

**DCBOX DC LV Panel**

# **Quick Guide**

**Issue: 03**  
**Date: 2024-03-05**

**Huawei Technologies Co., Ltd.**

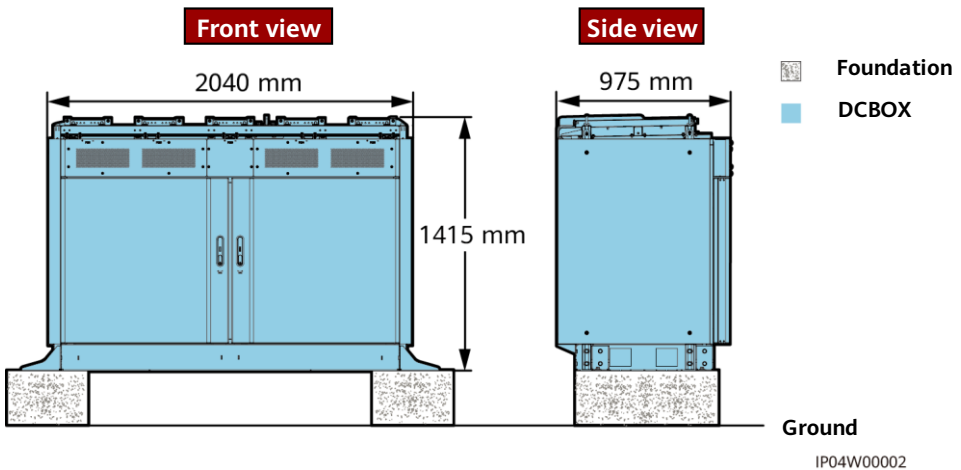


## NOTICE

- Before installing the equipment, read the user manual carefully to get familiar with product information and safety precautions. The product warranty does not cover equipment damage caused by failure to follow the storage, transportation, installation, and usage guidelines specified in this document and the user manual.
- The information in this document is subject to change due to version upgrade or other reasons. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.
- Only qualified and trained electrical technicians are allowed to operate the equipment. Operation personnel should understand the system composition and working principles and local regulations.
- Before installing the equipment, read the user manual carefully to get familiar with product information and safety precautions. Huawei shall not be liable for any consequence caused by violation of the storage, transportation, installation, and operation regulations specified in this document and the user manual.
- Use insulated tools when installing the equipment. For personal safety, wear proper personal protective equipment (PPE).

# 1 Installation

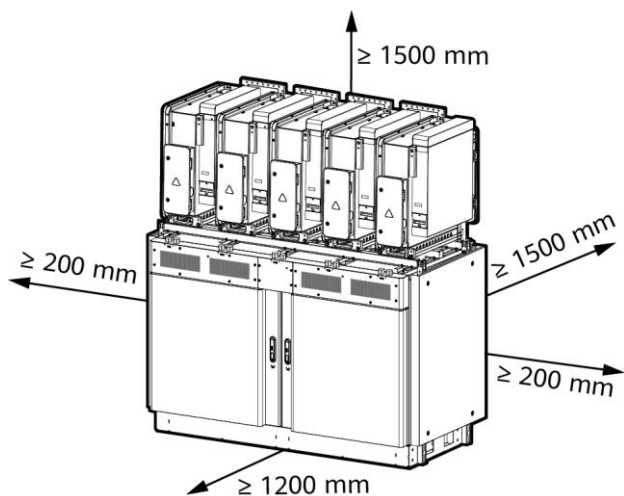
## 1.1 Product Appearance and Foundation Requirements



### NOTE

Contact your product managers to obtain the foundation design requirements.

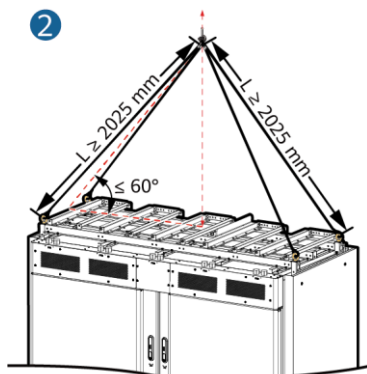
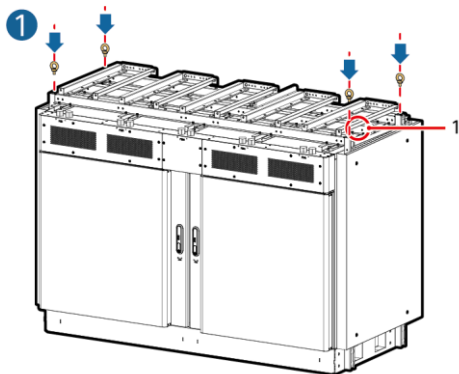
## 1.2 Installation Clearance Requirements



