

# Easy UPS 3M and Easy UPS 3L

## Battery Breaker Box

### Installation

E3M BBB60K80H, E3M BBB100K200H

Always go to [www.se.com](http://www.se.com) for the latest update and localized versions of the manual

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# Important Safety Instructions — SAVE THESE INSTRUCTIONS

Read these instructions carefully and look at the equipment to become familiar with it before trying to install, operate, service or maintain it. The following safety messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a “Danger” or “Warning” safety message indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages with this symbol to avoid possible injury or death.

## DANGER

**DANGER** indicates a hazardous situation which, if not avoided, **will result in death or serious injury.**

**Failure to follow these instructions will result in death or serious injury.**

## WARNING

**WARNING** indicates a hazardous situation which, if not avoided, **could result in death or serious injury.**

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

## CAUTION

**CAUTION** indicates a hazardous situation which, if not avoided, **could result in minor or moderate injury.**

**Failure to follow these instructions can result in injury or equipment damage.**

## NOTICE

**NOTICE** is used to address practices not related to physical injury. The safety alert symbol shall not be used with this type of safety message.

**Failure to follow these instructions can result in equipment damage.**

## Please Note

Electrical equipment should only be installed, operated, serviced, and maintained by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

## Electromagnetic Compatibility

### **NOTICE**

#### **RISK OF ELECTROMAGNETIC DISTURBANCE**

This is a product Category C3 according to IEC 62040-2. This is a product for commercial and industrial applications in the second environment - installation restrictions or additional measures may be needed to prevent disturbances. The second environment includes all commercial, light industry, and industrial locations other than residential, commercial, and light industrial premises directly connected without intermediate transformer to a public low-voltage mains supply. The installation and cabling must follow the electromagnetic compatibility rules, e.g.:

- the segregation of cables,
- the use of shielded or special cables when relevant,
- the use of grounded metallic cable tray and supports.

**Failure to follow these instructions can result in equipment damage.**

## Safety Precautions

### **⚡⚠ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Read all instructions in the installation manual before installing or working on this product.

**Failure to follow these instructions will result in death or serious injury.**

### **⚡⚠ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Do not install the product until all construction work has been completed and the installation room has been cleaned.

**Failure to follow these instructions will result in death or serious injury.**

### **⚡⚠ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

The product must be installed according to the specifications and requirements as defined by Schneider Electric. It concerns in particular the external and internal protections (upstream breakers, battery breakers, cabling, etc.) and environmental requirements. No responsibility is assumed by Schneider Electric if these requirements are not respected.

**Failure to follow these instructions will result in death or serious injury.**

**⚠️⚠️ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

The UPS system must be installed according to local and national regulations. Install the UPS according to:

- IEC 60364 (including 60364-4-41 - protection against electric shock, 60364-4-42 - protection against thermal effect, and 60364-4-43 - protection against overcurrent), or
- NEC NFPA 70, or
- Canadian Electrical Code (C22.1, Part 1)

depending on which one of the standards apply in your local area.

**Failure to follow these instructions will result in death or serious injury.**

**⚠️⚠️ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Install the product in a temperature controlled indoor environment free of conductive contaminants and humidity.
- Install the product on a non-flammable, level and solid surface (e.g. concrete) that can support the weight of the system.

**Failure to follow these instructions will result in death or serious injury.**

**⚠️⚠️ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

The product is not designed for and must therefore not be installed in the following unusual operating environments:

- Damaging fumes
- Explosive mixtures of dust or gases, corrosive gases, or conductive or radiant heat from other sources
- Moisture, abrasive dust, steam or in an excessively damp environment
- Fungus, insects, vermin
- Salt-laden air or contaminated cooling refrigerant
- Pollution degree higher than 2 according to IEC 60664-1
- Exposure to abnormal vibrations, shocks, and tilting
- Exposure to direct sunlight, heat sources, or strong electromagnetic fields

**Failure to follow these instructions will result in death or serious injury.**

**⚠️⚠️ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Do not drill or cut holes for cables or conduits with the gland plates installed and do not drill or cut holes in close proximity to the UPS.

**Failure to follow these instructions will result in death or serious injury.**

**⚠️⚠️ WARNING**

**HAZARD OF ARC FLASH**

Do not make mechanical changes to the product (including removal of cabinet parts or drilling/cutting of holes) that are not described in the installation manual.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

**NOTICE****RISK OF OVERHEATING**

Respect the space requirements around the product and do not cover the ventilation openings when the product is in operation.

**Failure to follow these instructions can result in equipment damage.**

**Electrical Safety****⚠ DANGER****HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel.
- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices.
- Turn off all power supplying the UPS system before working on or inside the equipment.
- Before working on the UPS system, check for hazardous voltage between all terminals including the protective earth.
- The UPS contains an internal energy source. Hazardous voltage can be present even when disconnected from the mains supply. Before installing or servicing the UPS system, ensure that the units are OFF and that mains and batteries are disconnected. Wait five minutes before opening the UPS to allow the capacitors to discharge.
- A disconnection device (e.g. disconnection circuit breaker or switch) must be installed to enable isolation of the system from upstream power sources in accordance with local regulations. The disconnection device must be easily accessible and visible.
- The UPS must be properly earthed/grounded and due to a high leakage current, the earthing/grounding conductor must be connected first.

**Failure to follow these instructions will result in death or serious injury.**

**⚠ DANGER****HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

In systems where backfeed protection is not part of the standard design, an automatic isolation device (backfeed protection option or other device meeting the requirements of IEC/EN 62040-1 or UL1778 5th Edition – depending on which of the two standards apply to your local area) must be installed to prevent hazardous voltage or energy at the input terminals of the isolation device. The device must open within 15 seconds after the upstream power supply fails and must be rated according to the specifications.

**Failure to follow these instructions will result in death or serious injury.**

When the UPS input is connected through external isolators that, when opened, isolate the neutral or when the automatic backfeed isolation is provided external to the equipment or is connected to an IT power distribution system, a label must be fitted at the UPS input terminals, and on all primary power isolators installed remote from the UPS area and on external access points between such isolators and the UPS, by the user, displaying the following text (or equivalent in a language which is acceptable in the country in which the UPS system is installed):



**⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Risk of Voltage Backfeed. Before working on this circuit: Isolate the UPS and check for hazardous voltage between all terminals including the protective earth.

**Failure to follow these instructions will result in death or serious injury.**

**Battery Safety**

**⚠⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

- Battery circuit breakers must be installed according to the specifications and requirements as defined by Schneider Electric.
- Servicing of batteries must only be performed or supervised by qualified personnel knowledgeable of batteries and the required precautions. Keep unqualified personnel away from batteries.
- Disconnect charging source prior to connecting or disconnecting battery terminals.
- Do not dispose of batteries in a fire as they can explode.
- Failed batteries can reach temperatures that exceed the burn thresholds for touchable surfaces.
- Do not open, alter, or mutilate batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.

**Failure to follow these instructions will result in death or serious injury.**

**⚠⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Batteries can present a risk of electric shock and high short-circuit current. The following precautions must be observed when working on batteries:

- Remove watches, rings, or other metal objects.
- Use tools with insulated handles.
- Wear protective glasses, 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 the battery is inadvertently grounded. If inadvertently grounded, remove source from ground. Contact with any part of a grounded battery can result in electric shock and burns by high short-circuit current. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance by a skilled person (applicable to equipment and remote battery supplies not having a grounded supply circuit).

**Failure to follow these instructions will result in death or serious injury.**

**⚠⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

When replacing batteries, always replace with the same type and number of batteries or battery packs. Refer to the label in the classic battery cabinet for information on batteries in your system.

**Failure to follow these instructions will result in death or serious injury.**

**▲ CAUTION****RISK OF EQUIPMENT DAMAGE**

- Wait until the system is ready to be powered up before installing batteries in the system. The time duration from battery installation until the UPS system is powered up must not exceed 72 hours or 3 days.
- Batteries must not be stored more than six months due to the requirement of recharging. If the UPS system remains de-energized for a long period, we recommend that you energize the UPS system for a period of 24 hours at least once every month. This charges the batteries, thus avoiding irreversible damage.

**Failure to follow these instructions can result in injury or equipment damage.**

# Specifications

<b>NOTICE</b>
<p><b>HAZARD OF EQUIPMENT DAMAGE</b></p> <p>Refer to the UPS installation manual for detailed specifications for the UPS system.</p> <p><b>Failure to follow these instructions can result in equipment damage.</b></p>

## Battery Breaker Box Specifications

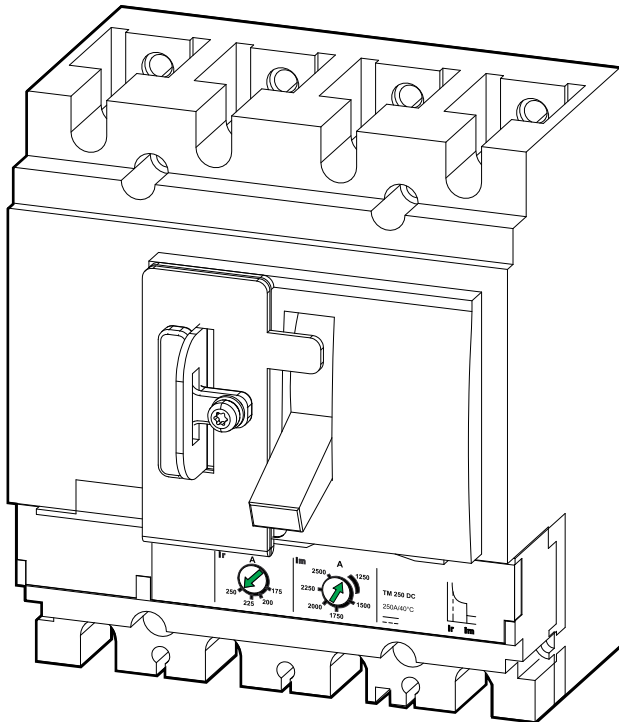
<b>⚠ DANGER</b>
<p><b>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH</b></p> <p>This product must only be used with the Easy UPS 3M and Easy UPS 3L.</p> <p><b>Failure to follow these instructions will result in death or serious injury.</b></p>

