



Modular Data Center Solution



Shanghai Tiancheng Communication Technology Co., Ltd

TC Smart Systems Group established Shanghai Tiancheng Communication Technology Co., Ltd (Stock Code: 872049) in 2002. With the spirits of "TC's cabling, building up our country", the company focuses on providing end-to-end full-link solutions for last mile of smart broadband, expands the industrial chain and increases competitiveness from data communication to telecommunications, from passive to active, from hardware to software and system platform, from standard parts to smart products and smart systems, from copper solutions to optical solutions, from wired to wireless, from building cabling to data center industry development pattern, and later to the merger and reorganization of upstream and downstream enterprises after the board. Despite all these, the company has an extensive range of data center products, meeting the needs of small machine rooms and even large data centers.

Situated in New Industrial Park, Songjiang District, Shanghai, Shanghai Tiancheng Communication Technology Co., Ltd covers an area of 24,000 square meters. The company not only has advanced R&D, production, testing facilities, but also has a R&D laboratory accredited by CNAS and CMA. Its products have been fully tested by the National Ministry of Industry and Information Technology, the National Quality Supervision and Administration Center and other national authorities. Technology and innovation have always been the company's core strategic priority, and investment in product research and development has never been stopped. Currently the company has a team of over 40 senior R&D personnel dedicated to launching new products. Among these newly launched patented cabling products, Magic series UHD192 high density patch panel exhibits industry leading performances and thus greatly promotes the development of cabling industry. The company has passed the standards with regard to intellectual property system and gained the certificate.

The company, as the member of the national structured cabling and data center-related working group, participated in editing the international standards, national standards, industry standards, technical white papers and other documents. So far the company has been granted some 100 patents (9 patents for Invention, 3 for Computer Software Copyrights), and awarded as "High Technology Enterprise", "Technology Giant of Shanghai", "High-Tech Achievement Transformation Project in Shanghai", "Specialized, Fined, Peculiar, New", "Top ten Brand of Cabling" and many more.

In 2017 the company has successfully listed on the New Third Board and entered into the innovation layer for just one year. Despite the hardships over the past decade or more, it has become the benchmark in structured cabling and data centers. Numerous typical sample projects have been accomplished, such as Beijing Olympic Stadium, Great Hall of the People, Chairman Mao Memorial Hall, Shanghai World Expo, Tencent Data Center, Wanda Data Center, Bank of Communications Data Center, Data Center of Suzhou Public Security Bureau and many more.

Enterprises Culture

Corporate Vision: Improvement of TC People, Achievement of Business, and Building of our Home

Corporate Core Value: TC's Cabling, Building up our Country

Corporate Philosophy: Cooperation, Diligence, Pragmatism, Innovation

Corporate Objective: To be the Industry Leader

Brilliant History

- 1988 Start of Tiancheng Cable and Wire Co.,Ltd.
- 2002 Start of Shanghai Tiancheng Communication Technology Corp.
- 2003 Win the bid for the Cat6 Full link Cabling Project in District Government Building of Changning, Shanghai
- 2008 Win the bid for Smart Engineering Project in Beijing Olympic Village
- 2009 Win the bid for Low Voltage Engineering Project in Shanghai World Expo Village
- 2010 Awarded as "High Technology Enterprise of Shanghai"
- 2012 Honored as Enterprise Technology Center of Zhaibei District
- 2013 Officially named as TC SMART SYSTEMS GROUP
- 2016 Stock transformation of Shanghai Tiancheng Communication Technology Corp.
- 2017 Listed on the New Third Board
- 2018 Enter the innovation layer of New Three Board
- 2019 Honored as specialized, fined, peculiar and new "Small Giant Enterprise" by National Ministry of Industry and Information

Provider of Comprehensive solutions

• Data Center Solution

1. Micro Modular Data Center with Single Cabinet
2. Micro Modular Data Center with Single-Row Cabinets
3. Micro Modular Data Center with Dual-Row Cabinets
4. Data Center Cold/Hot Aisle

• Smart Infrastructure Management Solution

• Copper Cabling Solution

• Optical Fiber Cabling Solution

• Smart Home Cabling Solution

Influential Enterprises

Qualification

Contract Credit Rating A
Business Enterprise of Observing Contract and Valuing Credit
Shanghai Rural Commercial Bank Credit Certificate Rating A
Certificate of Credit Rating BB+