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## 1.3 Installing the DCBOX

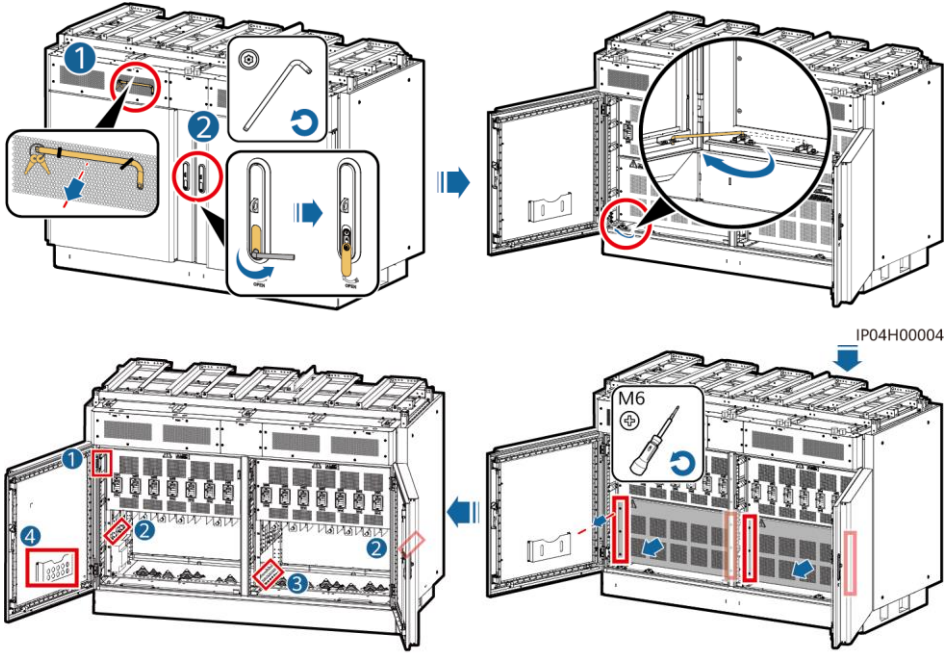
### Hoisting




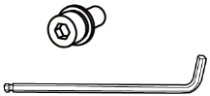


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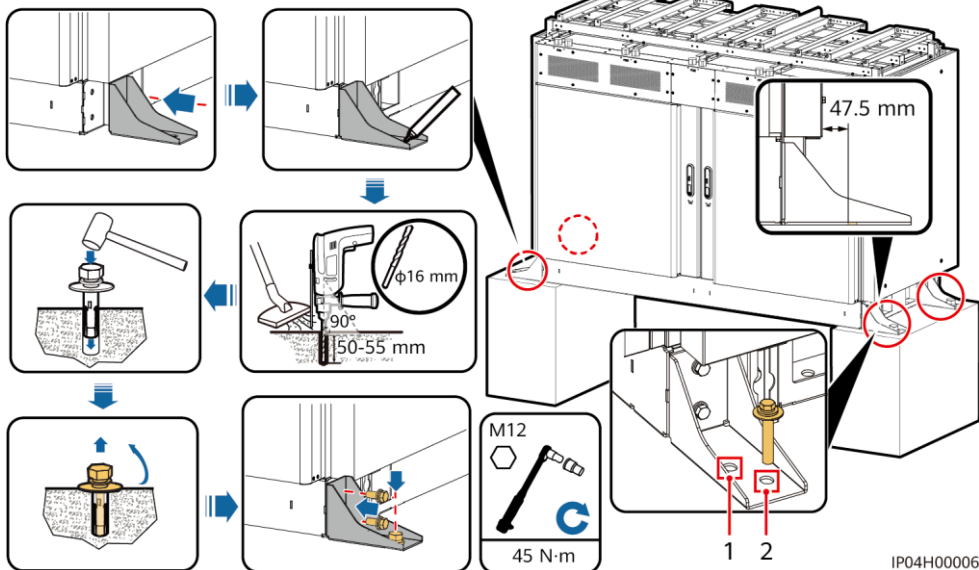
(1) Lifting eye binding position. After the equipment is in place, remove and store the lifting eyes. The lifting eyes might be rusted if not removed.

