Cold/Hot Aisle Modular Data Center Solution

Professional Data Center Soution Provider

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Cold/Hot Aisle Modular Data Center

Product Description

The single row cabinet data center integrates all needed equipment into cabinet with closed hot and cold aisle, kinds of sensors monitored and managed by power and environment system, which standardize the whole data center to smaller space,comes with remote intelligent controlling, provides safe and reliable operation environment. No need for professional engineer maintenance which simplify construction, operating and maintenance.

Product Features

Safe and Reliable

- All components are manufactured according to international and domestic standards to ensure product quality;
- Data center productization, productization reliability up to 99.999%. Adopt integrated design to enhance the overall reliability of the system;
- Redundant design of key components to improve system reliability;
- The data center power distribution and cooling system is designed according to the international class A server room (international standard Tier Iv level);
- Integrated intelligent monitoring system, early warning of key data to ensure the safety of server room operations reliable.

Efficiency and Energy Saving

- The average annual PUE can be reduced to 1.30;
- The use of in-row air conditioner cooling, and closed cooling space to achieve precise cooling near the server side, greatly improves the efficiency of cooling, compared with the traditional server room can save energy by more than 35%;
- N+X high-efficiency online modular UPS with intelligent sleep function to save more energy;
- High density deployment, single cabinet up to 10kW;
- Integrated power supply and distribution, space saving, 1-2 more equipment cabinets can be deployed;
- Remote O&M is unattended, saving TCO.

Easy Installation

- Standardized components, modular architecture, and rapid on-demand deployment to match your business;
- No need for professional machine room, it can be installed directly on the concrete floor of the building, reducing the supporting engineering;
- The products are standardized, modular, plug-and-play, and easily installed, greatly reducing the installation cycle.

Intelligent Management

- Intelligent monitoring of the working status of power and environmental systems;
- Intelligent lintel, visual display of key information, easy operation and maintenance;
- Real-time alerts can be made in time by SMS, telephone, email, sound and light, etc;
- Provide a variety of human-machine interaction methods such as operation and maintenance of large screen, remote APP, local LCD, and remote WEB;
- Provide a variety of northbound interfaces such as ModbusTCP, MQTT, etc. for easy system integration.

Applicable Scene

Large-scale data center, campus data center and other core business server room, suitable for Government, medical, education, finance, telecom and other leasing and self-use businesses.