**NOTE:** A maximum of four battery strings can be connected to the battery breaker.

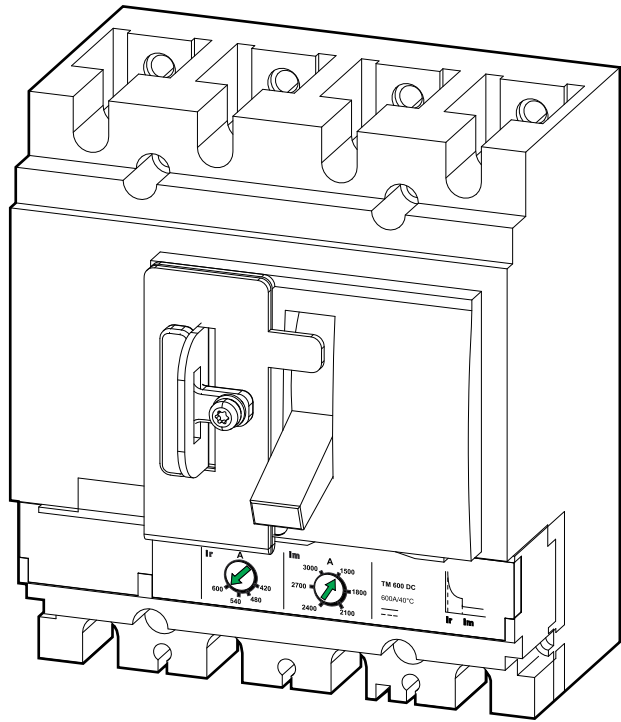
	<b>E3MBBB60K80H</b>	<b>E3MBBB100K200H</b>
Battery breaker	Compact NSX250S DC (LV438990)	Compact NSX630S DC (LV438274)
Maximum configuration	4 hours runtime	4 hours runtime for 40–50 battery blocks 1 hour runtime for 36–38 battery blocks
Battery type	VRLA	
Maximum battery short-circuit level (kA)	20 kA	
Minimum short-circuit current to trip the circuit breaker (A)	1250	1500

## Trip Settings

**E3MBBB60K80H**



**E3MBBB100K200H**



### Trip Settings for Operation with Easy UPS 3M 400 V

#### With One Battery Breaker Box E3MBBB60K80H

UPS rating	Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings	Ir/Im Setting (A)
60 kVA	240	32-50	1/2/3/4	200/1250
80 kVA	240	32-50	1/2/3/4	250/1250

#### With One Battery Breaker Box E3MBBB100K200H

UPS rating	Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings	Ir/Im Setting (A)
100 kVA	240	36-50	1/2/3/4	420/1500
120 kVA	240	36-50	1/2/3/4	420/1500
160 kVA	240	36-50	1/2/3/4	480/1500
200 kVA	60	36-38	1/2/3/4	600/1500
	240	40-50	1/2/3/4	600/1500

#### With Two Battery Breaker Boxes E3MBBB60K80H

UPS rating	Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
				Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
60 kVA	240	32-50	5	3	175/1250	2	175/1250
	240	32-50	6	3	175/1250	3	175/1250

UPS rating	Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
				Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
	240	32-50	7	4	175/1250	3	175/1250
	240	32-50	8	4	175/1250	4	175/1250
80 kVA	240	32-50	5	3	175/1250	2	175/1250
	240	32-50	6	3	175/1250	3	175/1250
	240	32-50	7	4	175/1250	3	175/1250
	240	32-50	8	4	175/1250	4	175/1250
100 kVA	240	36-50	5	3	200/1250	2	175/1250
	240	32-50	6	3	175/1250	3	175/1250
	240	32-50	7	4	175/1250	3	175/1250
	240	32-50	8	4	175/1250	4	175/1250
120 kVA	240	32-50	5	3	225/1250	2	175/1250
	240	32-50	6	3	200/1250	3	200/1250
	240	32-50	7	4	225/1250	3	175/1250
	240	32-50	8	4	200/1250	4	200/1250
160 kVA	5	32-36	5	3	250/1250	2	200/1250
	10	38	5	3	250/1250	2	200/1250
	15	40	5	3	250/1250	2	175/1250
	240	42-50	5	3	250/1250	2	175/1250
	240	32-50	6	3	250/1250	3	250/1250
	10	32-36	7	4	250/1250	3	225/1250
	15	38	7	4	250/1250	3	200/1250
	240	40-50	7	4	250/1250	3	200/1250
240	32-50	8	4	250/1250	4	250/1250	

**With Two Battery Breaker Boxes E3M BBB100K200H**

UPS rating	Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
				Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
120 kVA	240	32-50	5	3	420/1500	2	420/1500
	240	32-50	6	3	420/1500	3	420/1500
	240	32-50	7	4	420/1500	3	420/1500
	240	32-50	8	4	420/1500	4	420/1500
160 kVA	240	32-50	5	3	420/1500	2	420/1500
	240	32-50	6	3	420/1500	3	420/1500
	240	32-50	7	4	420/1500	3	420/1500
	240	32-50	8	4	420/1500	4	420/1500
200 kVA	240	36-50	5	3	420/1500	2	420/1500
	240	32-50	6	3	420/1500	3	420/1500
	240	32-50	7	4	420/1500	3	420/1500
	240	32-50	8	4	420/1500	4	420/1500

**Trip Settings for Operation with Easy UPS 3M 208 V**

**With One Battery Breaker Box E3M BBB60K80H**

UPS rating	Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings	Ir/Im Setting (A)
50 kVA	240	32-40	1/2/3/4	200/1250
60 kVA	240	32-40	1/2/3/4	220/1250

**With One Battery Breaker Box E3M BBB100K200H**

UPS rating	Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings	Ir/Im Setting (A)
80 kVA	240	32-40	1/2/3/4	420/1500
100 kVA	240	32-40	1/2/3/4	420/1500

**With Two Battery Breaker Boxes E3M BBB60K80H**

UPS rating	Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
				Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
50 kVA	240	32-40	5	3	175/1250	2	175/1250
	240	32-40	6	3	175/1250	3	175/1250
	240	32-40	7	4	175/1250	3	175/1250
	240	32-40	8	4	175/1250	4	175/1250
60 kVA	240	32-40	5	3	175/1250	2	175/1250
	240	32-40	6	3	175/1250	3	175/1250
	240	32-40	7	4	175/1250	3	175/1250
	240	32-40	8	4	175/1250	4	175/1250
80 kVA	240	32-40	5	3	175/1250	2	175/1250
	240	32-40	6	3	175/1250	3	175/1250
	240	32-40	7	4	175/1250	3	175/1250
	240	32-40	8	4	175/1250	4	175/1250
100 kVA	240	32-40	5	3	200/1250	2	200/1250
	240	32-40	6	3	200/1250	3	200/1250
	240	32-40	7	4	200/1250	3	200/1250
	240	32-40	8	4	200/1250	4	200/1250

### Trip Settings for Operation with Easy UPS 3L at Power Factor 1.0

#### With One Battery Breaker Box E3M BBB100K200H

##### UPS rating 250 kVA

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker	
			Battery Strings	Ir/Im Setting (A)
≤10	36-38	1-4	1-4	600/1500
≤15	40	1-4	1-4	600/1500
≤30	42	1-4	1-4	600/1500
240	44-50	1-4	1-4	600/1500

##### UPS rating 300 kVA

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker	
			Battery Strings	Ir/Im Setting (A)
≤5	38-42	1-4	1-4	600/1500
≤10	44-46	1-4	1-4	600/1500
≤15	48-50	1-4	1-4	600/1500

##### UPS rating 400 kVA

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker	
			Battery Strings	Ir/Im Setting (A)
≤5	50	1-4	1-4	600/1500

#### With Two Battery Breaker Boxes E3M BBB100K200H

##### UPS rating 250 kVA

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
240	36-50	2	1	420/1500	1	420/1500
240	36	3	2	540/1500	1	420/1500
240	38-42	3	2	480/1500	1	420/1500
240	44-50	3	2	420/1500	1	420/1500
240	36-50	4	2	420/1500	2	420/1500
240	36-38	5	3	480/1500	2	420/1500
240	40-50	5	3	420/1500	2	420/1500
240	36-50	6	3	420/1500	3	420/1500
240	36	7	4	480/1500	3	420/1500
240	38-50	7	4	420/1500	3	420/1500
240	36-50	8	4	420/1500	4	420/1500

**UPS rating 300 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
240	36-38	2	1	480/1500	1	480/1500
240	40-50	2	1	420/1500	1	420/1500
240	36-40	3	2	600/1500	1	420/1500
240	42-44	3	2	540/1500	1	420/1500
240	46-50	3	2	480/1500	1	420/1500
240	36-38	4	2	480/1500	2	480/1500
240	40-50	4	2	420/1500	2	420/1500
240	36	5	3	600/1500	2	420/1500
240	38-40	5	3	540/1500	2	420/1500
240	42-46	5	3	480/1500	2	420/1500
240	48-50	5	3	420/1500	2	420/1500
240	36-38	6	3	480/1500	3	480/1500
240	40-50	6	3	420/1500	3	420/1500
240	36-38	7	4	540/1500	3	420/1500
240	40-44	7	4	480/1500	3	420/1500
240	46-50	7	4	420/1500	3	420/1500
240	36-38	8	4	480/1500	4	480/1500
240	40-50	8	4	420/1500	4	420/1500



