Container Data Center Solutions Overall Solution

Professional Data Center Soution Provider

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Container Data Center Solution

Product Description

The containerized outdoor prefabricated data center solution supports various ISO standard container specifications, meeting the land and maritime transportation needs worldwide. It has excellent protection capabilities and can adapt to a variety of outdoor application scenarios. The container integrates key IT infrastructure such as racks, UPS power supply and distribution systems, integrated precision air conditioners, monitoring systems, cabling systems, security systems, fire protection systems, and lighting systems. It can be plugged and used immediately on-site. It supports in-depth customization to meet the specific requirements of various application scenarios.

Product Features

Safe and Reliable

- All components follow domestic and international standardized production standard to ensure product quality.
- IP55 protection, with excellent waterproof performance, suitable for a variety of complex scenes.
- Redundant design of key components to improve system reliability.
- Integrated video, access control and intelligent monitoring management system to ensure safe and reliable equipment operation.

Efficiency and Energy Saving

- All-in-one design, hot and cold aisle isolation, fully enclosed design, improve the efficiency of cooling capacity and save energy.
- Adopt full inverter precision air conditioner, output cooling capacity on demand, precise cooling and save more energy.
- Adopt energy-efficient modular UPS with intelligent sleeping function, more energy-saving.
- Integrated design of power distribution cabinet and UPS, saving space..

Rapid Installation

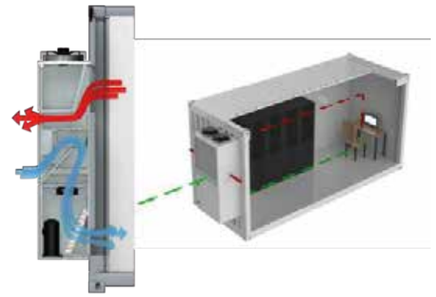
- Power supply and distribution, air conditioner, cabinets system, closed access, monitoring system and fire protection system are factory prefabricated and pre installed, plug-and-play.
- Standard container, in line with domestic and international sea and land transportation conditions, worldwide reachable.
- No need for professional server room, can be installed directly on the concrete floor of the building or outdoor, simple and fast.

Intelligent Management

- Intelligently monitor the working status of power and environmental system.
- Real-time alerts can be made in time via SMS, telephone voice, email, sound and light.
- Provide a variety of human-machine interaction methods such as O&M screen, remote APP, local LCD and Web.
- Provide ModbusTCP, MQTT and other northbound interfaces to facilitate 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.

