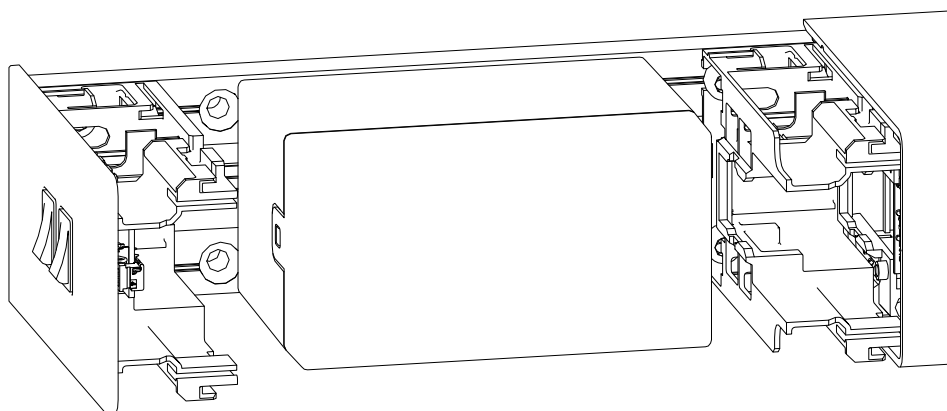


# ED UPS

Assembly Instruction

Original document



060675 45532/17224 - 07/2023

# 1 Information about this document

## 1.1 Contents and purpose

This document describes the mounting, connection and commissioning of the ED UPS.

## 1.2 Target group

The product may only be mounted and commissioned by a qualified electrician.

## 1.3 Other applicable documents

- ED 100, ED 250 operation manual
- Mounting and commissioning ED 100, ED 250

## 1.4 Abbreviations and terms

ED 100/250	Electromechanical swing door operators for the automatic opening and closing of swing doors.
UPS	Uninterrupted power supply
ED-AMP	Battery management board for the ED 100/250 during single-leaf operation, as well as for the primary ED 100/250 during double-leaf operation.
ED-RBI	A board which serves as an interface for rechargeable batteries (Rechargeable Battery Interface) for the secondary ED 100/250 during double-leaf operation.

## 1.5 Symbols used

### 1.5.1 Hazard category



#### **DANGER**

Describes an imminent danger resulting in serious injury or death.



#### **WARNING**

Describes a potentially dangerous situation that may result in serious injury or death.



#### **NOTICE**

Means a potentially harmful situation where the product or something in its environment could be damaged or result in a malfunction.

## 1.5.2 Symbols (manual)

The symbols listed can be found in the manual.



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Application tips, useful information

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**Cross references** point to the number of the chapter in which additional information is located. Example [▶ 2.2 ]

### Action steps

- ✓ Requirement
- 1. Step 1
  - ⇒ Intermediate result
- 2. Step 2
  - ⇒ Result

## 2 Safety



### NOTICE

#### Material damage due to electrostatic discharge

The component can be damaged by electrostatic discharge!

- Ground your body before touching the component.
- Use ESD safe tool.



### WARNING

#### Risk of injury due to heat generation, explosion, and fire

Improper handling of batteries (e.g. overheating, destruction, recharging, use of the battery in other products) can cause heat generation, explosion, and fire. This poses a risk of injury.

- Only use the original dormakaba replacement battery.
- Observe warnings on the battery.
- Only use the battery as intended.
- Pay attention to the correct polarity.

## 2.1 Personnel qualification

### Electrician

An electrician is a person who is authorized to carry out, plan and monitor electrical work. Due to their professional training, knowledge, experience, and knowledge of the pertinent requirements, the electrician is capable of assessing the work assigned to them while recognizing potential hazards.

## 2.2 Intended use

- The ED UPS is used to keep the ED 100/250 in operation in the event of mains failure.
- The ED UPS can be mounted either during the initial mounting or retrofitted on the ED 100/250.

## 2.3 Improper use

The product must not be used under the following conditions:

- For double-leaf units with mechanical sequential locking control
- For operators other than those mentioned
- Any existing country-specific guidelines and regulations must be observed before using the integrated emergency power supply on doors in preventive fire protection.  
Use of the integrated emergency power supply in combination with hold-open systems is not permitted in Germany.

The battery pack used is a safety-related component. Only the original dormakaba battery pack may be used, otherwise approval is invalidated.