Patents

3 Computer Software Copyrights
9 Invention Patents
9 Appearance Patents
83 Utility Model Patents

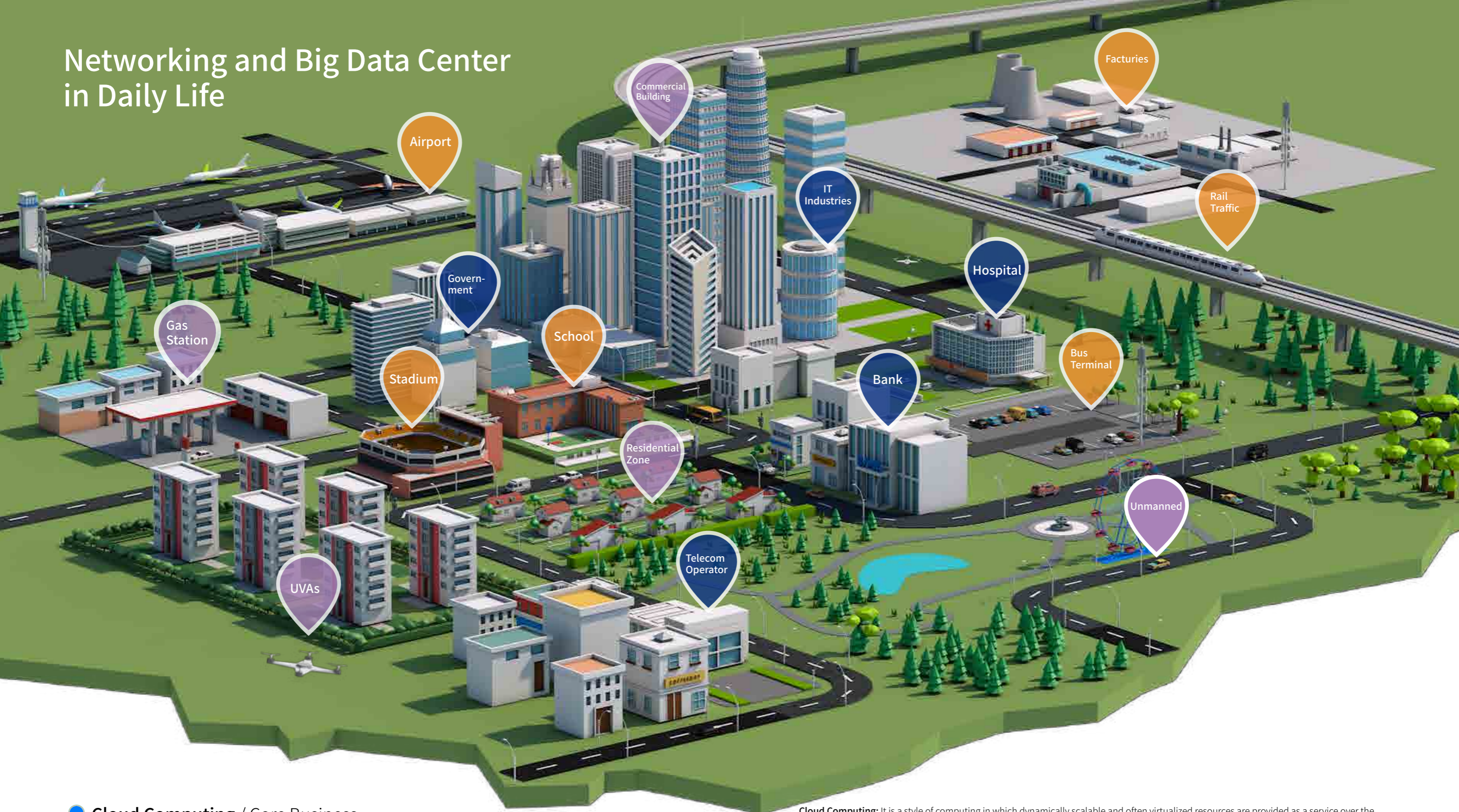
Honors

"Best New Brand Award" of Qianjia Cabling Net
"Best National Cabling Brand Award" of Qianjia Cabling Net
"Reliable Products" honored by Quality and Technology Supervision Bureau
High Technology Enterprise of Shanghai
Small Giant Enterprise of Zhabei District
"The Most Potential Science and Technology Enterprise in ICT Industry" in Shanghai
The First Group of "Specialized, Fined, Peculiar and New" Enterprises
Small Giant Science and Technology Enterprise of Shanghai
Best Science and Technology Innovation Brand
The Most Loved Brand in Smart Building Market
The Best Science and Technology Innovation Brand in Smart Building Market
The Best National Brand in Smart Building Market
The National Top Ten Brands of Integrated Cabling in Smart Building Market
The National Top Ten Brands of Integrated Cabling in Low Voltage Operation and Maintenance
Top Ten Brands of Integrated Cabling
"Specialized, Fined, Peculiar, and New" Enterprise of Shanghai
30-Year Star Entrepreneur of Technology Business Incubator in Shanghai
Specialized, Fined, Peculiar and New "Small Giant Enterprise" by National Ministry of Industry and Information

Certificates

Qualified Supplier of China Telecom, Shanghai Branch
RoHS Certificate
REACH Certificate
CE Certificate
ISO14001 Environmental Management System Certificate
OHSAS18001 Occupational Health and Safety Management System Certificate
UL Certificate
FORCE Certificate
ETL Certificate

Networking and Big Data Center in Daily Life



- **Cloud Computing** / Core Business
- **Fog Computing** / Convergence Business
- **Edge Computing** / Access Business

Note: The illustration mentioned above exhibits the common three data center applications, but they always combines in real time. Data centers should be selected according to the actual situation.

Cloud Computing: It is a style of computing in which dynamically scalable and often virtualized resources are provided as a service over the Internet. Cloud computing combines both the Internet's core hardware and software, and the central nervous system also sprouts from it.

Fog Computing: It is somewhere between cloud computing and personal computing, as a semi-virtualized service computing which always works no matter how weak a single compute node is. Features include low latency, location awareness, extensive geographic distribution, adaptive to mobile applications as well as support for multiple edge nodes - all these enable mobile businesses to speed up installation and gain access to more nodes.

Edge Computing: It provides resources (network, compute, storage and application) for applications with networking close to data sources, delivering edge smart services to meet digital needs of all industries in agile connectivity, real-time business, data optimization, smart application, security, privacy and more.

Data Center Tier Ratings

Definition

A data center can be a building or part of a building, mainly set for a machine room and its supporting space. It is home to core data processing facilities, so called as the brain for data processing. Data centers are built to manage and optimize IT infrastructure in a comprehensive, centralized, active and effective way in order to lift information systems a higher level of manageability, availability, reliability and scalability, and thus ensure smooth operation of businesses and timely delivery of services.

A sound, future-oriented and high-performance data center must adhere to the following:

- 1) A place where local data computing and storage, as well as well-connected networking equipment are all available;
- 2) Power supply for all equipment;
- 3) Environments where working temperature can be controlled, as requested by technical parameters;
- 4) A secure and reliable networking for all inner and outer equipment.

GB50174 Data Center Classification

In accordance with GB50174-2017 “Code for Design of Data Centers”, data centers can be classified into Level - A, B, C based on usage, management requirements and the extent of economic and social losses caused by interruption of electronic information systems due to field equipment failure.

- **Level A Fault Tolerance**

Fault tolerance refers to the ability of EIS (Electronic Information System) to operate normally when an accident occurs or its components are being maintained or serviced.

- **Level B Redundancy**

Redundancy refers to the ability of EIS to continue operating without interruption within redundant capability, when one or more of its components fail.

- **Level C Basic Type**

Basic type refers to the ability of EIS to keep running during normal operation of all its components.

Correspondence between Data Center Levels & Tiers

GB50174	TIA942	Performance Requirements
Level A	T4	Tier 4 data centers are considered “fault tolerant”. During system operation, No operating error, equipment failure, external power interruption, maintenance and overhaul can shut the system.
	T3	Tier 3 data centers can perform concurrent repairs. The system operates as planned without a hiccup in operations.
Level B	T2	Tier 2 data centers are considered “redundant”. During system operation, EIS continues operating without interruption within redundant capability, when one or more of its components fail.
Level C	T1	Tier 1 data centers are installed with basic configuration. During normal operation, EIS keeps running without interruption.

TIA942 Data Center Tiers

In TIA942 “Telecommunications Infrastructure Standards for Data Centers”, availability differs according to data center tiers. According to project needs and practices, The Uptime Institute proposed a system framework to differentiate the levels of availability (max. up to 99.999%) each data center can achieve. As it stands now, there are four tiers with a focus on power supply, cooling and many other specifications. Tier 1 (with 99.671% guaranteed availability) does not enjoy redundancy while Tier 4 are considered “fault tolerant” with redundant components and concurrent maintainability. These four tiers represent different requirements regarding building structure, security, electricity, refrigeration, grounding, fireproof, to name a few.

Tier 1 Data Center: Basic

Tier 1 Data Center has the most basic configuration that can be affected by planned or unplanned operation interruption. These centers might not have a raised floor, UPS, or a generator although they may include a power distribution system and an air conditioning system. Even with a UPS and a generator, the infrastructure only consists of a single module system and a single path for fault points. Annual preventive maintenance shall shut down the system; equipment failures, operational errors and other emergencies may also cause problems resulting in a hiccup in operations. Tier 1 Data Center, with non-redundant servers, provide 99.671% availability.

