

# Gutor PXC

## Battery Breaker Box

### Installation

GUPXCD10BIEC, GUPXCD20BIEC, GUPXCD30BIEC, GUPXCD40BIEC, GUPXCD50BIEC,  
GUPXCD60BIEC, GUPXCD80BIEC

09/2017



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

As standards, specifications, and designs change from time to time, please ask for confirmation of the information given in this publication.

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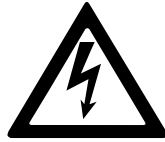
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# Important Safety Instructions — SAVE THESE INSTRUCTIONS

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.

## Safety Precautions

### **⚠ DANGER**

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

All safety instructions in this document must be read, understood and followed.

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

### **⚠ DANGER**

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

The battery breaker box 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.**

### **⚠ 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.**

## 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.
- 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.**

# Battery Breaker Box Specifications

**⚠ DANGER**

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

The battery breaker box must only be used with the Gutor PXC UPS.

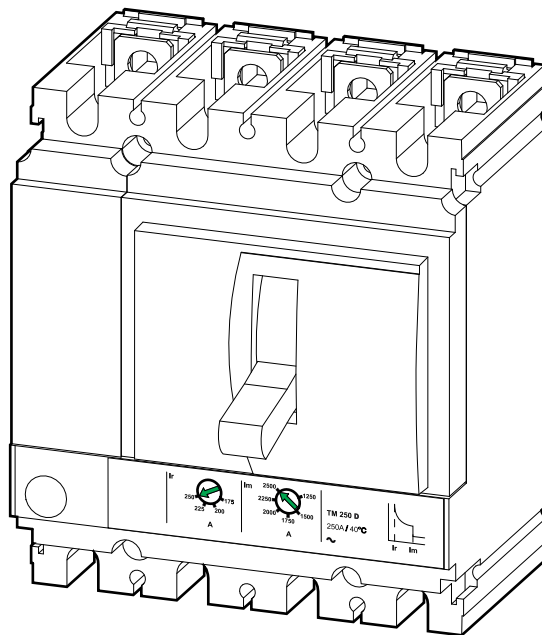
**Failure to follow these instructions will result in death or serious injury.**

## Battery Breaker Specifications

	GUPXCD10BIEC	GUPXCD20BIEC	GUPXCD30BIEC	GUPXCD40BIEC
<b>UPS power rating</b>	<b>10 kVA</b>	<b>20 kVA</b>	<b>30 kVA</b>	<b>40 kVA</b>
Circuit breaker	NSX100S 4P TM50DC	NSX250S 4P TM100DC	NSX250S 4P TM160DC	NSX250S 4P TM160DC
Trip unit rating (A)	50	100	160	
Circuit breaker short-circuit interrupting current (kAIC)	100			

	GUPXCD50BIEC	GUPXCD60BIEC	GUPXCD80BIEC
<b>UPS power rating</b>	<b>50 kVA</b>	<b>60 kVA</b>	<b>80 kVA</b>
Circuit breaker	NSX100S 4P TM160DC	NSX250S 4P TM200DC	NSX250S 4P TM250DC
Trip unit rating (A)	160	200	250
Circuit breaker short-circuit interrupting current (kAIC)	100		

## Breaker Trip Settings



<b>UPS power rating</b>	<b>10 kVA</b>	<b>20 kVA</b>	<b>30 kVA</b>	<b>40 kVA</b>	<b>50 kVA</b>	<b>60 kVA</b>	<b>80 kVA</b>
Im (A)	700	800	1250			2500	
Ir (A)	35	70	115	132	160	200	250



## Recommended Cables

All cables must comply with the national and/or electrical code. The maximum allowable conductor size is 95 mm<sup>2</sup>. Recommended cables are based on table 52–C2 of IEC 60364–5–52 with the following assertions:

- 90 °C conductors
- An ambient temperature of 30 °C
- Use of flexible 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.

