

# ***MASTERYS***

## Battery cabinet

Installationshandbuch und Bedienungsanleitung (DE)

Manual de instalación y uso (ES)

Manuel d'installation et d'utilisation (FR)

Installation and operating manual (EN)

Manuale di installazione e uso (IT)



# CONDITIONS OF WARRANTY

The SOCOMEC battery cabinet is part of a UPS system.

For the warranty conditions, please refer to the relevant chapter of the UPS manual.

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# 1. SAFETY STANDARDS

<b>DANGER</b>	High risk - death or serious injury will occur
<b>WARNING</b>	Medium risk - death or serious injury may occur
<b>CAUTION</b>	Low to medium risk - minor injury may occur
<b>NOTE</b>	Low risk - information on nature of hazard and possible outcome



**NOTE:** This user manual specifies installation and maintenance procedures, technical data and safety instructions for SOCOMEC products. For further information visit the Socomec website: [www.socomec.com](http://www.socomec.com).



**NOTE:** Before carrying out any operations on the unit read the installation and operating manual carefully. All safety instructions contained in this document must be read, understood and followed. Keep this manual safe for future reference.



**DANGER:** Failure to observe safety standards could result in fatal accidents or serious injury, and damage equipment or the environment.



**NOTE:** Any work carried out on the equipment must be performed by skilled, qualified technicians who have attended SOCOMEC training courses on construction, installation and hazards, and are experienced in procedures, practices and precautions to be taken.



**DANGER:** High electrical voltages are generated inside the power system, which is dangerous for maintenance personnel not suitably qualified or trained for such work. Keep unqualified personnel away from batteries.



**NOTE:** This equipment complies with the European Community directives for industrial equipment and bears the CE approval mark.



**NOTE:** Install the unit in accordance with clearance indications in order to prevent access to handling devices and guarantee sufficient ventilation (refer to Environmental Requirements chapter).



**NOTE:** Install the unit in a technical room with the following features:

- suitable size
- clean
- adequately ventilated
- maintained at a temperature between 0 °C and 40 °C (15 to 25 °C recommended for longer battery life)
- an even solid floor that can support the weight of the unit
- free from conductive, inflammable, explosive and corrosive items
- free from moisture, steam, mould, insects, vermin, dust, abrasive dust, corrosive gases, salty atmosphere or contaminated cooling refrigerant, harmful fumes, explosive dust/gas mixtures, restricted ventilation (for UPS and/or battery), radiated or conducted heat from other sources
- pollution level < 2 in accordance with IEC 60664-1
- atmosphere which is not conductive, inflammable, explosive or corrosive atmosphere
- non-radioactive environment.



**NOTE:** Do not:

- install the unit outdoors
- place the unit in a room with ongoing construction work
- insert foreign bodies in the unit
- expose the unit to rain or direct sunlight
- expose the unit to abnormal vibrations, shocks or tilt it.



**CAUTION:** If the unit is found to be damaged externally or internally, or any of the accessories are damaged or missing, contact SOCOMEC. Do not operate the unit if it has suffered a violent mechanical shock of any kind.



**NOTE:** When the equipment is transferred from a cold to a warm place wait approx. two hours before activating the unit.



**CAUTION:** Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.



**CAUTION:** Do not dispose of batteries in a fire. The batteries may explode.



**WARNING:** Care shall be taken not to wear clothes and footwear which may build up electrostatic charge. Absorbing cloth moistened only with water shall be used for battery cleaning. Other cleaning agents may result in built up of static charge or may damage the battery cases.



**NOTE:** Use Personal Protective Equipment (PPE) when carrying out any work on the unit.



**NOTE:** When carrying out electrical installation, all applicable standards specified by the IEC (in particular IEC 60364) and the electricity supplier must be observed. All national standards applicable to batteries must be observed. For further information refer to Technical specification chapter.



**NOTE:** Only use accessories recommended or sold by the manufacturer.



**NOTE:** Batteries must only be replaced with batteries recommended or sold by the manufacturer. Batteries must only be replaced by qualified technicians.



**NOTE:** Before connecting the unit check it is fully compatible with the UPS model.



**NOTE:** If using cabinets not supplied by the manufacturers of the UPS, it is the installer's responsibility to check the electrical compatibility and the presence of appropriate protection devices between the UPS and the battery cabinet (fuses and switches of sufficient capacity to protect the cables from the UPS to the battery cabinet). As soon as the UPS is switched on (before closing the battery switches) the battery parameters must be verified accordingly (voltage, capacity, number of elements, etc.) on the mimic panel menu. If the values indicated on the battery cabinet data plate are different from those shown on the mimic panel, please correct the settings.



**NOTE:** Use the double insulated cables supplied with the unit to connect the UPS to the battery cabinet.



**CAUTION:** A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries:

- remove watches, rings or other metal objects
- use tools with insulated handles
- wear rubber gloves and boots
- do not lay tools or metal parts on top of batteries
- disconnect the charging source prior to connecting or disconnecting battery terminals
- determine if battery is inadvertently earthed. If inadvertently grounded, remove source from ground. Contact with any part of a grounded battery can result in electrical shock. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance (applicable to equipment and remote battery supplies not having a grounded supply circuit).