Tier 2 Data Center: Redundant

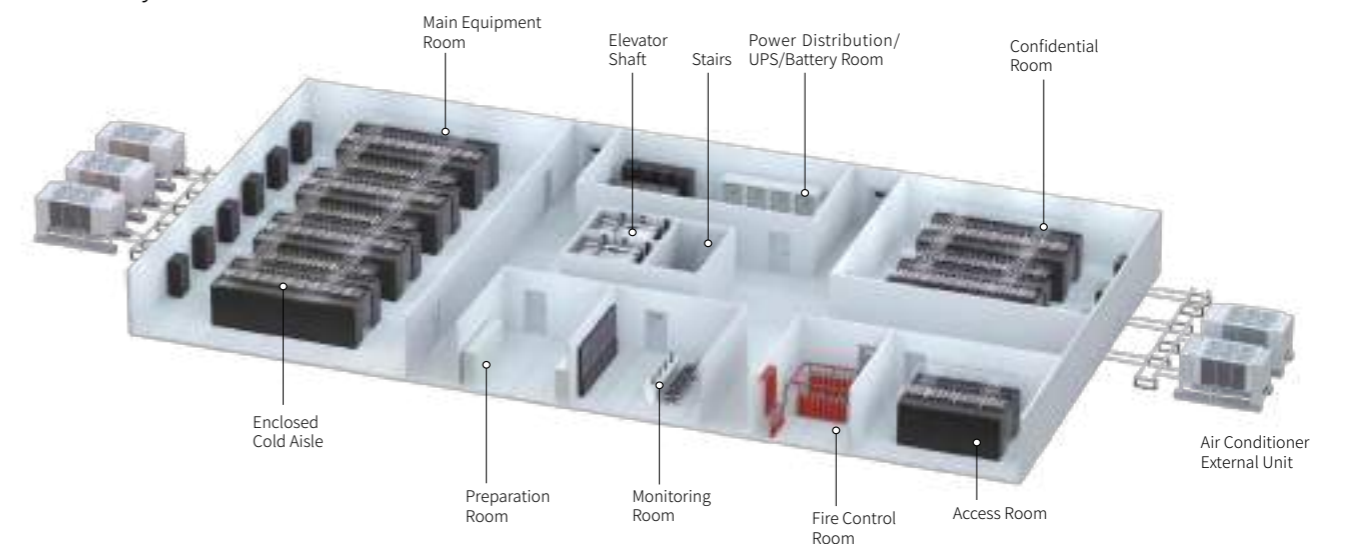
What differs from Tier 1 is that Tier 2 Data Center can provide N+1 redundancy. These centers have a raised floor, UPS, and a generator but only consist of a single module system. Maintenance of key power lines and other facilities shall shut down the system. Tier 2 Data Center, though with a single path for its power distribution and cooling system, enjoys redundancy and provides 99.741% availability.

Tier 3 Data Center: Capable of Online Maintenance

Tier 3 Data Center allows for planned activities without a hiccup in operations. These activities include preventive and routine maintenance, parts replacement, new adds of components, capacity adjustment, inspection of the system and its components and many more. In large data centers with a chilled water system, two separate lines shall be installed, one for maintenance and testing, the other as a backup for normal operation. Unplanned activities, such as component failure, may cause outages. Generally, Tier 3 Data Center consists of several power and cooling distribution paths with only one for normal operation, and others for backups, so that online maintenance can be carried out and its availability can be up to 99.982%.

Tier 4 Data Center: Fault Tolerant

Tier 4 Data Center enjoys fault tolerance which ensures no planned activity could shut down the system. These activities include preventive and routine maintenance, parts replacement, new adds of components, capacity adjustment, inspection of the system and its components and many more. Dual power sources shall be available with two separate N+1 redundancies. The maximum load of critical loads shall not exceed 90% of the max. Output capacity of each system. Tier 4 Data Center requires fault-tolerant dual power sources for all IT hardware which ensure no single error or emergency could cause outages. Tier 4 consists of several power and cooling distribution paths, enjoys fault tolerant servers and provides 99.995% availability.





As critical part of new generation data center infrastructure, TC Modular Data Center provides professional solutions, diversified tailored services, and delivers green and energy-saving DC infrastructure. Its extensive range of data center products include Micro Modular Data Center with Single Cabinet, Single-Row Cabinets and Dual-Row Cabinets.

Modular Data Center

RA series Server Cabinet

19 inch standard cabinet, modular design



Product Information

Applications

RA series Server Cabinet has many of the features, such as modular design, customer unique configuration and unlimited scalability, that modern modular data centers have, precisely tailored to customer requirements.

Features also include excellent structural stability, outstanding static/dynamic loading capacity, remarkable interchangeability, durability, security and reliability. For safety and shipping cost reduction, the server cabinet is designed in modular pieces that could be flat-packed.

High quality steel raw materials are processed by laser, digital punch, bending, welding and other precision equipment, and assembled in a fast and simple way. Compatible with IT equipment of different specifications from major vendors, it has complete and various installation accessories available for selection.

Features

- Static load capacity of 1,800 kg, dynamic load capacity 700kg, magnitude 8/9 earthquake resistance;
- IP20 protection rating;
- Surface electrostatic spraying in black sand powder, sand texture, shiny metal, no vertigo under the light;
- Front and rear door can be detached without tools; the two side panels flexibly disassembled; and left/right, up/down replaced with each other;
- Front and rear door can be opened to 135 degrees, for easy installation and debugging of large equipment;
- "U" number is labeled in front/rear of the column for rapid installation;
- Front and rear position of the column can be adjusted in half-inch interval, tailored to all manufacturers' demands on IT equipment of different depths;
- Tool-free cabinet top cover; line knock-out holes in front/rear/left/right side prepared for a large quantity of cables; brushes are equipped to effectively prevent debris and dust from the cabinet.