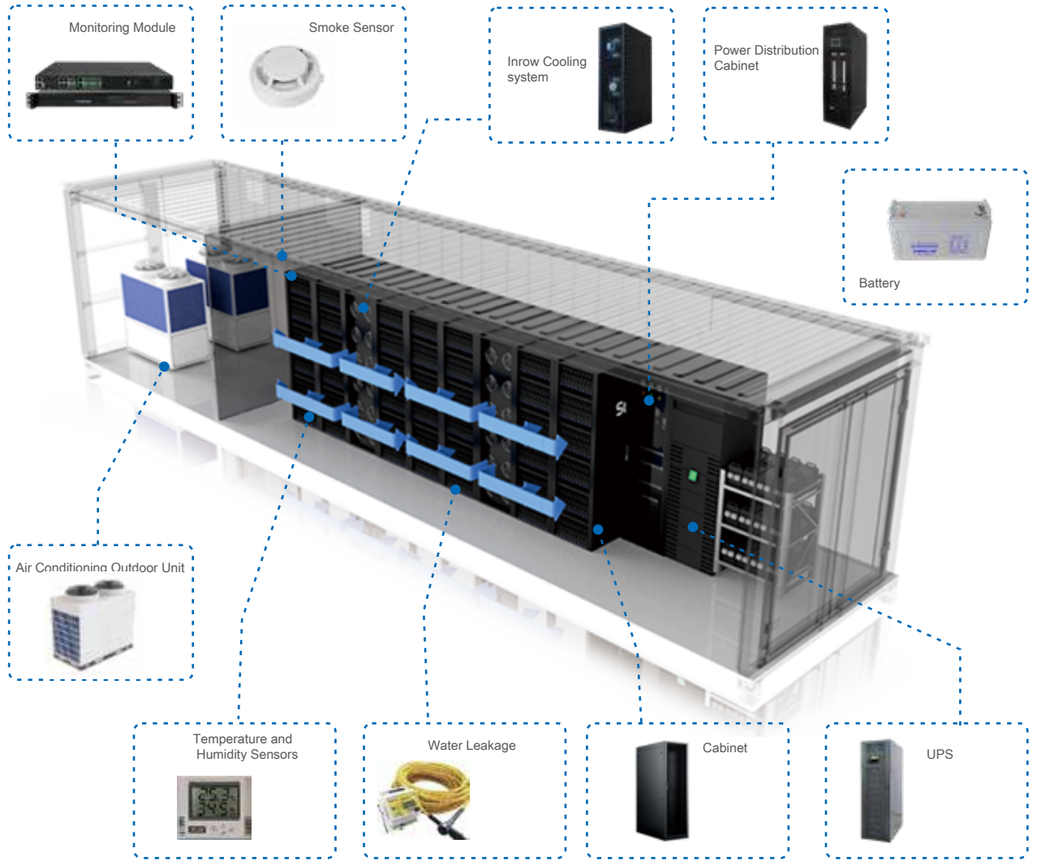


Green Free Cooling Systems

Indirect Free Cooling with Refrigerant Pump Technology

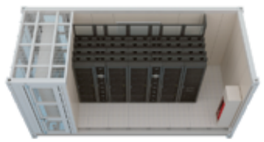
- PUE low to 1.2
- Peak EER goes upto 28.9 in cooler seasons.
- Independent internal and external loops,no dust / moisture concern.

Structure and Composition

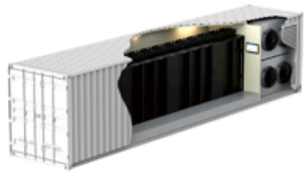


● Flexible Expansion

With its highly professional R&D and manufacturing capabilities, We can customize container data center for customers. Including system availability, protection capabilities, cabinet size, power supply system, cooling type and other special requirements.



20ft cabinet



40ft cabinet

Non-standard assembled cabinet

Product Parameters	ICDC20	ICDC40
Container Size	20'HQ	40'HQ
Rack Specification	600*1000*2000	600*1000*2000
Single Rack Capacity	42U	42U
Rack Quantity	4pcs	4pcs
Single Rack Max. Capacity	6KW	6KW
IT Equipment Total Capacity	24KW	48KW
UPS	25KVA*2 N+1 Modular UPS	25KVA*3 N+1 Modular UPS
Monitoring System	10 Minutes	10 Minutes
Cooling Pattern	Inrow Air Condition	Inrow Air Condition
Monitoring System	YES	YES
Door Security System	YES	YES
Fire alarm and gas fire extinguishing system	YES	YES
Video Monitoring System	YES	YES
EPO	YES	YES
Transportability	Support	Support
Stackable	Support	Support
Application	Outdoor Type	Outdoor Type
Diesel Generator Module	Extra Position	Extra Position

Cabinet System

● Product

The rack system provides strong physical support for the data centre infrastructure. Highly reliable, secure, compatible and available, the system's superior design and flexibility enable data centres to achieve optimal performance and rapid deployment.

● Features

- It adopts a10-fold profile welded frame structure with high strength and a static load of 1800KG.
- The flat high-density hexagonal mesh door enhances ventilation and heat dissipation, meets the requirements for mechanical protection and external observation of equipment operating status, with a ventilation rate of 75%.
- Integrated assembly structure design, the U-pillar for equipment instalation can be adjusted front and back, making it easy to install other power distribution modules, with a static load of 1800KG.
- Various sizes, width 600/800mm, depth 600~1200mm, height 42/47/52U optional.
- Rich optional accessories: PDU, blind panels, shelves, L-shaped guide rails, cable management boards, cable troughs, ventilation fans, electronic access control, ambient lights,etc.
- The surface of the cabinet is degreased, phosphated and electrostatically sprayed to ensure that the cabinet is strong, reliable, and resistant to acid and alkali corrosion.