**WARNING:** Batteries shall be neither connected nor disconnected when current is flowing. Isolate the circuit elsewhere first.



**WARNING:** Before carrying out any operations, ensure that:

- the switches located inside the battery cabinet are open
- the UPS is not live and all mains or battery switches are open
- the switches upstream of the UPS are open
- wait approx. 5 minutes for the unit to discharge completely.



**NOTE:** Connect the PE ground conductor before making any other connections.



**DANGER! RISK OF ELECTRIC SHOCK:** Disconnect all power sources before carrying out any operations on the unit (cleaning and maintenance, connection of appliances, etc.).



**DANGER! RISK OF ELECTRIC SHOCK:** After disconnecting all power sources wait approx. 5 minutes for the complete discharge of the unit.



**DANGER! RISK OF ELECTRIC SHOCK:** Do not interfere with the disconnecting switches on the unit while the UPS is running on battery power.



**DANGER! RISK OF ELECTRIC SHOCK:** There is no insulation between the batteries and the mains supply therefore it is extremely dangerous to touch any parts of the accumulator battery.



**WARNING:** Strictly observe the following:

- polarity of each individual string: cabling errors with inversion of battery polarity may cause permanent damage to the equipment
- cable cross-section (refer to Electrical Requirements chapter).



**NOTE:** As soon as the UPS is switched on (before closing the battery switches) the battery parameters must be verified accordingly (voltage, capacity, number of elements, etc.) on the mimic panel menu. If the values indicated on the battery cabinet data plate are different from those shown on the mimic panel, please correct the settings.



**NOTE:** If the unit needs to be disposed of it must be given to companies specialising in the disposal of the system's constituent materials.



**NOTE:** The batteries are toxic waste. If the battery cabinet needs to be scrapped it is essential to entrust the equipment solely and exclusively to firms specializing in the disposal of the materials making up the system. These are obliged to break up and dispose of the various components in accordance with the legal provisions in force in the country where the system is installed.
















**NOTE:** Any use other than the specified purpose will be considered improper. The manufacturer/supplier shall not be held responsible for damage resulting from this. Risk and responsibility lies with the system manager.

## 1.1. WARNING LABEL

The warning label provided identifies the battery room.  
The label should be placed outside the battery room in a visible position.



-  It is forbidden for non-qualified personnel to work on the batteries.
-  Do not smoke, use naked flames or generate sparks in the vicinity of the accumulators.
-  Accumulators are heavy! Use suitable transport and lifting equipment to work safely.
-  Connecting accumulators in series creates hazardous voltages.
-  The electrolyte corrodes metals and burns the skin and all parts of the human body.
-  **WARNING!**  
Risk of explosion! Avoid short circuits!  
Never place tools or metal objects on the accumulators.
-  Wear safety goggles and suitable clothing.
-  Read the user instructions carefully.  
Read the user manual before performing any operations.
-  Wear protective gloves and clothing.
-  Ground terminal.
-  In the event of contact with the eyes, wash immediately with plenty of water and call a doctor. Call a doctor immediately in the event of accidents or illness.
-  The unit **MUST** be handled by at least two people.
-  Batteries and related parts contain lead. Lead is dangerous to health if ingested. Wash hands after handling!

## 2. REQUIREMENTS

### 2.1. SHIPPING AND MOVING

- The packaging guarantees the stability of the unit during shipping and physical transfer.
- The unit must remain in a vertical position during all shipping and moving operations.
- Ensure that the floor is strong enough to support the weight of the unit.
- Carry the packaged unit as close as possible to the installation site.



**WARNING! HEAVY WEIGHT!**

Move the unit using a fork lift truck taking the utmost caution at all times.



The unit **MUST** be handled by at least two people.



Do not move the unit by putting pressure on the front door.



When moving the unit on even slightly sloping surfaces, use the locking equipment and braking devices to ensure that the unit does not fall over.



When the equipment is transferred from a cold to a warm place wait approx. two hours before putting the unit into operation.



**CAUTION IF DAMAGED.**

If the unit is found to be damaged externally or internally, or any of the accessories are damaged or missing, contact SOCOMEC.



