HT
INFINITE POWER

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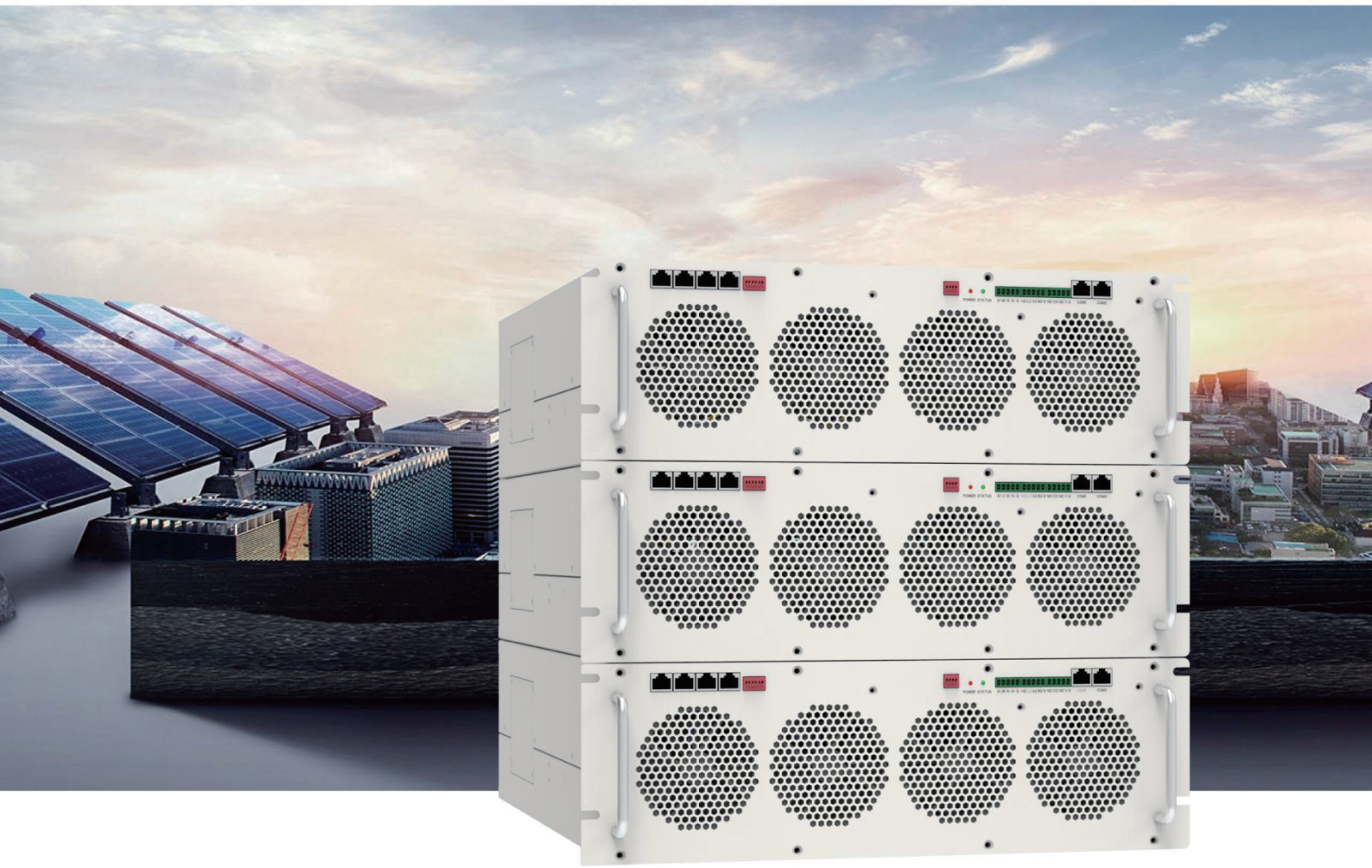
HT series