All-in-one Power Distribution Unit

● Product Description

The All-in-one intelligent power distribution system of Coolnet Digital Energy Data Center is a new generation of highly integrated power supply and distribution system adapted to modular data centers based on the new intelligent modular UPS platform. It integrates UPS host, IT power distribution, air conditioning power distribution, lighting power distribution, Mains electricity ATS, UPS input power distribution and UPS output power distribution into one cabinet, and has the characteristics of simple and easy maintenance, high reliability and high efficiency, it can provide safe, stable and pure green power supply for data center load.

● Application

It is widely used in small and medium-sized data centers, edge DCs and other scenarios without independent power distribution rooms, covering a variety of industries such as finance, government, telecommunications, education, medical care, and manufacturing.

● Features

Extreme Power Density

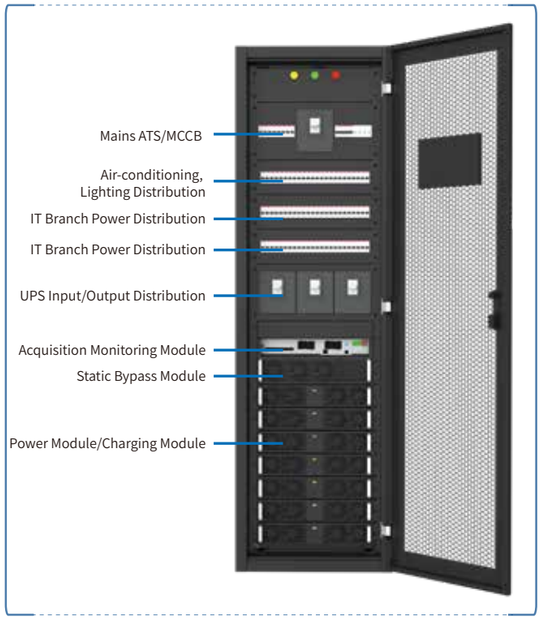
- The maximum support is 180kVA integrated UPS power supply and distribution, with industry-leading power density. Built-in 30kVA/30kW module, height is only 2U, system capacity supports phased deployment, power module and bypass module can be quickly replaced for easy maintenance.
- UPS, UPS input and output cabinet, precision distribution cabinet, three cabinets in one save 68% of floor space and save more than 55% of installation time.

Green, Energy-saving and Efficient:

- System efficiency is up to 96%, energy efficient.

Intelligent Safety Monitoring

- Intelligent detection of power distribution branches and full display of power supply links
- One screen, one system integrated management of power distribution, UPS and battery information.



UPS Power System

● Product Description

The modular UPS is designed for use in medium and large data centers to achieve maximum availability. This series adopts the latest three-level technology and PFC input control technology to ensure 96% high efficiency and ultra-reliability. It is an ideal choice for medium and large data centers and critical loads.

Capacity Range: 30~600KVA

● Features

- Fully digital control, flexible and robust.
- 7&10 inch touch LCD,with loT functions
- High reliability and environment adaptability, with protection of components level
- Intelligent system self-diagnosis, rich fault recording, large capacity of history recordstorage space
- Maximum system capacity up to 1.8MVA, the best solution for mega data center

● Power Module

Module	Parameters	Dimensions (D*W*H mm)	Weight (kg)
SUB 20K	3P/3P 20KVA/20KW	650*440*132(3U)	34
SUB 30K	3P/3P 30KVA/30KW	650*440*132(3U)	34.4

Precision Cooling System

Product Description

Row mounting and airflow front/side discharge design bring cooling closer to the heat source, with intelligent controls that dynamically regulate output for improved cooling efficiency. Multiple configuration with air-cooled, water-cooled, and chilled water types, high reliability with world leading brand components support -40C – 55C continuous working. Full range of models are available to meet the needs of today's IT environments.