### 3 Product description

#### 3.1 Sales and spare parts

Article number	Components
29263020	A01 battery
29263021	ED UPS mounting set single-leaf Cladding: silver
29263022	ED UPS mounting set single-leaf Cladding: white
29263023	ED UPS mounting set double-leaf A protective cover is not included with this item.
29280057	ED charging electronics for UPS active door leaf
29280062	ED charging electronics for UPS passive door leaf

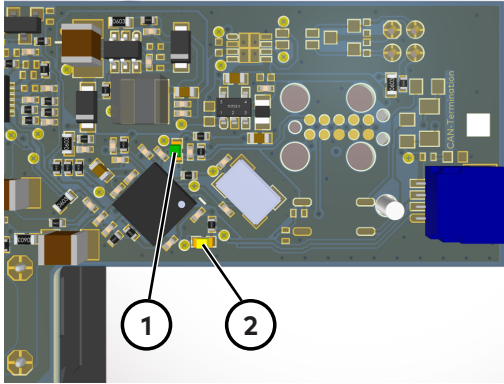
The core components of the ED UPS are an ED-AMP board, a connection cable, the battery casing and an ED RBI board for double-leaf doors.  
The battery is not included. This must be ordered separately.

#### 3.2 Technical data

<b>Voltage</b>	28.8 V
<b>Battery capacity</b>	3.2 Ah
<b>Operating temperature</b>	
Charging process	0°C to +50°C
Discharge process	-15°C to +50°C
<b>Storage temperature</b>	-20°C to +25°C
<b>Weight</b>	Approx. 2.8 kg
<b>Battery type designation</b>	Battery A01,IFR18650E1-1600-9S2P

- The battery pack only reaches its full capacity after around 6 hours of charging time.
- The battery pack must be fully charged to ensure emergency operation.  
For a single-leaf door with a door weight of 100 kg and a door speed of 25°/second, the A01 battery provides about 600 door openings.  
For a double-leaf door with a door weight of 100 kg and a door speed of 25°/second, the A01 battery provides approx. 300 door openings.

### 3.3 LED display



- 1 Green LED
- 2 Yellow LED

The green LED lights up continuously during operation.

The yellow LED has the following functionalities:

- Flashes when device identification is active.
- Lights up continuously if there are no errors and the device identification is inactive.
- Is off if an error occurred while testing the self-test library.
- Error display

No.	Error	LED display	Fix	Acknowledgment
1	Connection to the battery is faulty. => Charge controller is switched off	1 x short, 1 x long	Establish connection.	Automatically when the connection is OK.
2	Battery temperature is too high or too low. => Charge controller is switched off	2 x short, 1 x long	Allow battery to cool or bring it to operating temperature.	Automatically when the battery temperature is within the permitted temperature range.
3	Charge controller has a temporary error	3 x short, 1 x long	Restart	Automatically when the charge regulator is working again.
4	ED error: ED consumes too little power ( $I_{ED} < 65 \text{ mA}$ )	4 x short, 1 x long	Check the connection between ED and ED-AMP.	Automatically, when the ED draws a current higher than 65 mA again.
5	Self-test or hardware error	5 x short, 1 x long	Restart	None



In case of permanent errors, contact dormakaba.

## 4 Mounting ED UPS



### NOTICE

#### Damage to property due to incorrectly laid cables

Lay all cables so that they do not collide with moving parts!



### NOTICE

#### Damage to property due to SPV mode at double-leaf units

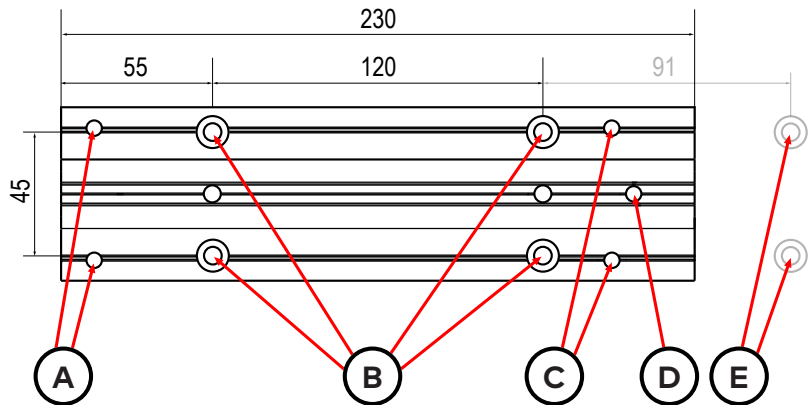
Double-leaf units with an A01 battery must not be operated in SPV mode.

- dormakaba offers item 29263023 for the operation of a two-leaf unit with A01 battery.