Standards Met

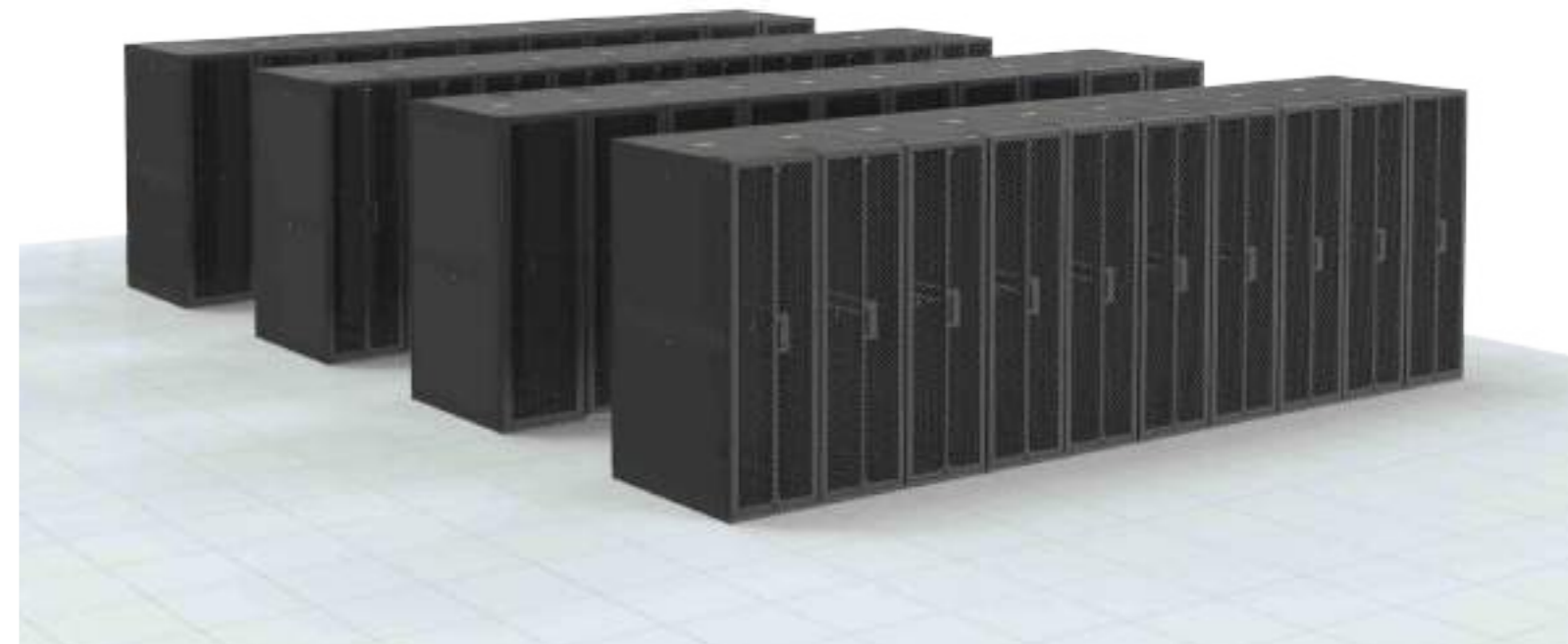
ANSI/EIA RS-310-D, IEC297-2, DIN41491; PART1, DIN41494; PART7, GB/T3047.2- 92; GB/T 15395-94; GB/T19520/IEC 60297

Customized Cabinets

RA series Server Cabinet offers multiple types of cabinets, such as high ventilation rate, front door with unique shape, multi-colored LED, high density chimney type, tempered glass enclosed type, to name a few.

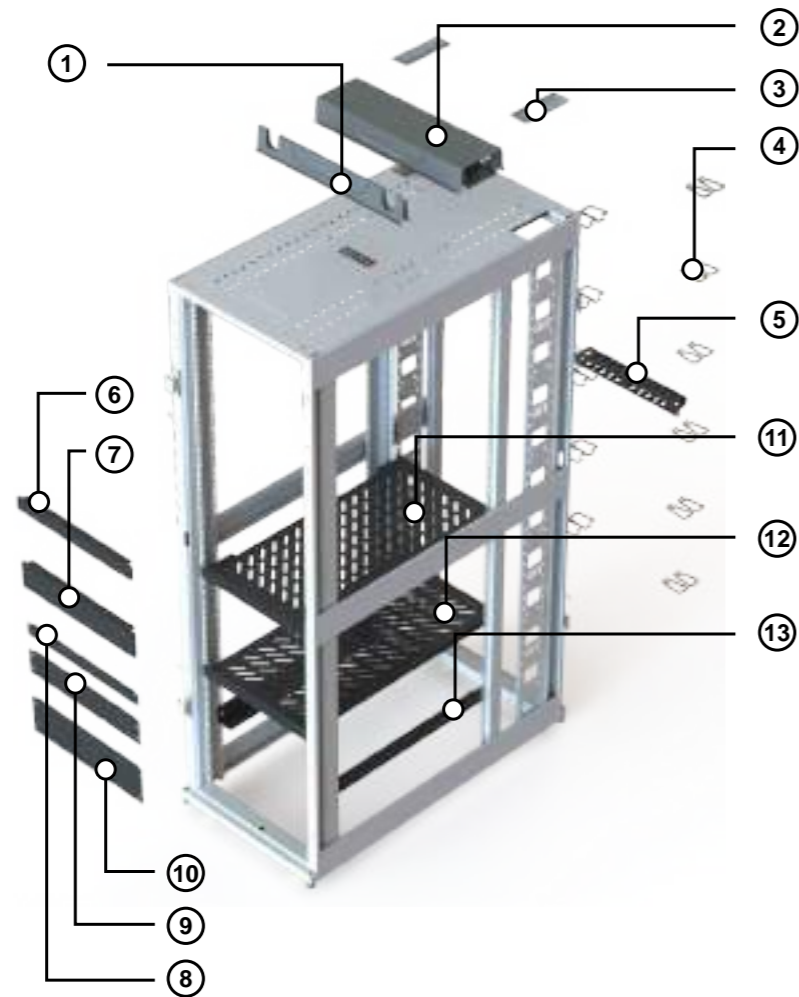
The server cabinet also provides customer services regarding size, specification, color, lighting and many more.

Airflow organizers are available in high density environments, installed in a single cabinet or single-row multi-cabinets in ways to reduce airflow losses, optimize cold air usage and thus achieve energy conservation and consumption reduction.



Server Cabinet Accessories

Accessories for standard 19 inch server cabinets



Product Information

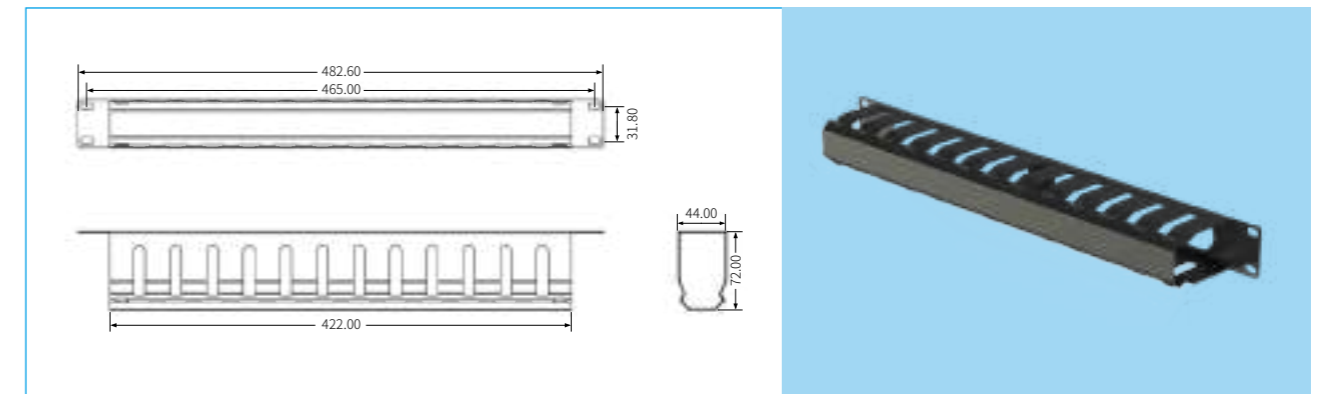
Applications

These accessories can be used in network cabinets, server cabinets and outdoor cabinets, standard 19 inch mount, compatible with other brands of cabinets, ideal for rapid deployment.

