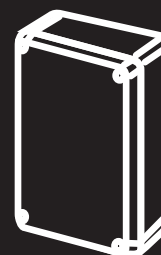


**Smart-UPS[®] VT
Battery Breaker Box**

10-40kVA
400V

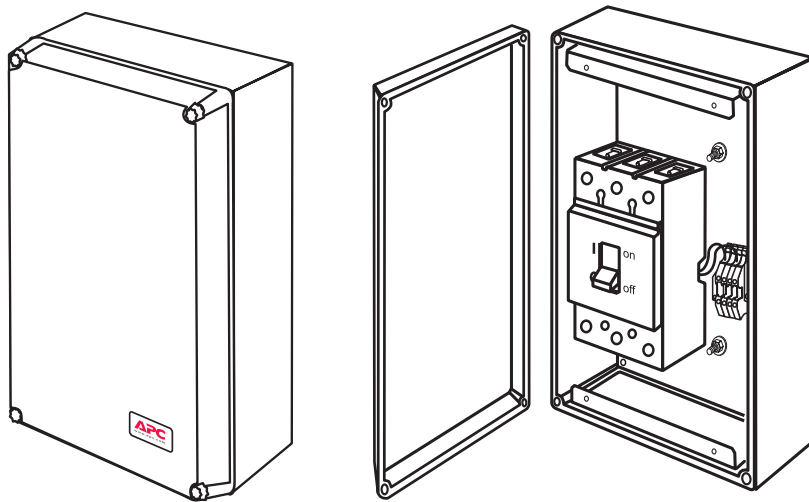
**Installation and
Operation Manual**



Smart-UPS® VT Battery Breaker Box

10-40kVA 400V

Installation & Operation Manual



IMPORTANT!

**THIS DOCUMENT CONTAINS IMPORTANT SAFETY INSTRUCTIONS –
PLEASE SAVE THESE INSTRUCTIONS!**

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Safety

This guide contains important instructions that should be followed when handling the Battery Breaker Box, the UPS, and battery banks.

Symbols used in this guide



WARNING!
Risk of electric shock.



CAUTION!
Read this information to avoid equipment damage.

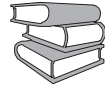


Note

Indicates important information.








Indicates that more information is available on this subject in a different section of this manual.



See also

Indicates that more information is available on the same subject in a different manual.

Environmental symbols

				
Temperature	Ventilation requirements	Humidity	Dust/Fumes	Altitude

General safety



WARNING!

All electrical power and control wiring must be performed by a qualified electrician and comply with local and national codes.



WARNING!

The total system contains Hazardous AC/DC voltages, which are supplied from multiple power sources. Some terminals and components remain live even when the system is switched off!



WARNING!

Only trained personnel familiar with the construction and operation of the equipment and the electrical and mechanical hazards involved, may install and remove system components.



Indicates that a switch or current protection device is ON.



Indicates that a switch or a breaker is OFF.

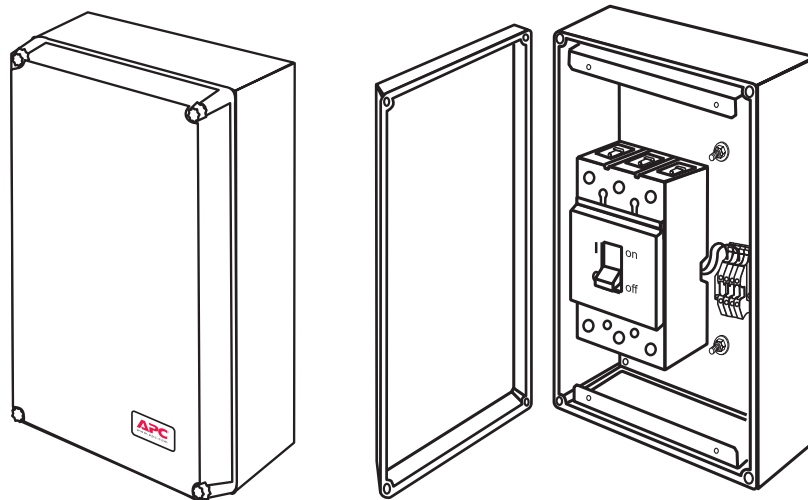
Introduction

Welcome to the Installation and Operation Manual covering the APC Battery Breaker Box for the Smart-UPS VT series. This manual provides you with detailed instructions on how to carry out the electrical/mechanical installation of the Battery Breaker Box and a short description on how to operate the Battery Breaker Box.