#### Screw-on points of the ED UPS mounting plate



The mounting plate for the ED UPS must always be aligned in such a way that the screw-on point of the connecting lug points in the direction of ED 100/250.

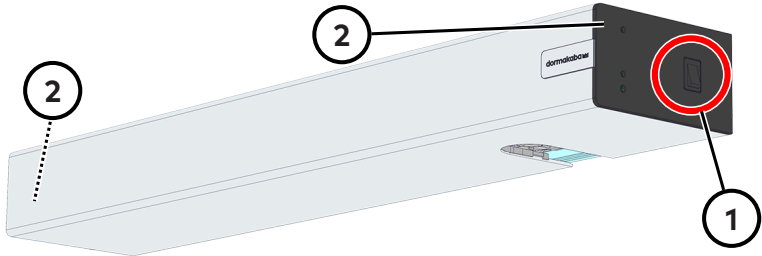


- A Screw-on points of outer Vario bracket
- B ED UPS's screw-on points on the wall
- C Screw-on points of inner Vario bracket
- D Screw-on point of the connecting lug
- E Screw-on points of the ED 100/250 mounting plate

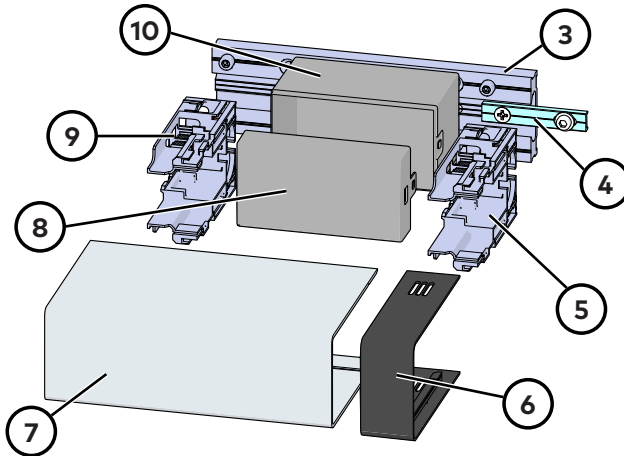
**Procedure**

The ED UPS must always be placed on the side where the program switch is located.

1. Switch off the ED 100/250 at the power switch (1).



2. Dismantle the ED 100/250 up to the base plate. The description can be found in the ED 100, ED 250 mounting and commissioning instructions. If available, disassemble the two variable brackets from the casing cover.

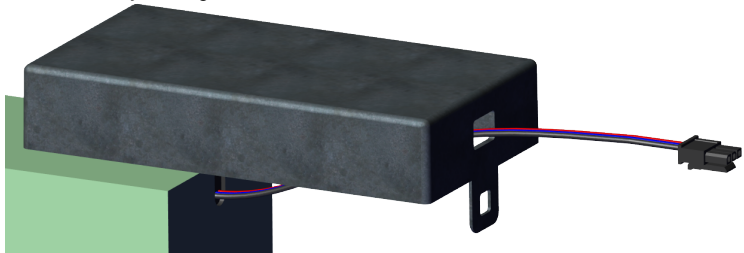


The components shown are not mounted on the mounting plate upon delivery. dormakaba recommends the use of the connecting lug (4) both when mounting the ED 100/250 for the first time and when retrofitting. The ED 100/250 must first be dismantled.

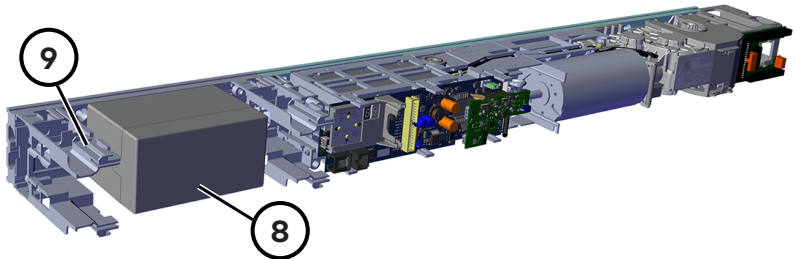
3. Remove the ED 100/250 program switch from the end cap (2).
4. If available, disassemble the Vario bracket, which is located between the ED UPS and the ED 100/250.
5. Mount the connecting lug (4) with the drill hole (not with the elongated hole) on the mounting plate of the ED UPS (3).
6. Position the ED UPS mounting plate on the ED 100/250 mounting plate and provisionally mount it with the connecting lug.
7. Transfer the four drill holes of the ED UPS mounting plate to the plate below.
8. Disassemble the mounting plate again.
9. Drill the holes in the plate below.



