
Repair instruction

Replacing the Active Discharge Board

Translation of the document

Publisher

Designwerk Technologies AG

www.designwerk.comMember of the Volvo Group

Validity

This document is only valid for the products listed in the following table:

Type	Model	Version	Special equipment code
E-LKW	LOW CAB	MK2	
E-LKW	LOW CAB	MK3	
E-LKW	MID CAB	V2.X	
E-LKW	MID CAB X	V2.X	
E-LKW	HIGH CAB	V2.X	

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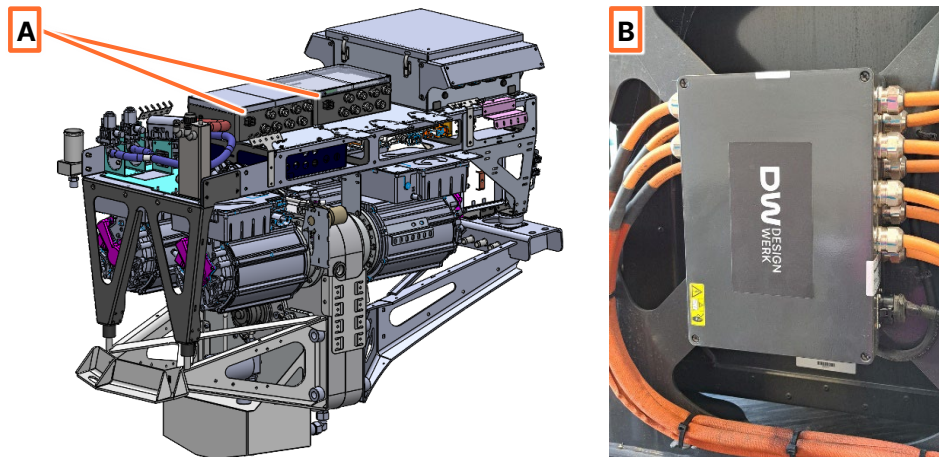
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1 Safety regulations and information

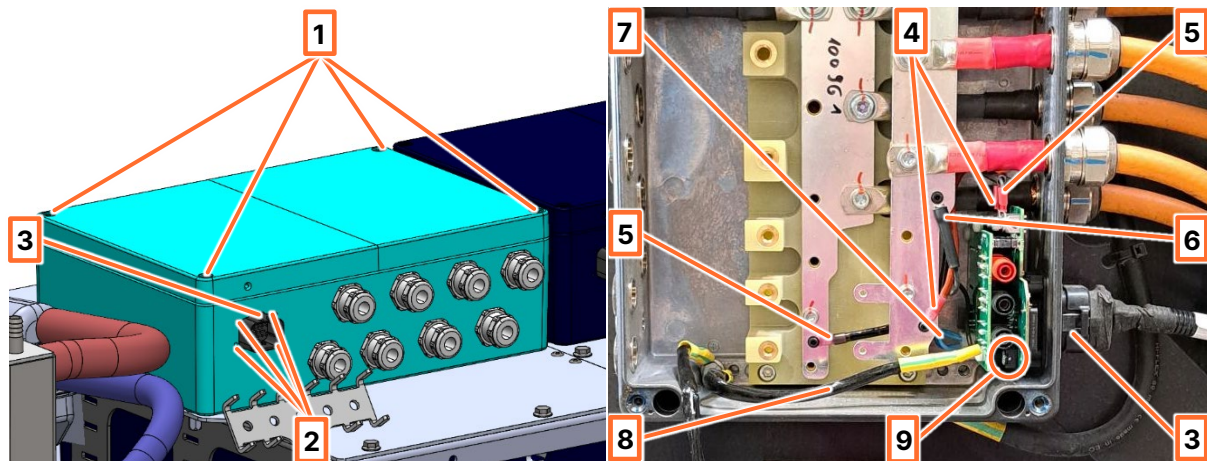
These documents are available for download on the service portal.