**Opening the cabinet door and taking out the mounting kits included with the equipment**



(1) Spacer		(2) Smart PCS fastener	
(3) Anchors and components		(4) Smart PCS fastening screws and tool	

## Securing the DCBOX



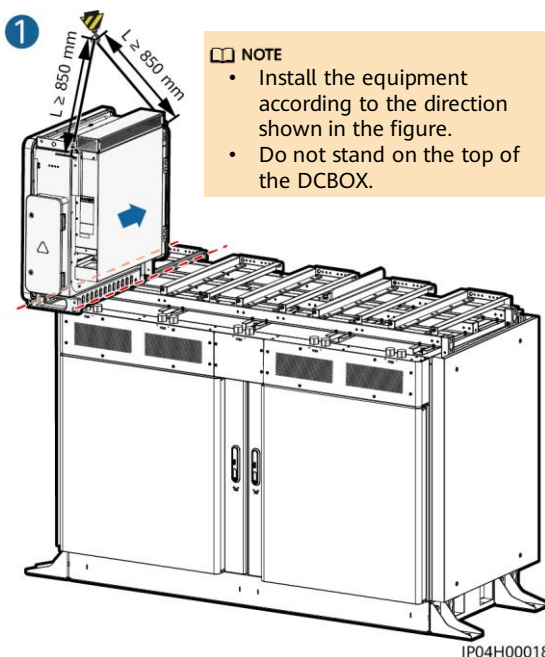
If the DCBOX is not placed steadily, use a spacer to level the DCBOX before securing it.