For additional information regarding the Smart-US VT series refer to the following manuals supplied with your UPS:

- Smart-UPS VT 10-40kVA Operation Manual, part no. 990-2282.
- Smart-UPS VT 10-40kVA Site Preparation and Installation Manual, part no. 990-2283.

The Battery Breaker Box provides overcurrent and short-circuit protection for UPS installations with external batteries. It also provides means for disconnection of batteries needed to complete a total power up/off procedure for Smart-UPS VT.



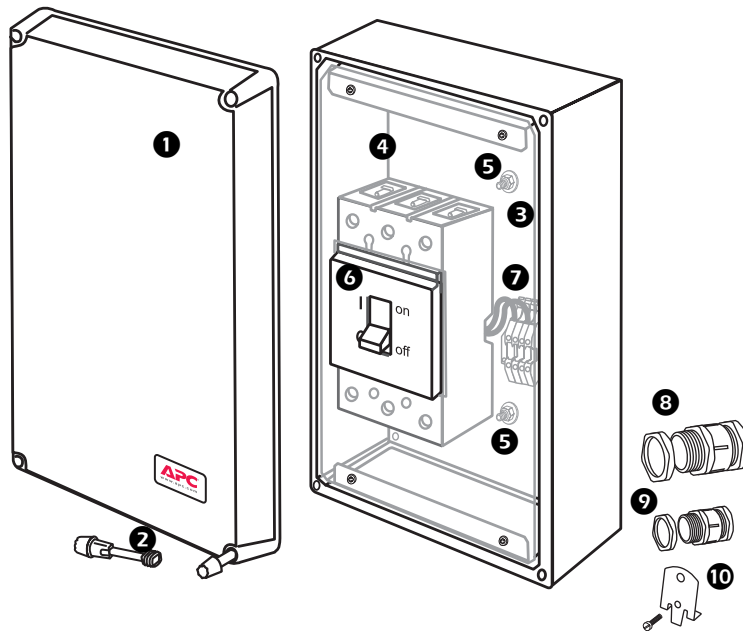
For more details on APC products and services, visit us at www.apc.com

Note

Serial number

The serial number is available on the type label attached to the back plate inside the Battery Breaker Box.



Product Overview



- ❶ Front Panel.
- ❷ Finger screws (4 pcs.) for the fastening of the Front Panel.
- ❸ Transparent protection plate.
- ❹ Cable lug connections.
- ❺ Protective earth (PE).
- ❻ Breaker.
- ❼ Terminals for control cables.
- ❽ Grommets for power cables (8 pcs.).
- ❾ Grommets for control cables (2 pcs.).
- ❿ Brackets (4 pcs.) for wall mounting.

Type label

The type label is attached to the back plate inside the Battery Breaker Box.

 www.apc.com	Input 2 x 192VDC BC= 20kA	
	Output 2 x 192VDC 125ADC	
885-2620 Place serial number label here Model Type: SUVTB10K40H	U/I Battery Nominal V DC / A DC	
Weight: 6.5 kg		

Dimensions

Smart-UPS VT Battery Breaker Box	HxWxD (mm)	Weight (kg)
SUVTB10K40H	360x270x183	6.5

Receiving the Battery Breaker Box






Initial inspection

Inspect the packaging for any signs of damage or mishandling. Do not attempt to install the Battery Breaker Box if damage is apparent. If any damage is noted, file a damage claim with the shipping agency within 24 hours and contact APC Technical Support (see rear cover) to inform of the damage claim and the condition of the shipment.

Verify that labelled units match the order confirmation.