No.	Name	Material
1	Trough for Low Voltage Cables	SPCC
2	Upper Trough for High Voltage Cables	SPCC
3	Sealing Brush	ABS, V0 fire retardant
4	Cable Retainer	Q235
5	1U Horizontal Cable Manager	SPCC
6	Tool-Free 1U Blanking Panel	ABS, V0 fire retardant
7	Tool-free 2U Blanking Panel	ABS, V0 fire retardant
8	Metal 1U Blanking Panel	SPCC
9	Metal 2U Blanking Panel	SPCC
10	Metal 4U Blanking Panel	SPCC
11	50-120 kg Rack Shelf	SPCC
12	150-300 kg Rack Shelf	SPCC
13	L-Type Rail	SPCC

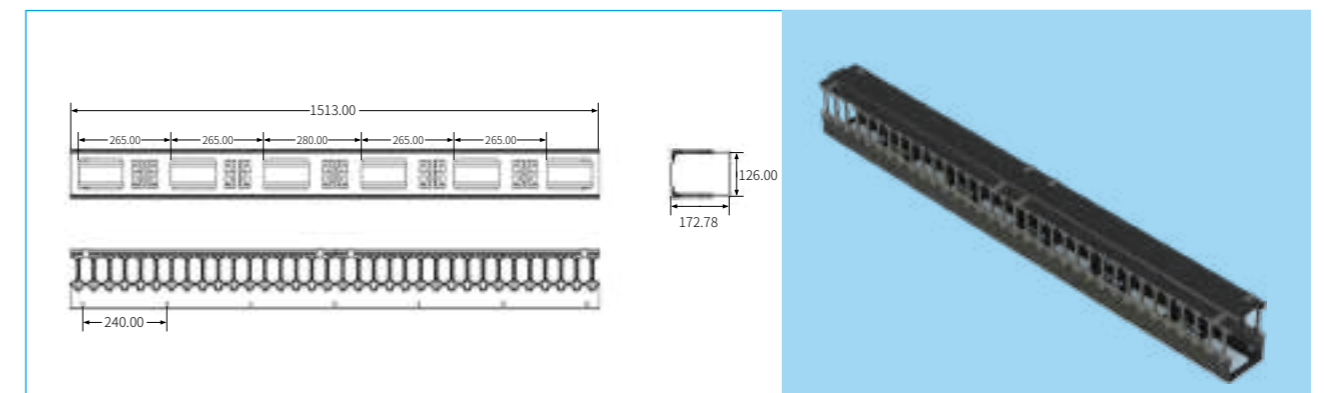
1U Horizontal Cable Manager

1U metal horizontal cable manager with cover panels fits the standard 19-inch installation. Its reasonable structure speeds up and simplifies cable organization.



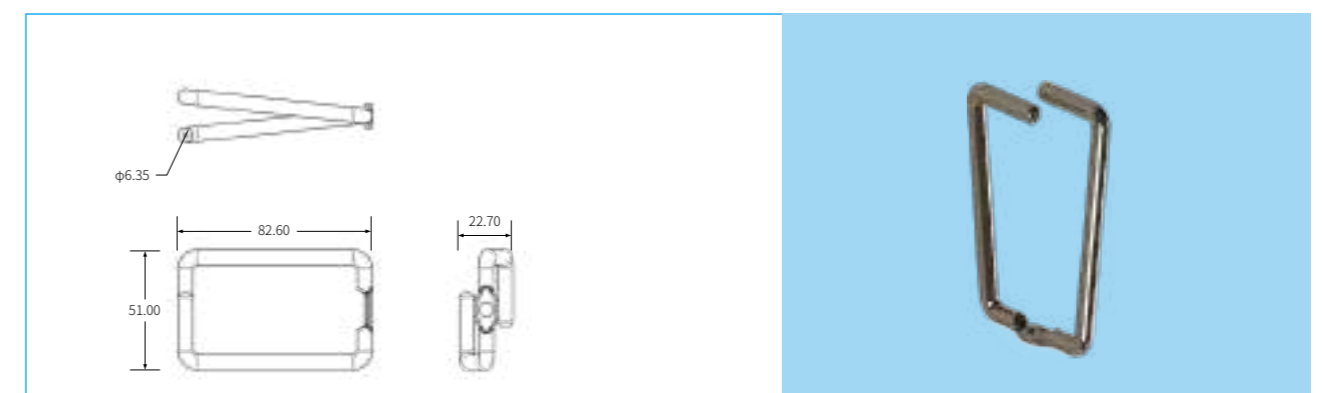
Vertical Cable Manager with Fingers

Fingers are offered for 800mm wide cabinets. Its reasonable structure speeds up and simplifies cable organization.



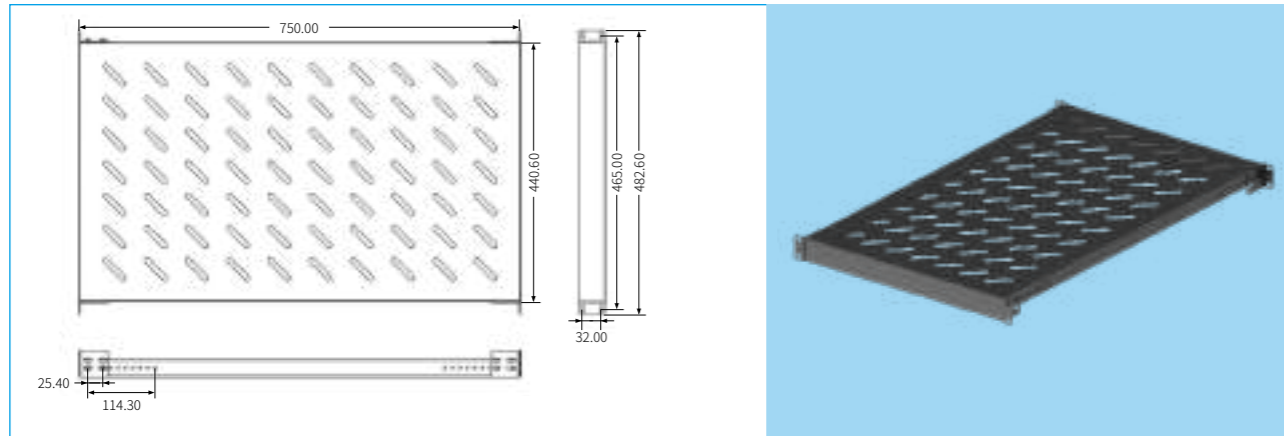
Cable Retainer

Cable retainer can be used for cabinets of different structures and brands, and attached to tie plates and equipment columns. Its reasonable structure speeds up and simplifies cable organization.