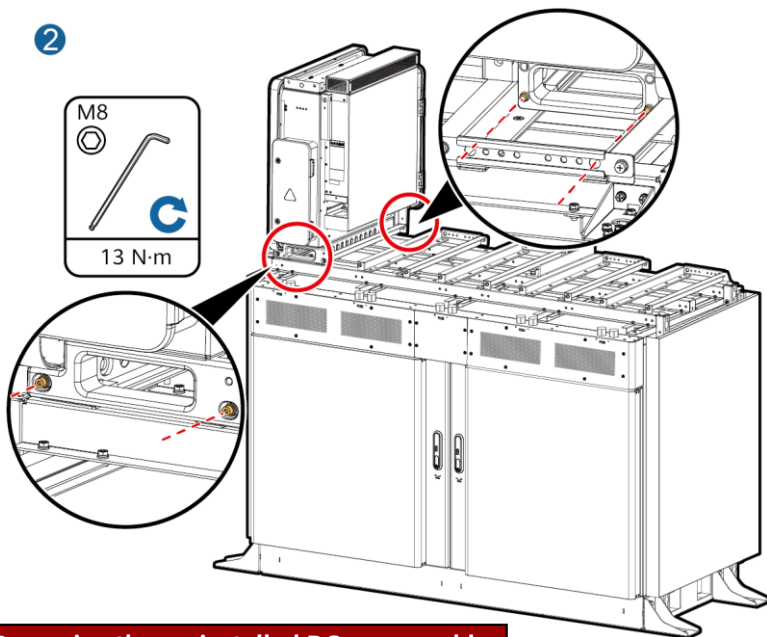
(1) Spare hole (2) Expansion bolt hole

## 1.4 Installing the Smart PCS

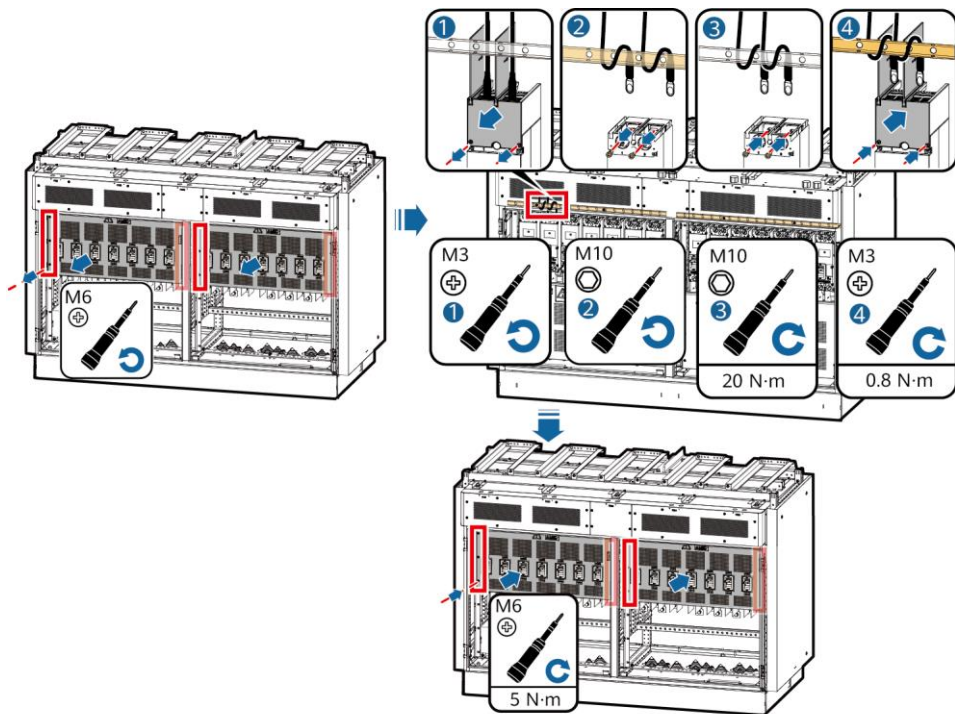
- A maximum of five Smart PCSs can be installed on the top of the DCBOX. If less than five Smart PCSs are installed, you are advised to install them from left to right. Otherwise, the Smart PCS fasteners cannot be used.
- The installation method of each Smart PCS is the same. This section uses one Smart PCS as an example.
- Before installing the Smart PCS, unbind the DC power cables preinstalled on the top of the DCBOX. The preinstalled DC power cables in the positions where no Smart PCS will be installed must be removed from the MCCB in the cabinet and bound. The cables outside the cabinet must remain unchanged.

### Installing the Smart PCS





**(Optional) Removing the preinstalled DC power cables**



## 2 Cable Connections

### **⚠ DANGER**

Before connecting cables, ensure that the upstream and downstream equipment of the DCBOX and Smart PCS are powered off. Otherwise, high voltages of the DCBOX and Smart PCS may cause electric shocks.

### **NOTICE**

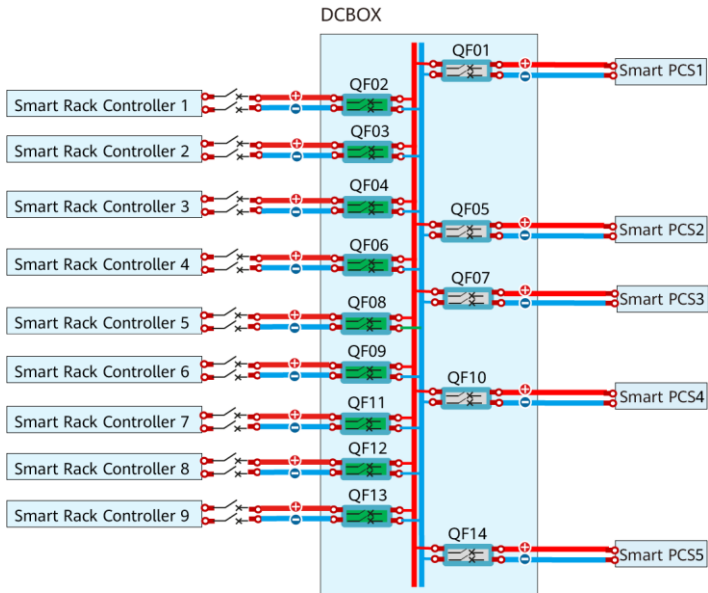
Connect cables in compliance to applicable national or regional laws and regulations.

### 2.1 Typical Cable Connections

Number of Smart Rack Controllers Connected	MCCB in the DCBOX	Smart PCS Connections <sup>a</sup>
	Smart Rack Controller Connections	
1	QF03	QF01, QF05, QF07, QF10, QF14
2	QF03, QF08	
3	QF03, QF08, QF12	
4	QF02, QF08, QF09, QF12	
5	QF02, QF04, QF08, QF09, QF12	
6	QF02, QF04, QF08, QF09, QF12, QF13	
7	QF02, QF03, QF04, QF08, QF09, QF12, QF13	
8	QF02, QF03, QF04, QF06, QF08, QF09, QF12, QF13	
9	QF02, QF03, QF04, QF06, QF08, QF09, QF11, QF12, QF13	

a: The DC power cables connected to the Smart PCS are preinstalled in the DCBOX before delivery.