AC/DC Power module

Product specification



1. Product introduction

1.1. Model description

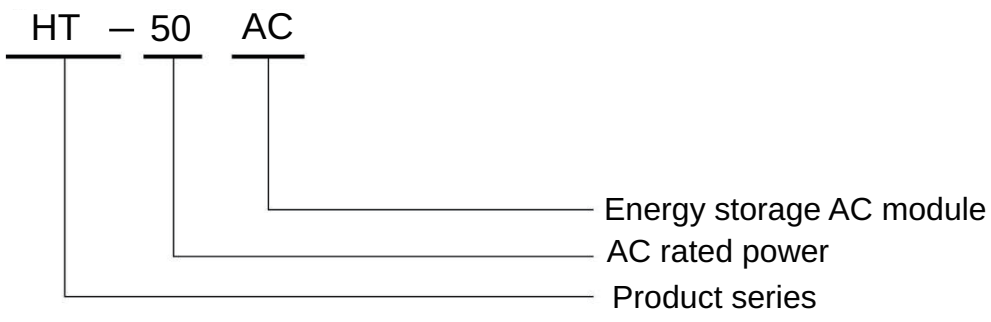


Figure 1-1 Model identification

1.2. Product characteristics

- Using the three-level topology, the highest efficiency can reach 98.5%, and the power quality is better;
- Support constant current, constant power, MPPT, AC voltage source control, with black start function;
- Standard rack-type modular design, flexible configuration, convenient maintenance, convenient capacity expansion;
- Three-phase three lines, high voltage utilization rate, flexible battery configuration;
- Suitable for a variety of batteries including lithium / lead acid / photovoltaic module / DC bus.

1.3. Product parameters

Power module parameters of the energy storage converter are as follows:

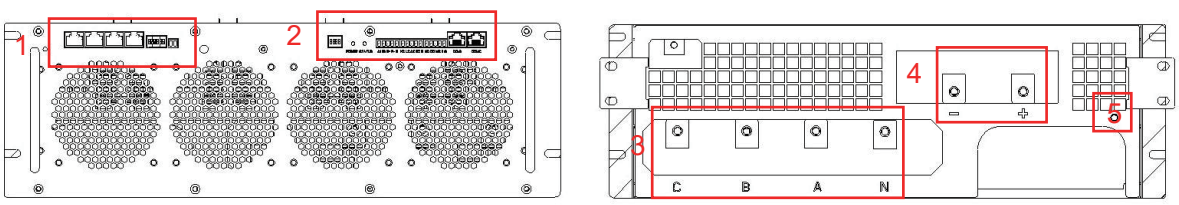
Table 1-1 Converter module arameters

Model	HT-50AC
Rated power	50kW
Maximum power	55kW
DC working voltage range	590V~1000V
Full-load voltage range on the DC side	500V~950V (AC 400 Vac corresponding to DC voltage> 580V)
Maximum DC current	92A
Rated AC voltage	400Vac， 3W+PE
Rated frequency	50/60Hz(±5Hz)
Rated AC current	72A
Overload capacity	110%, normal operation; 120%, 1 minute
Current distortion	<3% (rated power)
Power factor adjustment range	-1 advance ~ + 1 lag
Adapt to the battery	Lithium battery / lead acid / PV module / DC bus bar
Charging method	Depend on the BMS instruction / three-stage / MPPT
Work mode	Constant current, constant power, MPPT, and the AC voltage source
Maximal efficiency	98.5%
Dimensions (W * D * H)	483 (excluding mounting lug 440) * 600 * 150mm
Weight (approx)	35kg
Isolation method	Non-isolation
Anti-corrosion grade	C3
Applied environmental protection grade	The module is built in the IP55outdoor cabinet
Levels of protection	IP20
Working temperature	0~95% (non-condensation)
Cooling method	Intelligent air cooling
Noise	＜75dB
Altitude	3000m (> 3000m drop)
Communication interface	CAN

1.4. Product appearance

one should know that

Anti-disassembly label and bar code, is an important basis for product quality assurance, do not remove



1 Integrated interface 2 signal port 3 Low voltage side interface
4 high voltage side interface 5 grounding port

Figure 1-2 Energy storage power module

1.5. The interface description

1.5.1. Description of the signal port

The module signal port consists of dial switch, indicator light, Phoenix terminal and RJ 45 terminal.