Capacity Range: 13.2~25KW

Features

- Adopting high quality frequency conversion compressor, continuously adjustable between 30%~100% of cooling capacity, precise temperature control, low carbon and energy saving.
- All digital control to major components, maintaining optimum working status, and flexible adjustment per onsite working conditions.
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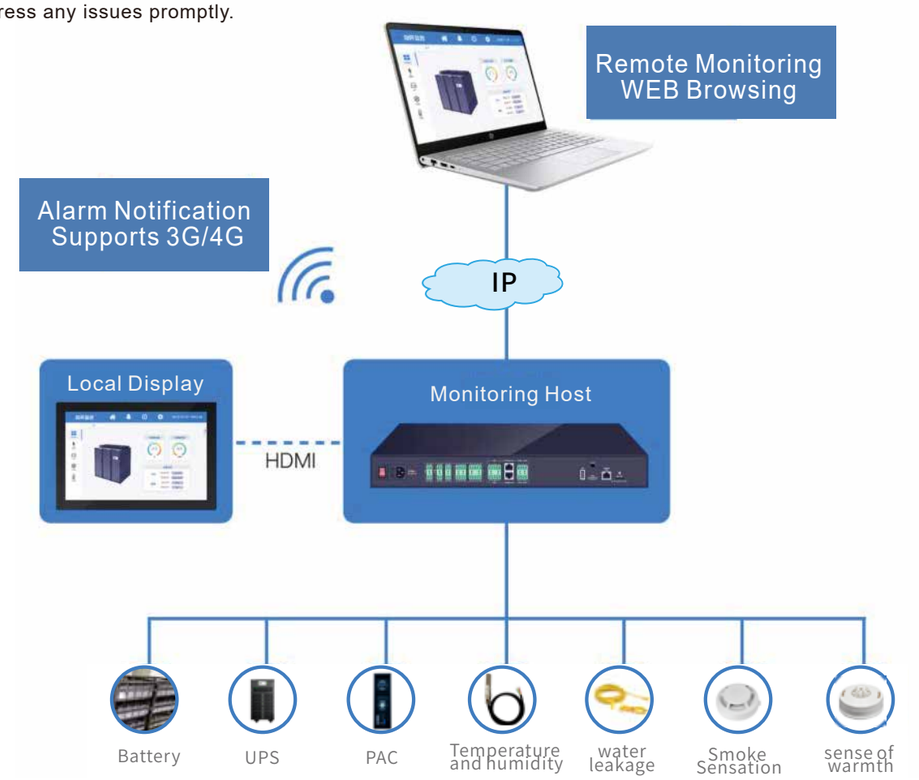
- Standard oil separator, optional energy-saving module, condensate pump, water leakage monitoring, extension components, etc., to support special application scenarios.
- R410A environmentally friendly high-efficiency refrigerant, high cooling efficiency, green and ozone layer depletion.
- Circuit breakers, contactors and other switching devices all adopt Schneider brand products, which are stable and reliable.

DCIM Monitoring System

Monitoring Interface

Smart DCIM System communicates with all key aspects through a full range of sensors to monitor the status of the infrastructure. Real-time alerts and notifications allow operators to proactively identify and address any issues promptly.



Monitoring Host

- The monitoring host uses Cortex-A8 CPU chip, 1G memory, and 8GFlash storage.
- Highly integrated monitoring software and hardware products, with high integration and rich interfaces, various monitored equipment and sensors can be installed directly through plug-in terminals, plug-and-play, and easy to construct.
- Supports dual 220V AC power supply.
- Support ZigBee wireless collection extension.
- Can support 4G wireless transmission expansion plug-in module.
- Optional SMS alarm module and phone voice alarm module are available.
- Full RJ45 interface design, unified standard, interface with power supply, simple and convenient wiring.
- The bottom hardware is photoelectrically isolated, has strong anti -interference and has lightning protection function.

DCIM Monitoring System

● Features

Centralized Monitoring

Multiple computer rooms are connected to the Internet, with centralized access to power, environment, refrigeration, security and other equipment for unified real-time monitoring;

Remote Access

Client, browser, APP, convenient for users to access the system at any time and obtain the monitoring status of the computer room at any location;

Fault Warning

Multi-level flexible threshold strategies, timely reminders before equipment failure, to minimize the occurrence of faults and alarm storms;

Alarm Notification

Multi-channel alarm notification, flexible combination of sound and light, SMS, phone and email notification, and hierarchical push notification strategy, so that stakeholders can know the fault in time;