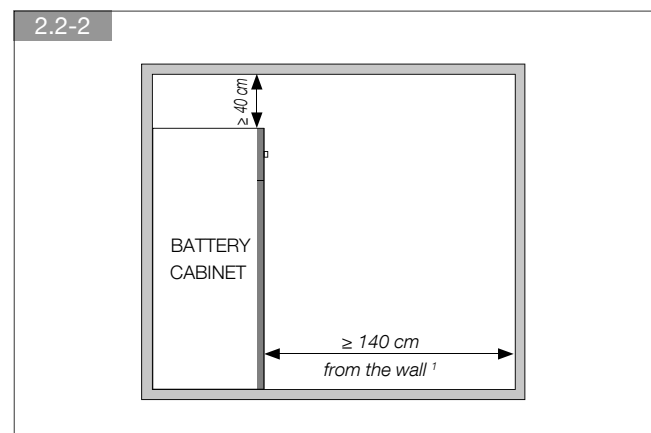
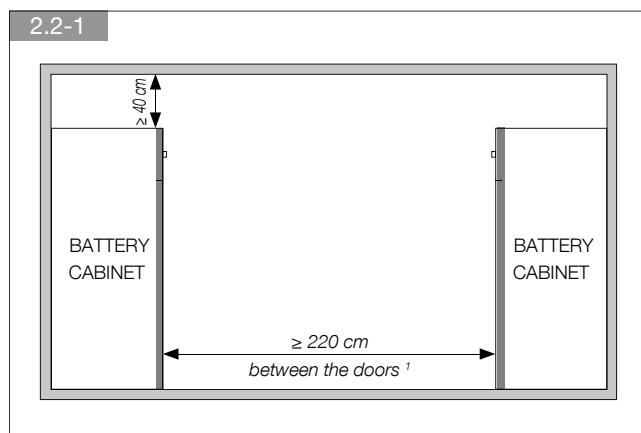
## 2.2. ENVIRONMENTAL REQUIREMENTS

Install the unit in a technical room to which only skilled technicians have access. The room must be:

- of a suitable size;
- clean;
- free from inflammable items;
- maintained at a temperature between 0 °C and 40 °C.

The unit is not designed for outdoor use. Do not expose the unit to direct sunlight.

See TECHNICAL SPECIFICATIONS.



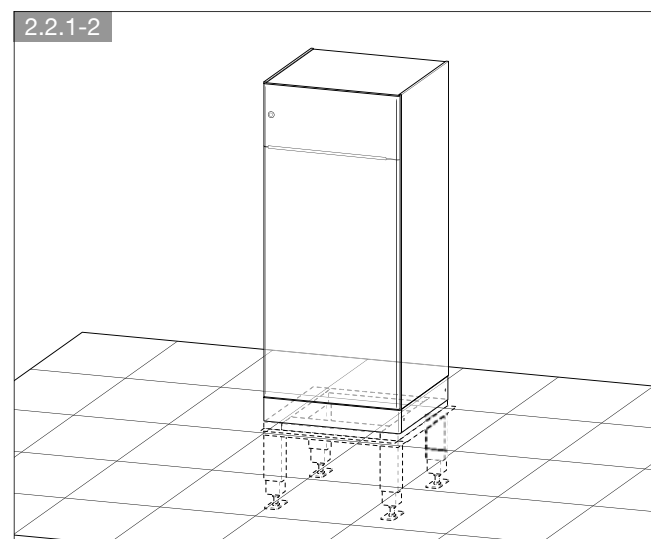
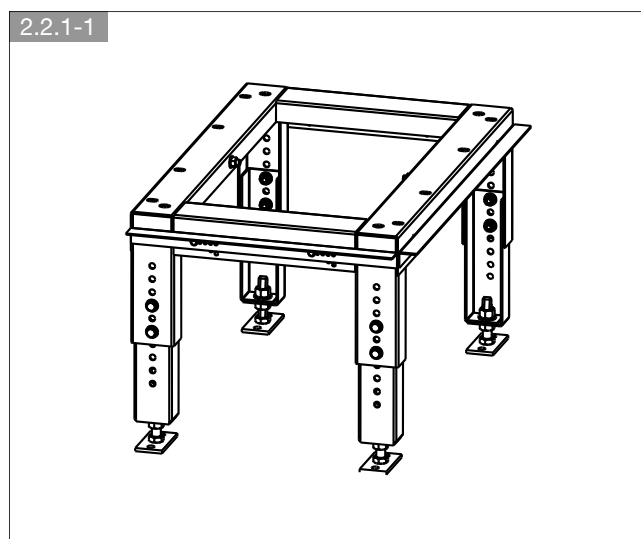
1. In accordance with standard IEC 60364.

### 2.2.1. Installation on raised flooring

Use the adjustable frame to install the unit on raised flooring. This supports the weight of the unit.



Refer to the relevant installation manual provided in the packaging for information on frame assembly operations.



# 3. INSTALLATION



**WARNING!**

Before carrying out any operations, ensure that:

- the switch located inside the battery cabinet is open;
- the UPS is not live and all mains or battery switches are open;
- the switches upstream of the UPS are open.



Cabling errors with inversion of battery polarity may cause permanent damage to the equipment.

