Due to a reduction in resistance at the HV voltage divider, the DC/DC converter measures an incorrect HV voltage.

Regulation of the 12 V output voltage is therefore unstable or turns off.

Remedy

Check of the DC/DC converter via XENTRY Diagnosis

- Actuate BUCK mode for approx. 40 s
- Normally, the output current will jump up to a high value (e.g. 100 A) and then slowly drop to the current specified value (e.g. 50 A) and then only change slowly and in small increments (video in attachment).
- In the event of this error cause, the DC/DC converter may react in two possible ways:
 - 1) Despite displayed BUCK mode, the DC/DC converter does not provide any output voltage or output current (video in attachment).
 - 2) The output voltage and output current may experience significant fluctuations/jumps (several 1-10 A) (video in attachment).
- Perform in XENTRY -> DC/DC converter N83/1 -> Special procedures -> "Evaluation of the HV resistance reduction of the DC/DC converter control unit". The special procedure compares the serial number of the installed DC/DC converter with the list of potentially affected parts.

Depending on the result:

- If the serial number can be found in the list of potentially affected component parts, then replace the DC/DC converter.
- If the serial number cannot be found in the list of potentially affected parts but the problem described applies, then please open a TIPS case and forward to HQ.

Attachments	
File	Description
DCDC 297 XENTRY BUCK mode 0A edited.mp4	BUCK mode no output
DCDC 243 XENTRY BUCK mode Ausgangsschwankungen edited.mp4	BUCK mode fluctuations
DCDC Ausgangswert ok edited.mp4	BUCK mode ok

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
Overall vehicle > Power supply > Battery/On-board electrical system > Battery/on-board electrical system display message > Battery/Alternator - Serviced Required
Overall vehicle > Power supply > Battery/On-board electrical system > Battery/on-board electrical system display message > Low voltage Charge battery

Control unit/fault code	
Control unit	Fault text
N73/3 - Electronic ignition lock (EVS) (EVS223)	B161609 - The 12 V voltage source has a malfunction. There is a component fault.

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
		H	54720	For consequential damage, please always invoice the damage code of the component part that caused it.