**UPS rating 400 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
240	36-40	2	1	600/1500	1	600/1500
240	42-44	2	1	540/1500	1	540/1500
240	46-50	2	1	480/1500	1	480/1500
5	36	3	2	600/1500	1	420/1500
10	38-40	3	2	600/1500	1	420/1500
15	42-44	3	2	600/1500	1	420/1500
30	46	3	2	600/1500	1	420/1500
240	48-50	3	2	600/1500	1	420/1500
240	36-40	4	2	600/1500	2	600/1500
240	42-44	4	2	540/1500	2	540/1500
240	46-50	4	2	480/1500	2	480/1500
10	36	5	3	600/1500	2	540/1500
15	38-40	5	3	600/1500	2	480/1500
30	42	5	3	600/1500	2	420/1500
240	44-50	5	3	600/1500	2	420/1500
240	36-40	6	3	600/1500	3	600/1500
240	42-44	6	3	540/1500	3	540/1500
240	46-50	6	3	480/1500	3	480/1500
15	36-38	7	4	600/1500	3	540/1500
30	40	7	4	600/1500	3	480/1500
240	42-46	7	4	600/1500	3	480/1500
240	48-50	7	4	540/1500	3	420/1500
240	36-40	8	4	600/1500	4	600/1500
240	42-44	8	4	540/1500	4	540/1500
240	46-50	8	4	480/1500	4	480/1500

**UPS rating 500 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
10	36-38	2	1	600/1500	1	600/1500
15	40	2	1	600/1500	1	600/1500
30	42	2	1	600/1500	1	600/1500
240	44-50	2	1	600/1500	1	600/1500
5	42-46	3	2	600/1500	1	480/1500
10	48-50	3	2	600/1500	1	420/1500
10	36-38	4	2	600/1500	2	600/1500
15	40	4	2	600/1500	2	600/1500
30	42	4	2	600/1500	2	600/1500
240	44-50	4	2	600/1500	2	600/1500
5	38-42	5	3	600/1500	2	600/1500
10	44-46	5	3	600/1500	2	540/1500
15	48-50	5	3	600/1500	2	480/1500
10	36-38	6	3	600/1500	3	600/1500
15	40	6	3	600/1500	3	600/1500
30	42	6	3	600/1500	3	600/1500
240	44-50	6	3	600/1500	3	600/1500
5	36-40	7	4	600/1500	3	600/1500
10	42	7	4	600/1500	3	600/1500
15	44-46	7	4	600/1500	3	540/1500
30	48-50	7	4	600/1500	3	540/1500
10	36-38	8	4	600/1500	4	600/1500
15	40	8	4	600/1500	4	600/1500
30	42	8	4	600/1500	4	600/1500
240	44-50	8	4	600/1500	4	600/1500

**UPS rating 600 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
5	38-42	2	1	600/1500	1	600/1500
10	44-46	2	1	600/1500	1	600/1500
15	48-50	2	1	600/1500	1	600/1500
5	50	3	2	600/1500	1	480/1500
5	38-42	4	2	600/1500	2	600/1500
10	44-46	4	2	600/1500	2	600/1500
15	48-50	4	2	600/1500	2	600/1500
5	46-50	5	3	600/1500	2	540/1500
5	38-42	6	3	600/1500	3	600/1500
10	44-46	6	3	600/1500	3	600/1500
15	48-50	6	3	600/1500	3	600/1500
5	44-48	7	4	600/1500	3	600/1500
10	50	7	4	600/1500	3	600/1500
5	38-42	8	4	600/1500	4	600/1500
10	44-46	8	4	600/1500	4	600/1500
15	48-50	8	4	600/1500	4	600/1500

**With Three Battery Breaker Boxes E3M BBB100K200H**

**UPS rating 500 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2		Battery Breaker 3	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
60	36-38	3	1	540/1500	1	540/1500	1	540/1500
240	40-50	3	1	540/1500	1	540/1500	1	540/1500
10	36-38	4	2	600/1500	1	420/1500	1	420/1500
15	40	4	2	600/1500	1	420/1500	1	420/1500
30	42	4	2	600/1500	1	420/1500	1	420/1500
240	44-50	4	2	600/1500	1	420/1500	1	420/1500
60	36-38	5	2	600/1500	2	600/1500	1	420/1500
240	40-50	5	2	600/1500	2	600/1500	1	420/1500
60	36-38	6	2	540/1500	2	540/1500	2	540/1500
240	40-50	6	2	540/1500	2	540/1500	2	540/1500
30	36	7	3	600/1500	2	480/1500	2	480/1500
60	36-38	7	3	600/1500	2	420/1500	2	420/1500
240	40-50	7	3	600/1500	2	420/1500	2	420/1500
60	36-38	8	3	600/1500	3	600/1500	2	420/1500
240	40-50	8	3	600/1500	3	600/1500	2	420/1500
60	36-38	9	3	540/1500	3	540/1500	3	540/1500
240	40-50	9	3	540/1500	3	540/1500	3	540/1500
60	36-38	10	4	600/1500	3	480/1500	3	480/1500
240	40-50	10	4	600/1500	3	480/1500	3	480/1500
60	36-38	11	4	600/1500	4	600/1500	3	420/1500
240	40-50	11	4	600/1500	4	600/1500	3	420/1500
60	36-38	12	4	540/1500	4	540/1500	4	540/1500
240	40-50	12	4	540/1500	4	540/1500	4	540/1500

**UPS rating 600 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2		Battery Breaker 3	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
60	36-38	3	1	600/1500	1	600/1500	1	600/1500
240	40-50	3	1	600/1500	1	600/1500	1	600/1500
5	38-42	4	2	600/1500	1	480/1500	1	480/1500
10	44-46	4	2	600/1500	1	420/1500	1	420/1500
15	48-50	4	2	600/1500	1	420/1500	1	420/1500
10	36	5	2	600/1500	2	600/1500	1	420/1500
15	38-40	5	2	600/1500	2	600/1500	1	420/1500
30	42	5	2	600/1500	2	600/1500	1	420/1500
240	44-50	5	2	600/1500	2	600/1500	1	420/1500
60	36-38	6	2	600/1500	2	600/1500	2	600/1500
240	40-50	6	2	600/1500	2	600/1500	2	600/1500
5	36	7	3	600/1500	2	540/1500	2	540/1500
10	38	7	3	600/1500	2	540/1500	2	540/1500
15	40-42	7	3	600/1500	2	480/1500	2	480/1500
30	44	7	3	600/1500	2	480/1500	2	480/1500
240	46-50	7	3	600/1500	2	420/1500	2	420/1500
15	36	8	3	600/1500	3	600/1500	2	480/1500
30	38	8	3	600/1500	3	600/1500	2	480/1500
240	40-50	8	3	600/1500	3	600/1500	2	420/1500
60	36-38	9	3	600/1500	3	600/1500	3	600/1500
240	40-50	9	3	600/1500	3	600/1500	3	600/1500
10	36	10	4	600/1500	3	600/1500	3	600/1500
15	38-40	10	4	600/1500	3	540/1500	3	540/1500
30	42	10	4	600/1500	3	480/1500	3	480/1500
240	44-50	10	4	600/1500	3	480/1500	3	480/1500
15	36	11	4	600/1500	4	600/1500	3	540/1500
30	38	11	4	600/1500	4	600/1500	3	480/1500
240	40-50	11	4	600/1500	4	600/1500	3	480/1500
60	36-38	12	4	600/1500	4	600/1500	4	600/1500
240	40-50	12	4	600/1500	4	600/1500	4	600/1500

**Trip Settings for Operation with Easy UPS 3L at Power Factor 0.9**

**With One Battery Breaker Box E3M BBB100K200H**

**UPS rating 250 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker	
			Battery Strings	Ir/Im Setting (A)
15	36	1-4	1-4	600/1500
30	38	1-4	1-4	600/1500
240	40-44	1-4	1-4	600/1500
240	46-50	1-4	1-4	540/1500

**UPS rating 300 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker	
			Battery Strings	Ir/Im Setting (A)
5	36-38	1-4	1-4	600/1500
10	40	1-4	1-4	600/1500
15	42-44	1-4	1-4	600/1500
30	46	1-4	1-4	600/1500
240	48-50	1-4	1-4	600/1500

**UPS rating 400 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker	
			Battery Strings	Ir/Im Setting (A)
5	46-50	1-4	1-4	600/1500

**With Two Battery Breaker Boxes E3M BBB100K200H**

**UPS rating 250 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
60/240	36-38/40-50	2	1	420/1500	1	420/1500
60	36-38	3	2	480/1500	1	420/1500
60/240	36-38/40-50	3	2	420/1500	1	420/1500
60/240	36-38/40-50	4	2	420/1500	2	420/1500
60/240	36-38/40-50	5	3	420/1500	2	420/1500
60/240	36-38/40-50	6	3	420/1500	3	420/1500
60/240	36-38/40-50	7	4	420/1500	3	420/1500
60/240	36-38/40-50	8	4	420/1500	4	420/1500

**UPS rating 300 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
60/240	36-38/40-50	2	1	420/1500	1	420/1500
60	36	3	2	600/1500	1	420/1500
60/240	38/40-50	3	2	540/1500	1	420/1500
240	42-46	3	2	480/1500	1	420/1500
240	48-50	3	2	420/1500	1	420/1500
60/240	36-38/40-50	4	2	420/1500	2	420/1500
60	36	5	3	540/1500	2	420/1500
60/240	38/40-50	5	3	480/1500	2	420/1500
240	42-50	5	3	420/1500	2	420/1500
60/240	36-38/40-50	6	3	420/1500	3	420/1500
60	36-38	7	4	480/1500	3	420/1500
240	40-50	7	4	420/1500	3	420/1500
60/240	36-38/40-50	8	4	420/1500	4	420/1500