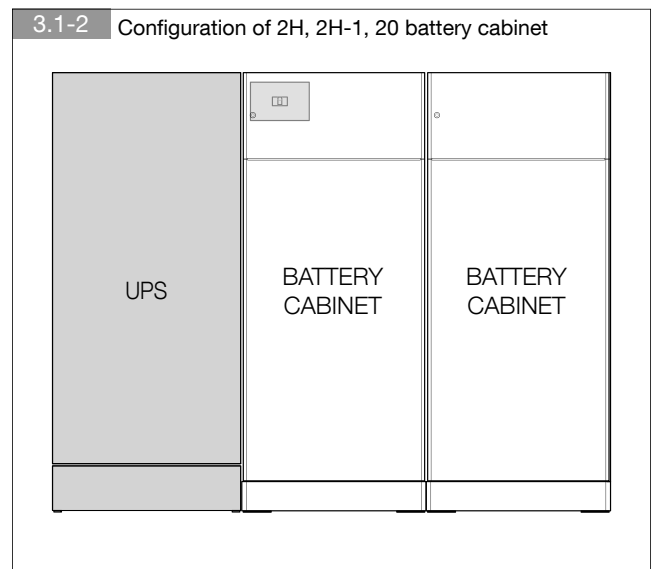
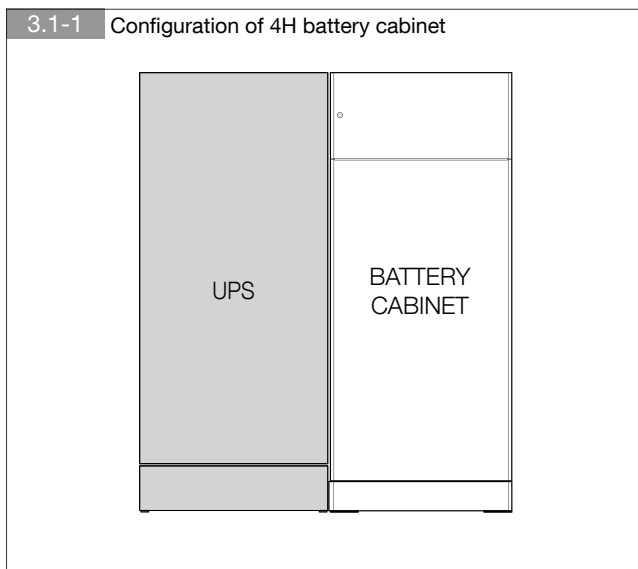


Use the cables provided to connect the UPS to the battery cabinet.

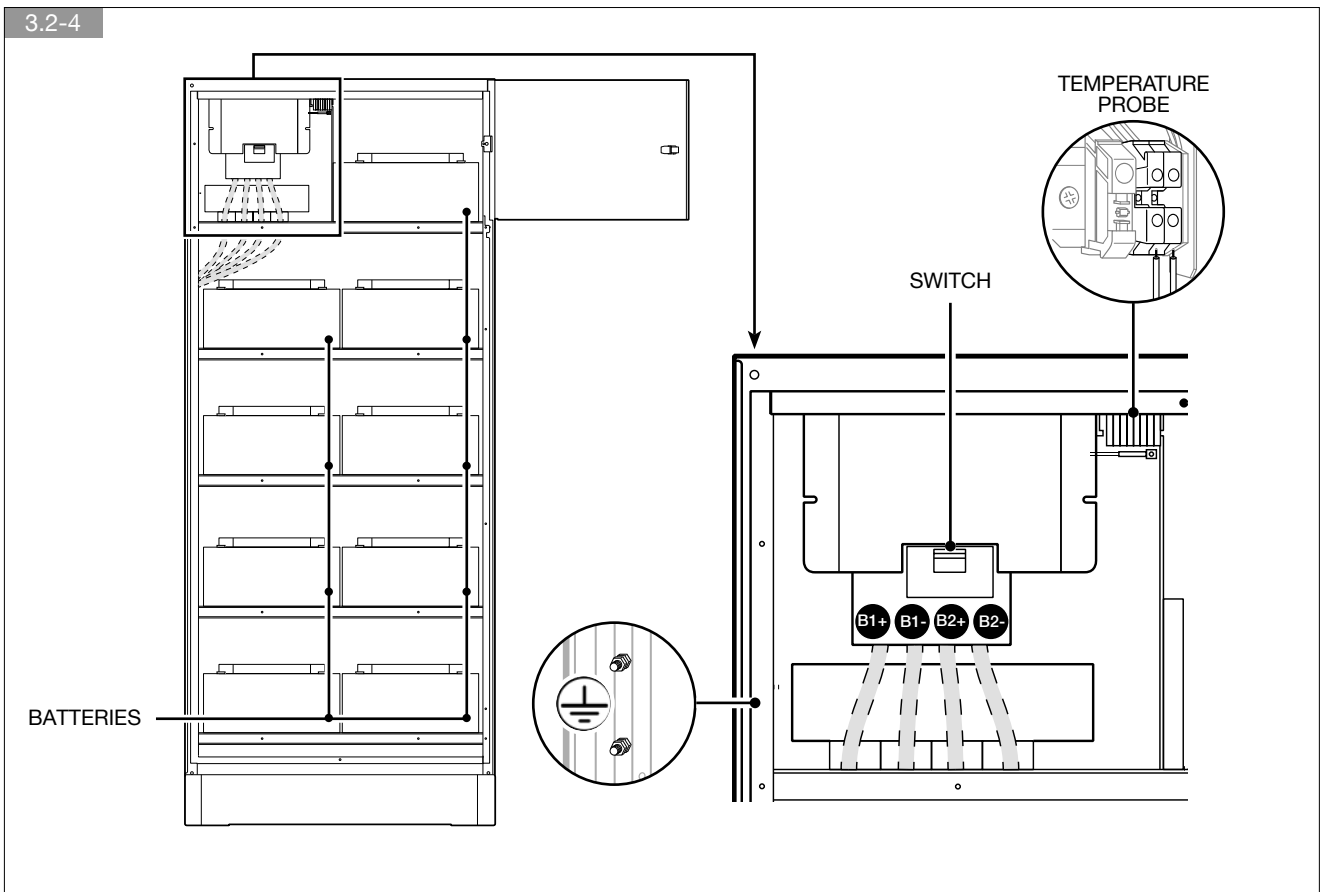
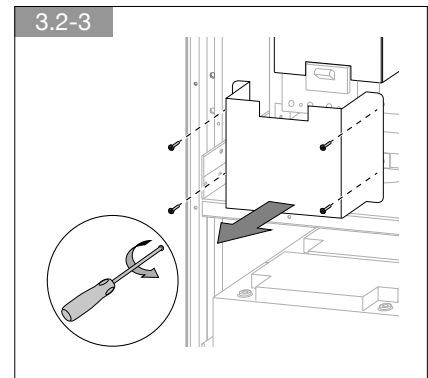
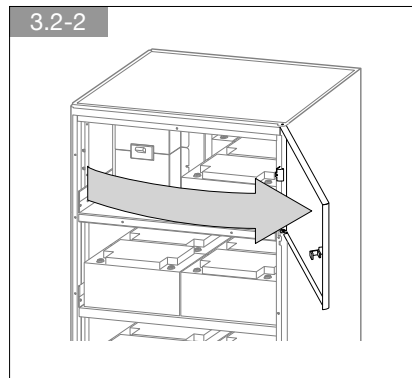
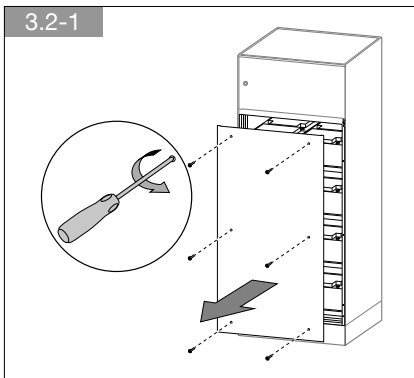