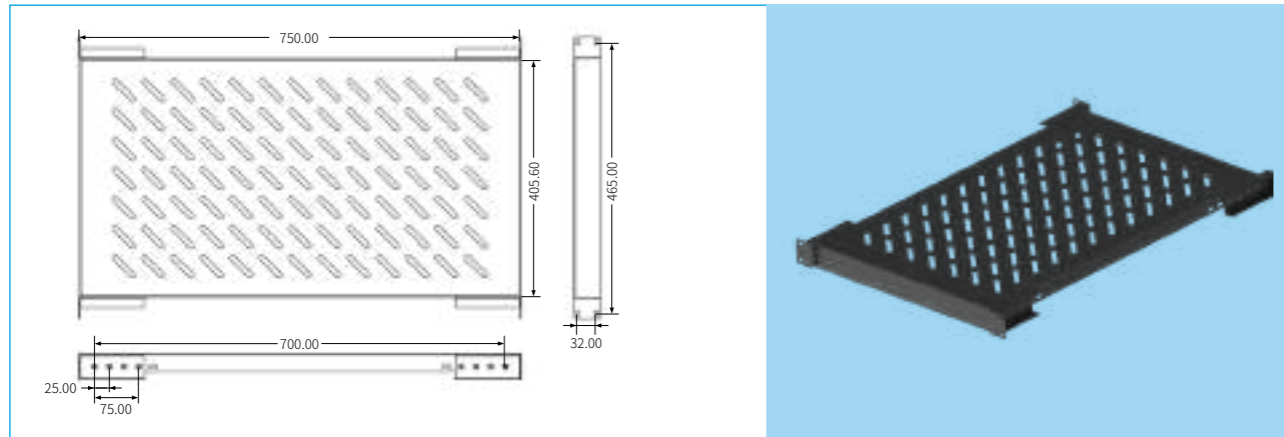
Light Load Shelf (50 kg)

Light load shelf is capable of handling weights to a maximum of 50kg and is suitable for 19-inch cabinets or brackets. With front and rear attached to equipment columns, adjustable in depths and directions, it can meet the needs of different loading ratings.



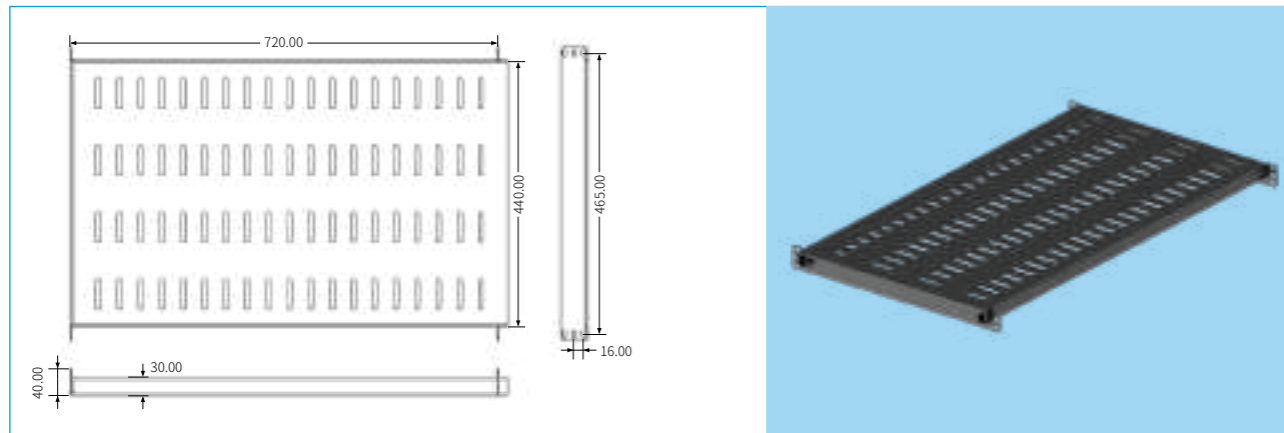
Shelf with Supporting Angle (150 kg)

Shelf with supporting angle is capable of handling weights to a maximum of 150kg and is suitable for 19-inch cabinets or brackets. With front and rear attached to equipment columns, adjustable in depths and directions, it can meet the needs of different loading ratings.



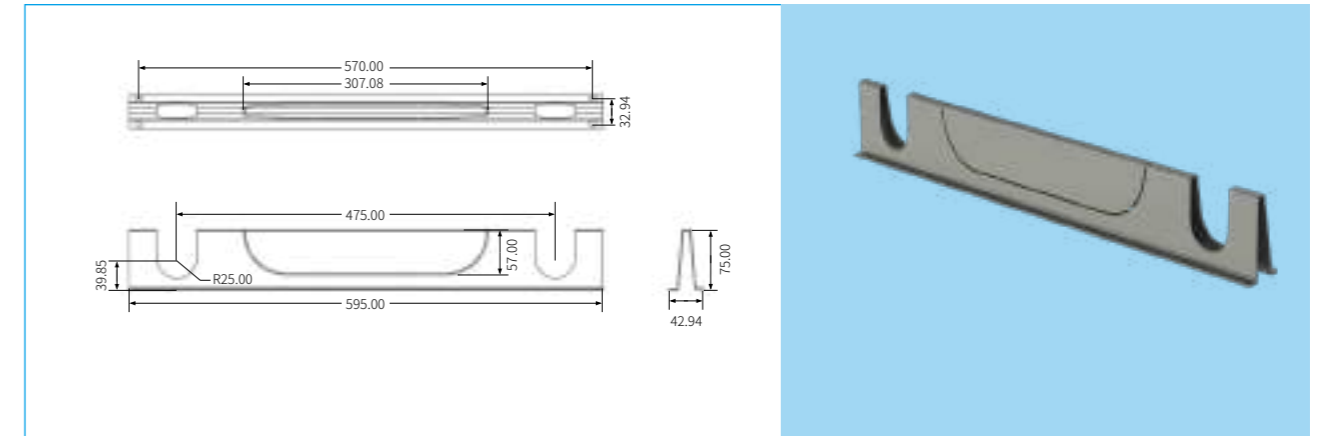
Heavy Load Shelf (300 kg)

Heavy load shelf is capable of handling weights to a maximum of 300kg and is suitable for 19-inch cabinets or brackets. With front and rear attached to equipment columns, adjustable in depths and directions, it can meet the needs of different loading ratings.



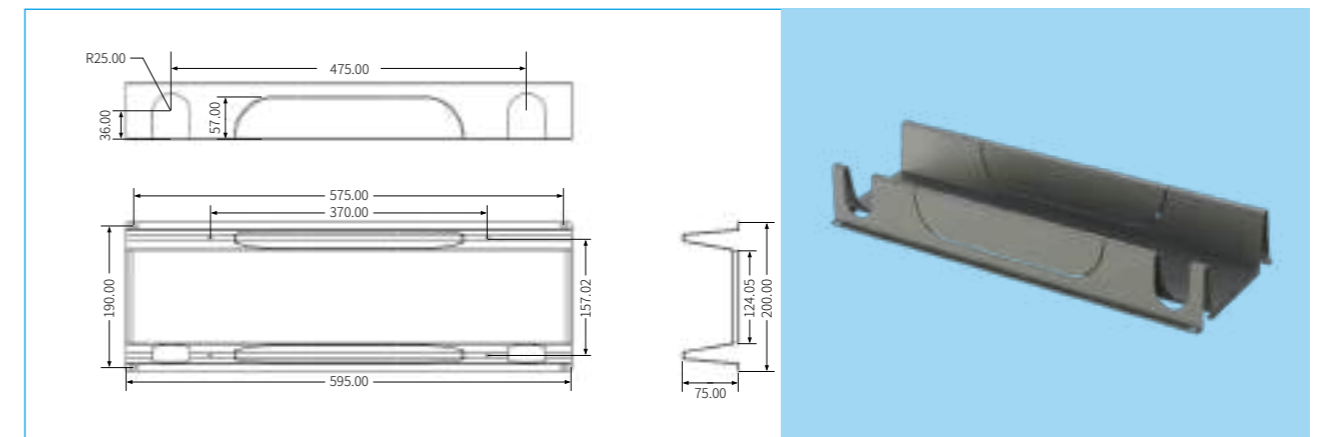
Trough for Low Voltage Cables

Installed on top of the cabinet, the trough can be adjustable in widths according to different cable volumes. High and low-voltage are isolated, with special slots on both sides, coupled with cover panels for a neat and organized cable layout.