Site Planning

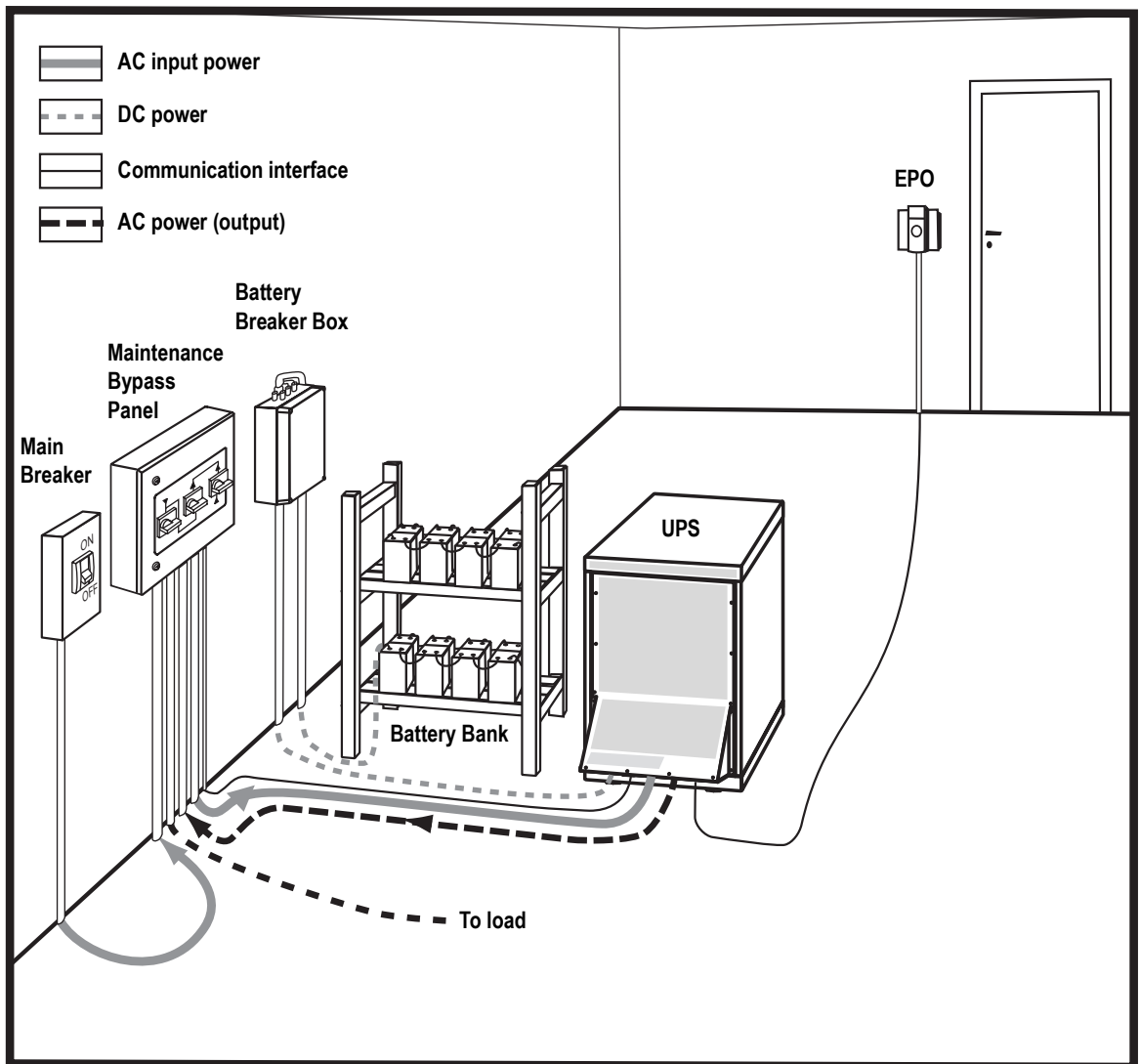
Environmental considerations

				
<p>Temperature Range: 0° to 40°C</p>	<p>Keep Ventilated Front-to-Rear Airflow (see space considerations)</p>	<p>Relative Humidity: <95% Non-condensing</p>	<p>No Conductive Dust or Corrosive Fumes</p>	<p>Altitude derating table: 1000m: 100% load 1500m: 95% load 2000m: 91% load 2500m: 86% load 3000m: 82% load</p>