10. Mount the ED UPS mounting plate on the ED 100/250 mounting plate.
11. Attach the mounting plate to the wall.
  - ⇒ The ED UPS mounting plate is firmly connected to the ED 100/250 mounting plate.
12. Re-mount the ED 100/250. Do not mount the casing cover.
13. Mount the inner Vario bracket (5) with two hexagon socket screws M6x12.
14. Remove the cover (8) of the battery casing.
15. Guide the cables of the A01 battery (item sold separately) through the cover of the battery casing.



16. Insert the battery into the casing and close the cover.
17. Push the battery casing onto the mounting plate. The cables must point in the direction of the ED 100/250.

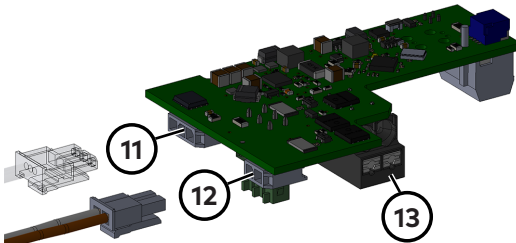


18. Mount the outer Vario bracket (9) with two hexagon socket screws M6x12.

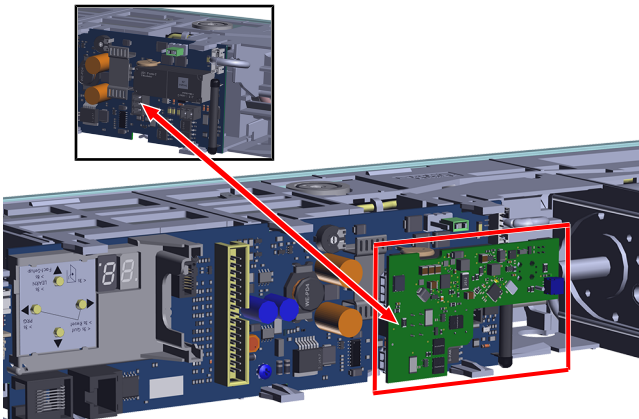
## 5 Electrical connection

### 5.1 Connecting ED-AMP (single-leaf operation)

1. Disconnect the ribbon cable.
2. Plug in the battery cable at the plug-in connection (11).
3. Remove the green 3-pin power plug from the ED 100/250 control board.
4. Unscrew the red and black cable from the connector.
5. Some ED 100/250 have another blue cable in the connector next to the red (+) and black (ground) cable.  
If available, unscrew the blue cable from the connector and apply the enclosed shrinking hose to the insulation properly on the end of the blue cable. The blue cable remains loosely hanging in front of the board and now has no function.



6. Insert the red and black cable into the mains connection of the ED-AMP board (13).
7. Insert the ED-AMP board onto the 3-pin plug of the ED board.



8. Disconnect the program switch plug from the control board.
9. Dispose of the program switch.
10. The conversion kit includes a new program switch with a longer cable. Mount this program switch on the outer Vario bracket (9).
11. Insert the program switch plug into the control board.



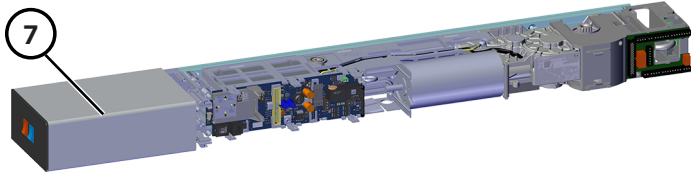
**⚠ DANGER**

**Danger of death due to door leaves**

The ED UPS supplies the ED 100/250 with voltage regardless of the power switch setting. As a result, the ED 100/250 can no longer be switched off.

- Prior to taking the next working step, check that there are no people or objects in the range of motion of the door leaves.
- Secure the range of motion of the door leaves.

12. Plug in the ED ribbon cable.
13. Mount the end cap of the ED 100/250 on the outer end of the ED UPS.
14. Attach the casing cover (8) to the casing.
15. Mount the protective cover (7) on the ED UPS.

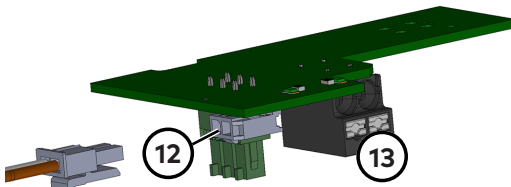


16. Mount the protective cover on ED 100/250.
  17. Mount the cut edge cover (6).
- ⇒ The ED UPS with ED-AMP is mounted.

## 5.2 Connecting ED-RBI (double-leaf operation)

✓ ED-AMP is connected.