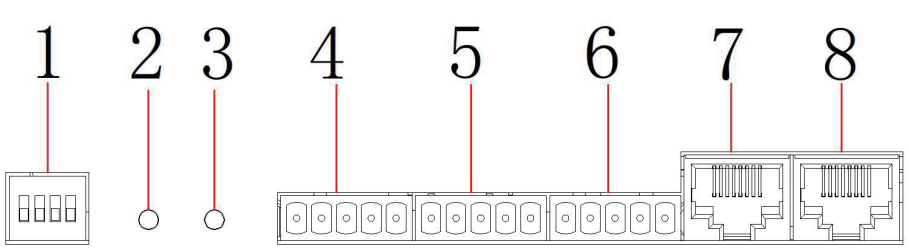


Figure 1-3 Signal ports

Table 1-2 Description of the signal ports

Order number	Name
1	Dial address
2	Power supply indicator light (red)
3	Status indicator light (green)
4	485 Communication interface 1
5	485 Communication interface 2
6	I / 0 interface
7	RJ 45 interface 1 (CAN communication interface)
8	RJ 45 interface 2 (CAN communication interface)

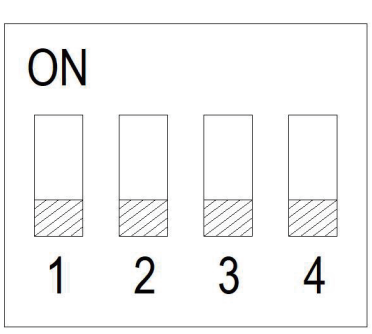


Figure 1-4 code switch

The dial switch has two pins on the back side. If the ON side is 1 or 0, there are 16 hardware addresses that can be set.

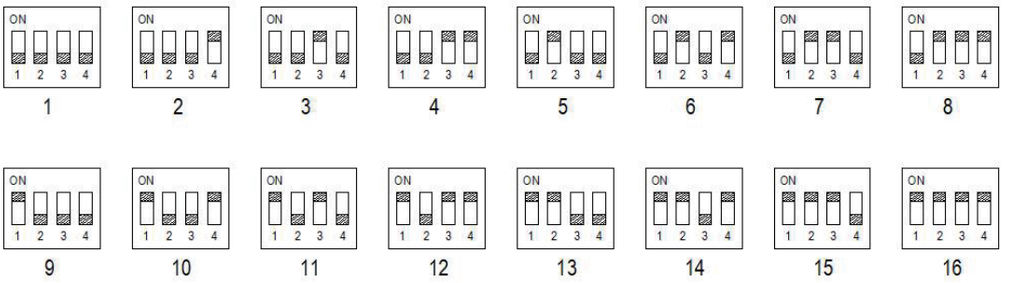


Figure 1-5 Address of dialing switch

Instruction

- The default factory address of the energy storage converter power module is 1.
- l Different hardware addresses should be set for multiple modules. If the hardware addresses of twomodules are the same, the module address conflict and the correct number of parallel machines cannot be identified, which will affect the normal operation of the module.
- The indicator light consists of a power supply indicator (POWER) and a status indicator (STATUS).

Figure 1-6 indicator light

Table 1-3 indicator light instructions

Indicator light	State	State description
Power supply indicator light (red)	Often bright	Normal state, the module has no fault
	Twinkle	Module failure, please refer to the fault list for more details
Status indicator light (green)	Often bright	The module is running normally
	Twinkle	The module enters the program burn mode

Instruction

- CAN circuit matching resistor only in multiple modules (more than two units) need to short connect the terminals of the two modules.

Figure 1-7 485 Communication interface 1

Table 1-4 485 Communication interface 1 description

Grade	Label declaration
A1	RS485+
B1	RS485-
R+	CAN circuit matching resistance
R-	CAN circuit matching resistance
G	Ground connection

Instruction

- CAN circuit matching resistor only in multiple modules (more than two units), the head and the two modules need to be short connected.