As soon as the UPS is switched on (before closing the battery switches) the battery parameters must be verified accordingly (voltage, capacity, number of elements, etc.) on the mimic panel menu. If the values indicated on the battery cabinet data plate are different from those shown on the mimic panel, please correct the settings.

## 3.1. CORRECT PLACEMENT

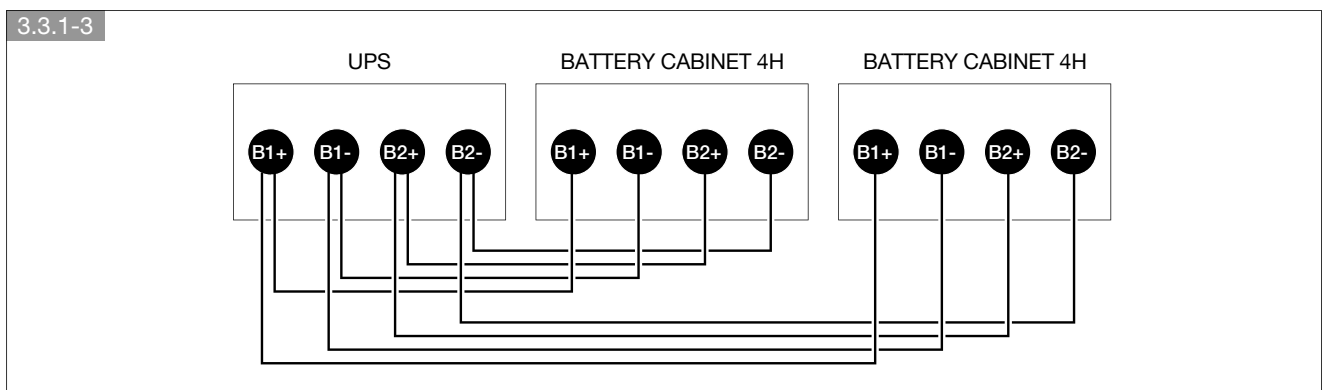
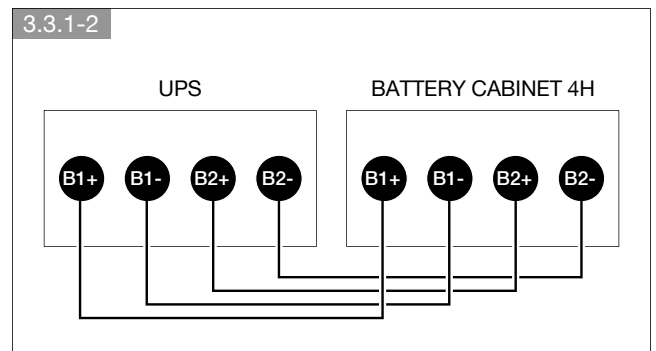
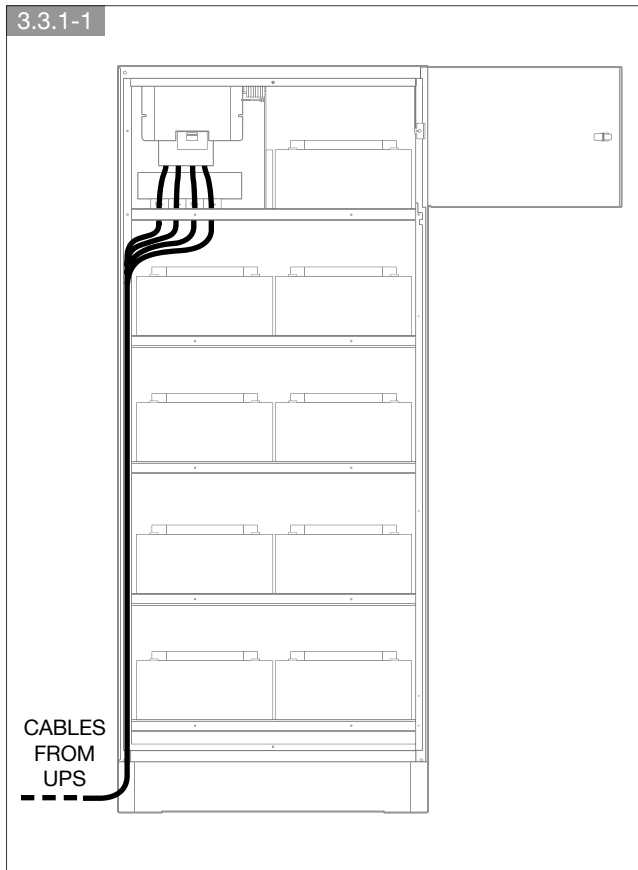