**UPS rating 400 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
60	36	2	1	600/1500	1	600/1500
60/240	38/40	2	1	540/1500	1	540/1500
240	42-46	2	1	480/1500	1	480/1500
240	48-50	2	1	420/1500	1	420/1500
10	36	3	2	600/1500	1	420/1500
15	38-40	3	2	600/1500	1	420/1500
30	42	3	2	600/1500	1	420/1500
240	44-48	3	2	600/1500	1	420/1500
240	50	3	2	540/1500	1	420/1500
60	36	4	2	600/1500	2	600/1500
60/240	38/40	4	2	540/1500	2	540/1500
240	42-46	4	2	480/1500	2	480/1500
240	48-50	4	2	420/1500	2	420/1500
15	36	5	3	600/1500	2	480/1500
60/240	38/40-42	5	3	600/1500	2	420/1500
240	44-48	5	3	540/1500	2	420/1500
240	50	5	3	480/1500	2	420/1500
60	36	6	3	600/1500	3	600/1500
60/240	38/40	6	3	540/1500	3	540/1500
240	42-46	6	3	480/1500	3	480/1500
240	48-50	6	3	420/1500	3	420/1500
30	36	7	4	600/1500	3	480/1500
60/240	38/40	7	4	600/1500	3	480/1500
240	42-46	7	4	540/1500	3	420/1500
240	48-50	7	4	480/1500	3	420/1500
60	36	8	4	600/1500	4	600/1500
60/240	38/40	8	4	540/1500	4	540/1500
240	42-46	8	4	480/1500	4	480/1500
240	48-50	8	4	420/1500	4	420/1500



**UPS rating 500 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
15	36	2	1	600/1500	1	600/1500
30	38	2	1	600/1500	1	600/1500
240	40-50	2	1	600/1500	1	600/1500
5	38-42	3	2	600/1500	1	480/1500
10	44-46	3	2	600/1500	1	420/1500
15	48-50	3	2	600/1500	1	420/1500
15	36	4	2	600/1500	2	600/1500
30	38	4	2	600/1500	2	600/1500
240	40-50	4	2	600/1500	2	600/1500
5	36-38	5	3	600/1500	2	600/1500
10	40	5	3	600/1500	2	540/1500
15	42-44	5	3	600/1500	2	480/1500
30	46	5	3	600/1500	2	480/1500
240	48-50	5	3	600/1500	2	420/1500
15	36	6	3	600/1500	3	600/1500
30	38	6	3	600/1500	3	600/1500
240	40-50	6	3	600/1500	3	600/1500
5	36	7	4	600/1500	3	600/1500
10	38	7	4	600/1500	3	600/1500
15	40-42	7	4	600/1500	3	540/1500
30	44	7	4	600/1500	3	480/1500
240	46-50	7	4	600/1500	3	480/1500
15	36	8	4	600/1500	4	600/1500
60	38	8	4	600/1500	4	600/1500
240	40-50	8	4	600/1500	4	600/1500

**UPS rating 600 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
5	36-38	2	1	600/1500	1	600/1500
10	40	2	1	600/1500	1	600/1500
15	42-44	2	1	600/1500	1	600/1500
30	46	2	1	600/1500	1	600/1500
240	48-50	2	1	600/1500	1	600/1500
5	46-50	3	2	600/1500	1	480/1500
5	36-38	4	2	600/1500	2	600/1500
10	40	4	2	600/1500	2	600/1500
15	42-44	4	2	600/1500	2	600/1500
30	46	4	2	600/1500	2	600/1500
240	48-50	4	2	600/1500	2	600/1500
5	40-46	5	3	600/1500	2	600/1500
10	48	5	3	600/1500	2	540/1500
15	50	5	3	600/1500	2	480/1500
5	36-38	6	2	600/1500	2	600/1500
10	40	6	3	600/1500	3	600/1500
15	42-44	6	3	600/1500	3	600/1500
30	46	6	3	600/1500	3	600/1500
240	48-50	6	3	600/1500	3	600/1500
5	38-42	7	4	600/1500	3	600/1500
10	44-46	7	4	600/1500	3	600/1500
15	48-50	7	4	600/1500	3	540/1500
5	36-38	8	4	600/1500	4	600/1500
10	40	8	4	600/1500	4	600/1500
15	42-44	8	4	600/1500	4	600/1500
30	46	8	4	600/1500	4	600/1500
240	48-50	8	4	600/1500	4	600/1500

**With Three Battery Breaker Boxes E3MBB100K200H**

**UPS rating 500 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2		Battery Breaker 3	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
60	36-38	3	1	480/1500	1	480/1500	1	480/1500
240	40-50	3	1	480/1500	1	480/1500	1	480/1500
15	36	4	2	600/1500	1	420/1500	1	420/1500
30	38	4	2	600/1500	1	420/1500	1	420/1500
240	40-50	4	2	600/1500	1	420/1500	1	420/1500
60	36-38	5	2	600/1500	2	600/1500	1	420/1500
240	40-50	5	2	600/1500	2	600/1500	1	420/1500
60	36-38	6	2	480/1500	2	480/1500	2	480/1500
240	40-50	6	2	480/1500	2	480/1500	2	480/1500
60	36-38	7	3	600/1500	2	420/1500	2	420/1500
240	40-50	7	3	600/1500	2	420/1500	2	420/1500
60	36-38	8	3	540/1500	3	540/1500	2	420/1500
240	40-50	8	3	540/1500	3	540/1500	2	420/1500
60	36-38	9	3	480/1500	3	480/1500	3	480/1500
240	40-50	9	3	480/1500	3	480/1500	3	480/1500
60	36-38	10	4	600/1500	3	420/1500	3	420/1500
240	40-50	10	4	600/1500	3	420/1500	3	420/1500
60	36-38	11	4	540/1500	4	540/1500	3	420/1500
240	40-50	11	4	540/1500	4	540/1500	3	420/1500
60	36-38	12	4	480/1500	4	480/1500	4	480/1500
240	40-50	12	4	480/1500	4	480/1500	4	480/1500

**UPS rating 600 kVA**

Max Battery Backup Time (minutes)	Battery Blocks	Battery Strings Total	Battery Breaker 1		Battery Breaker 2		Battery Breaker Box 3	
			Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)	Battery Strings	Ir/Im Setting (A)
60	36-38	3	1	600/1500	1	600/1500	1	600/1500
240	40-50	3	1	600/1500	1	600/1500	1	600/1500
5	36-38	4	2	600/1500	1	420/1500	1	420/1500
10	40	4	2	600/1500	1	420/1500	1	420/1500
15	42-44	4	2	600/1500	1	420/1500	1	420/1500
30	46	4	2	600/1500	1	420/1500	1	420/1500
240	48-50	4	2	600/1500	1	420/1500	1	420/1500
15	36	5	2	600/1500	2	600/1500	1	420/1500
60	38	5	2	600/1500	2	600/1500	1	420/1500
240	40-50	5	2	600/1500	2	600/1500	1	420/1500
60	36-38	6	2	600/1500	2	600/1500	2	600/1500
240	40-50	6	2	600/1500	2	600/1500	2	600/1500
15	36-38	7	3	600/1500	2	480/1500	2	480/1500
30	40	7	3	600/1500	2	420/1500	2	420/1500
240	42-50	7	3	600/1500	2	420/1500	2	420/1500
60	36-38	8	3	600/1500	3	600/1500	2	420/1500
240	40-50	8	3	600/1500	3	600/1500	2	420/1500
60	36-38	9	3	600/1500	3	600/1500	3	600/1500
240	40-50	9	3	600/1500	3	600/1500	3	600/1500
15	36	10	4	600/1500	3	540/1500	3	540/1500
60	38	10	4	600/1500	3	480/1500	3	480/1500
240	40-50	10	4	600/1500	3	480/1500	3	480/1500
60	36-38	11	4	600/1500	4	600/1500	3	480/1500
240	40-50	11	4	600/1500	4	600/1500	3	480/1500
60	36-38	12	4	600/1500	4	600/1500	4	600/1500
240	40-50	12	4	600/1500	4	600/1500	4	600/1500

## Recommended Cable Sizes for 400 V


**DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

All wiring must comply with all applicable national and/or electrical codes.

**Failure to follow these instructions will result in death or serious injury.**

**NOTE:** Overcurrent protection is to be provided by others.

Cable sizes in this manual are based on table B.52.5 of IEC 60364-5-52 with the following assertions:

- 90 °C conductors
- An ambient temperature of 30 °C
- Use of copper conductors
- Installation method C

If the ambient temperature is greater than 30 °C, larger conductors are to be selected in accordance with the correction factors of the IEC.

