

---

# **iWit series User Manuals**

**Small and Medium-Sized**

**Integrated Data Center**

---

# Contents

1 Product Overview .....	3
2 Product Appearance Requirements and Combined Cabinet Description .....	4
3 System Architecture .....	5
3.1 Main Technical Specifications .....	5
3.2 Equipment Schematic Diagram .....	5
3.3 Cabinet installation and instructions .....	7
4 Electrical connection .....	9
4.1 Installation Introduction and Precautions .....	9
4.2 Ground Wire Connection between The Cabinets .....	10
4.3 Signal cable Connection between Single cabinet Control Modules .....	10
4.4 PDU Cable Connection .....	12
4.5 Air conditioner outdoor unit and piping installation .....	13
4.5.1 Outdoor unit installation .....	13
4.5.2 Connect the air conditioner cable .....	14
4.6 System main input cable .....	16
5 Power-on and operation .....	17

---

# 1 Product Overview

iWit Series small and medium-sized integrated data center, the product consists of the following parts: IT Cabinet, power distribution cabinet, plexiglass door closed hot and cold aisle, rack or in-row precision air conditioner, overhead M-shape slot, single cabinet control module, intelligent monitoring screen, LED lighting, ambient light, emergency door opening system and various options, etc.

The whole system is equipped with various environmental data sampling sensors, and the relevant data is collected and centrally controlled by the unified power and environment monitoring unit, so that the whole data center is placed in a smaller space, providing a stable power supply and operating environment for the customer's load, while greatly enhancing the intelligent remote management capability.

---

## 2 Product Appearance Requirements and Combined Cabinet Description

iWit single row appearance requirements: Sheet metal parts surface color and texture is uniform, no shedding, dew bottom, scratch, and other appearance defects, the glass surface is clean without stain, no scratch, scratch and other appearance defects.



iWit Series Small and medium-sized integrated data center cabinet combination instructions: the iWit consists of host cabinet, slave cabinet and in-row air conditioner; the host cabinet generally refers to the cabinet where the intelligent monitoring screen and power distribution module are installed, it can also place rack-mounted air conditioners, UPS and battery packs, as well as a small amount of IT loads; slave cabinets refer to all IT cabinets except the host cabinet, which are mainly for customers to install IT loads or to install rack-mounted air conditioners; in-row air conditioners installed between IT cabinets. half-cabinet in-row (300mm wide) air conditioners can be optionally installed.

---

## 3 System Architecture

### 3.1 Main Technical Specifications

➤ Size:

600mm/cabinet\*quantity×1400mm×2000mm (W×D×H), Install rack air conditioners;

(600mm/cabinet\*quantity+300mm/cabinet\*half cabinet quantity) × 1400mm×2000mm, Install half-cabinet in-row air conditioners;

- Cabinet door opening angle:  $\geq 90^\circ$
- Observation window material: 6mm acrylic glass
- Observation window light transmittance:  $> 95\%$
- Door frame material: high quality cold rolled steel plate
- Surface treatment: spray powder
- Color: black or other specified color
- Ambient Conditions:

Operating temperature:  $-30^\circ\text{C} \sim +60^\circ\text{C}$

Storage temperature:  $-30^\circ\text{C} \sim +60^\circ\text{C}$

Operating humidity:  $5\% \sim 95\%$

Atmospheric pressure:  $70\text{kPa} \sim 106\text{kPa}$

### 3.2 Equipment Schematic Diagram

The complete products and components of small and medium-sized integrated data center iWit are shown in Figures 3-1 and 3-2.

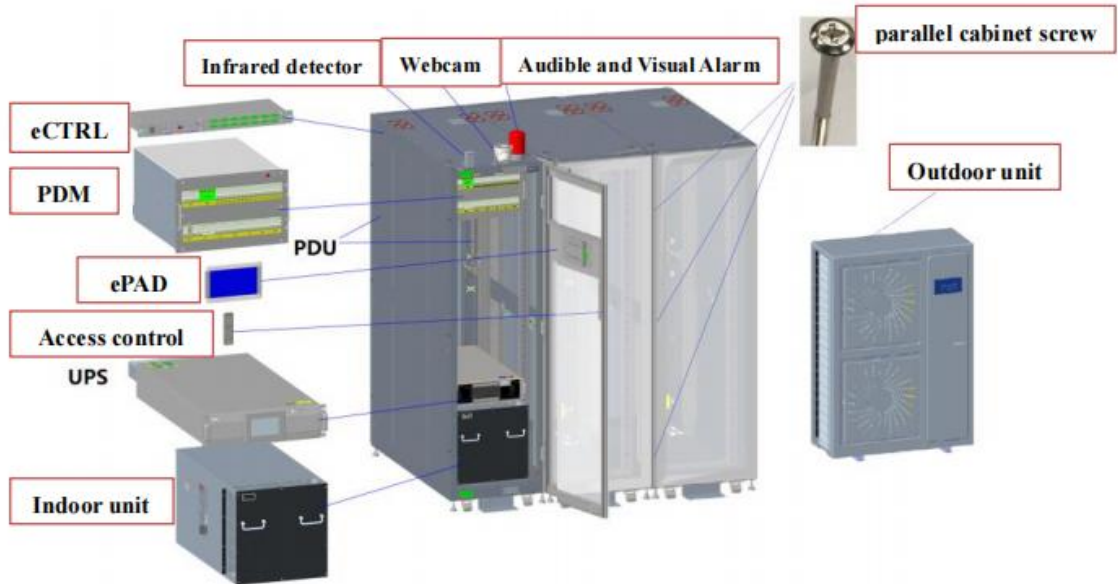


Figure 3-1 iWit

3 cabinets diagram (Used rack air conditioner)