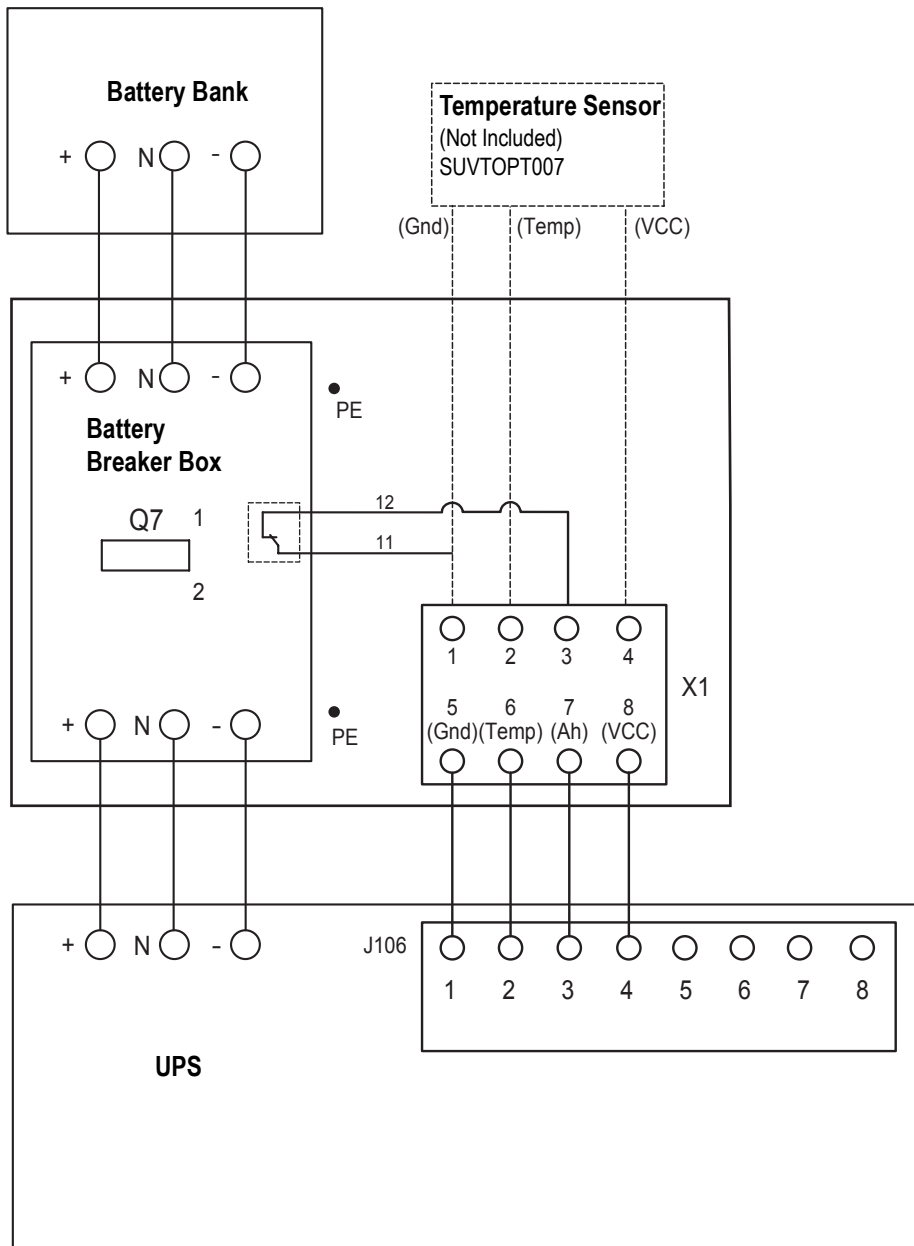
Placing

Place the Battery Breaker Box as close to the battery bank as possible and make sure that access to the Battery Breaker Box is easy.