	Safety instructions and warnings	DW_Safety instructions
	Working with HV-components	SI_Working with HV-components
	List of abbreviations	DW_List of abbreviations
	Designwerk Imprint	DW_Imprint
	Decommissioning	DW_VOC009ADS000 DW_LOC002ADS000
	Commissioning	DW_VOC009IDS000 DW_LOC002ADS000
	ESD-Protection measures	SI_ESD-Protection measures

2 Position of the Active Discharge Board



- | | |
|---|---|
| A | The active discharge board is installed in each HVDU (B).
Each HV battery requires its own HVDU. |
|---|---|



1	HVDU screw connections	2	Screw connections LV connector
3	Input LV connector	4	Measuring cable red - plus
5	Measuring cable black - minus	6	Temperature sensor
7	Interlock plug	8	Potential equalisation cable
9	Gear with coding for the HVDU		

3 Work steps



Observe the necessary ESD protection measures (SI_ESD-Protection measures)

- Wear an ESD wrist strap.
- Use ESD packaging for protection against voltage spikes.

3.1 Removing the Active Discharge Board

1 Decommissioning the vehicle

- Follow the instructions for decommissioning: DW_VOC009ADS000 or DW_LOC002ADS000, respectively.



Each installed HV battery has its own HVDU

- Replace the active discharge board and all associated cables in all HVDUs.

Clarify the replacement of the complete HVDU box



Check the HVDU for visible signs of fire.

If signs of an electrostatic discharge or light flash are visible in the existing HVDU box, the complete HVDU box must be replaced.

2 Disconnect the assembled connections

- Unplug the potential equalisation cable (8).
- Remove the LV cable (3).
- For this purpose, loosen and remove the four screws on the connector (2).



Observe the ESD protection measures when working at the opened HVDU

- Put on the ESD wrist strap and connect it to the HVDU housing.

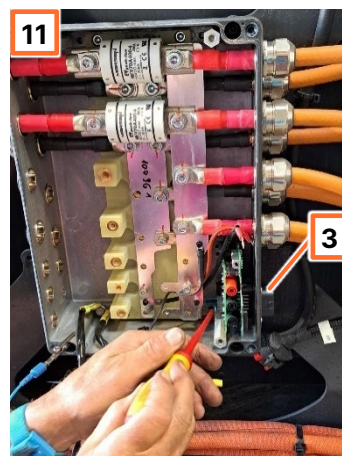
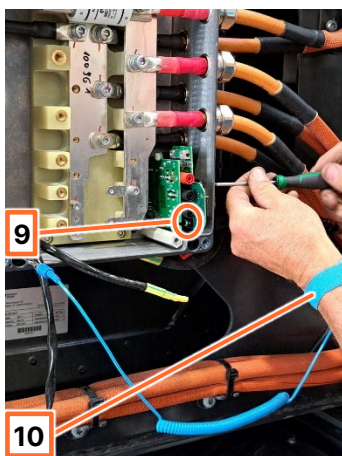
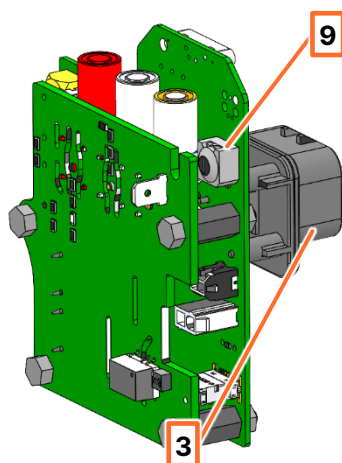
3 Remove all screw connections to the Active Discharge Board (11)

Remove the following small parts:

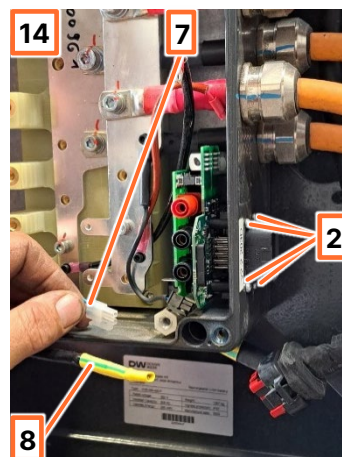
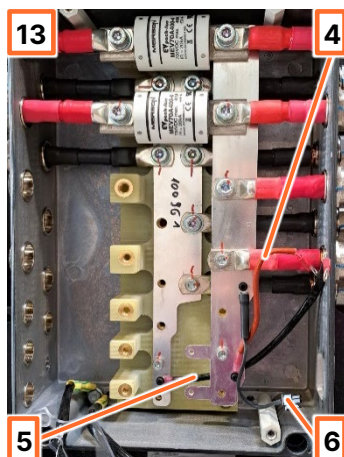
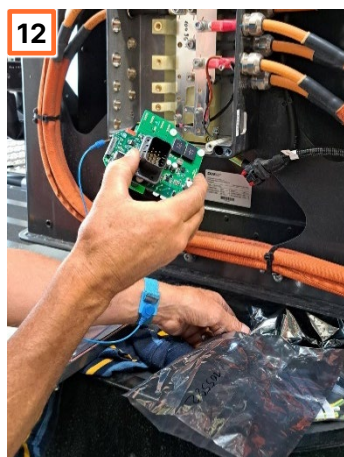
- two measuring cables (4, 5), one negative and one positive each,
- one temperature sensor (6),
- two interlock plugs (7).

4 Preparing the Active Discharge Board for shipping

- Remove the board from the HVDU (12).
- Then put the board into an ESD packaging and seal it.



9	Gear wheel with coding for the HVDU	10	ESD wrist strap
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11	Removing the interlock connectors and the cables from the Active Discharge Board	12	Removing the Active Discharge Board
13	Measuring cable and temperature sensor	14	Inserting the Active Discharge Board

3.2 Installing the new Active Discharge Board

1 Install the cables (4, 5, 6) from the cable set to the bushbar

- Install the cables to the same connectors as when removing them.

Checking the coding (9) on the Active Discharge Board



- Remove the board from the ESD packaging and check whether the number of the new board matches the old one.
- If not, turn the gear wheel to the correct position.

2 Installing the new Active Discharge Board

- For the purpose, insert the Active Discharge Board (14),
- screw on (2) the input of the LV cables (3),
- plug in the two interlock plugs (7),
- install the cables (4, 5, 6) to the Active Discharge Board,
- plug in the LV connector,
- plug in the potential equalisation cable.

3 Tighten all screw connections in the HVDU with the correct tightening torques.

- M5: 4 Nm
- M6: 7.5 Nm
- M8: 12 Nm

Cleaning the interior of the HVDU



There must be no dust or dirt particles inside the HVDU.

Before installing the acrylic glass cover, clean the inside of the HVDU with a compressed air gun.



15	Silicone seal HVDU		
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4 Completing the work on the HVDU

- For this purpose, install the acrylic glass cover,
- replace the silicone seal (15) on the HVDU cover,
- install the HVDU cover,
- tighten the HVDU screw connections.

5 Placing new seals

- Remove the seal residues with break cleaner,
- place two new warranty seals in the previous locations on the HVDU box.

6 Recommission the vehicle

- Follow the instructions for commissioning: DW_VOC009ADS000 or DW_LOC002ADS000, respectively.

4 Returning the old Active Discharge Board



It is mandatory to return the removed Active Discharge Board to Designwerk Technologies AG.



Put the board into an ESD packaging and label it as a removed board.

Adresse for the return

Designwerk Technologies AG
Leitung Entwicklungsabteilung E-LKW
Logistikzentrum Asp
Aspstrasse 44
8472 Seuzach
Switzerland