### Cable Size for Cables Between UPS and Battery Breaker for Easy UPS 3M

Battery breaker boxes	Connection	60 kVA	80 kVA	100 kVA	120 kVA	160 kVA	200 kVA
1xE3MBBB60K80H	DC+, N, DC- (mm <sup>2</sup> )	50	70	–	–	–	–
	PE (mm <sup>2</sup> )	25	35	–	–	–	–
2xE3MBBB60K80H	DC+, N, DC- (mm <sup>2</sup> )	50	50	50	50	70	–
	PE (mm <sup>2</sup> )	25	25	25	25	35	–
1xE3MBBB100K200H	DC+, N, DC- (mm <sup>2</sup> )	–	–	2 x 70	2 x 70	2 x 95	2 x 120
	PE (mm <sup>2</sup> )	–	–	70	70	95	120
2xE3MBBB100K200H	DC+, N, DC- (mm <sup>2</sup> )	–	–	–	150	150	150
	PE (mm <sup>2</sup> )	–	–	–	95	95	95

### Cable Size per String for Cables Between Battery Breaker and Battery Bank For Easy UPS 3M

Number of battery strings	Connection	60 kVA	80 kVA	100 kVA	120 kVA	160 kVA	200 kVA
1 battery string	Batt+, N, Batt- (mm <sup>2</sup> )	50	70	2 x 70	2 x 70	2 x 95	2 x 120
	PE (mm <sup>2</sup> )	25	35	70	70	95	120
2 battery strings	Batt+, N, Batt- (mm <sup>2</sup> )	25	35	70	70	95	120
	PE (mm <sup>2</sup> )	16	16	35	35	50	70
3 battery strings	Batt+, N, Batt- (mm <sup>2</sup> )	16	16	50	50	50	70
	PE (mm <sup>2</sup> )	16	16	25	25	25	35
4 battery strings	Batt+, N, Batt- (mm <sup>2</sup> )	16	16	35	35	35	50
	PE (mm <sup>2</sup> )	16	16	16	16	16	25

### Cable Size for Cables Between UPS and Battery Breaker for Easy UPS 3L

Battery breaker boxes	Connection	250 kVA	300 kVA	400 kVA	500 kVA	600 kVA
1 x E3MBBB100K200H	DC+, DC- (mm <sup>2</sup> )	2 x 120	2 x 120	2 x 120	–	–

**Cable Size for Cables Between UPS and Battery Breaker for Easy UPS 3L (Continued)**

Battery breaker boxes	Connection	250 kVA	300 kVA	400 kVA	500 kVA	600 kVA
	PE, N (mm <sup>2</sup> )	120	120	120	–	–
2 x E3M BBB100K200H	DC+, DC- (mm <sup>2</sup> )	2 x 70	2 x 95	2 x 120	2 x 120	2 x 120
	PE (mm <sup>2</sup> )	70	95	120	120	120
	N (mm <sup>2</sup> )	120	120	120	120	120
3 x E3M BBB100K200H	DC+, DC- (mm <sup>2</sup> )	–	–	–	2 x 120	2 x 120
	PE, N (mm <sup>2</sup> )	–	–	–	120	120

**Cable Size per String for Cables Between Battery Breaker and Battery Bank for Easy UPS 3L**

Number of battery strings <sup>1</sup>	Connection	250 kVA	300 kVA	400 kVA	500 kVA	600 kVA
1 battery string	Batt+, N, Batt- (mm <sup>2</sup> )	2 x 120	2 x 120	2 x 120	2 x 120	2 x 120
	PE (mm <sup>2</sup> )	120	120	120	120	120
2 battery strings	Batt+, N, Batt- (mm <sup>2</sup> )	120	120	120	120	120
	PE (mm <sup>2</sup> )	70	70	70	70	70
3 battery strings	Batt+, N, Batt- (mm <sup>2</sup> )	70	70	70	70	70
	PE (mm <sup>2</sup> )	35	35	35	35	35
4 battery strings	Batt+, N, Batt- (mm <sup>2</sup> )	50	50	50	50	50
	PE (mm <sup>2</sup> )	25	25	25	25	25

1. Cable sizes are based on same number of battery strings for all battery breaker kits

## Recommended Cable Sizes for 208 V

⚠ **DANGER**

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

All wiring must comply with all applicable national and/or electrical codes.

Failure to follow these instructions will result in death or serious injury.

**NOTE:** Overcurrent protection is to be provided by others.

Cable sizes in this manual are based on table B.52.5 of IEC 60364-5-52 with the following assertions:

- 90 °C conductors
- An ambient temperature of 30 °C
- Use of copper conductors
- Installation method C

If the ambient temperature is greater than 30 °C, larger conductors are to be selected in accordance with the correction factors of the IEC.

### Cable Size for Cables Between UPS and Battery Breaker for Easy UPS 3M

Battery breaker boxes	Connection	50 kVA	60 kVA	80 kVA	100 kVA
1xE3MBBB60K80H	DC+, N, DC- (mm <sup>2</sup> )	70	70	–	–
	PE (mm <sup>2</sup> )	35	35	–	–
2xE3MBBB60K80H	DC+, N, DC- (mm <sup>2</sup> )	50	50	50	70
	PE (mm <sup>2</sup> )	25	25	25	35
1xE3MBBB100K200H	DC+, N, DC- (mm <sup>2</sup> )	–	–	2X70	2X70
	PE (mm <sup>2</sup> )	–	–	70	70

### Cable Size per String for Cables Between Battery Breaker and Battery Bank For Easy UPS 3M

Number of battery strings	Connection	50 kVA	60 kVA	80 kVA	100 kVA
1 battery string	Batt+, N, Batt- (mm <sup>2</sup> )	70	70	2X70	2X70
	PE (mm <sup>2</sup> )	35	35	70	70
2 battery strings	Batt+, N, Batt- (mm <sup>2</sup> )	35	35	70	70
	PE (mm <sup>2</sup> )	16	16	35	35
3 battery strings	Batt+, N, Batt- (mm <sup>2</sup> )	16	16	50	50
	PE (mm <sup>2</sup> )	16	16	25	25
4 battery strings	Batt+, N, Batt- (mm <sup>2</sup> )	16	16	35	35
	PE (mm <sup>2</sup> )	16	16	16	16

## Torque Specifications

Bolt Size	Torque
M8	20 Nm
M10	30 Nm

## Battery Breaker Box Weight and Dimensions

	Weight kg	Height mm	Width mm	Depth mm
Battery breaker box E3MBBB60K80H	25	650	500	280
Battery breaker box E3MBBB100K200H	38	800	500	280

## Environment

	Operation	Storage
Temperature	0 °C to 40 °C	-25 °C to 55 °C



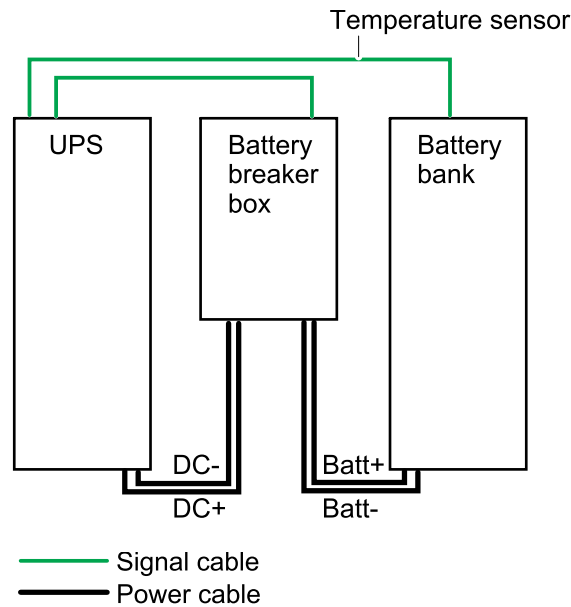
# Installation Procedure

## ⚠ DANGER

### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Place the battery breaker box as close to the battery bank as possible to limit the length of unprotected battery cable.

**Failure to follow these instructions will result in death or serious injury.**



1. Mount the Battery Breaker Box to the Wall, page 34.
2. Prepare the Battery Breaker Box for Cables, page 36.
3. Connect the Signal Cables, page 38.
4. Connect the Power Cables, page 41.
5. Final Installation Steps, page 44.

## Mount the Battery Breaker Box to the Wall

### ⚠ CAUTION

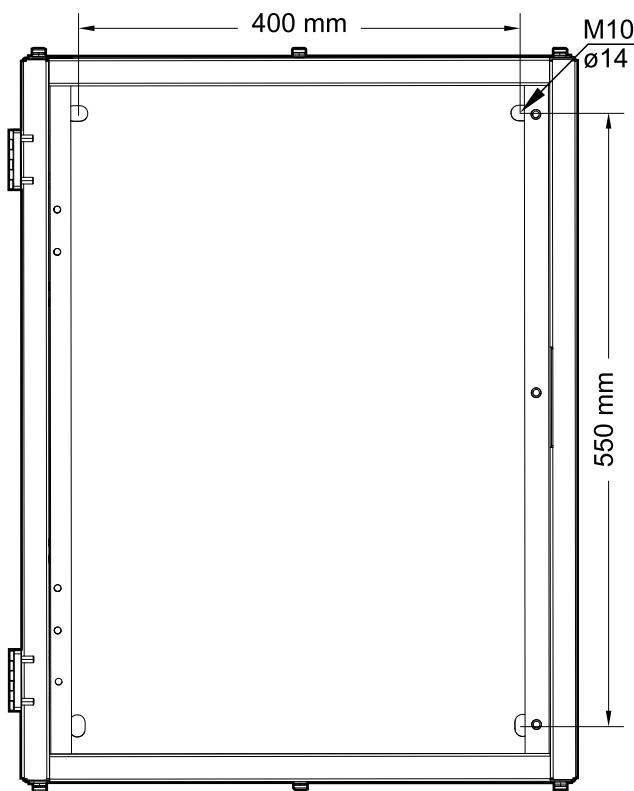
#### RISK OF INJURY OR EQUIPMENT DAMAGE

- Mount the battery breaker box to a wall or a rack that is structurally sound and able to support the weight of the unit.
- Use appropriate hardware (not supplied) to mount the battery breaker box to the wall.