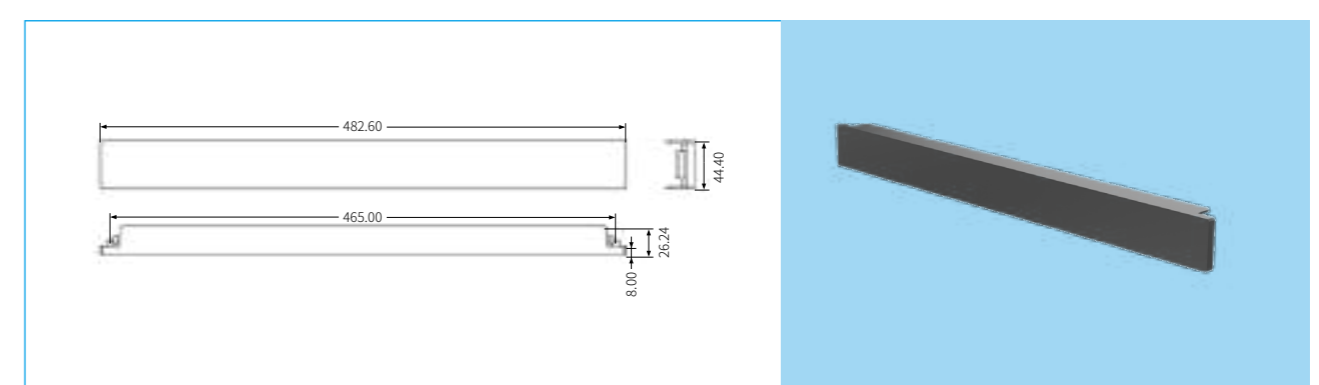
Trough for Strong Voltage Cables

Installed on top of the cabinet, the trough can be adjustable in directions according to the inlets of wiring. High and low-voltage are isolated, with special slots on both sides, coupled with cover panels for a neat and organized cable layout.



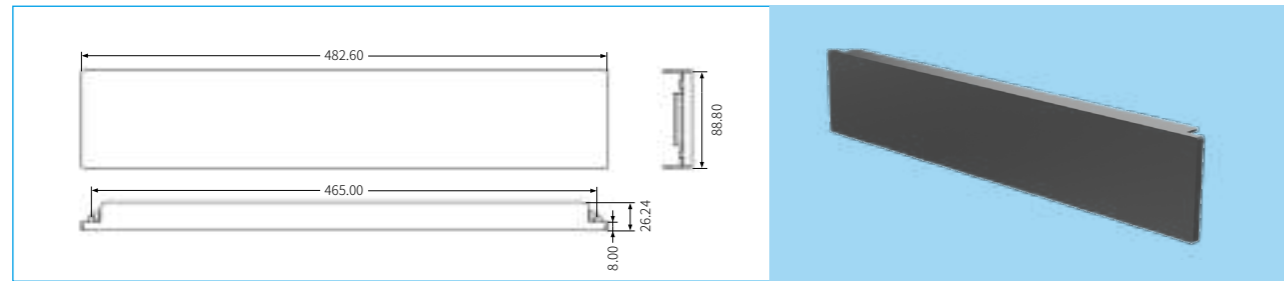
1U Plastic Blanking Panel

The tool-less design, for 19 inch racks, allows airflow to control the panel and the unused rack space to prevent air recirculation and bypass airflow.



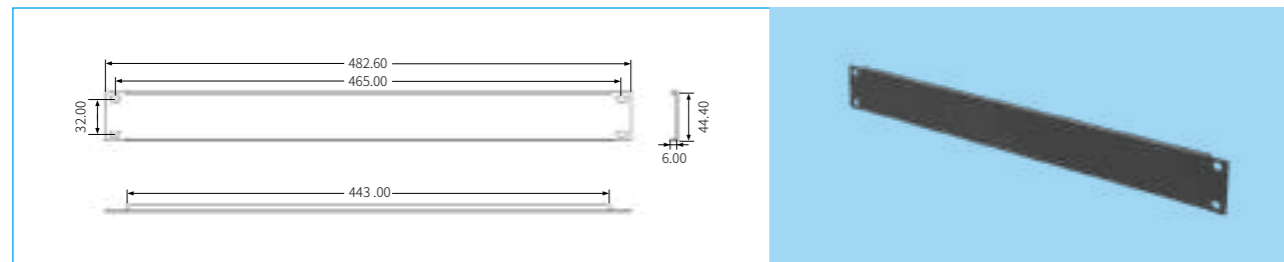
2U Plastic Blanking Panel

The tool-less design, for 19 inch racks, allows airflow to control the panel and the unused rack space to prevent air recirculation and bypass airflow.



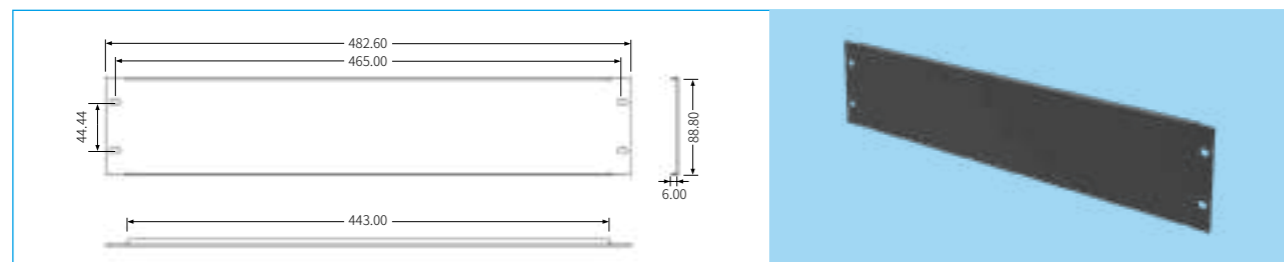
1U Metal Blanking Panel

Designed for 19 inch racks, it allows airflow to control the panel and the unused rack space to prevent air recirculation and bypass airflow.