System overview



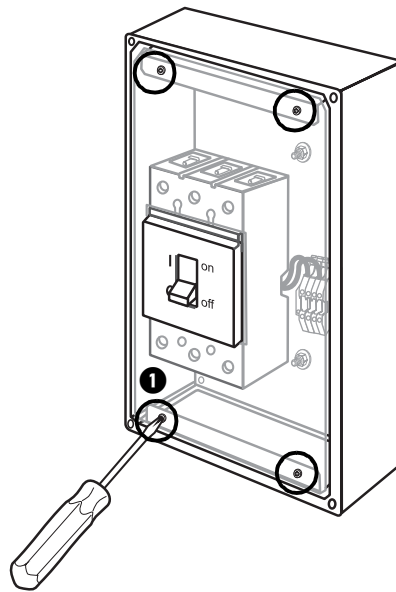
Wiring diagram



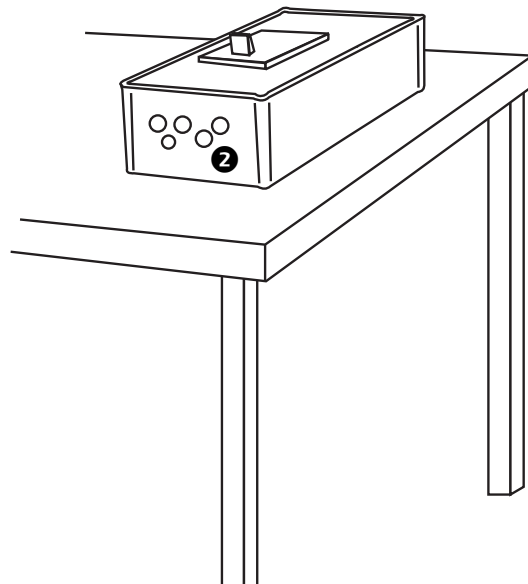
Preparing to install

Preparing the Battery Breaker Box for the attachment of cables

- 1 Remove the 4 screws attaching the transparent protection plate to the Battery Breaker Box.



- 2 Place the Battery Breaker Box on a table and mark up the hole positions (see illustration on the next page for exact measurements).

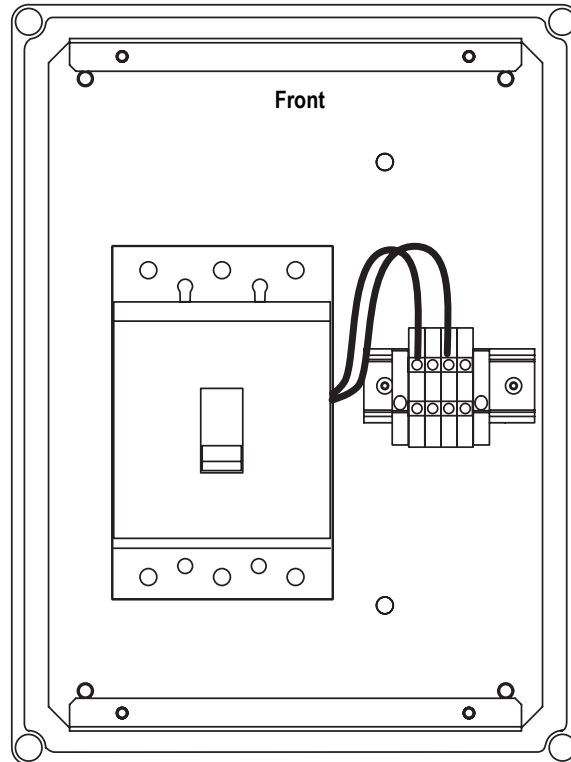
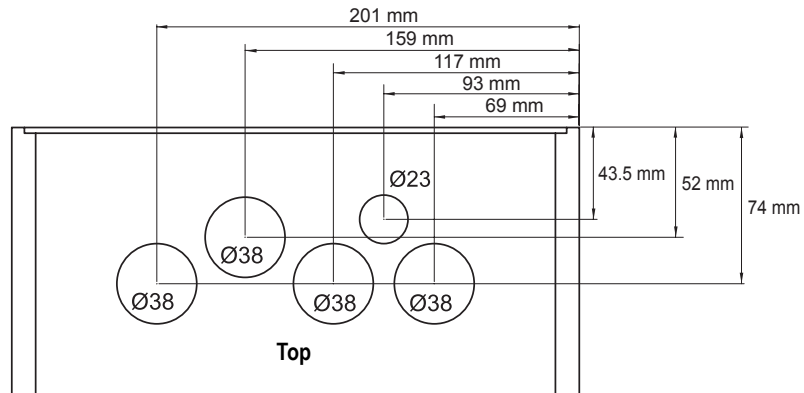


Be careful not to drop particles from the punching process into the Battery Breaker Box.