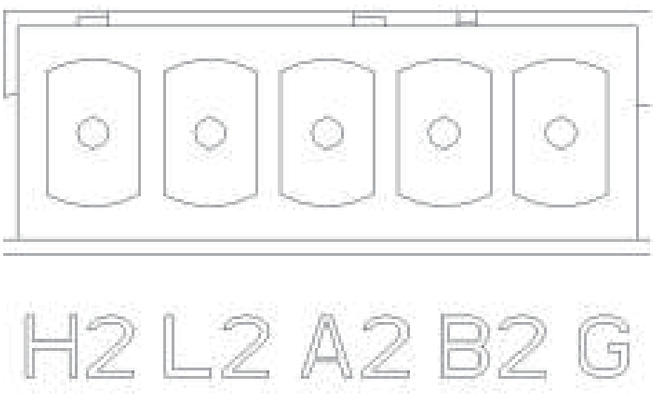


Figure 1-8 485 Communication interface 2

Table 1-5 485 Communication interface 2 description

Label	Label declaration
H2	N/A
L2	N/A
A2	N/A
B2	N/A
G	Ground connection

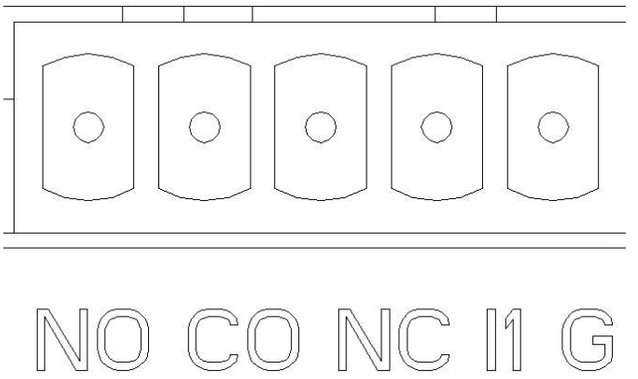


Figure 1-9I / O interface

Table 1-5 Description of I / O interface

Label	Label declaration
NO	Output often open dry contact
CO	Dry junction public end
NC	Output often closed dry contact
I1	Input the dry junction
G	Ground connection

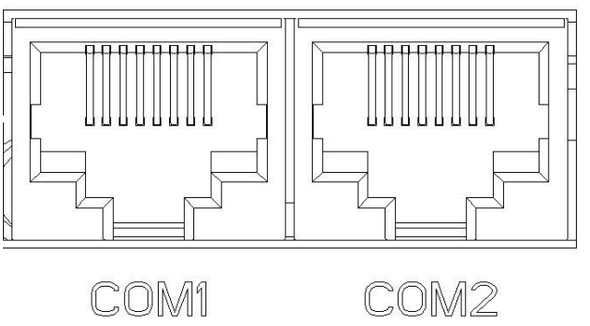


Figure 1-10 The RJ 45 interface

RJ 45 has two interfaces, the two are in parallel, and the module communicates through this interface. When the multi-module is in parallel, the interface of each energy storage module should be connected with the interface of another module through the parallel communication line. Each RJ 45 interface is from one to eight feet from left to right, and each pin is defined as follows:

Table 1-7 Description of the RJ 45 interface

Order number	Definition
1	CAN-H
2	CAN-L
3	N/A
4	N/A
5	N/A
6	N/A
7	GND(CAN)
8	GND(CAN)

Instruction

◎ Network wire 2-8 port should be insulated.

1.5.2. AC interface description

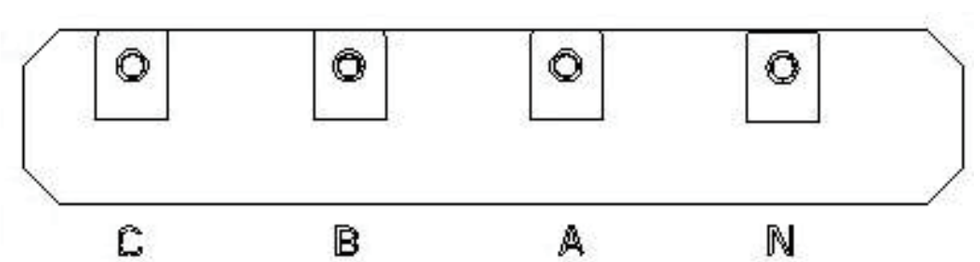


Figure 1-11 The AC interface

The ac interface is connected with a bronze medal and is connected to the power grid with M6 screws. C, B, A, N.

Instruction

- The phase sequence of the power grid can not be confused with access, but must be connectedaccording to the AC side phase order of the module, otherwise the module has an AC wrong phase fault.

- In the single-alone system, only the power grid ABC line is connected to the ABC end of the module, and the N line is suspended. In a multi-machine system, the N lines between the modules need to be connected to one Start, but do not connect to the N line of the grid.

