
Head unit display fails shortly after engine start - Fault code (C200200) for overvoltage stored in ESP control unit

Topic number	LI54.10-P-062091
Version	1
Design group	54.10 Battery, voltage supply, voltage converter
Date	08-21-2015
Validity	Model 172; 204; 207; 212; 218; 231 with SA code "B03" ECO start/stop and without SA code "4U7" Voltage dip limiter for ECO start/stop system
Reason for change	

Complaint:

The head unit (HU) display fails shortly after the vehicle starts to move when the speed first exceeds 20km/h.

In addition, the following fault messages about driver assistance systems may be displayed in the instrument cluster:

- Release Parking Brake
- ESP - Service Required

See attachment for possible fault codes.

Cause:

1. Electrical fault in backup battery coupling relay "K114"
2. Electrical fault in ECO start/stop function backup battery

Remedy:

1. Check ECO start/stop function backup battery coupling relay (K114) via actuation:

Use Xentry Diagnostics to access the driver-side SAM control unit (N10/1) --> Tests --> Check ECO start/stop function backup battery coupling relay (K114):

- The test result is displayed in the overview for the test. The voltage present at the backup battery is saved and displayed every 0.5 seconds.

- Possible faults:

- Backup battery coupling relay fails to close --> The voltage of the backup battery does not converge with the on-board electrical system voltage

- Coupling relay closes, but opens again after approx. 2 seconds due to an internal fault --> The voltage of the backup battery briefly rises to match that of the starter battery and then drops back to its original level during the actuation.

In the event of faults, the ECO start/stop function coupling relay must be replaced.

- If the voltage of the backup battery converges with the voltage of the starter battery, there is no fault and no components should be replaced.

If this is the case, the test of the backup battery must be performed.

2. Check ECO start/stop backup battery:

- Check backup battery using Midtronics tester and replace if necessary

Note: If the results of the test are not clear and the previously performed relay test was successful, a test of the backup battery must be performed using a load resistance.

Attachments	
File	Description
Beispiel Diagnose Koppelrelais K114_de_i_O.pdf	Test of backup battery coupling relay (K114) OK
Beispiel Diagnose Koppelrelais K114_de_n_i_O.pdf	Test of backup battery coupling relay (K114) not OK
example check coupling relay K114_en_ok.pdf	Test of backup battery coupling relay (K114) OK
example check coupling relay K114_en_defective.pdf	Test of backup battery coupling relay (K114) not OK
E-15-54-02.3_01-00.1_K_Generator_Belastungstester.pdf	Workshop equipment

Control unit/fault code		
Control unit	Fault code	Fault text
N30/4 - Electronic stability program (ESP®) (ABR2XT) (GLK (204),SLK/SLC 172,C (204))	C200200	The supply voltage of control unit 'N30/4 (Electronic Stability Program control unit)' is too high (overvoltage).
N69/2 - Right front door (DCU-RF) (DMFR166) (SL (231))	B210B00	The power supply in the system is too high. _
N69/2 - Right front door (DCU-RF) (DMFR166) (SL (231))	B210C17	The power supply is outside the valid range. The limit value for electrical voltage has been exceeded.
N69/2 - Right front door (DCU-RF) (DMFR_212) (GLK (204) ,CLS (218),E (212),SLK/SLC 172,E (207),C (204))	A10B00	The power supply in the system is too high. _
N69/2 - Right front door (DCU-RF) (DMFR_204) (GLK (204), C (204))	A10C17	The power supply is outside the valid range. The limit value for electrical voltage has been exceeded.
N30/4 - Electronic stability program (ESP®) (ESP212) (GLK (204),CLS (218),E (212),E (207),C (204))	643F00	The supply voltage of control unit 'N30/4 (Electronic Stability Program control unit)' is too high (overvoltage).
N30/4 - Electronic stability program (ESP®) (ESP9MFA) (SL (231))	C011200	Control unit 'N30/4 (Electronic Stability Program control unit)' has detected an overvoltage.
N69/3 - Left rear door (DCU-LR) (DMRL_212) (GLK (204), CLS (218),E (212),C (204))	A10C17	The power supply is outside the valid range. The limit value for electrical voltage has been exceeded.
N69/3 - Left rear door (DCU-LR) (DMRL_212) (GLK (204), CLS (218),E (212),C (204))	A10B00	The power supply in the system is too high. _

N69/4 - Right rear door (DCU-RR) (DMRR_212) (GLK (204), CLS (218),E (212),C (204))	A10C17	The power supply is outside the valid range. The limit value for electrical voltage has been exceeded.
N69/4 - Right rear door (DCU-RR) (DMRR_212) (GLK (204), CLS (218),E (212),C (204))	A10B00	The power supply in the system is too high. _
N69/1 - Left front door (DCU-LF) (DMFL166) (SL (231))	B210B00	The power supply in the system is too high. _
N69/1 - Left front door (DCU-LF) (DMFL166) (SL (231))	B210C17	The power supply is outside the valid range. The limit value for electrical voltage has been exceeded.

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 000 982 20 23			Backup battery coupling relay "K114"	1		X
A 211 541 00 01			Aux Battery	1	Test using Midtronics	X

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
54-1011	PERFORM QUICK TEST		53233 73	
54-0640	CHECK BATTERY SYSTEM (AFTER QUICK TEST)		53233 73	
54-1139	REPLACE RELAY FOR ECO START/STOP FUNCTION ADDITIONAL BATTERY (AFTER CHECK)		53233 73	If necessary
54-1136	CHECK CONDITION OF ECO START/STOP FUNCTION ADDITIONAL BATTERY, TERMINAL STAMP:... BATT. PART NO:... TEST CODE:...		54027 73	If necessary
54-1137	REPLACE ADDITIONAL BATTERY FOR ECO START/STOP FUNCTION AFTER CHECK		54027 73	If necessary

WIS-References			
Document number	Title	Note	Allocation
AR54.10-P-1127CW	Maintain on-board electrical system voltage for testing and diagnosis work on the vehicle		Remedy
SI54.10-P-0017A	Battery testing and inspection		Remedy