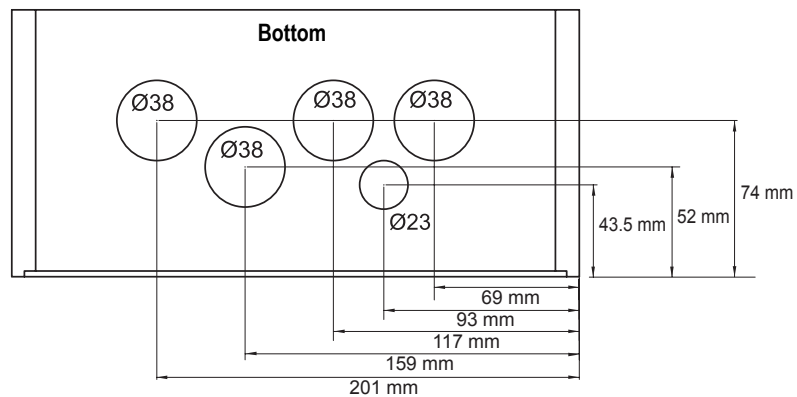
Hole positions for grommets for power cables and control cables

Use a knockout punch to make holes to fit the grommets.

Cables to batteries is fed through the top of the box

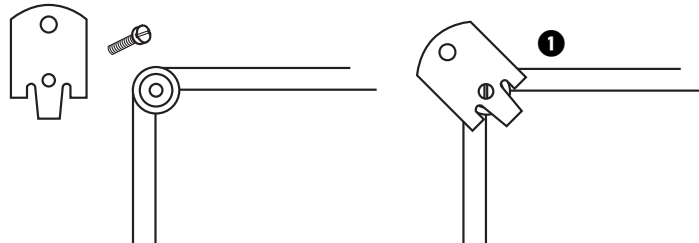


Cables to the UPS is fed through the bottom of the box

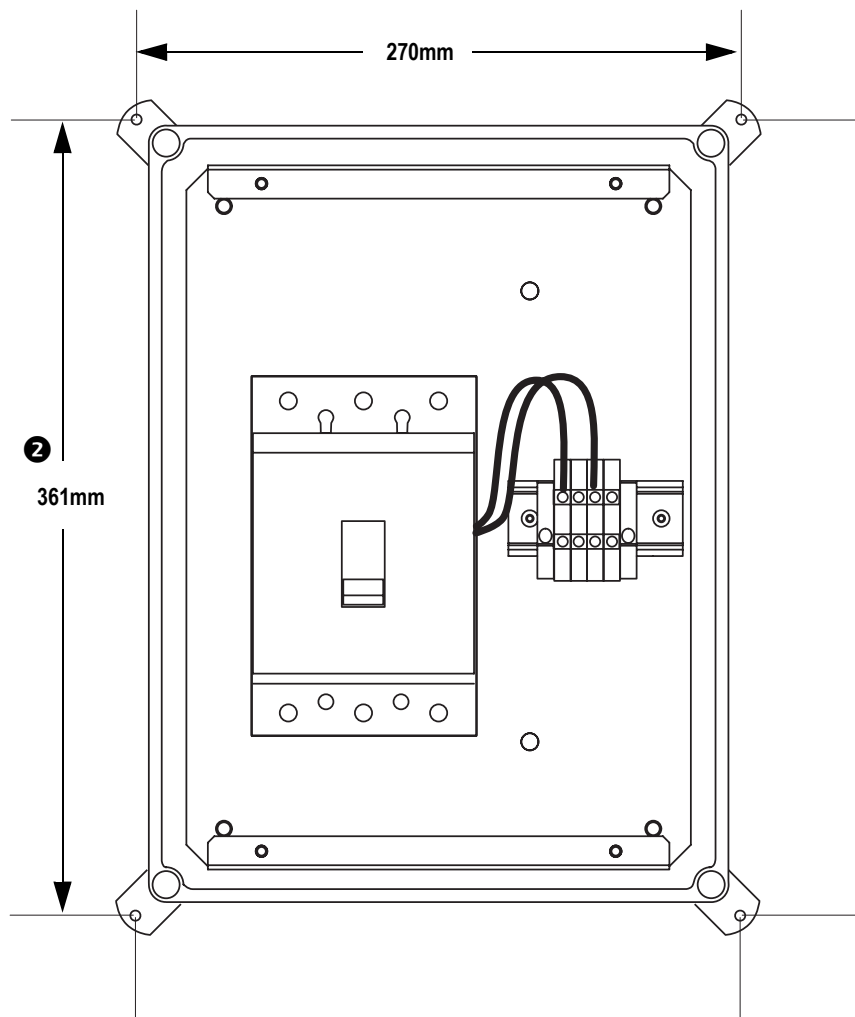


How to mount the Battery Breaker Box

Use the provided fittings to mount the Battery Breaker Box to the wall (fittings available in a plastic bag inside the Battery Breaker Box).