Communication


Commercial


Medical


Education


Government


Power source

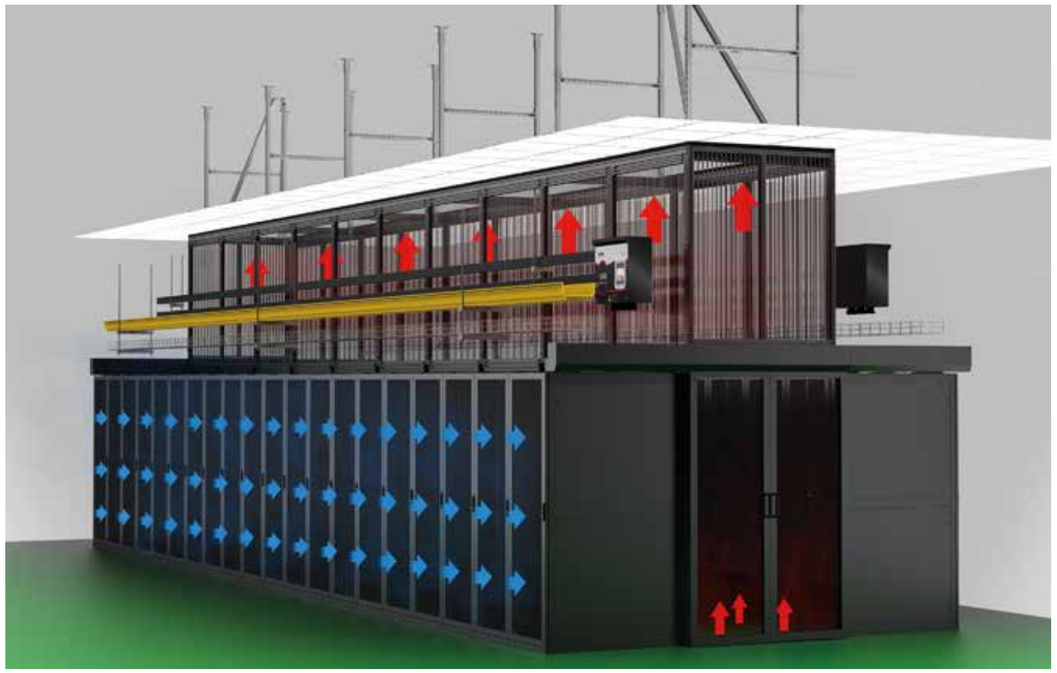
Applicable Power

The maximum supported power of a single cabinet is 10kW per cabinet. And it supports up to 50 cabinet which includes air conditioner and power distribution cabinet.

Structure and Composition

The modular data centre consists of five major systems, namely, the cabinet system, the power distribution system, the air-conditioning system, the monitoring system and the cabling system, as illustrated below:

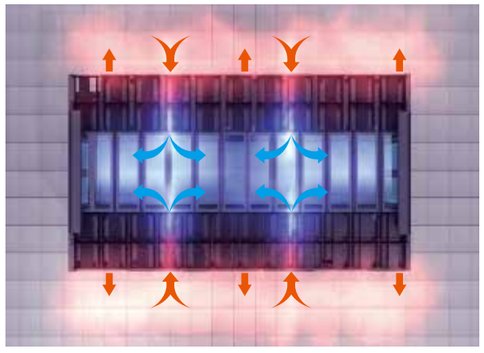
Micro-module Enclosed Hot Aisle



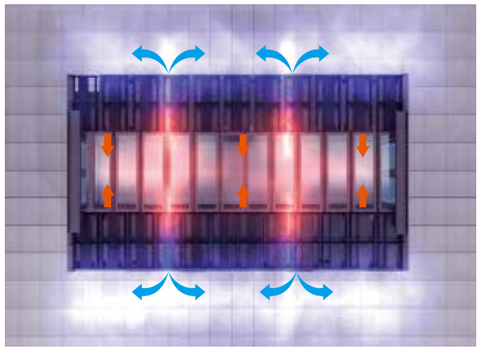
The micro-module data center consists of the cabinet system, lighting system, power supply and distribution system, monitoring system, and integrated wiring system. Each system operates independently yet is managed in a unified manner, featuring high efficiency and energy conservation, as well as being easy to expand and upgrade. The monitoring system can achieve remote management functions.

The enclosed aisle adopts a ceiling return air design, effectively separating the replacement of cold and hot airflows, which has a remarkable energy-saving effect. With an integrated product design and factory prefabricated installation, it greatly shortens the project duration. It is suitable for large-scale IDC data centers.