UPS power rating	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA
Battery cables <sup>1</sup> (mm <sup>2</sup> )	16	16	25	35	50	70	95
PE cables (mm <sup>2</sup> )	16	16	25	35	50	70	95

## Torque Specifications

Bolt size	Torque
M6	5 Nm (3.69 lb-ft)
M8	17.5 Nm (12.91 lb-ft)
M10	30 Nm (22 lb-ft)
M12	50 Nm (36.87 lb-ft)

## Battery Breaker Box Weight and Dimensions

	Weight kg	Height mm	Width mm	Depth mm
Battery breaker box	20	600	400	200

1. Recommended battery cable size is based on 30 meter cable length at maximum voltage 540 VDC.

# Installation Procedure

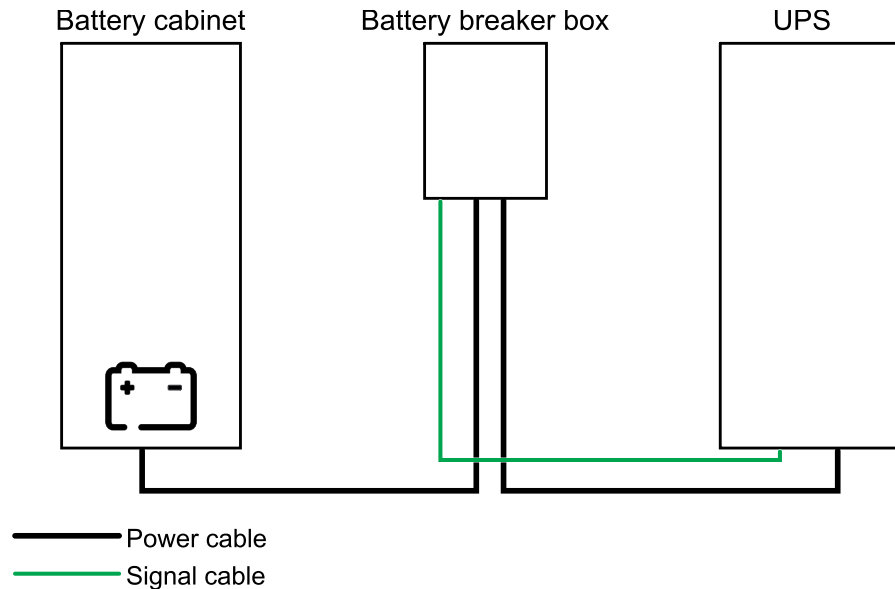
## ⚠ DANGER

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

Place the battery breaker box as close to the battery cabinet(s) as possible to limit the length of the unprotected battery cable.

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

### Overview of Signal Cables and Power Cables



1. *Mount the Battery Breaker Box to the Wall, page 11.*
2. *Prepare the Battery Breaker Box for Cables, page 13.*
3. *Connect the Power Cables, page 14.*
4. *Connect the Control Cables between the UPS Cabinet and the Battery Breaker Box, page 16.*
5. *Final Installation Steps, page 17.*

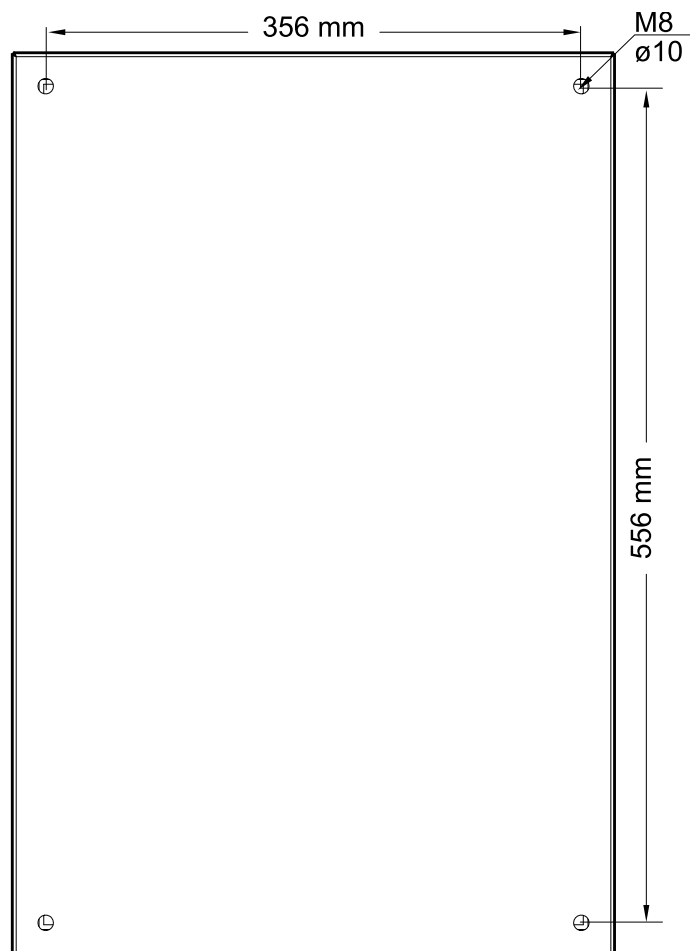
## Mount the Battery Breaker Box to the Wall