- ❶ Fasten wall brackets – one in each corner – to the Battery Breaker Box.



- ❷ Drill holes according to hole distance specifications provided on the above drawing, and mount the Battery Breaker Box using suitable screws (not supplied).

Installation



WARNING!

Risk of electric shock. Hazardous live parts inside this unit are energized from the battery supply even when the equipment is switched off.



WARNING!

This unit receives power from more than one source – disconnection of all DC sources is required to de-energize this unit before servicing.

Cable specifications

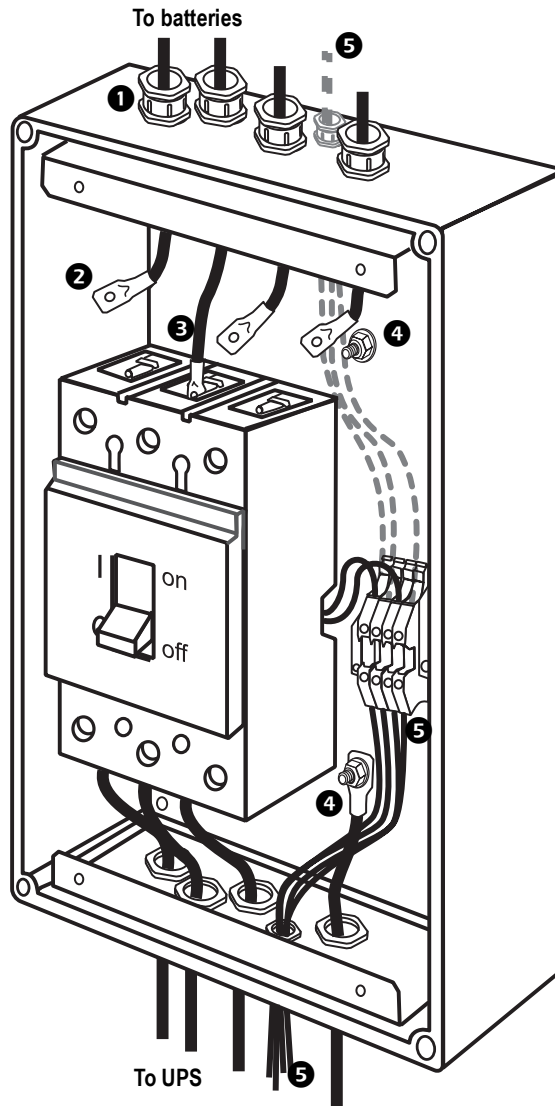
Connection cable [mm ²]	Max. short circuit current [kA]	Cable lug size
50mm ²	10	M8



WARNING!

Make sure Battery Breaker is in the “OFF” position before mounting cables.

Attaching cable lugs



- ❶ Guide cables through holes in top/bottom using the provided grommets.
- ❷ Attach cable lugs.
- ❸ Fasten cable lugs to the breaker.
- ❹ Guide PE cables through knockouts in top/bottom using the provided grommets. Attach cable lug, remove nuts and washers from stud, mount the cable lug onto the stud and reattach M8 washers and nuts.
- ❺ Connect control cables according to schematic inside the Battery Breaker Box using the provided grommets.

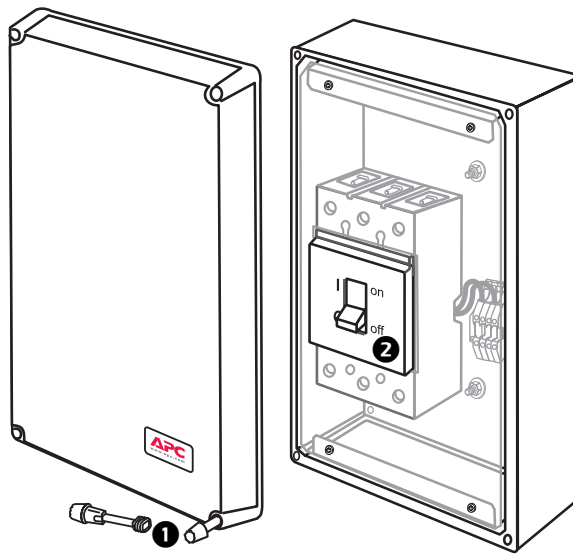
Operation

Prior to maintenance, use the Battery Breaker Box to disconnect the battery supply by switching the breaker into the OFF position. Subsequently, follow the Total-Power-Off procedure described in the UPS documentation to completely de-energize the system.