Cold/hot Aisle Enclosed System

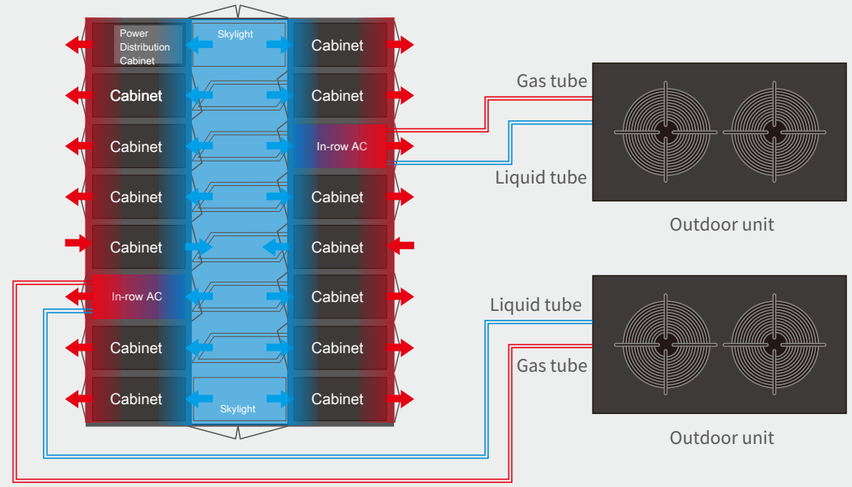


Cold aisle



Hot aisle

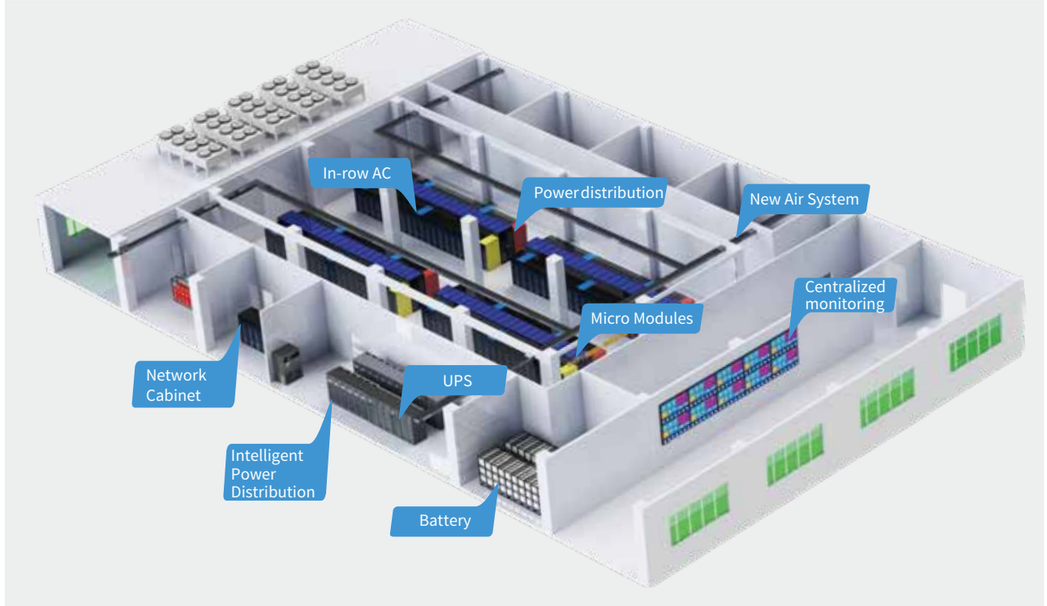
Air Flow Organization Reference Chart



When the outdoor unit is higher than the indoor unit: the vertical height difference between indoor and outdoor units should not exceed 20m; when the indoor unit is higher than the outdoor unit: the vertical height difference between indoor and outdoor units should not exceed 5m.

The equivalent length of one way pipeline should not exceed 30m, please contact with professional engineers for more information!

Integrated Data Center Application Scenario Diagram



Cabinet System

Product Description

The modular data center uses the H-series data center special cabinet, which conforms to the national standard, the communication industry standard and the relevant standard of IEC. Unique geometric structure design and advanced cable management solutions can install equipment in the cabinet and provide it with a high-quality safe and stable operating environment. A full range of matching cabinet accessories and cable management parts can be selected.

Power Distribution Cabinet

Product Features

Power distribution cabinet comprehensively collects all energy data for the energy end of the data center room. Through the display unit, high-precision measurement data can be provided for the terminal energy monitoring system and the power quality data can be reflected in real time and uploaded to the environmental control system through digital communication, so as to achieve real- time monitoring of the entire power distribution system and effective management of operating quality, helping users optimize network data centers, strengthen energy consumption management, improve server operation efficiency, and provide reliable guarantees for all-round green data centers.

Power System

- 3kVA~60kVA Rack Ups
- 60-200KVA Rack type Modular Ups
- 250 -600kVA Modular UPS Floor Mount
- Basic/Smart PDU

Cooling System

- 12.5-60kW Inrow Cooling system
- 7.5 -200kW CRAC Cooling system
- Refrigerant Type Free Cooling Available Upon Configuration.