### ⚠ CAUTION

#### HAZARD OF INJURY OR EQUIPMENT DAMAGE

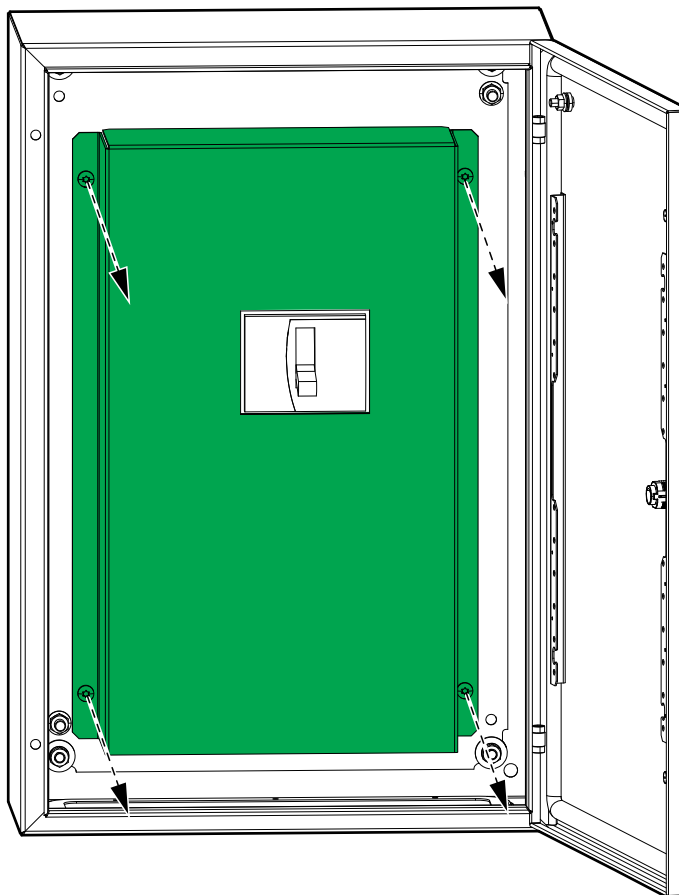
- Mount the battery breaker box to a wall that is structurally sound and able to support the weight of the unit.
- Use appropriate mounting hardware and bolts that fit the wall type.

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



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 four screws on the front cover and remove the front cover from the battery breaker box.



4. Lift the battery breaker box, position it against the wall and line it up with the four holes. Fasten with four M8 bolts (not supplied).