1.5.3. Description of the DC interface

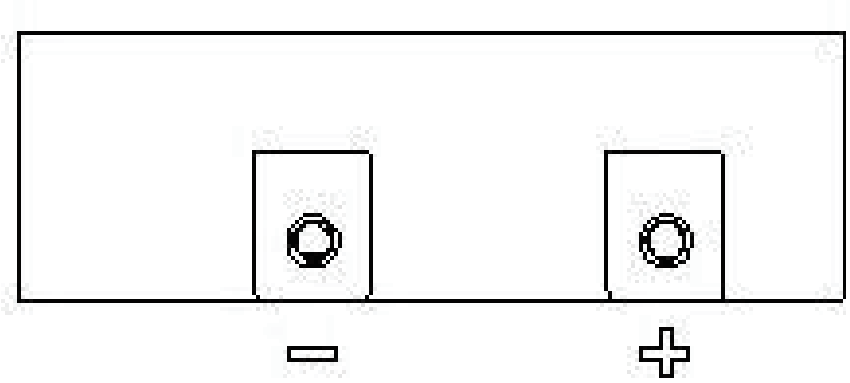


Figure 1-12, the DC interface

The DC interface is connected with the bronze medal, and the DC access interface is fixed with M6 screws. Values from left to right are DC-and DC +.

1.5.4. Description of parallel interface

Multi-module parallel machine connects the interface of each module to the interface of another module.

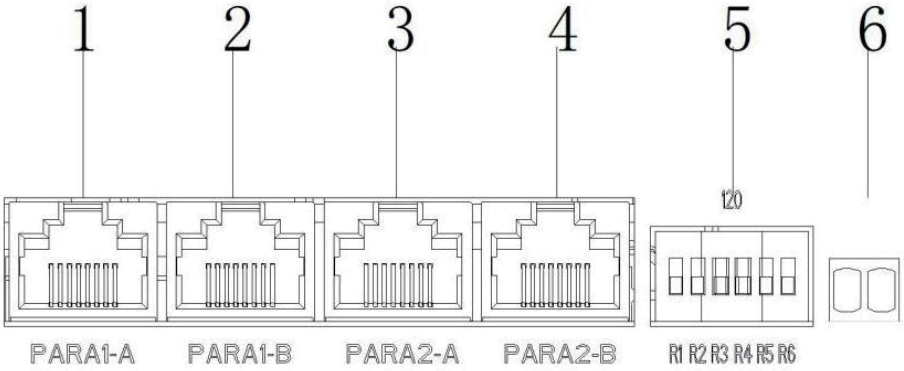


Figure 1-13

Table 1-7 Description of parallel port

Order number	Name
1	PARA1-A
2	PARA1-B
3	PARA2-A
4	PARA2-B
5	R1、R2、R3、R4、R5、R6

Explain

Multi-module parallel modular shall ensure that the parallel interface is well connected, otherwise abnormalities may occur during the multi-module operation.

1.6. Install the energy storage module

1.6.1. Air intake volume

Intake volume: 3.0m³ / min, Pfa [Pa] =305 or Pfa _ 1.2 [IN H2O].

Description: It is recommended in the cabinet to install the exhaust fan at the air outlet of the cabinet.