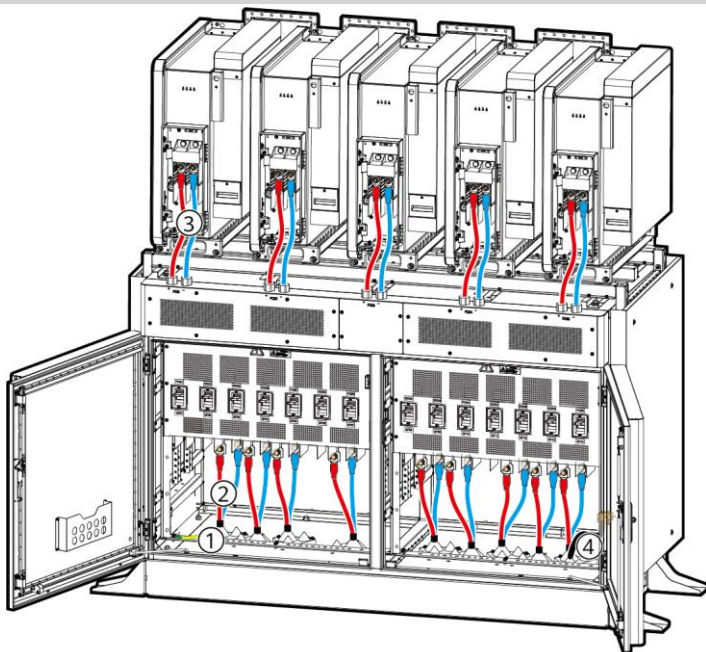
### Cable connections of nine Smart Rack Controllers



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## 2.2 Cable Routing and Preparation

### DCBOX



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#### NOTICE

Connect the DC power cables between Smart Rack Controllers and the DCBOX along the shortest route.

No.	Cable	Cable Type	Cable Specifications	Source
1	DCBOX ground cable	Single-core outdoor copper cable	Conductor cross-sectional area $\geq S/2$ (S indicates the conductor cross-sectional area in No. 2)	Prepared by the customer
2	DC power cable between the Smart Rack Controller and the DCBOX <sup>a</sup>	Single-core outdoor cable	<ul style="list-style-type: none"> <li>Conductor cross-sectional area: 185–400 mm<sup>2</sup></li> <li>Cable outer diameter: 25–47 mm</li> <li>M12 DT terminal</li> </ul>	Prepared by the customer
		Two-core outdoor cable	<ul style="list-style-type: none"> <li>Conductor cross-sectional area: 240–400 mm<sup>2</sup></li> <li>Cable outer diameter: 25–68 mm</li> <li>M12 DT terminal</li> </ul>	
3	DC power cable between the DCBOX and the Smart PCS	-	-	Preinstalled before delivery
4	Door status sensor signal cable	Two-core outdoor cable	Conductor cross-sectional area: 1–2.5 mm <sup>2</sup>	Prepared by the customer

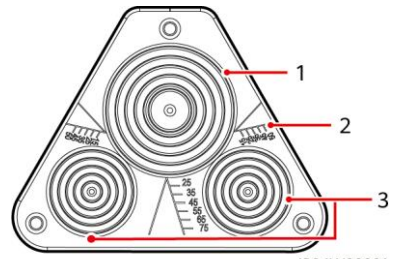
Note a:

- Each DC power cable between the Smart Rack Controller and the DCBOX corresponds to a set of pagoda connectors. Select the holes based on the cable type.
- Use the vacant holes for the DCBOX ground cable and the door status sensor signal cable.