Figure3-2 iWit

6 cabinets diagram ( Used in-row air conditioner)

Equipment list (partly options)	Intelligent monitoring screen	Single cabinet control module	PDM	PDU	Ambient Light	Flashlight
	Outdoor unit	Indoor unit	Access control all-in-one	T&H detector	Leakage Sensor	IC Card
	UPS	Infrared detector	Blind plate	Network dome camera	SMS Module	Audible and visual alarm
	Floating nut	Battery pack	Battery cabinet	IC/ID Card	Rail	Tray

---

### 3.3 Cabinet installation and instructions

Arrange the cabinets neatly as required, adjust the anchor nuts until the cabinet is level, and then connect all the cabinets as a whole with the combination screws of the cabinets as shown in the figure below.

Use long type combination screws between the IT cabinet and the cabinet:

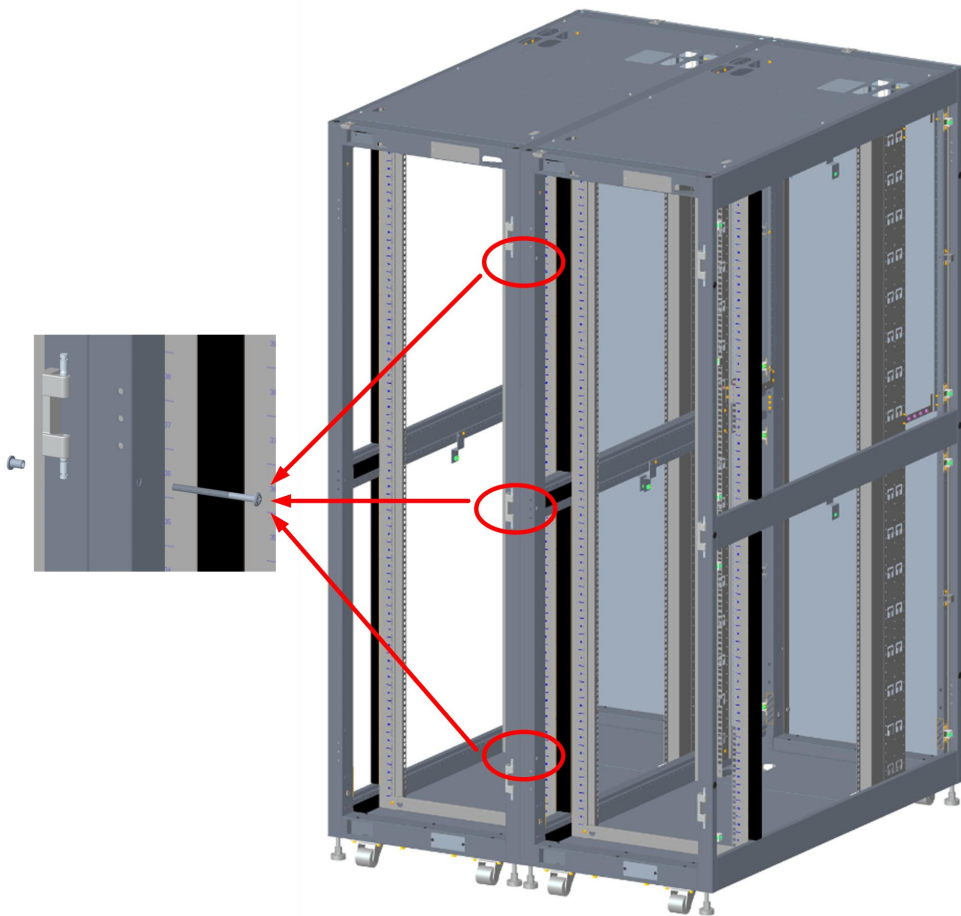


Figure 3-3 Cabinet-to-cabinet screw installation

---

Use short-type cabinet combined screws between the IT cabinet and the in-row air conditioner:

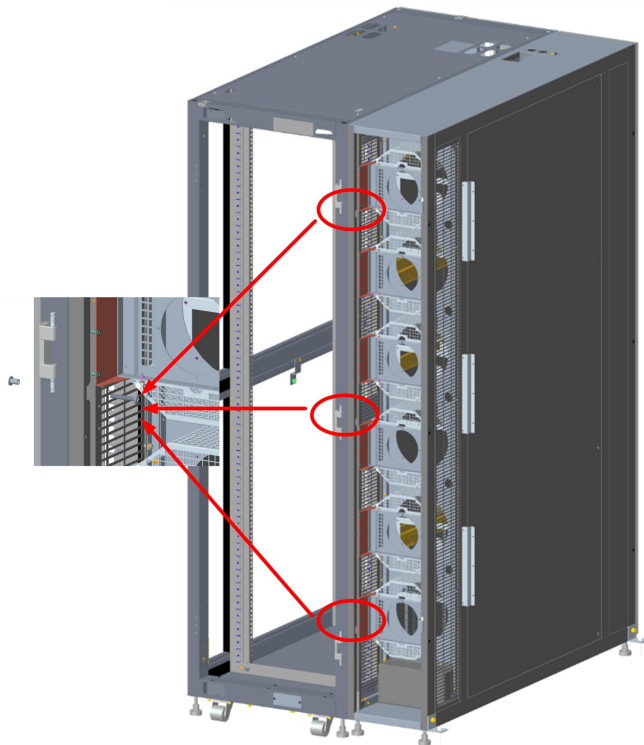


Figure 3-4 Screw installation of cabinets and in-row air conditioners

### 3.4 Wire duct installation dimensions and installation method diagram

In order to facilitate the top cable routing and beautiful routing, M-shaped wire troughs can be installed on the top of the cabinet to separate the strong and weak currents to avoid mutual interference between cables and affect the system stability, as shown in Figure 3-5.

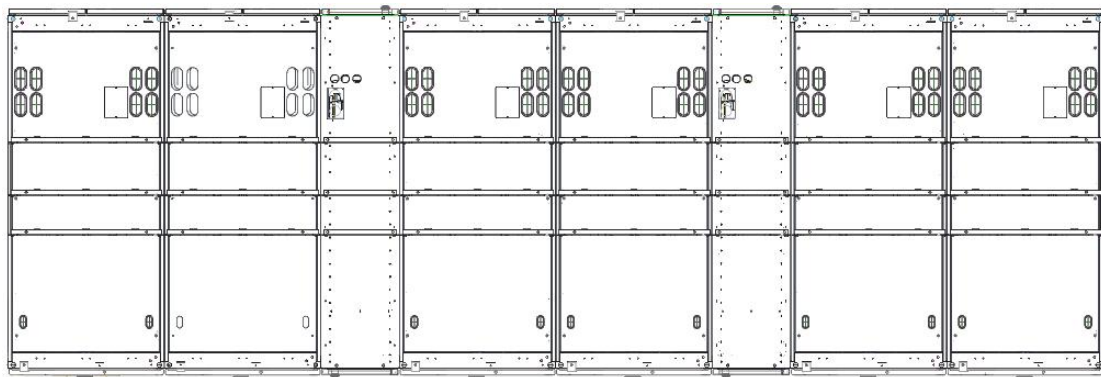


Figure 3-5 Installation diagram of the M-type wire duct at the top of the cabinet



---

Cable trays are divided into standard 600mm wide and 300mm wide according to length. The 600mm model is suitable for standard 600mm wide IT cabinets, and the 300mm type is suitable for half-cabinet in-row air conditioners.

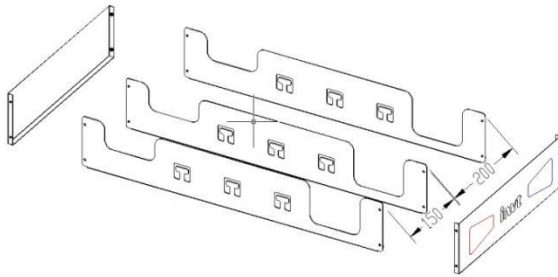


Figure 3-6 600mm wide wire tray

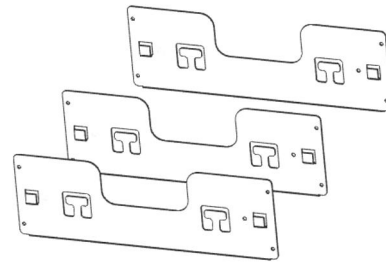


Figure 3-7 300mm wide wire tray

## 4 Electrical connection

This chapter introduces the electrical installation of iWit Series small and medium-sized all-in-one data centers, including precautions, electrical principles, air conditioning and its pipeline installation, electrical connection ports, installation inspection and other introductions.