## Prepare the Battery Breaker Box for Cables

### ⚠ DANGER

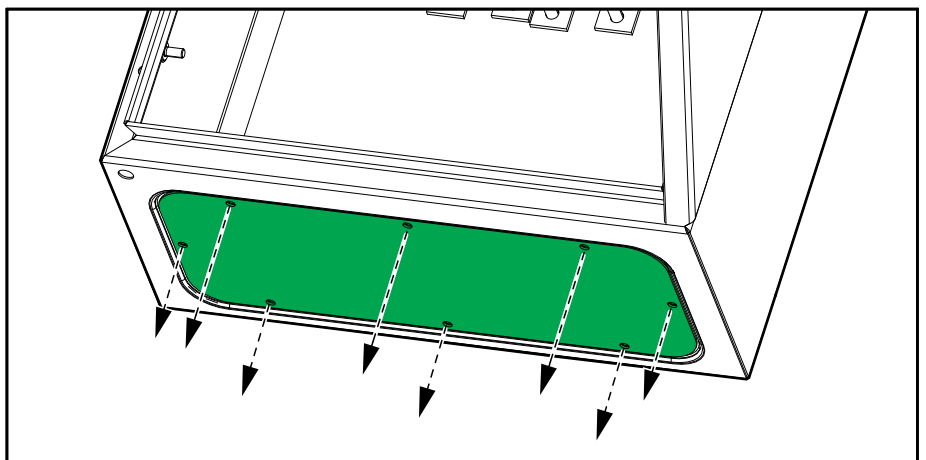
#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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. Lockout/Tagout the battery breaker.
2. Loosen the eight bolts from the bottom gland plate and remove the gland plate.

#### Front Bottom View of the Battery Breaker Box



3. Drill or punch holes for cables or grommets in the gland plate.
4. Install grommets (if applicable) and reinstall the gland plate.