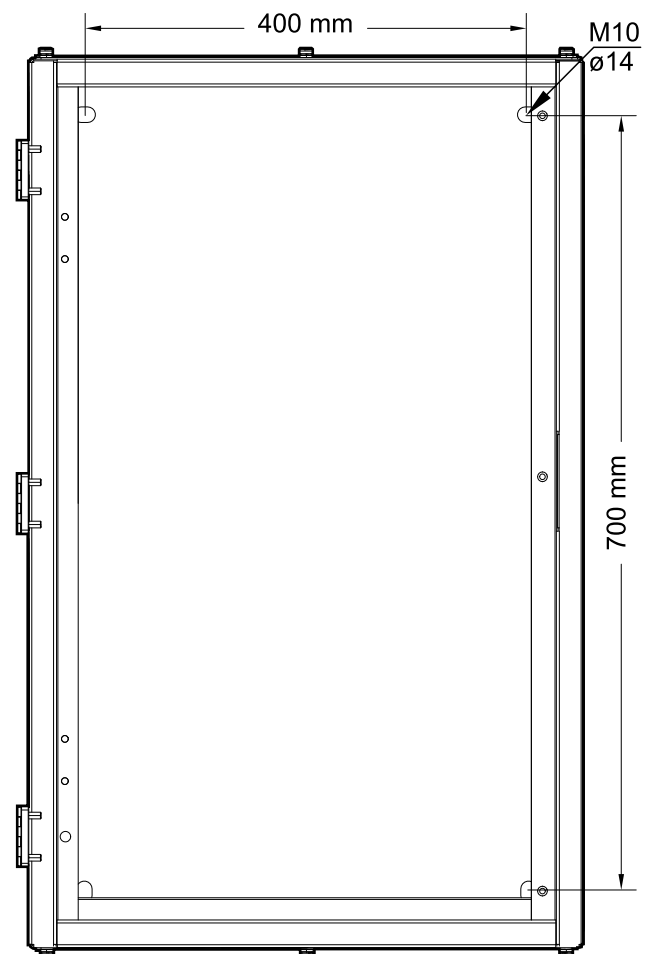
**Failure to follow these instructions can result in injury or equipment damage.**

**NOTE:** Four M10 x 30 torx and nuts are supplied for mounting the battery breaker box to a rack.

**E3MBBB60K80H**

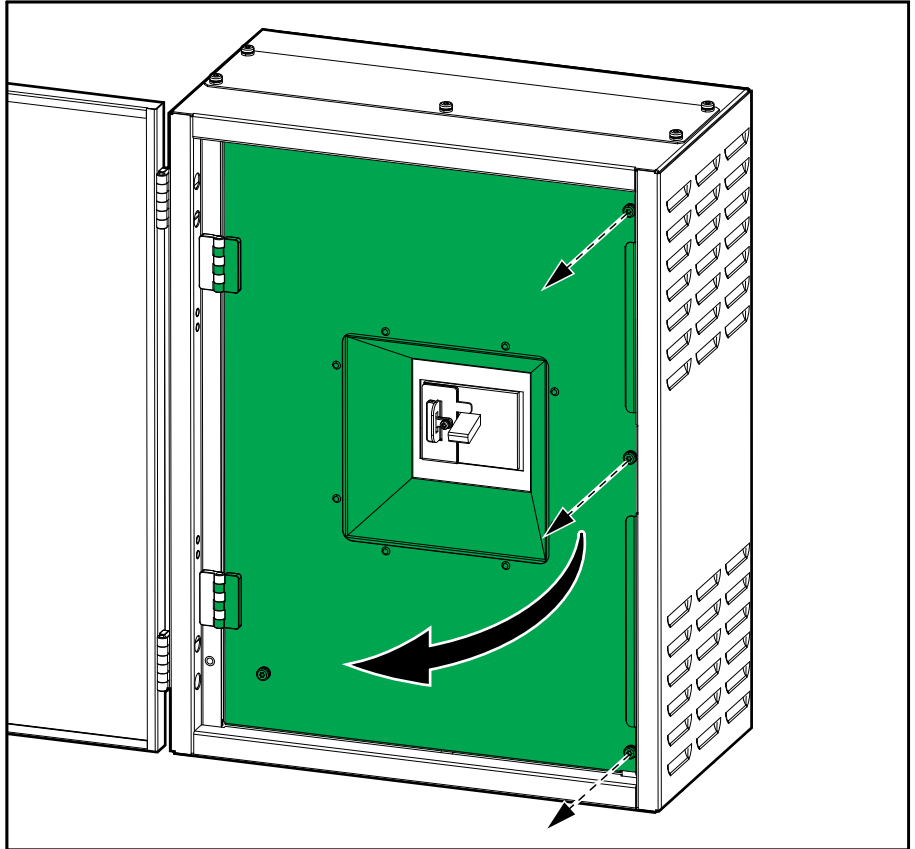


**E3MBBB100K200H**



1. Measure and mark the four mounting hole locations on the wall.
2. Drill holes in each of the four marked locations.

3. Loosen the three screws and open the inner door.



4. Mount the battery breaker box to the wall.

## Prepare the Battery Breaker Box for Cables

### ⚠ DANGER

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

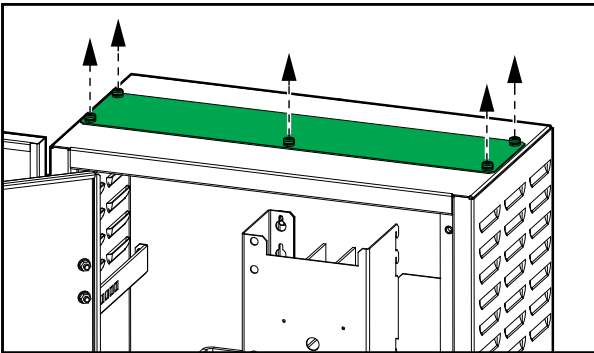
Do not drill or punch holes for cables or grommets with the gland plates installed, and do not drill or punch holes in close proximity to the UPS.

**Failure to follow these instructions will result in death or serious injury.**

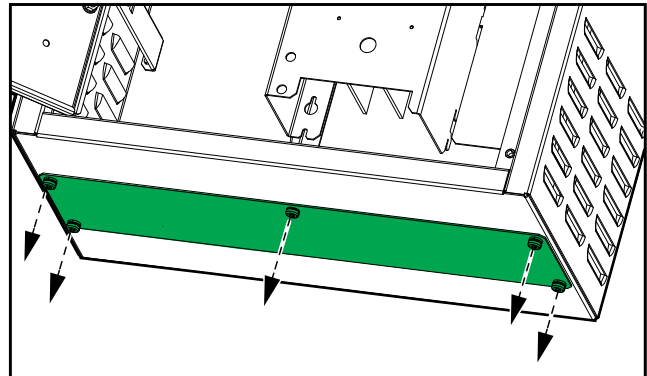
1. Remove the gland plates:

- **For bottom cable entry:** Remove the bottom gland plate.
- **For top cable entry – only available for the 60–80 kVA battery breaker box:** Remove the top gland plate.

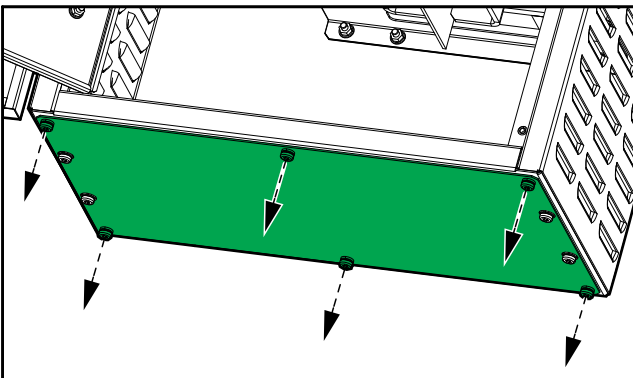
E3MBBB60K80H



E3MBBB60K80H



E3MBBB100K200H



2. Drill or punch holes for cables or grommets in the gland plate(s).

3. Install grommets (if applicable) and refit the gland plate(s).

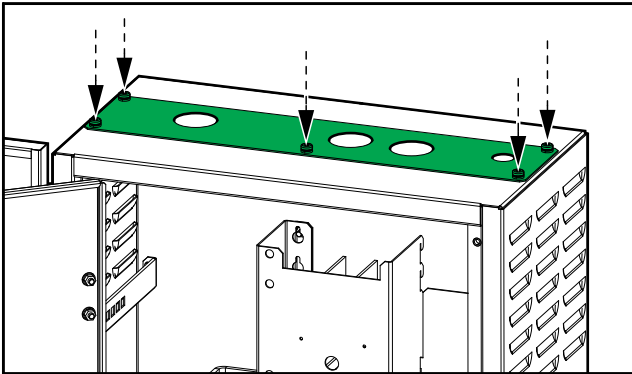
**⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

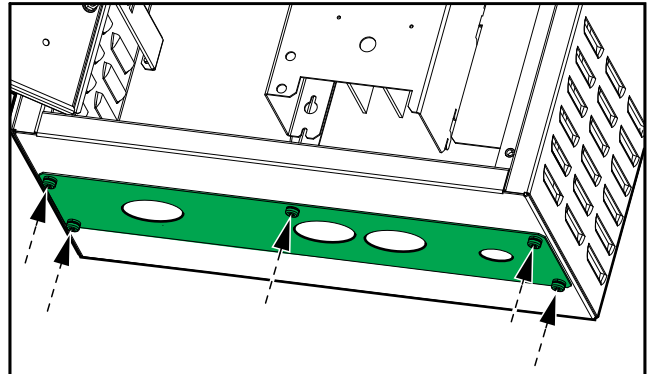
Ensure that there are no sharp edges that can damage the cables.