WARNING!

This unit receives power from more than one source – disconnection of all DC sources is required to de-energize this unit before servicing.



- ❶ Unscrew the 4 finger screws.
- ❷ Switch the breaker into the OFF position.



See also

Follow the Total-Power-Off-Procedure described in the Smart-UPS VT Operation Manual part no. 990-2282.

LIMITED FACTORY WARRANTY

The limited warranty provided by American Power Conversion Corporation (“APC”) in this Statement of Limited Factory Warranty applies only to Products you purchase for your commercial or industrial use in the ordinary course of your business.

APC product covered

Smart-UPS VT Battery Breaker Box.

Terms of warranty

APC warrants that the Product shall be free from defects in materials and workmanship for a period of one (1) year from the date of start-up when APC authorized service personnel performed the start-up of the Product, or a maximum of 18 months from the date of Product shipment from APC, when APC authorized service personnel have not performed the start-up of the Product (“Warranty Period”). In the event that the Product fails to meet the foregoing warranty, APC shall repair or replace any defective parts, such repair or replacement to be without charge for on-site labor and travel if APC authorized personnel have conducted start-up of the Product. An APC Start-Up Service must be performed/completed by APC authorized service personnel or replacement of defective parts only will be covered. APC shall have no liability and no obligation to repair the installed Product if non-authorized personnel performed the start-up and such start-up caused the Product to be defective. Any parts furnished under this warranty may be new or factory-remanufactured. **Repair or replacement of a defective product or part thereof does not extend the original warranty period.**

Non-transferable warranty extends to first purchaser for use

This Warranty is extended to the first person, firm, association or corporation (herein referred to by “You” or “Your”) for whom the APC Product specified herein has been purchased. This Warranty is not transferable or assignable without the prior written permission of APC.

Assignment of warranties

APC will assign to you any warranties which are made by manufacturers and suppliers of components of the APC Product and which are assignable. Any such warranties are assigned “AS IS” and APC makes **no representations** as to the effectiveness or extent of such warranties, assumes NO RESPONSIBILITY for any matters which may be warranted by such manufacturers or suppliers and extends no coverage under this Warranty to such components.

Drawings, descriptions

APC warrants for the Warranty Period and on the terms of the Warranty set forth herein that the APC Product will substantially conform to the descriptions contained in the APC Official Published Specifications or any of the drawings certified and agreed to by an authorized APC representative, if applicable thereto (“Specifications”). It is understood that the Specifications are **not warranties of performance** and **not warranties of fitness for a particular purpose**.

Warranty claims procedure

To obtain service under Warranty, contact APC Customer Support (see rear cover). You will need the model number of the Product, the serial number, and the date purchased. A technician will ask you to describe the problem. If it is determined that the Product will need to be returned to APC you must obtain a returned material authorization (RMA) number from APC Customer Support. Products that must be returned must have the RMA number marked on the outside of the package, and be returned with transportation charges prepaid. If it is determined by APC Customer Support that on-site repair of the Product is allowed, APC will arrange to have APC authorized service personnel dispatched to the Product location to repair or replace the Product at the discretion of APC.

Exclusions

APC shall not be liable under the Warranty if its testing and examination discloses that the alleged defect in the product does not exist or was caused by your or any third person’s misuse, negligence, improper installation or testing, unauthorized attempts to repair or modify, or any other cause beyond the range of the intended use, or by accident, fire, lightning or other hazard.

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APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to access documents in the APC Knowledge Base and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC Web sites for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
Global support searching APC Knowledge Base and using e-support.
- Contact an APC Customer Support center by telephone or e-mail.
 - Regional centers:

Direct InfraStruXure Customer Support Line	(1)(877)537-0607 (toll free)
APC headquarters U.S., Canada	(1)(800)800-4272 (toll free)
Latin America	(1)(401)789-5735 (USA)
Europe, Middle East, Africa	(353)(91)702000 (Ireland)
Japan	(0) 3 5434-2021
Australia, New Zealand, South Pacific area	(61) (2) 9955 9366 (Australia)

- Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

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