Security System

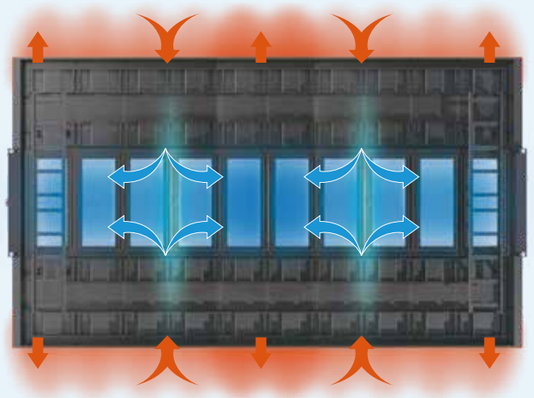
- 3 in 1 Access Control For Each Door.
- Centralized Software Management.
- Video Surveillance.

DCIM System

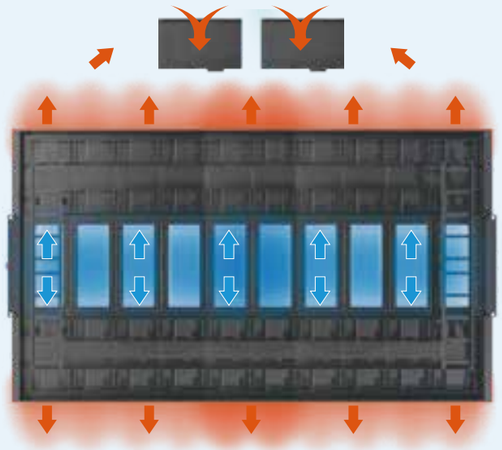
- Local &Remote Monitoring And Alert.
- Full Sensors
- Full Integration Of 3rd Party Equipment.

Cooling

Adopt high-efficiency cooling, modular closed channel components, and hot and cold air flow isolation



In Row Cooling Airflow

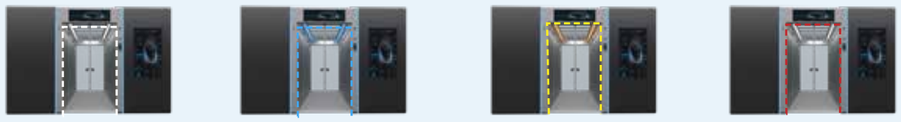


Room-level Cooling Airflow

Diversified Application Scenarios

Built-in channel lighting system, light illumination ⩾300Lu

Four-color light strip alarm system, intuitive insight into the operating status of the Integrated Data Center Module, four-color graded alarms



Normal display　General alarm　Critical alarm　Emergency alarm

Cabinet-level light strip, which can be linked with alarms to create a more aesthetically pleasing display

Intelligent management

Real-time visibility into the status of the data center, intelligent monitoring, centralized management, and simplified maintenance

The system supports multiple monitoring and management scenarios, such as IDC data center, power distribution room, cooling room, distributed outlets, etc.