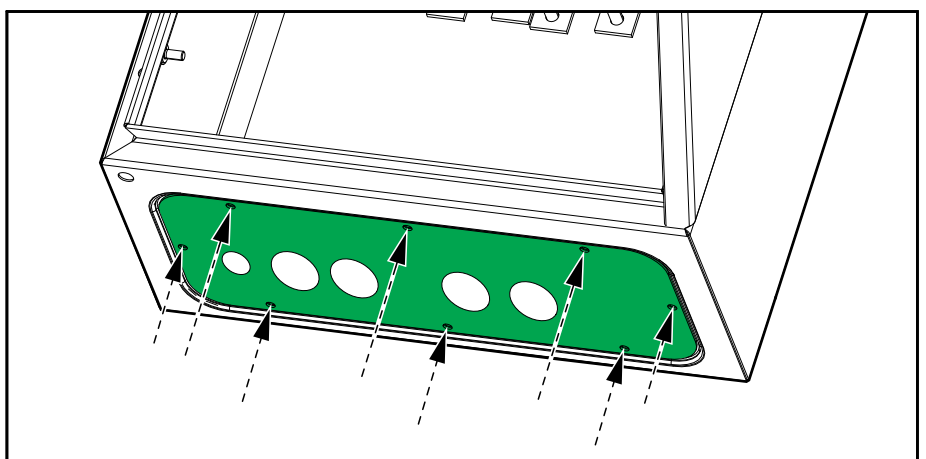
### ⚠ DANGER

#### 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.**

#### Front Bottom View of the Battery Breaker Box



## 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 battery 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**

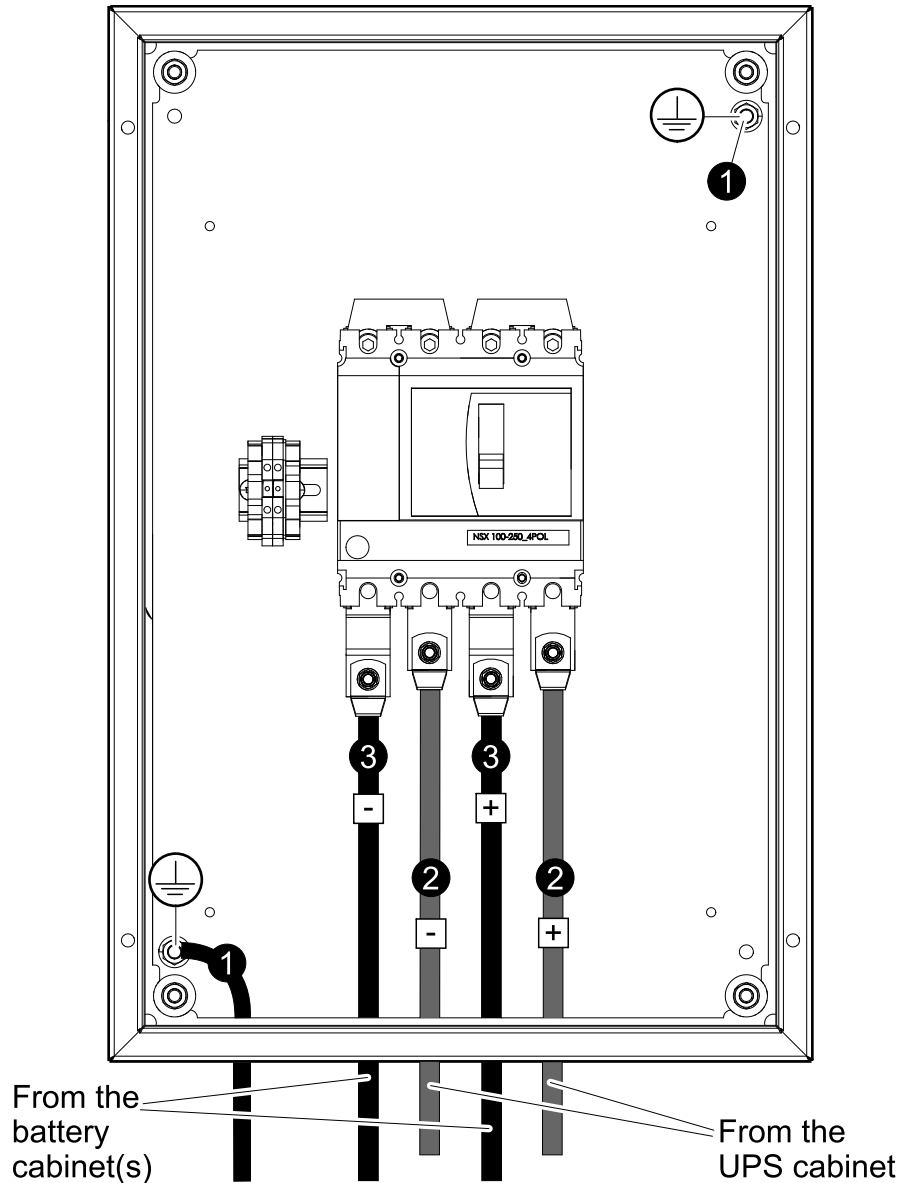
Use the provided M8 bolts and nuts to connect the power cables.

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

1. Route the PE cable through the bottom of the battery breaker box and connect to one of the PE terminals.
2. Route the battery cables from the UPS cabinet through the bottom of the battery breaker box and connect to the battery terminals.

3. Route the battery cables from the battery cabinets through the bottom of the battery breaker box and connect to the battery terminals.