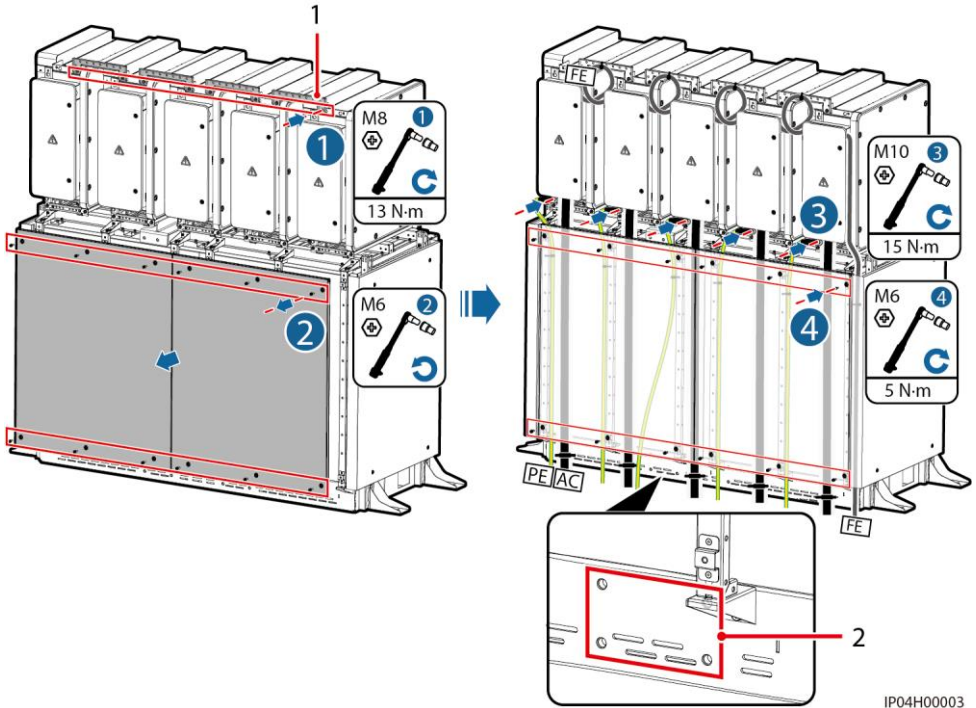


## A set of pagoda connectors:

- (1) Large hole, for two-core outdoor DC power cables
- (2) Pagoda diameter. Cut the pagoda thread according to the cable cross-sectional area.
- (3) Small hole, for single-core outdoor DC power cables



## Smart PCS



(1) Smart PCS fastener

(2) Holes for securing the base of the maintenance engineering installation kit.

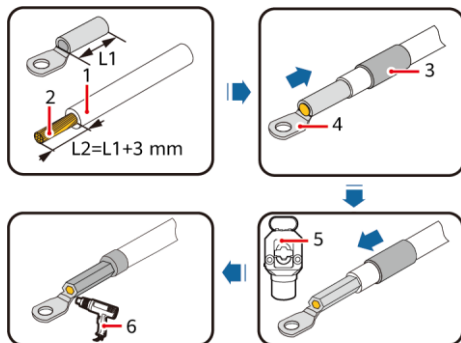
### NOTICE

- The stripped sheath end of the Smart PCS AC power cable must be in the AC maintenance compartment of the Smart PCS.
- When routing cables, do not interfere with the holes for securing the base of the maintenance engineering installation kit.

### NOTE

This document describes only the cable routing scheme for the Smart PCS. For details about the cable specifications, see the corresponding user manual or quick guide.

## 2.3 Crimping a Terminal

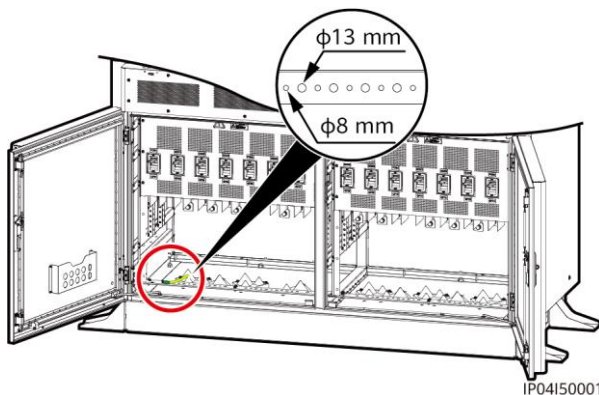


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## 2.4 Connecting the DCBOX Ground Cable

### NOTE

The ground copper bar is included with the DCBOX. You need to prepare the ground screws.