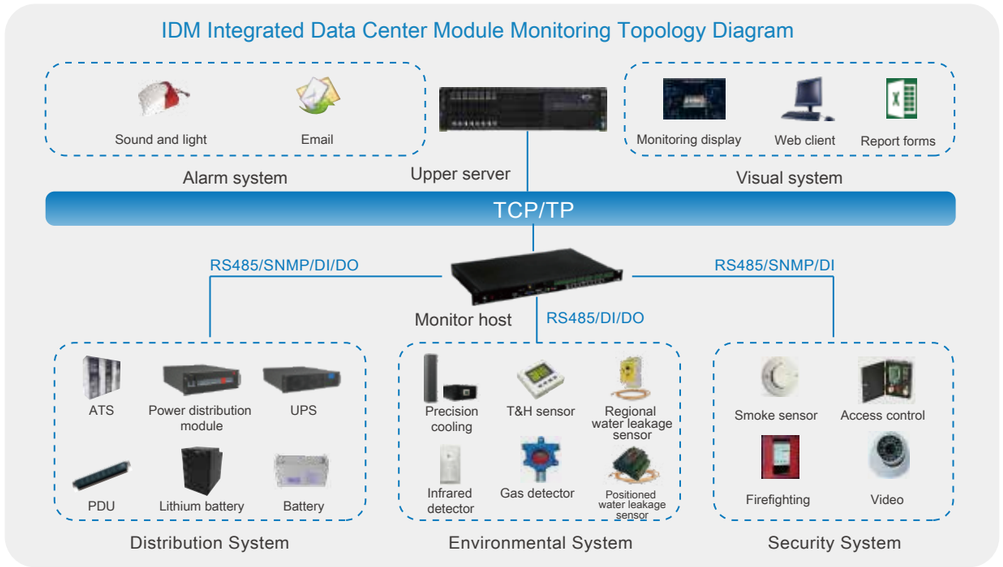
Northbound interface available, integrate existing management system

Support configuration architecture design, convenient and flexible function expansion

Based on TCP/IP networking architecture, flexible expansion, safe and reliable

2D/3D visual HMI, real-time display of operational views, integrating

Three-in-one password, fingerprint, card swiping or face recognition smart access control system, simple and convenient



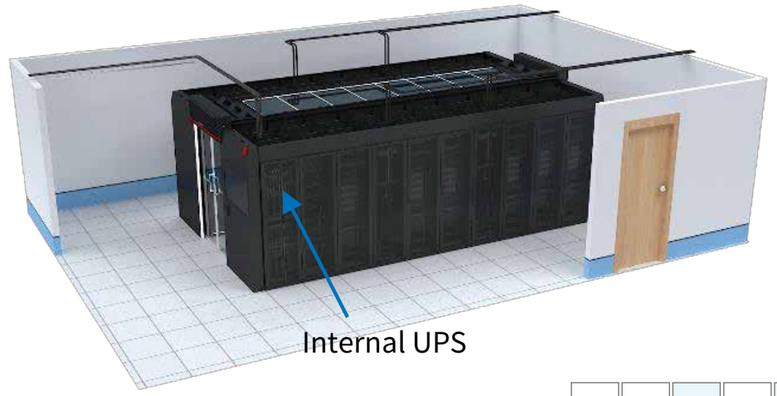
Other Accessories

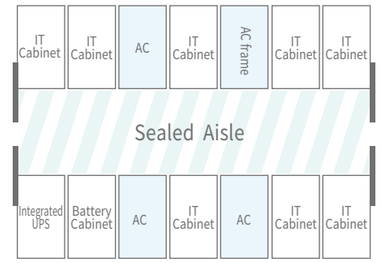
cabinet Shelf　Cabinet Rails　Cross-row Cable Tray　Cabinet Base　Blind Plate

● Product Parameters

			Parameters
System	Dimensions(W*D*H)		3600*L*2600mm（L≤15000mm）
	IT rated power/cabinet		3~10 KW
	Door Specifications		Automatic sliding doors/manual sliding doors/pull-out doors
	Intelligent Lighting		LED white light, intelligent color ambient light, linkage with monitoring system.
	Access Control System		Support face/fingerprint/password/IC and other methods can be selected
	Ambient temperature		0-45℃
	Ambient Humidity		10-95%, Relative Humidity
	Protection class		IP20
	Altitude		1000 m, more than 1000 m need to be derated.
	Installation method		Direct concrete floor installation / Raised floor installation
Cabinet	Dimensions(W*D*H)		600/800*1200*2000mm
	Available Space		42U
	Inlet method		Support up/down wire feed
Power Distribution System	Power Distribution Cabinet	Input method	Single circuit MCCB/Dual circuit ATS
		Grid system	380/400/415Vac, 50/60Hz
		Specification	63~400A
		SPD	B/C class optional
		Type	Integrated UPS distribution cabinet/precision distribution cabinet/intelligent busbar
	UPS	Capacity	Built-in maximum 200kVA, external 200kVA or more
		Input Freq.	40-70Hz
		Output PF	1
		Battery	Built-in cabinet type battery cabinet or external battery cabinet
	PDU	Ordinary Type	[National standard 12-bit 10A + 3-bit 16A]*2
		Smart Type	24-port intelligent PDU (optional)
Cooling System	Air Conditioner Capacity		12.5~60 KW
	Cooling method		Air-cooled
	Refrigerant		R410A
Monitoring System	HMI		21.5 inch touch screen
	System Functions		RemeWEB/Centralized monitoringof power,environment, video, access control system/Northbound interfaceote
	Monitoring accessories		Smoke sensor/T&H sensor/water flood sensor/infrared sensor/webcam/access control/fire linkage
	Alarm method		E-mail / SMS, Audible and visual alarm, Telephone Voice, APP(optional)