Energy Efficiency Statistics

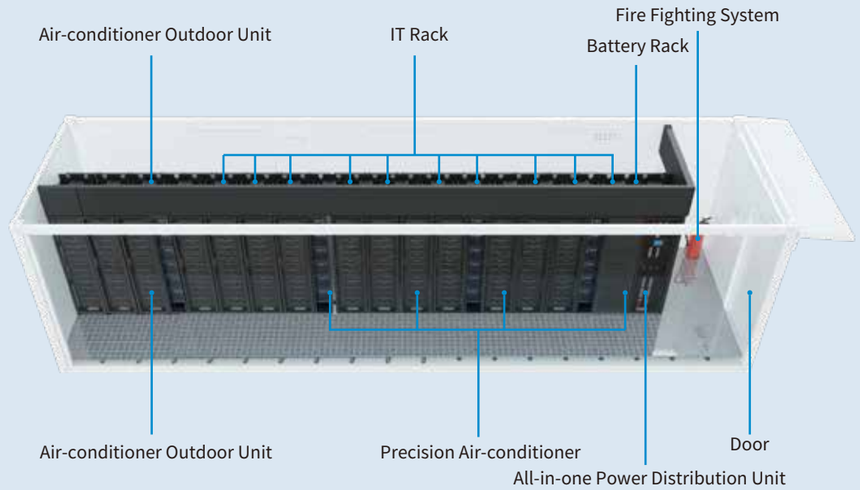
Supports automatic calculation and real-time display of the PUE index of the computer room, and provides energy consumption analysis data.

3D Display

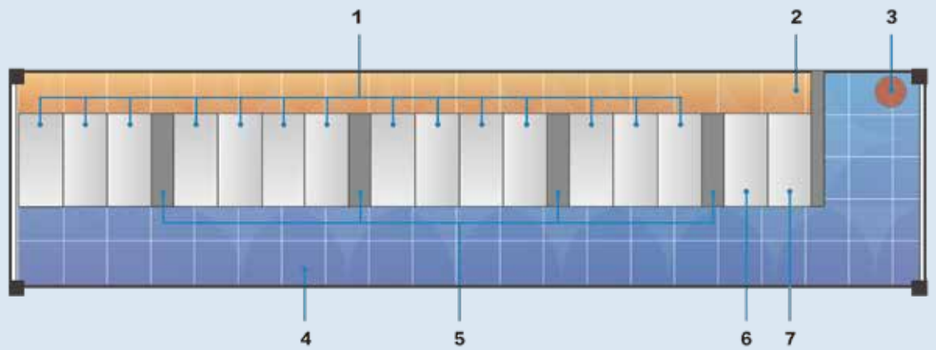
It has the function of automatic slide show of 3D configuration diagram of the computer room. No mouse click is required. The software automatically plays the real-time status of each room.