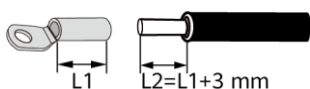
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## 2.5 Connecting DC Power Cables Between the Smart Rack Controller and the DCBOX

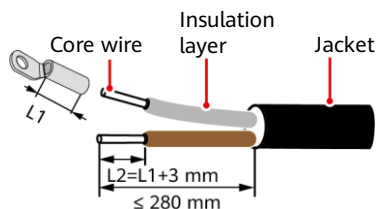
### NOTE

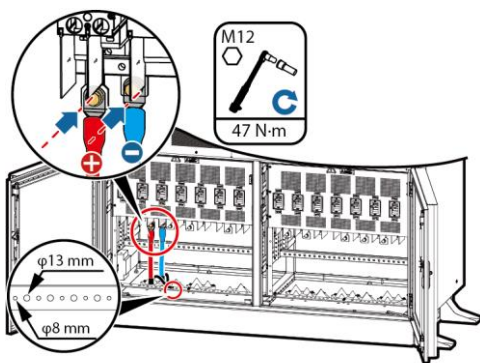
If the shield layer grounding of the DC power cables is required, you need to prepare the ground screws.

### Single-core cable

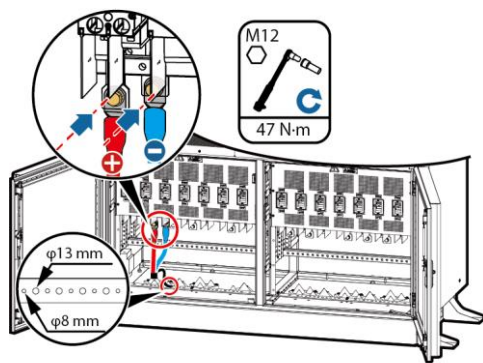


### Two-core cable



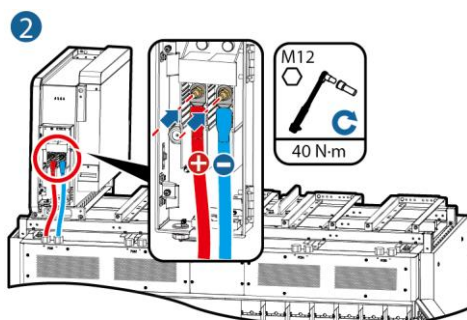
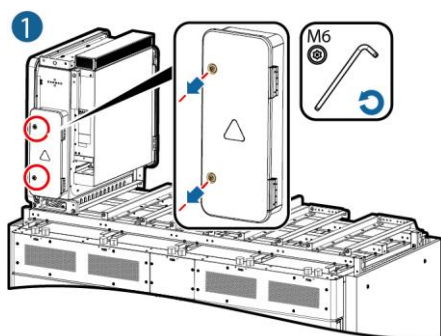


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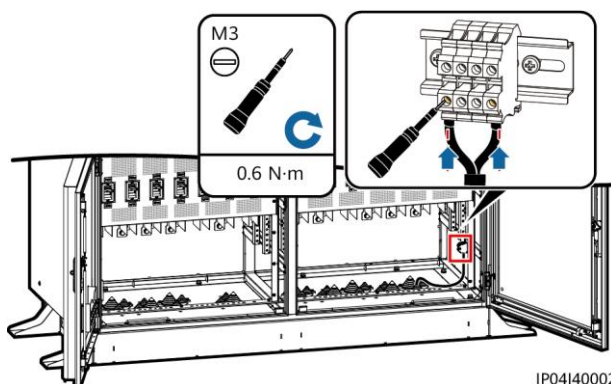
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## 2.6 Connecting DC Power Cables Between the DCBOX and the Smart PCS



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## 2.7 Connecting the Signal Cable for the Door Status Sensor



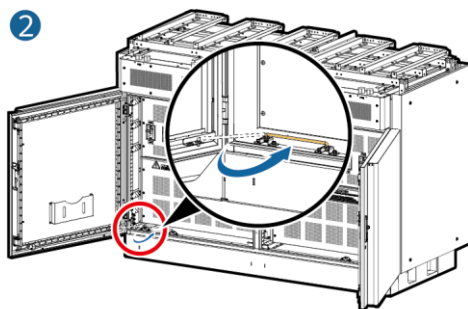
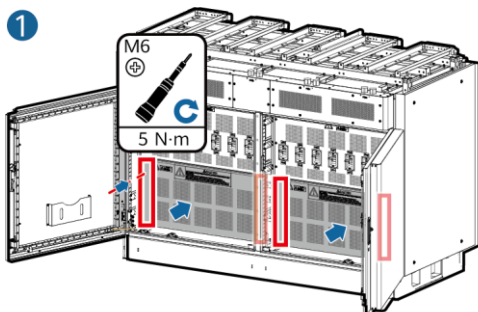
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## 2.8 Closing the Cabinet Door