● Typical Configuration

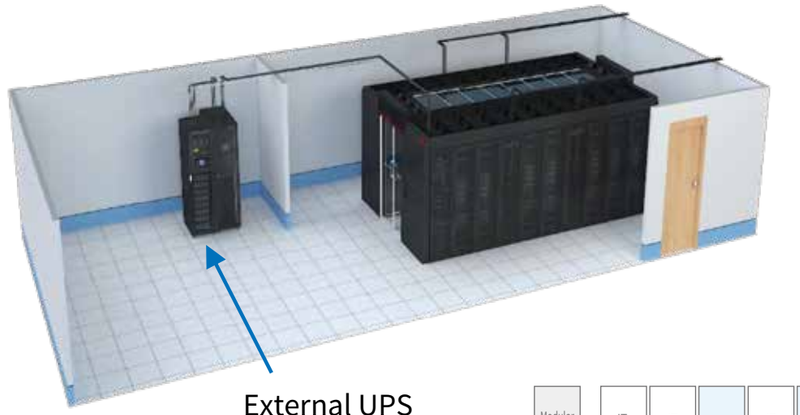


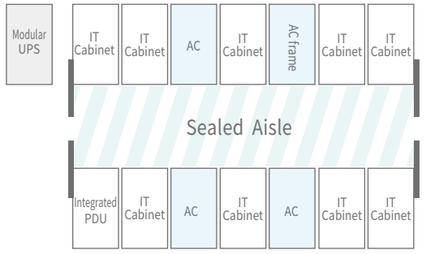


Plan 1

Number of IT Cabinets	3
UPS Capacity	20K(3U)
Power Factor	1
Total Power Input	380V/63A
Available Space	17+2*42U
Number Of PDUs In A Single Rack	6*12bit10A+4*16A
Refrigiration Type	Rack Mount (10U)
Cooling Capacity	12.5KW
Monitoring Display	10-inch Touch Screen
Fire Height	6U
Standard Number of Batteries	32~40
Environment Temperature	0~45°C
Dimensions (W*D*H)	1800*1200*2000mm