● Solution 1

▼ Internal



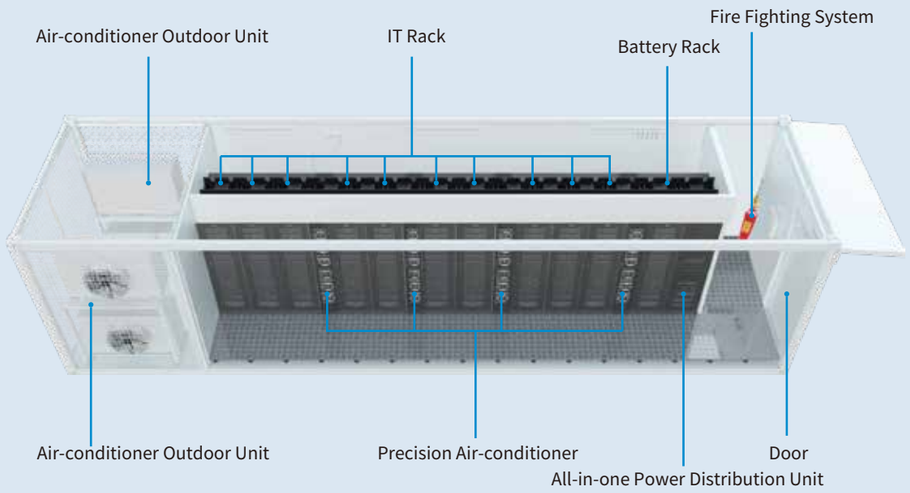
▼ Top View



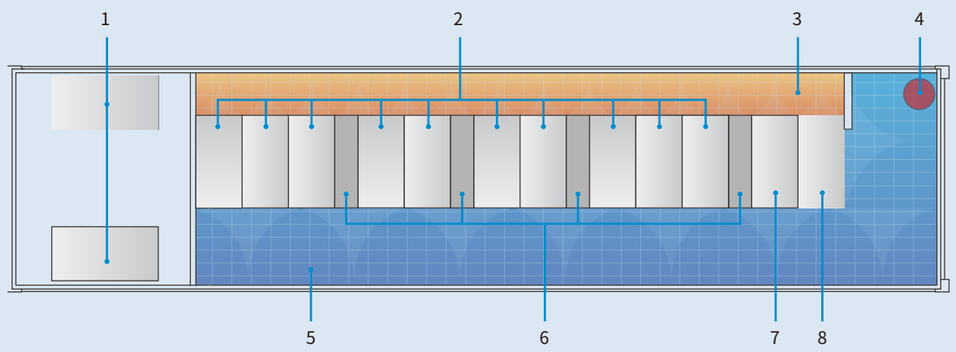
① IT Rack
② Sealed Hot Aisle
③ Fire Fighting System
④ Sealed Cold Aisle
⑤ Precision Air-conditioner
⑥ Battery Rack
⑦ All-in-one Power Distribution Unit

● Solution 2

▼ Internal



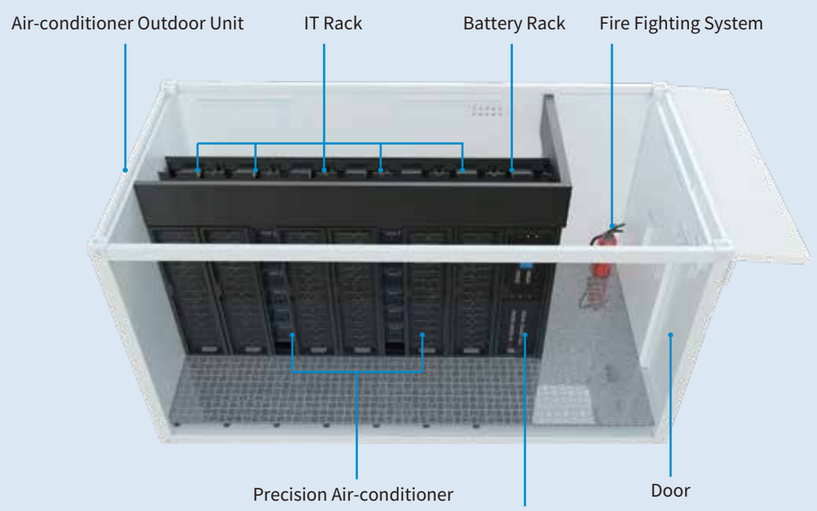
▼ Top View



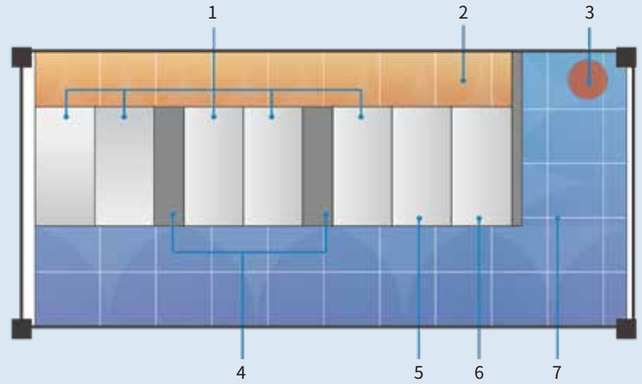
① Air-conditioner Outdoor Unit
② IT Rack
③ Sealed Hot Aisle
④ Fire Fighting System
⑤ Sealed Cold Aisle
⑥ Precision Air-conditioner
⑦ Battery Rack
⑧ All-in-one Power Distribution Unit