### 4.1 Installation Introduction and Precautions

Lines to be connected at the installation site:

- Ground wire connection between cabinets
- Signal cable connection between single-cabinet control modules
- PDU Cable connection
- Air conditioner outdoor unit and its piping installation

Installation Instructions:

- The connection of all power cables and control cables must comply with the local electrical regulations, and the cable specifications should be consistent with the local wiring regulations
- Electrical connection work must be carried out by trained professionals
- Measure the input voltage before connecting the circuit, and make sure the power is off
- The cables cannot come into contact with components such as fans
- The cable connection should be firm and reliable

---

## 4.2 Ground Wire Connection between The Cabinets

After the cabinets are combined, you need to connect the cabinet to the ground wire before the cabinet, as shown in Figure 4-1:

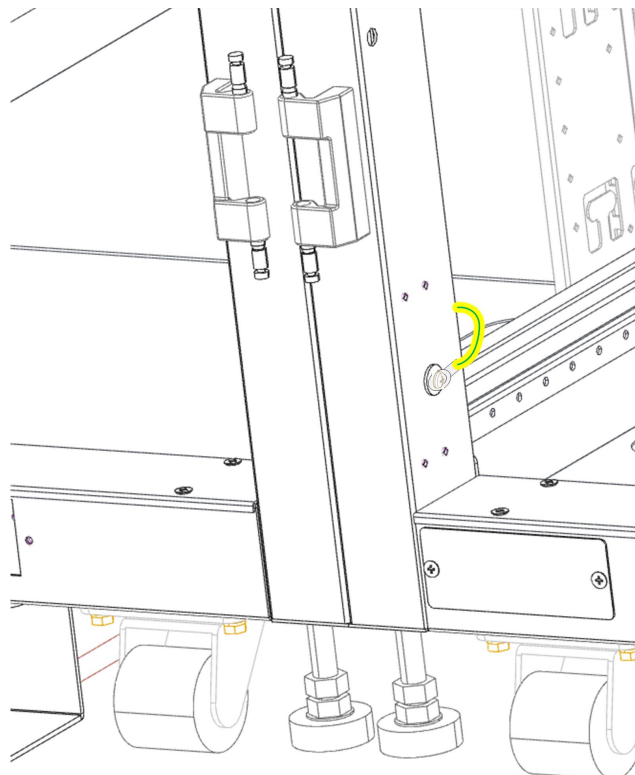


Figure 4-1 Schematic diagram of ground wire connection between cabinets

## 4.3 Signal cable Connection between Single cabinet Control Modules

For the convenience of wiring, a single cabinet control module is pre-installed on the EIA rail at the top and rear of each cabinet to realize the access control, lighting and communication in the cabinet. The appearance of the single cabinet control module is shown in Figure 4-2:



Figure 4-2 Appearance of the single cabinet control module

After iwit single-row cabinets are combined, each single cabinet control module needs to be connected in series to realize the communication and control between the modules. The connection method is shown in Figure 4-3:

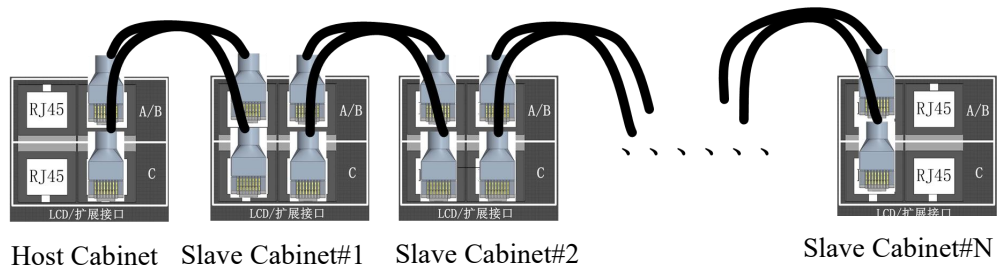


Figure 4-3 Connecting wiring of single cabinet control module

The wiring diagram of the control module of the host cabinet and the single cabinet is shown in Figure 4-4:

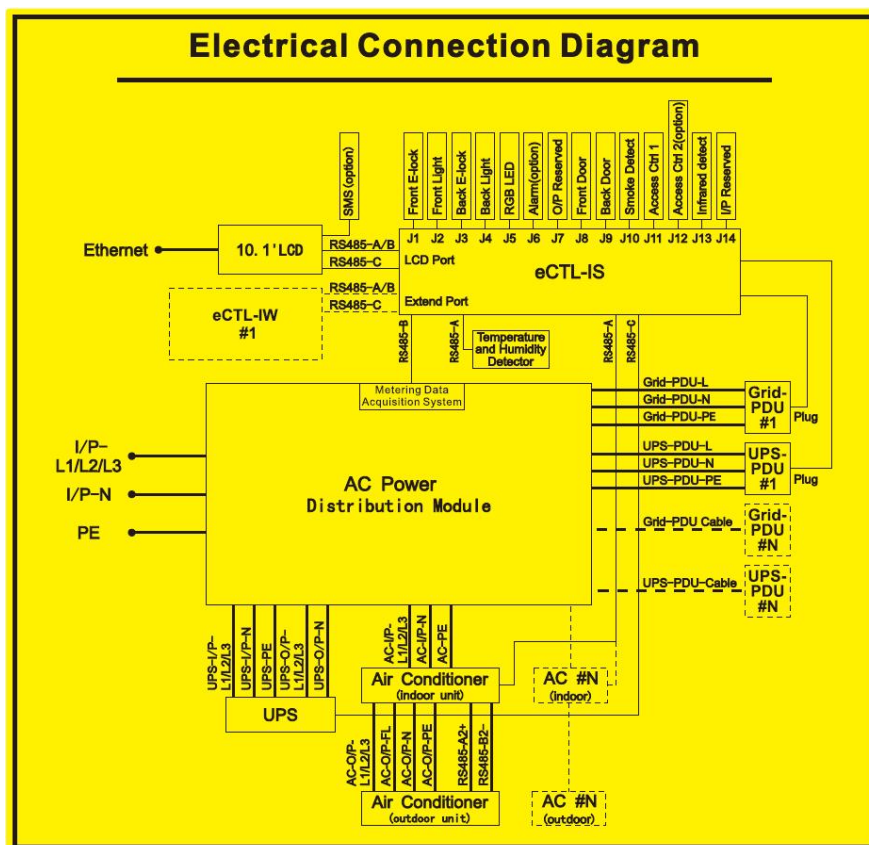


Figure 4-4 Wiring diagram of single cabinet control module in host cabinet

The wiring diagram of the slave cabinet control module is shown in Figure 4-5:

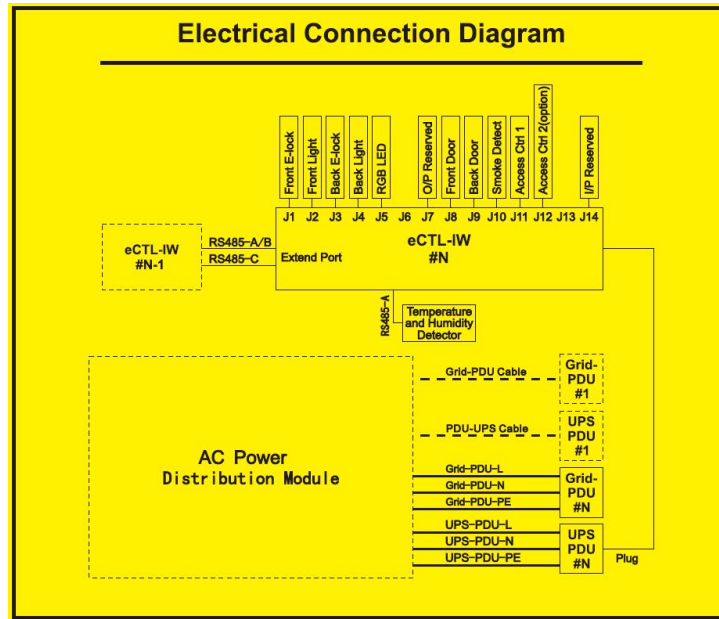


Figure 4-5 Wiring diagram of single cabinet control module in slave cabinet

#### 4.4 PDU Cable Connection

2 PDUs are preset in each cabinet (one is connected to the grid power, the other is connected to the UPS output). All PDUs need to be connected to the power distribution module of the main cabinet according to the installation position of each cabinet:

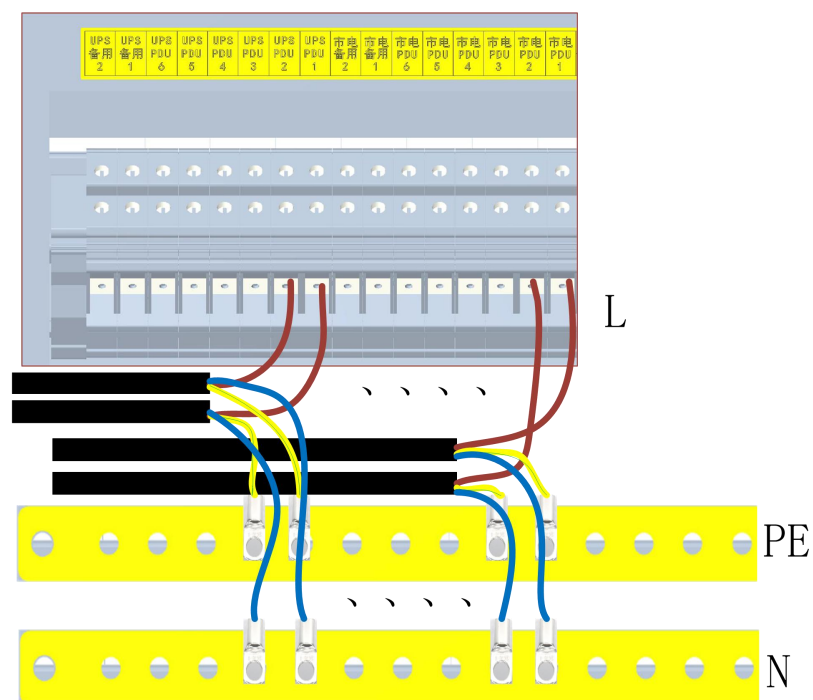


Figure 4-6 PDU wiring in the cabinet

## 4.5 Air conditioner outdoor unit and piping installation

### 4.5.1 Outdoor unit installation

Install the air conditioner outdoor unit and the air conditioner pipeline on site. The installation method is conventional installation. Confirm the installation position of the outdoor unit on site, place the outdoor unit on the base (or a tripod), and requirements of the distance between the air inlet and outlet of the outdoor unit and the wall and other obstructions. As shown in Figure 4-7:

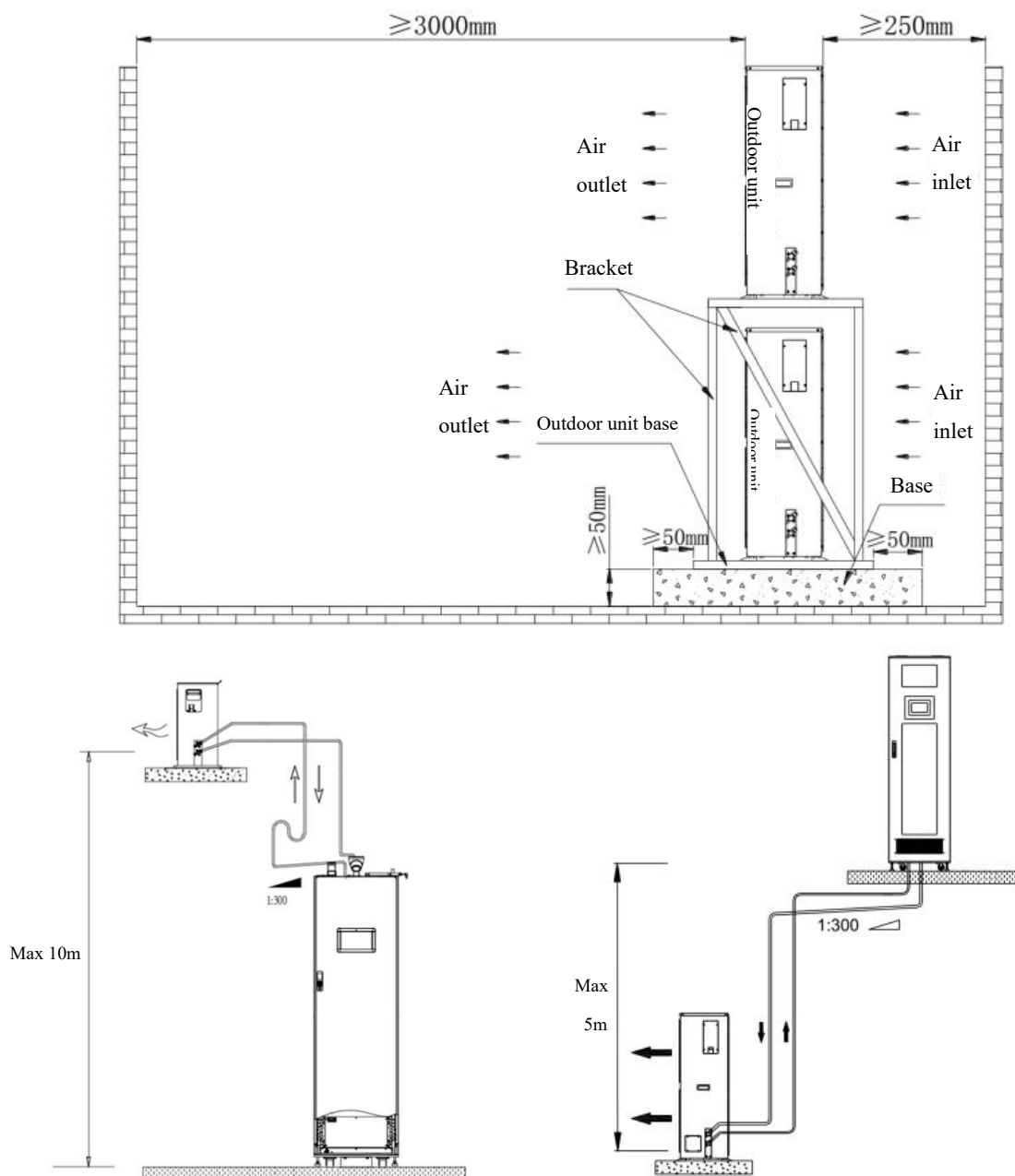


Figure 4-7 Installation requirements for air conditioner outdoor units, positive & negative drop

- 1) Fix the outdoor unit on the base with expansion bolts;
- 2) Connect the copper pipes, and the pipeline connected to the indoor and outdoor units are shipped together with the cabinet. They need to be installed on site. The pipeline must be selected and laid according to industry standards, and the system must be evacuated and filled with refrigerant;
- 3) The longest pipeline should not exceed 30 meters.

#### 4.5.2 Connect the air conditioner cable

iWit single-row data center system can be installed with rack air conditioner which generally use single-phase power supply. Please connect the indoor and outdoor units of rack air conditioner as shown in Figure 4-8 and Figure 4-9.