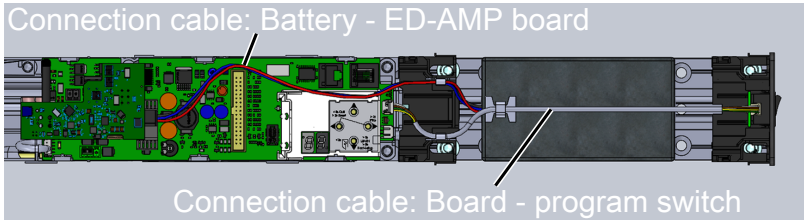
1. Release the ribbon cable on ED 100/250 Secondary.
2. Remove the green 3-pin power plug from the control board of ED 100/250.
3. Screw the red and black cable out of the connector.  
In some ED 100/250, another blue line can be found in the connector next to the red (+) and black (ground) cable.  
The connector with the blue cable remains loosely suspended in front of the board. From now on, it no longer functions.
4. Insert the red and black cable into the mains connection of the ED-RBI board (13).
5. Establish the line connection (12) between the ED-AMP board (ED 100/250 Primary) and the ED RBI board (ED 100/250 Secondary).



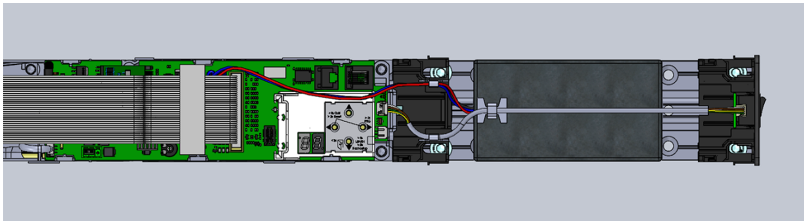
### 5.3 Cable routing

Lay the connection cables as follows:

**Illustrated without ribbon cable**



**Illustrated with ribbon cable**



## 6 Commissioning

No further steps are required for commissioning.

## 7 Maintenance

Activity	Interval
Function test of swing door operator without mains voltage	Annually
Check the physical integrity of the battery	Annually

Preventive replacement of the battery after a certain period of time is not required.

## 8 Replacing battery A01



### **WARNING**

#### **Risk of injury due to technical errors**

Technical errors can lead to uncontrolled movement of the unit. In the case of electrical units, this can also lead to electric shock.

- De-energize the unit prior to performing repairs.



### **NOTICE**

#### **Property damages due to incorrect spare parts**

dormakaba uses the best possible components for each application. If one of these components needs to be replaced, proceed as follows:

- Use original replacement parts from dormakaba.
  - If spare parts are used that are not original spare parts, their operational capability must be coordinated with dormakaba and approved in writing.
- ⇒ In all other cases, dormakaba's warranty shall be deemed null and void

#### Procedure

1. Switch off the ED 100/250 at the power switch.
2. Disassemble the ED 100/250 casing cover.
3. Disconnect the ribbon cable.
4. Remove the plug for A01 battery on the ED-AMP board.
5. Remove the cover of the battery casing.
6. Pull the cables of the defective A01 battery through the cover of the casing and insert the new A01 battery.
7. Insert the A01 battery into the housing and guide the cables through the cover.
8. Close the cover of the battery casing.
9. Connect the plug for A01 battery to the ED-AMP board.



### **DANGER**

#### **Danger of death due to door leaves**

The ED UPS supplies the ED 100/250 with voltage regardless of the power switch setting. As a result, the ED 100/250 can no longer be switched off.

- Prior to taking the next working step, check that there are no people or objects in the range of motion of the door leaves.
- Secure the range of motion of the door leaves.

10. Plug in the ED ribbon cable.
11. Mount the casing cover of the ED 100/250.
12. Switch on the ED 100/250 at the power switch.

## 9 Disassembly and disposal

Disassembly is carried out in reverse order of the manual.



The product must not be disposed of in domestic waste. Dispose of the product in an environmentally friendly manner at the collection points set up for this purpose. Refer to the statutory regulations for your country.

### 9.1 Disposing of batteries

Do not dispose of batteries as domestic waste!

Used batteries must be returned to a disposal system in accordance with state and local regulations.

The batteries must be fully discharged prior to disposal.



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