**Failure to follow these instructions will result in death or serious injury.**

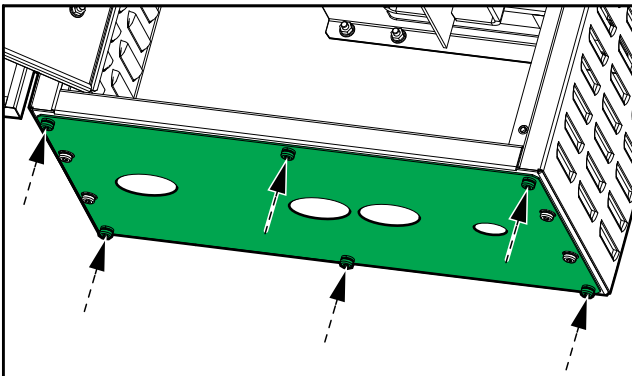
**E3M BBB60K80H**



**E3M BBB60K80H**

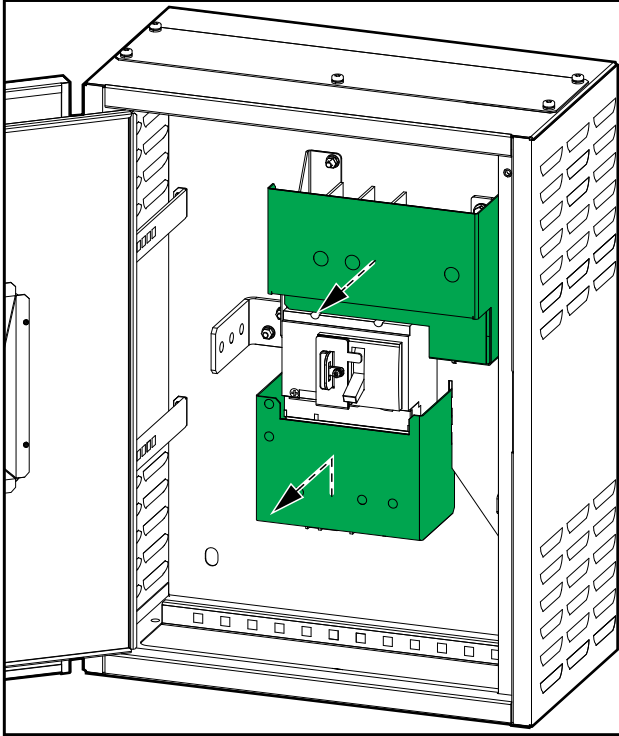
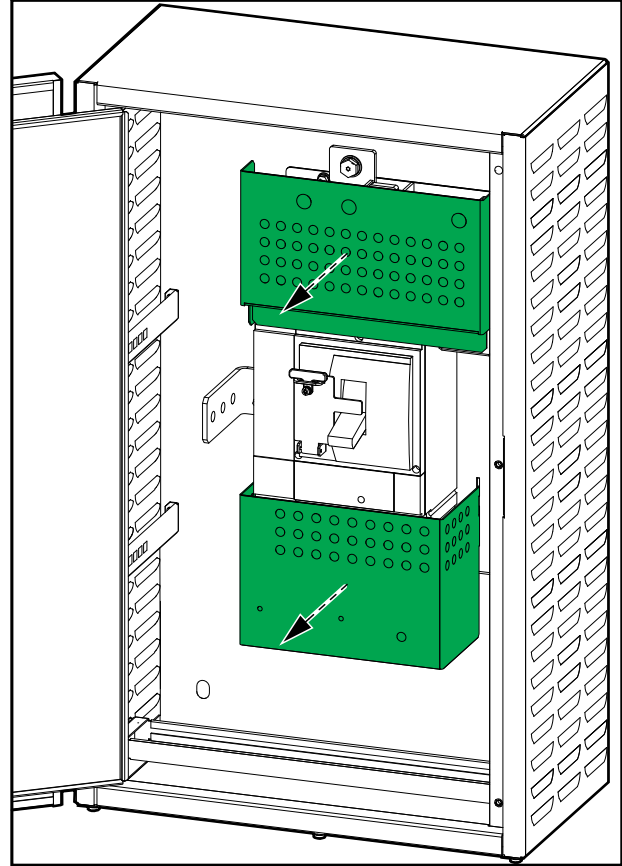


**E3M BBB100K200H**



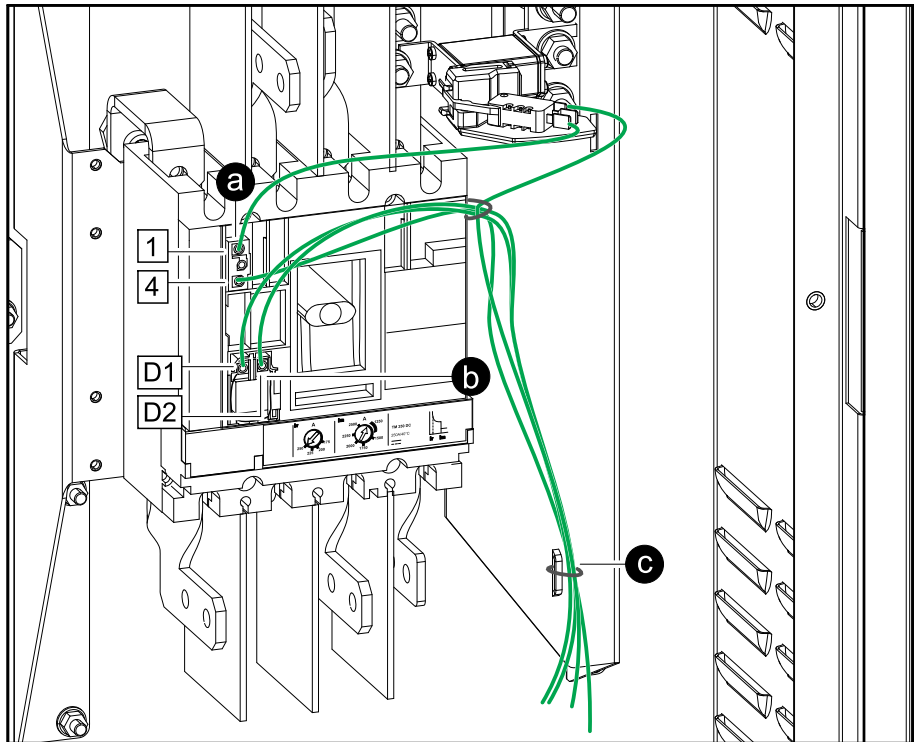
## Connect the Signal Cables

1. Loosen the screws of the inner covers and lift the inner covers up and out of the battery breaker box.

**E3MBBB60K80H****E3MBBB100K200H**

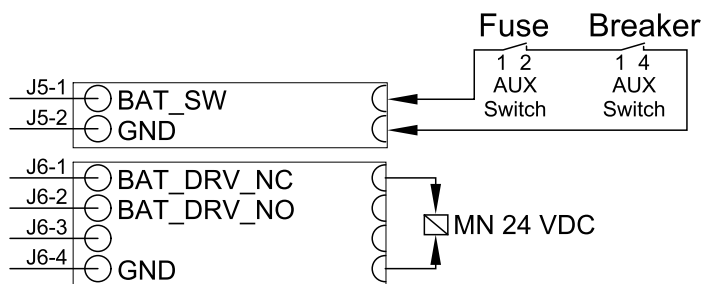
2. Route the signal cables through the bottom of the battery breaker box. For E3MBBB60K80H you can also route the signal cables through the top.

3. Remove the cover from the battery breaker.

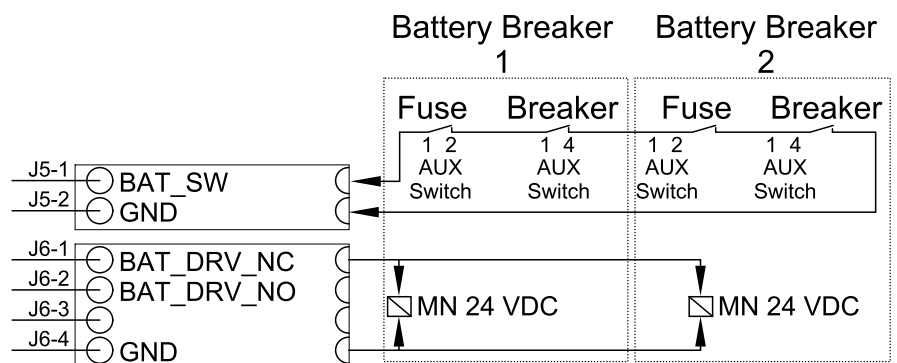


4. Connect the signal cables according to one of the diagrams below for **Easy UPS 3M**:

**Signal Cables in Installations with One Battery Breaker Box**

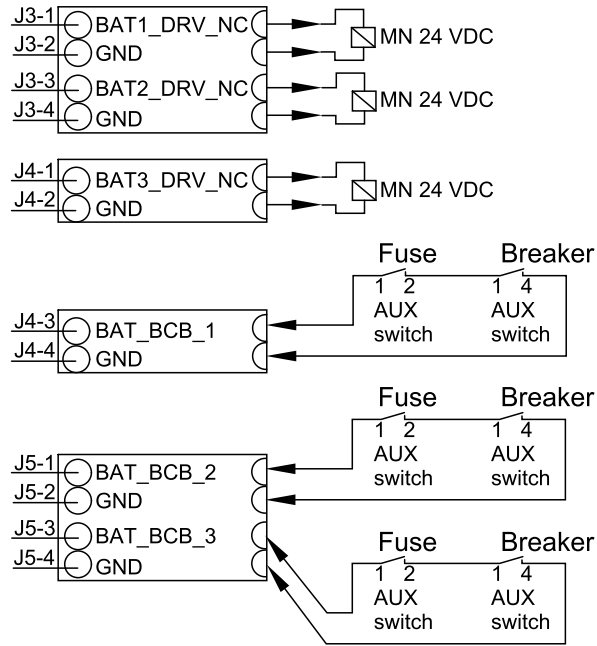


**Signal Cables in Installations with Two Battery Breaker Boxes**



- a. Connect the AUX switch signal cables from the battery breaker(s) and fuse(s) to J5-1 and J5-2 in the UPS.
- b. Connect the undervoltage trip coil signal cables from the battery breaker (s) to J6-1 and J6-4 in the UPS.