1.6.2. Installation dimensions

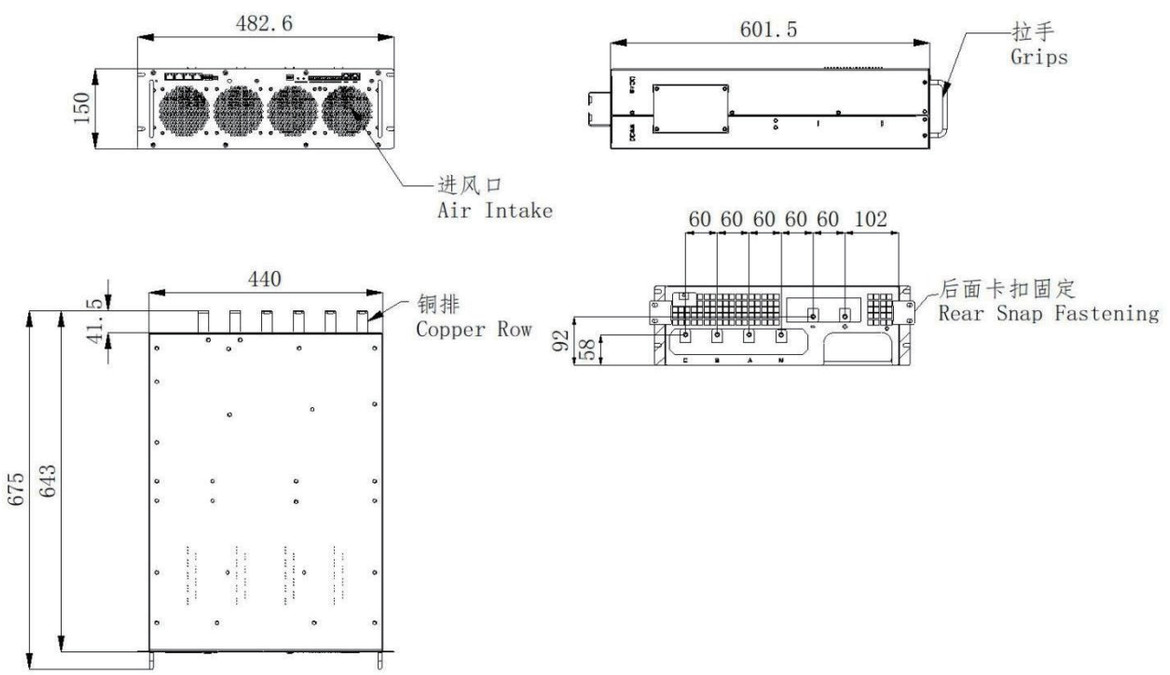


Figure 1-14 Product Installation Size (mm)

Installation steps

Instruction

- Make sure that all the mounting holes in the panel are secured by the screws.

Step 1 Slowly push the module into the slot.

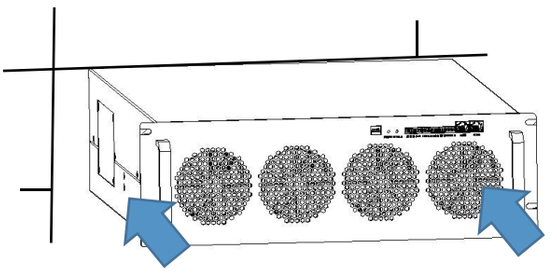


Figure 1-15 Installation module

Step 2 Tighten and tighten the screws around the panel.

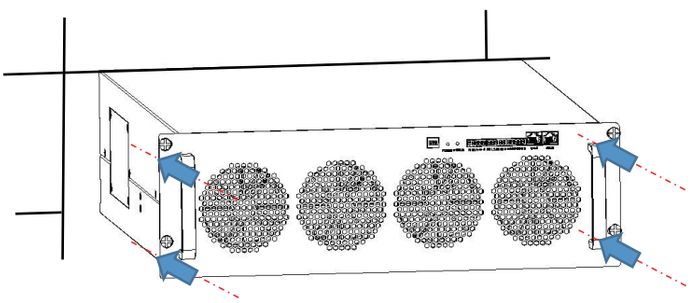


Figure 1-16 Tighten the module

Step 3 Install it firmly on the fixed position of the cabinet.

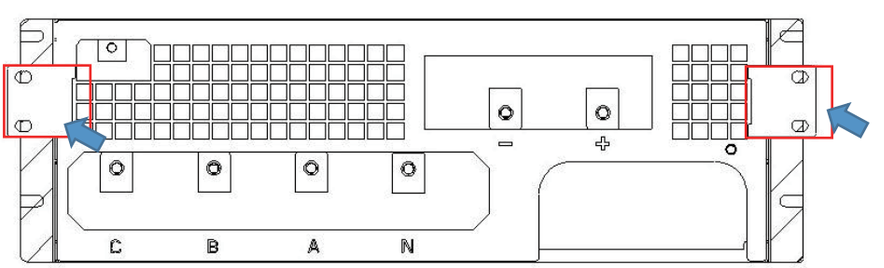


Figure 1-17 Fixed fixed position in cabinet

Instruction

- Install the module grounding terminal well when the module is installed independently.