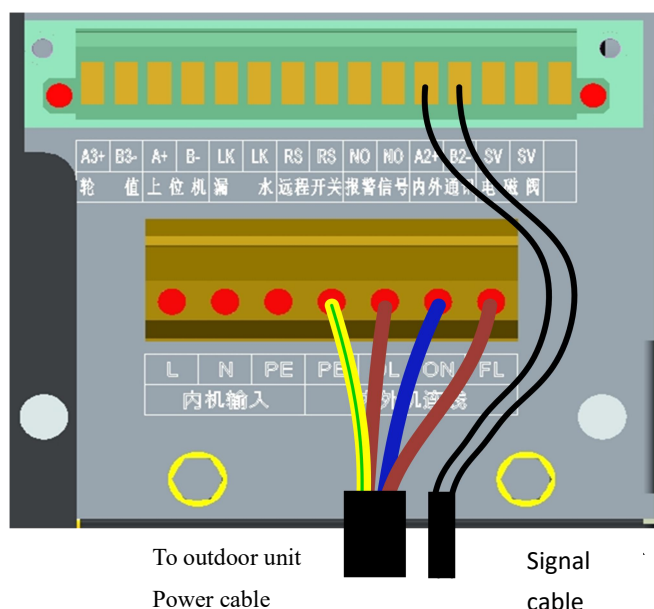


Figure 4-8 Rack PAC indoor unit cable connection

轮值 (A3+ B3-)	Rotation network	上位机 (A+ B-)	Upper computer	漏水(LK LK)	Leakage sensor	远程开 关(RS RS)	Remote switch	报警信 号(NO NO)	Alarm signal
内外通 讯(A2+ B2-)	Outdoor Signal cable	电磁阀 (SV SV)	Solenoid valve	内机输 入(LN PE)	Main input of indoor unit	内外机 连线 (OL ON FL)	Outdoor Power Cable		

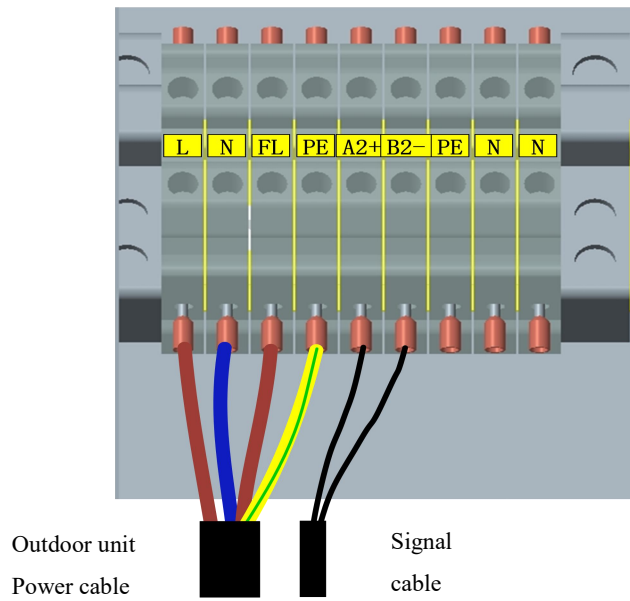


Figure 4-9 Rack PAC outdoor unit cable connection

iWit single-row data center system also can be installed with in-row air conditioner which generally use three-phase power supply. Please connect the indoor and outdoor units of in-row air conditioner as shown in Figure 4-10 and Figure 4-11:

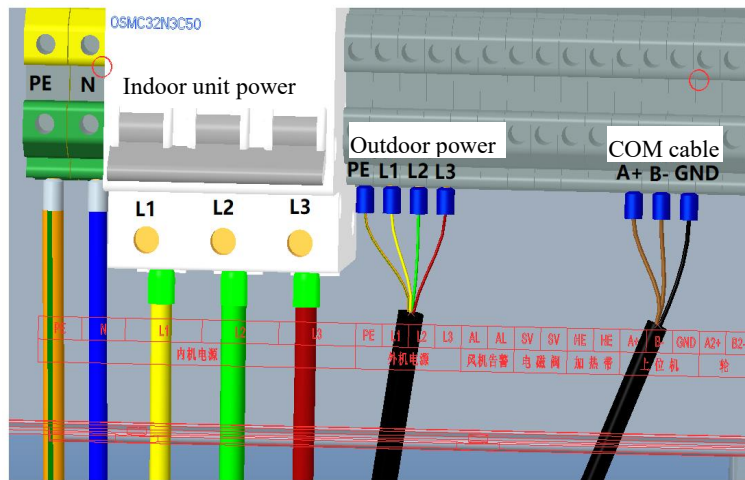


Figure 4-10 Rack PAC indoor unit cable connection

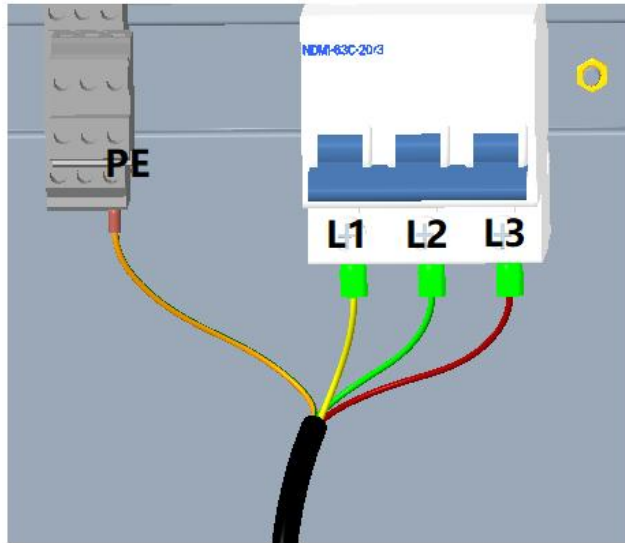


Figure 4-11 Rack PAC outdoor unit cable connection

#### 4.6 System main input cable

Connect the main input cable of the system to the input port of the power distribution module as shown in Figure 4-12. For three-phase power input, connect L1/L2/L3/N/PE. For single-phase power input, connect L/N/PE. The picture shows the three-phase power connection.

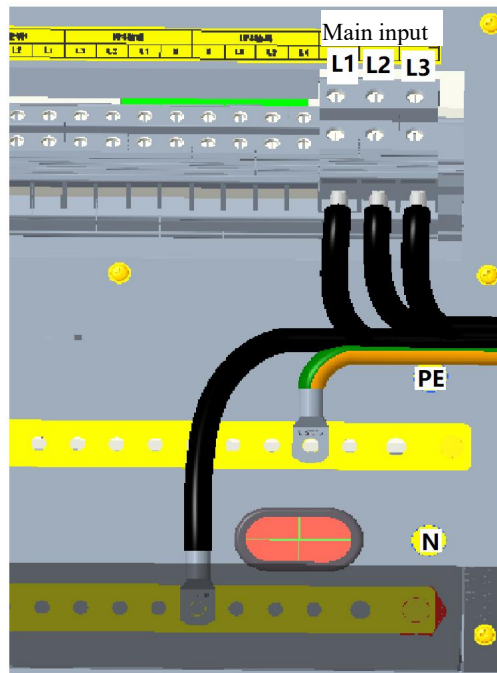


Figure 4-12 Main input cable connection



---

## 5 Power-on and operation

After the system is installed, after setting the ID number of each single-cabinet control module, you can start the operation. First, you need to turn on the power switches of all single cabinet control modules[eCtrl] (located at the top & rear of the cabinet), as shown in Figure 5-1 below:

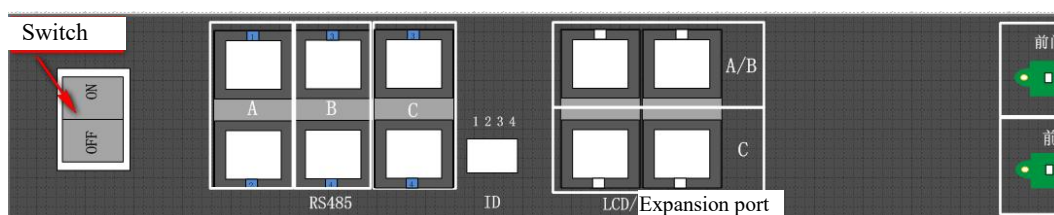


Figure 5-1 eCtrl switch

After the system power on, the screen[ePad] will automatically turn on, and the password must be entered when the system is turned on for the first time (please contact our after-sales personnel or authorized dealers to provide):

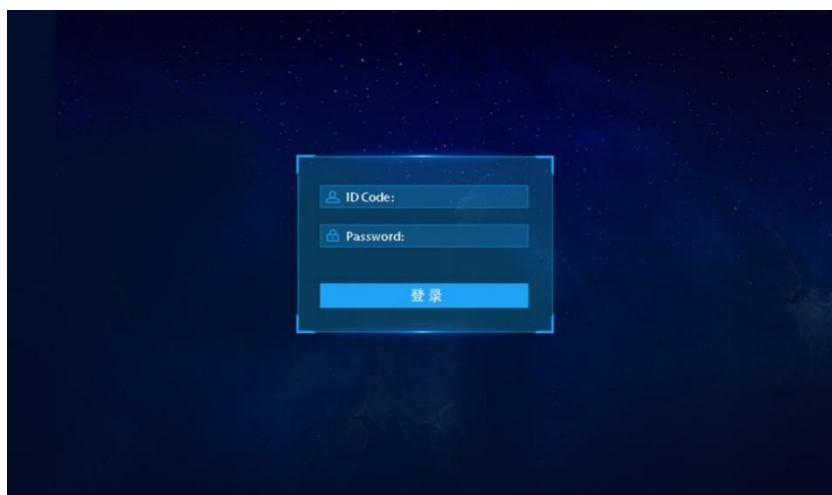


Figure 5-2 Power on verification

After loading the password, enter the home page of the power & environment monitoring system. For the detailed steps of the equipment operation, please refer to the "Intelligent Power & Environment Monitoring System Manual". The system startup must be completed by trained authorized professional technicians.