**Power Cable Connections in the Battery Breaker Box**



**⚠ DANGER**

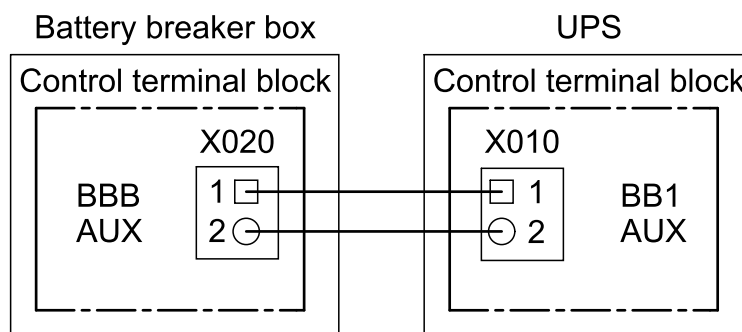
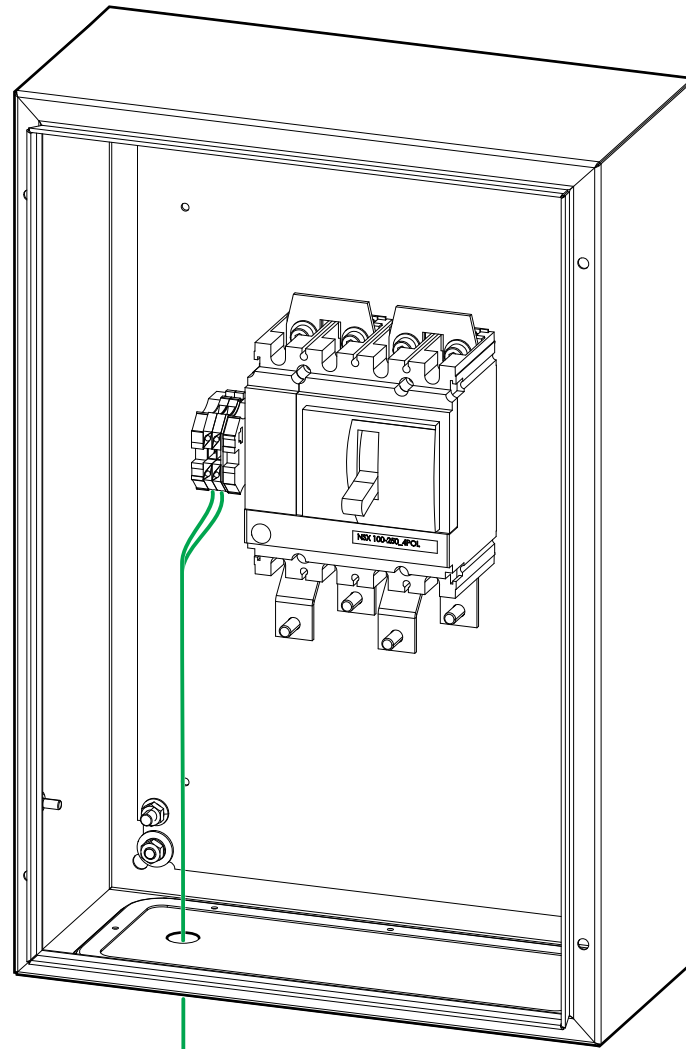
**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Ensure correct polarity.

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

## Connect the Control Cables between the UPS Cabinet and the Battery Breaker Box

1. Connect the control cables to the control terminal block X020 terminals 1 and 2 and route the control cables through the bottom of the battery breaker box to the control terminal block in the UPS cabinet and connect to X010 terminals 1 and 2.

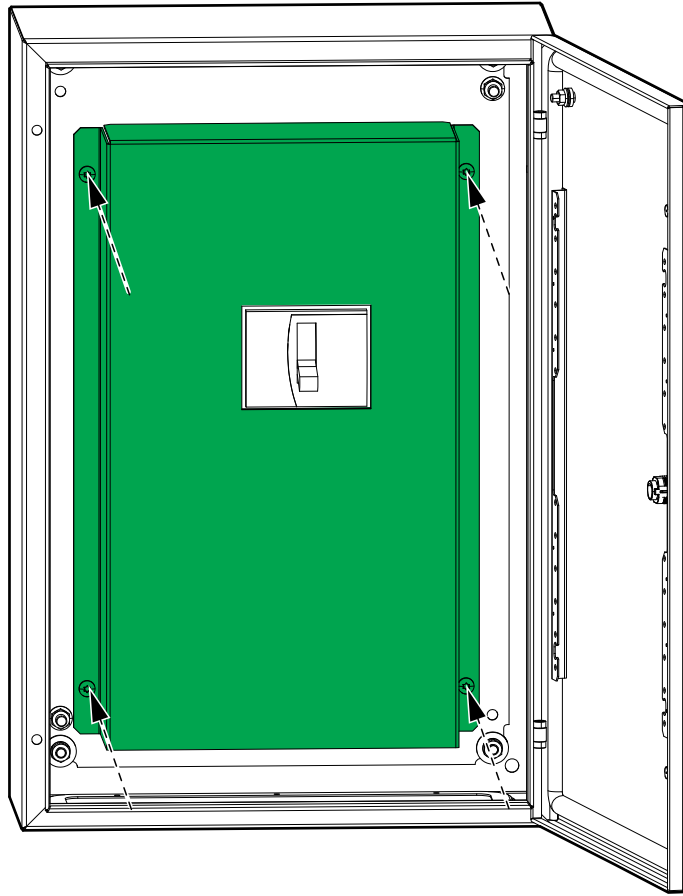




## Final Installation Steps

1. Reinstall the front cover with the four screws.

### Front View of the Battery Breaker Box



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





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990–91038–001