5. Connect the signal cables according to the diagram below for **Easy UPS 3L**.



- a. Connect the AUX switch signal cables from the battery breakers and fuse (s) to J4-3 and J4-4, J5-1 and J5-2, and J5-3 and J5-4 in the UPS.
  - b. Connect the undervoltage trip coil signal cables from the battery breaker s to J3-1 and J3-2, J3-3 and J3-4, and J4-1 and J4-2 in the UPS.
6. Fasten the signal cables with cable ties (provided) to the cable relief.



## Connect the Power Cables

### **⚠ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Perform a total power off of the UPS system before connecting the power cables to the battery breaker box.

**Failure to follow these instructions will result in death or serious injury.**

### **⚠ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

For TT and TN systems each stand alone cabinet of the system must be individually connected to the protective earthing terminal in the distribution board that supplies the system.

**Failure to follow these instructions will result in death or serious injury.**

### **⚠ WARNING**

#### **HAZARD OF ARC FLASH**

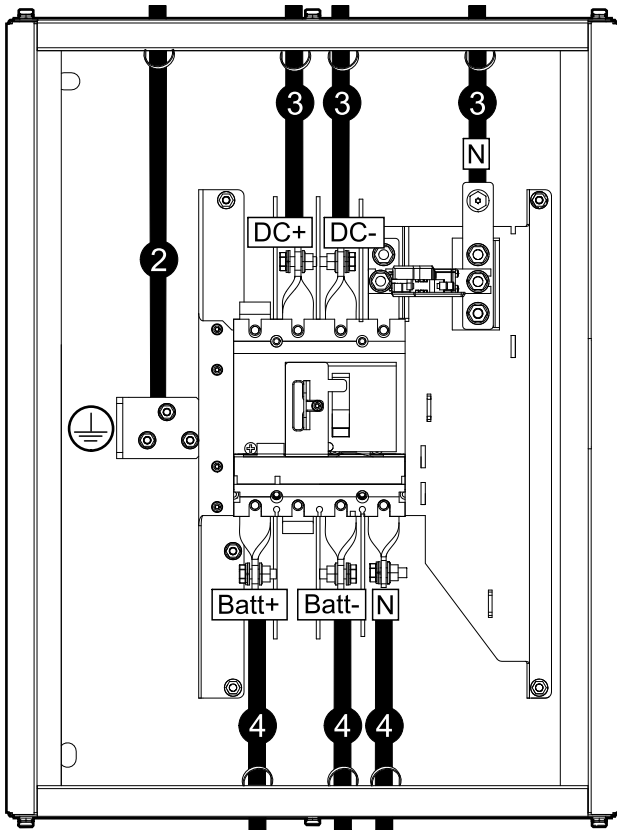
Use the provided M8/M10 bolts and nuts to connect the power cables.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

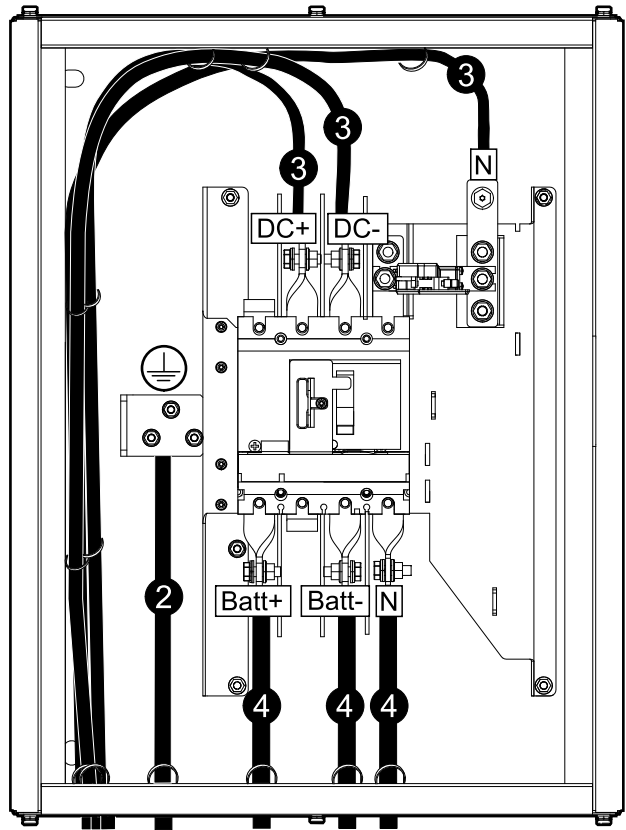
1. Lockout/Tagout the battery breaker.

- Route the PE cables through either the top or bottom of the battery breaker box and connect.

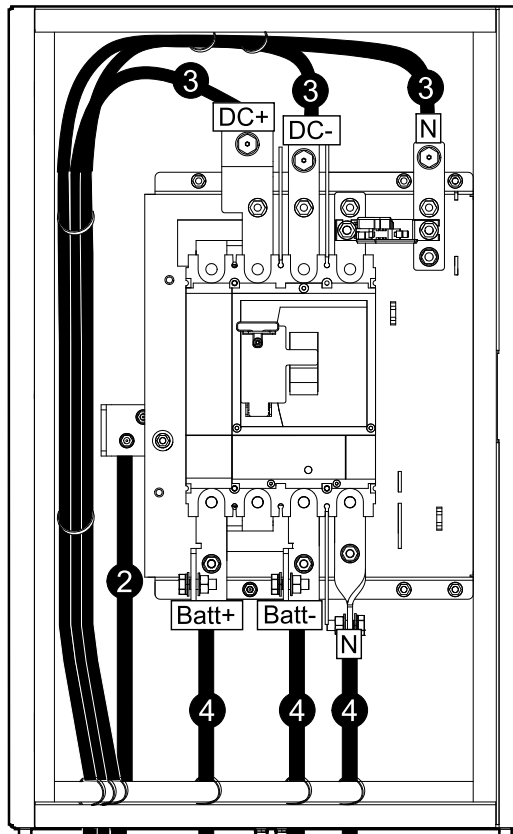
**E3MBBB60K80H Top Cable Entry**



**E3MBBB60K80H Bottom Cable Entry**



**E3MBBB100K200H**



3. Route the DC cables from the UPS through either the top or bottom of the battery breaker box and connect (DC+, N, DC-).

**⚠ DANGER****HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Reinstall the inner cover in the top of the battery breaker box before continuing with the installation.

**Failure to follow these instructions will result in death or serious injury.**

4. Route the battery cables from the battery bank through the bottom of the battery breaker box and connect (Batt+, N, Batt-).

**⚠ DANGER****HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

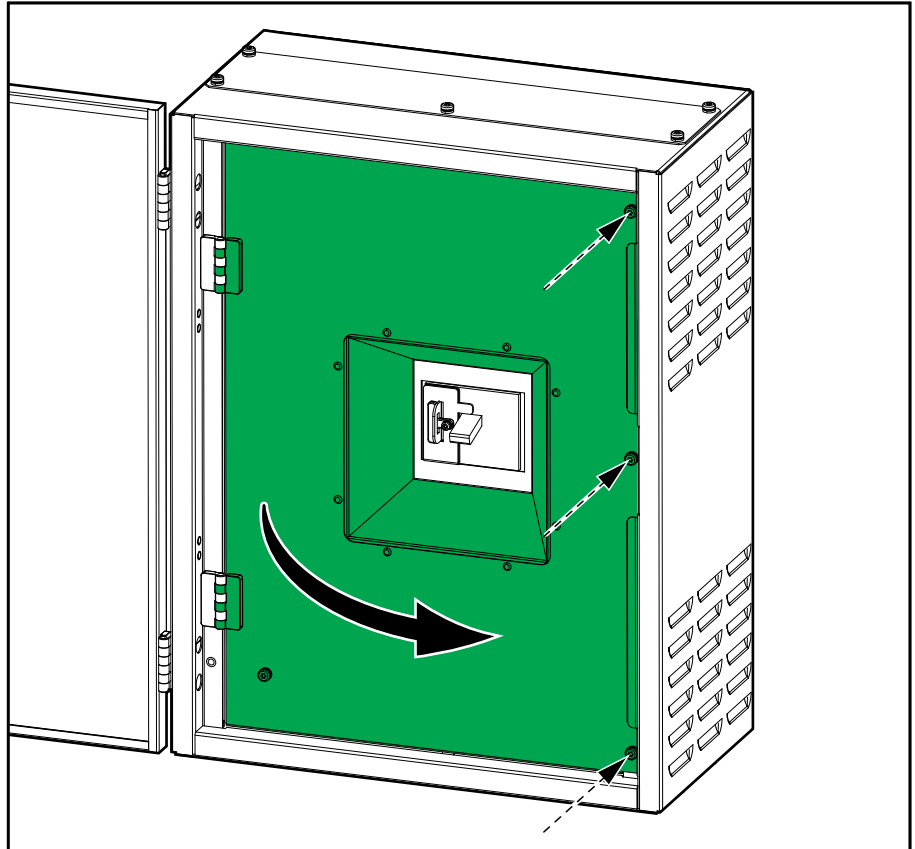
- Reinstall the inner cover in the bottom of the battery breaker box before continuing with the installation.
- Ensure correct polarity.

**Failure to follow these instructions will result in death or serious injury.**

5. Fasten the cables to the cable reliefs in the left side, the top, and the bottom of the battery breaker box.

## Final Installation Steps

1. Close the inner and fasten with the three screws.



2. Close the front door of the battery breaker box.







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As standards, specifications, and design change from time to time,  
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