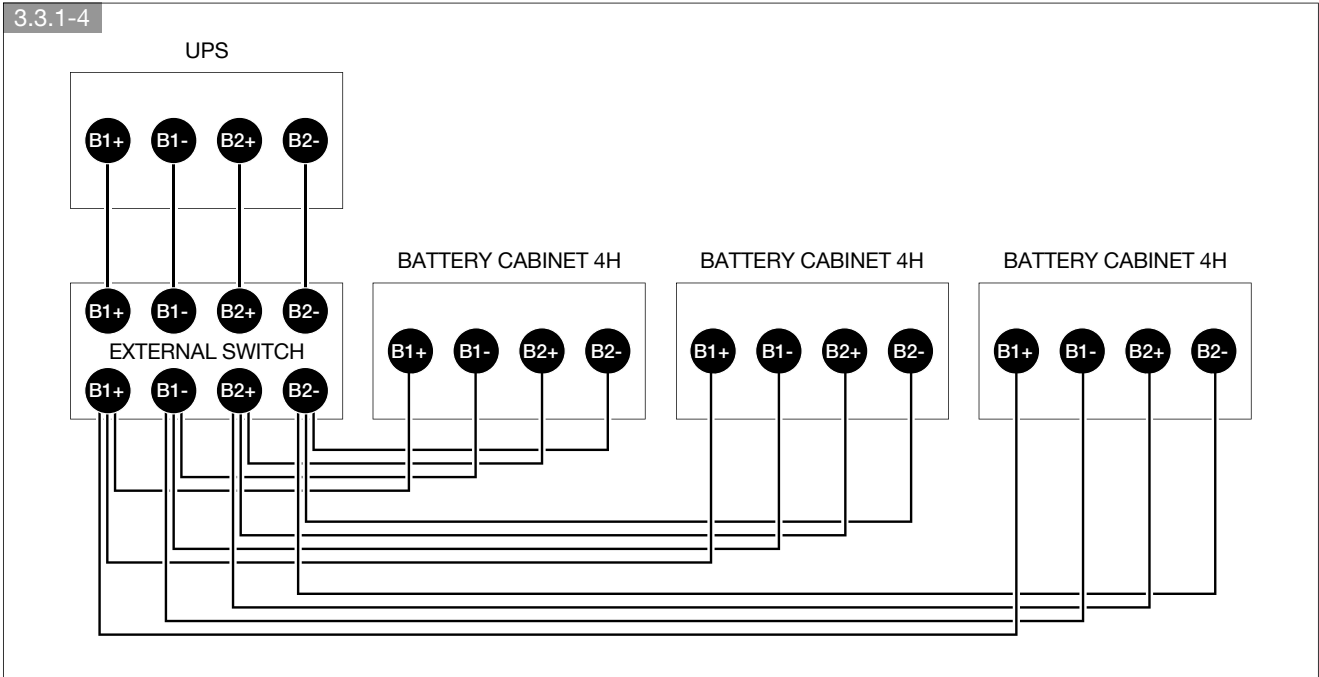
3.2. REMOVAL



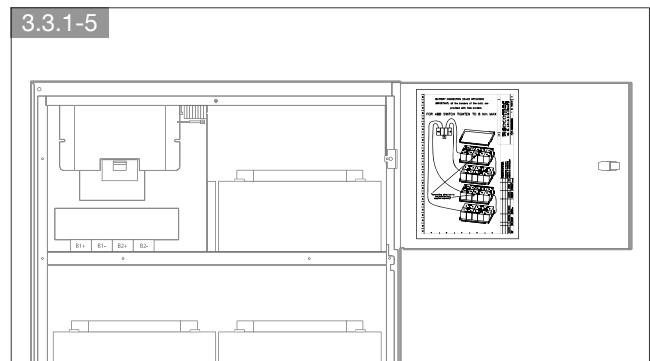
### 3.3. CONNECTION

#### 