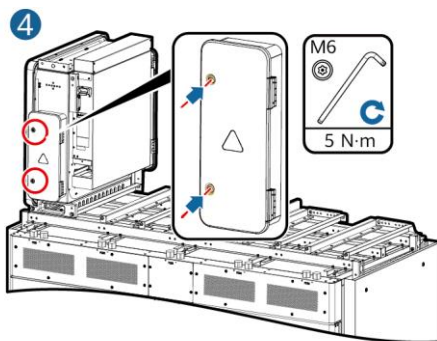
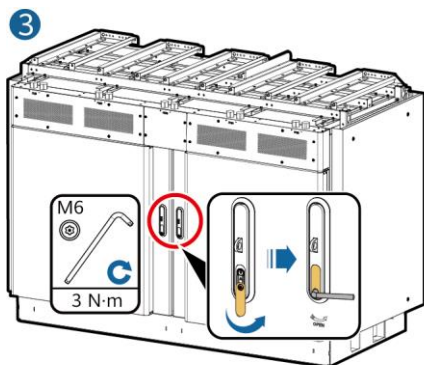
### NOTICE

Before closing the cabinet door, ensure that:

- Cables are securely and correctly connected.
- There is no foreign matter in the cabinet.
- MCCBs that are not connected to cables are OFF.
- The preinstalled DC power cables in the positions where no Smart PCS will be installed are removed from the MCCB in the cabinet and bound. The cables outside the cabinet remain unchanged.
- The pagoda connectors are sealed with firestop putty.



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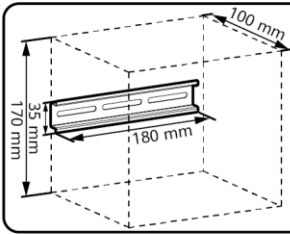
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### 3 FAQ

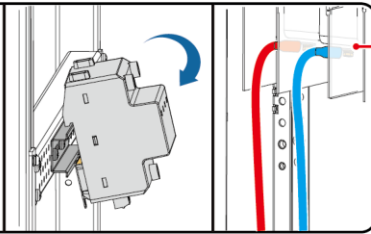
#### Can a Surge Protective Device (SPD) Be Installed in the DCBOX?

- A position is reserved for installing an SPD in the DCBOX in case surge protection is required. You can select and install an SPD.
- You need to prepare the SPD cables and screws.

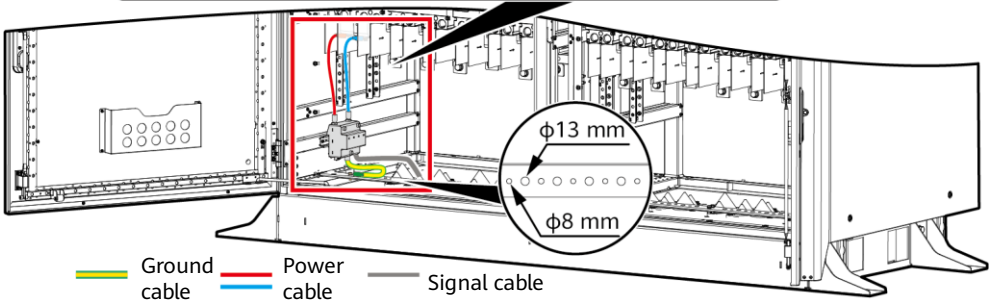
##### Installation clearance



##### Installation method and cable connections



Reserved M6 threaded holes



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## 4 Contact Information



<https://digitalpower.huawei.com>

Path: **About Us** > **Contact Us** > **Service Hotlines**

## 5 Digital Power Customer Service



<https://digitalpower.huawei.com/robotchat/>

**Huawei Technologies Co., Ltd.**  
Huawei Industrial Base, Bantian, Longgang  
Shenzhen 518129 People's Republic of China  
[www.huawei.com](http://www.huawei.com)