● Solution 3

▼ Internal



▼ Top View

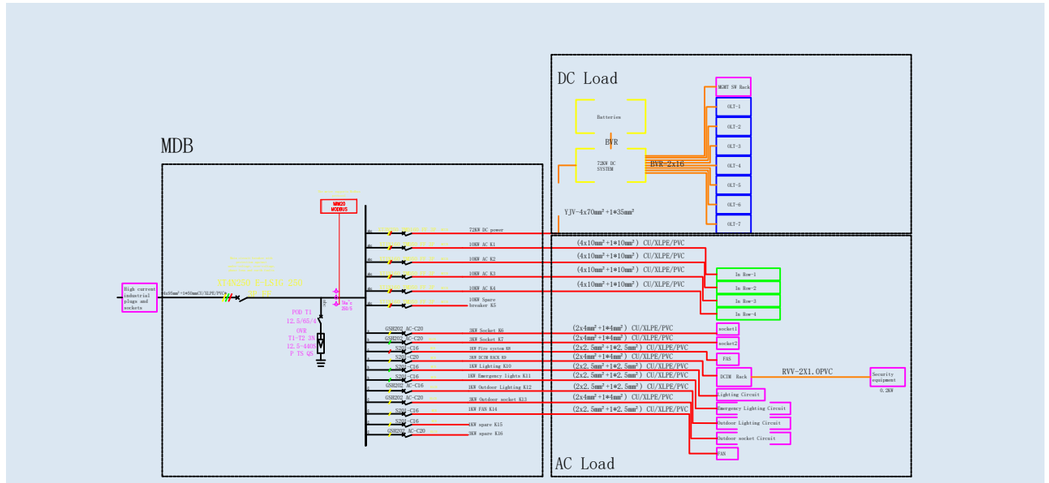


① IT Rack
② Sealed Hot Aisle
③ Fire Fighting System
④ Precision Air-conditioner
⑤ Battery Rack
⑥ All-in-one Power Distribution Unit
⑦ Sealed Cold Aisle

Application Cases

● Saudi Telecom Container Data Center Project

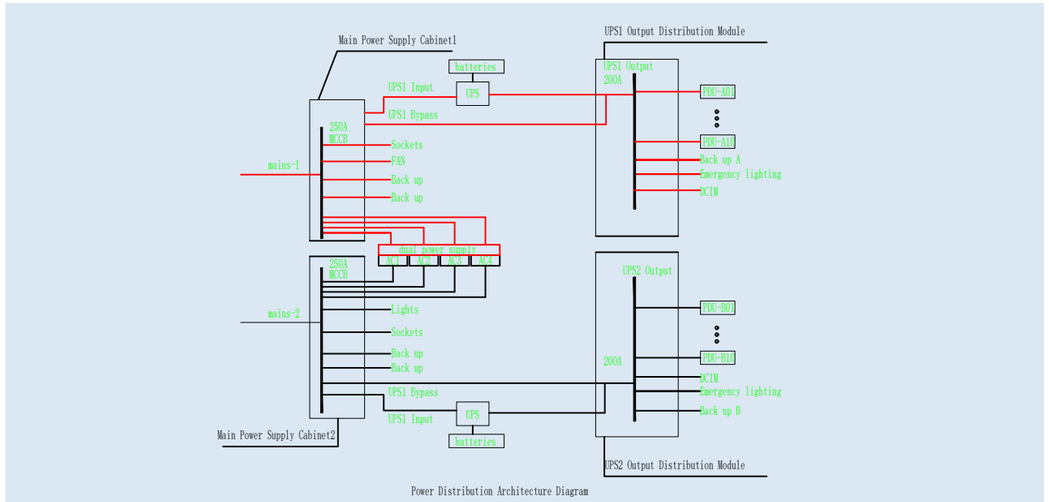
SOETECK delivered 2 standard 40-foot container data centers to Saudi Telecom, equipped with core facilities such as high-efficiency air conditioners, OLT equipment, ODF frames, and integrated with intelligent management, dual-power systems, and fire protection systems. The project has enhanced the customer's operational flexibility and stability, with its design scalability highly recognized. Cost savings and on-time delivery were achieved through efficient procurement strategies.



Application Cases

● Qatar Container Data Center Project

Gadrah Automobile Trading Company will deploy 5 container data centers for its Qatar branch to secure IT equipment operation. Using a 40-foot container with 11 racks handling 70kW load, the project features two 90kVA modular UPS mainframes with 15kVA modules, 2 sets of 32×100Ah lead-acid batteries for 16-minute backup, and 25kW in-row air conditioners in 3+1 redundancy for reliable cooling, ensuring a stable data center system.



Power Distribution Architecture Diagram