3.3.1. CONNECTION OF 4H BATTERY CABINET

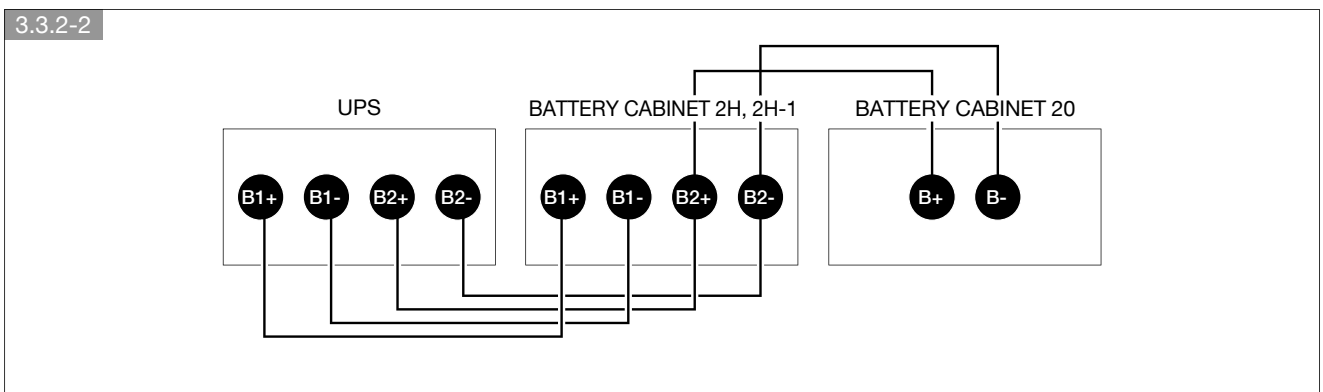
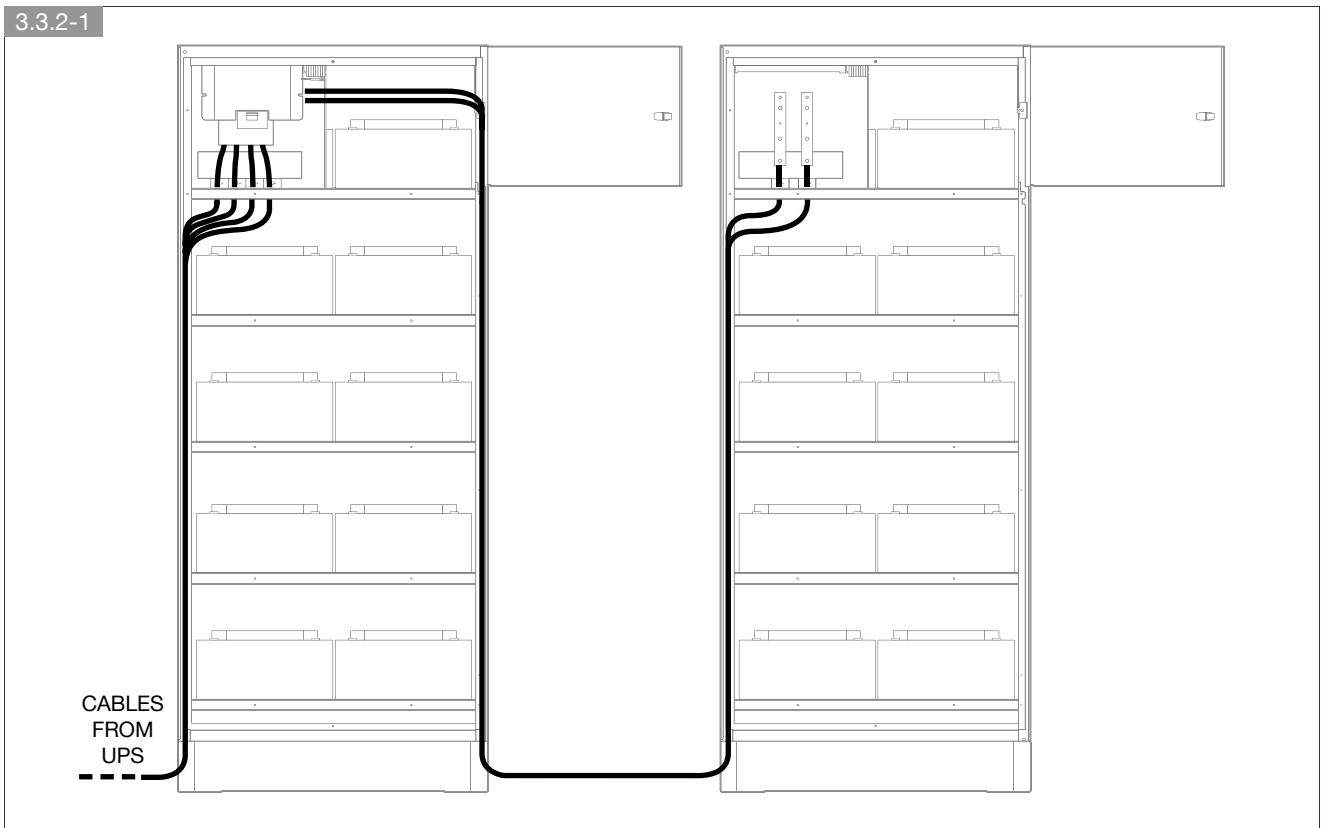