● Typical Configuration

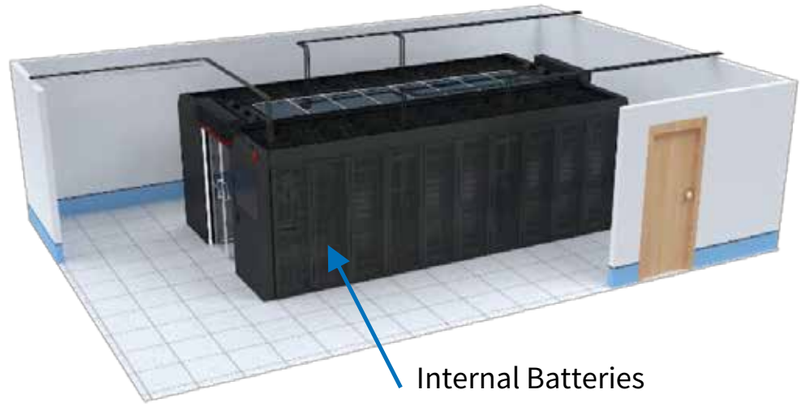


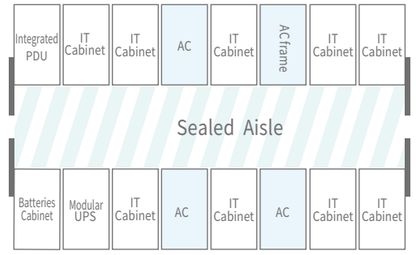


Plan 2

Number of IT Cabinets	3
UPS Capacity	20K(3U)
Power Factor	1
Total Power Input	380V/63A
Available Space	17+2*42U
Number Of PDUs In A Single Rack	6*12bit10A+4*16A
Refrigiration Type	Rack Mount (10U)
Cooling Capacity	12.5KW
Monitoring Display	10-inch Touch Screen
Fire Height	6U
Standard Number of Batteries	32~40
Environment Temperature	0~45°C
Dimensions (W*D*H)	1800*1200*2000mm

● Typical Configuration

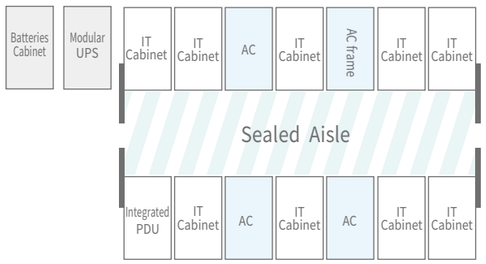




Plan 3

Number of IT Cabinets	3
UPS Capacity	20K(3U)
Power Factor	1
Total Power Input	380V/63A
Available Space	17+2*42U
Number Of PDUs In A Single Rack	6*12bit10A+4*16A
Refrigiration Type	Rack Mount (10U)
Cooling Capacity	12.5KW
Monitoring Display	10-inch Touch Screen
Fire Height	6U
Standard Number of Batteries	32~40
Environment Temperature	0~45°C
Dimensions (W*D*H)	1800*1200*2000mm

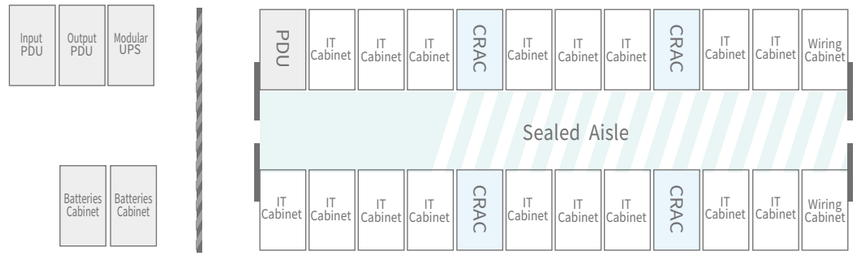
● Typical Configuration



Plan 4

Number of IT Cabinets	3
UPS Capacity	20K(3U)
Power Factor	1
Total Power Input	380V/63A
Available Space	17+2*42U
Number Of PDUs In A Single Rack	6*12bit10A+4*16A
Refrigiration Type	Rack Mount (10U)
Cooling Capacity	12.5KW
Monitoring Display	10-inch Touch Screen
Fire Height	6U
Standard Number of Batteries	32~40
Environment Temperature	0~45°C
Dimensions (W*D*H)	1800*1200*2000mm

● Typical Configuration



Plan 5

Number of IT Cabinets	3
UPS Capacity	20K(3U)
Power Factor	1
Total Power Input	380V/63A
Available Space	17+2*42U
Number Of PDUs In A Single Rack	6*12bit10A+4*16A
Refrigiration Type	Rack Mount (10U)
Cooling Capacity	12.5KW
Monitoring Display	10-inch Touch Screen
Fire Height	6U
Standard Number of Batteries	32~40
Environment Temperature	0~45°C
Dimensions (W*D*H)	1800*1200*2000mm