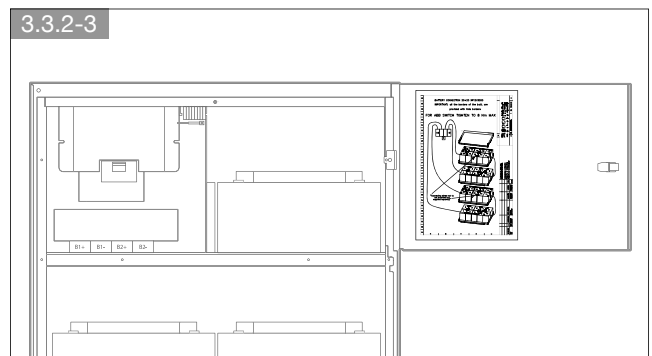
Close the battery bridge circuits according to the diagram on the inside of the door.



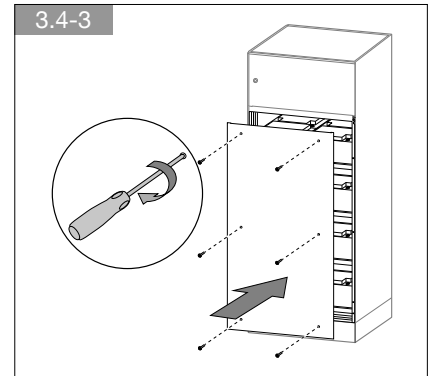
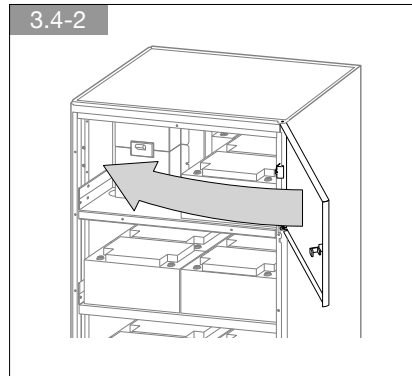
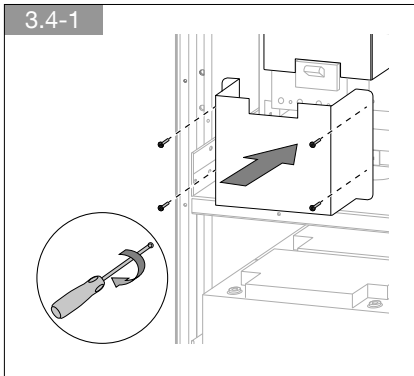
3.3.2. CONNECTION OF 2H, 2H-1, 20 BATTERY CABINET



Close the battery bridge circuits according to the diagram on the inside of the door.



3.4. ASSEMBLY



ENGLISH

## 4. TECHNICAL SPECIFICATIONS

Technical specifications	
Dimensions (L x D x H)	810 x 870 x 1920 mm
Weight	min. 1100 kg max. 1900 kg
Cable size	max. 95 mm <sup>2</sup> , insulated tube lugs M8
Protection level	IP20
Operating temperature	0 to 40 °C (15 to 25 °C recommended for longer battery life)
Ambient storage and transport temperature <sup>1</sup>	-5 to 40 °C max (recommended: 25 °C)
Relative humidity (condensation-free)	up to 95%
Battery recharging	T <sub>ambient</sub> ≤ 25 °C: every 6 months 25 °C ≤ T <sub>ambient</sub> ≤ 30 °C: every 4 months 30 °C ≤ T <sub>ambient</sub> ≤ 35 °C: every 3 months 35 °C ≤ T <sub>ambient</sub> ≤ 40 °C: every 2 months T <sub>ambient</sub> > 40 °C: not recommended

*1. General indication for the application of lead batteries. For further details, see the battery manufacturer's indications.*

Reliability	
Compliance with standards	EN 50272-2, EN 62040-1
Product certification	CE - TÜV SÜD











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