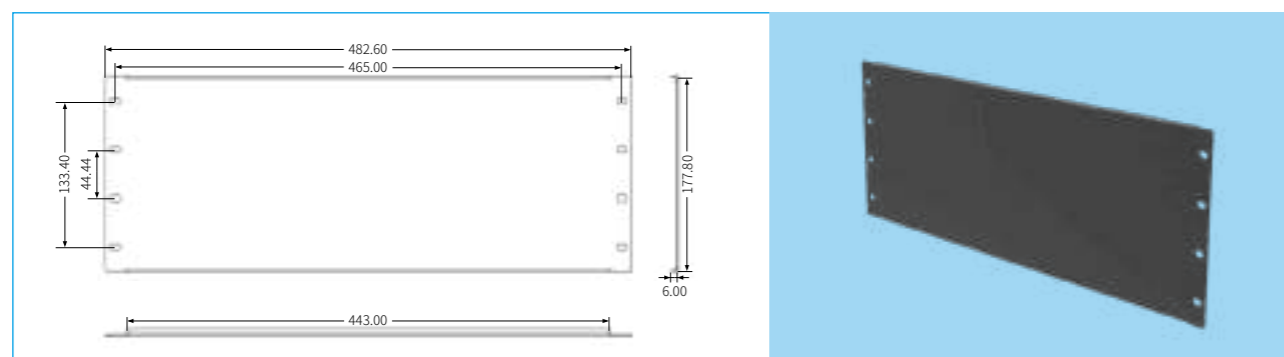
2U Metal Blanking Panel

Designed for 19 inch racks, it allows airflow to control the panel and the unused rack space to prevent air recirculation and bypass airflow.



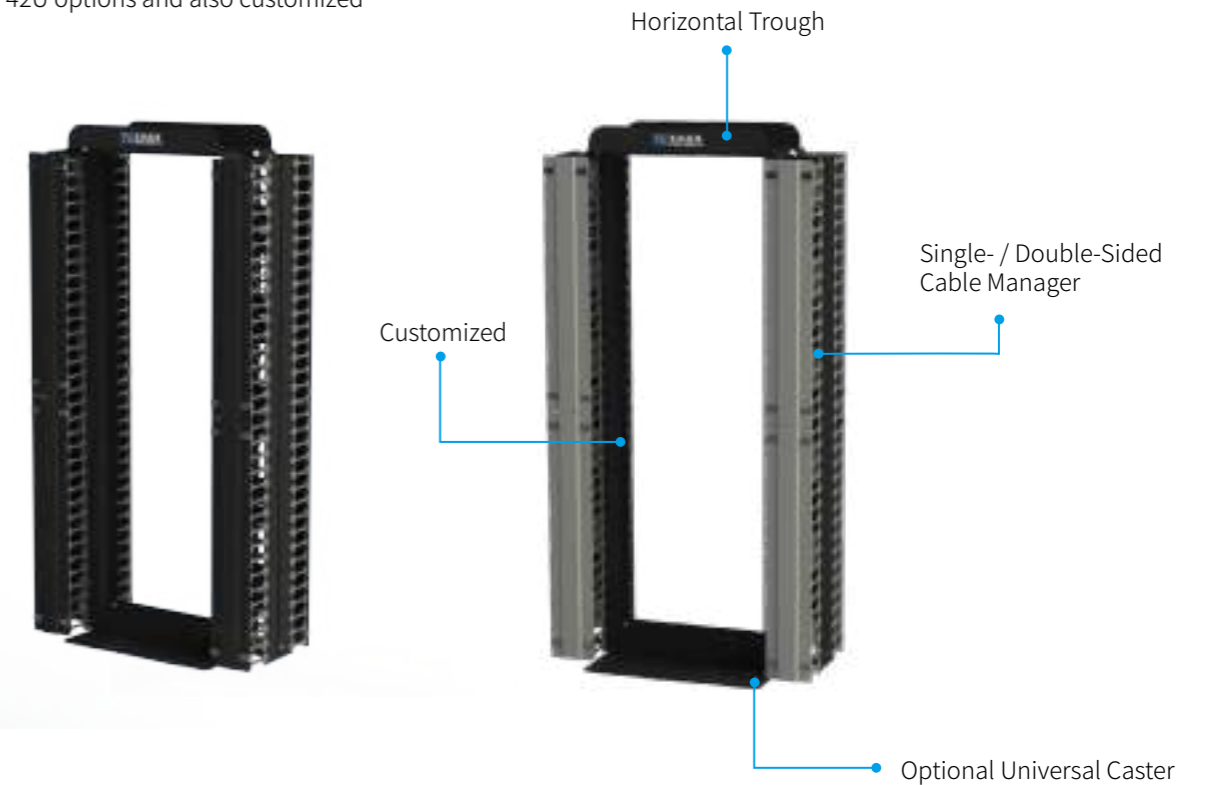
4U Metal Blanking Panel

Designed for 19 inch racks, it allows airflow to control the panel and the unused rack space to prevent air recirculation and bypass airflow.



Open Racks

With 28U, 32U, 42U options and also customized



Product Information

Applications

Open racks are offered as an accessory for applications that require cable organization in low voltage room, telecom operator, high density or high capacity data center deployment.

Features

- **Fast deployment**
 - 5 min. deployment by a single man
- **Cable Manager for Large Cable Capacities**
 - Maximum capacity for use with vertical cable managers attached to each side; plastic fingers available in different heights; with cover panels to simplify and speed up cable management
- **High Density**
 - Available in single-/double-sided vertical patching; with top waterfall trough for high density environments
- **Flexibility**
 - An extensive range of accessories to meet different needs, including vertical/horizontal cable managers, cable retainers, light load trapezoid shelf, universal casters, cover panels opened to both sides

Product Parameters

Material: High Quality Cold-Rolled Steel T=1.5, 2.0
 Surface Treatment: RAL9005: Black Sand Powder
 RAL7035: Light Grey
 Plastic Finger Height: options of 60mm, 75mm, 110mm and more

Standards Met

ANSI/EIA RS-310-D, IEC297-2, DIN41491; PART1, DIN41494;PART7, GB/T3047.2- 92

Data Center Cold/Hot Aisles

19-inch, modular design, closed cold/hot aisles, fire resistant retractable skylight, access control



Applications

Data center cabinets are facing a lot of challenges: higher heat density, greater electric energy consumption, lack of space, and cabinet layout not keeping up with the needs of business growth. There has always been increasingly requirements for cooling, though air conditioners are frequently replaced and added. However, there still exists the partial heat island problem, that is, direct mix of cold and hot air resulting in huge waste of cooling capacity. The equipment on top of the cabinet cannot acquire enough cooling capacity as needed, so the overall PUE value still remains high.

The cold/hot aisle containment system separates the cold inlet air and the hot exhaust air. The cold air is pushed under the raised floor and through the closed cold aisle. As the cold air concentrates in front of the cabinet and cools the equipment, it is heated and eventually dissipated into the hot aisle. The hot exhaust air is then routed back to the outlet of air conditioner.

Features

Thanks to the hot aisle and cold aisle, the cabinets are no longer placed in the same direction. The fronts of the racks face each other, which fits for the front-to-back heat dissipation of most IT equipment. In doing this, an unnecessary mix of cold and hot air is thus avoided for improved cooling efficiency.

Standards Met

GB/T 18233 (ISO/IEC 11801); GB 50311; GB50174; TIA/EIA568-C.2



Cold Aisle

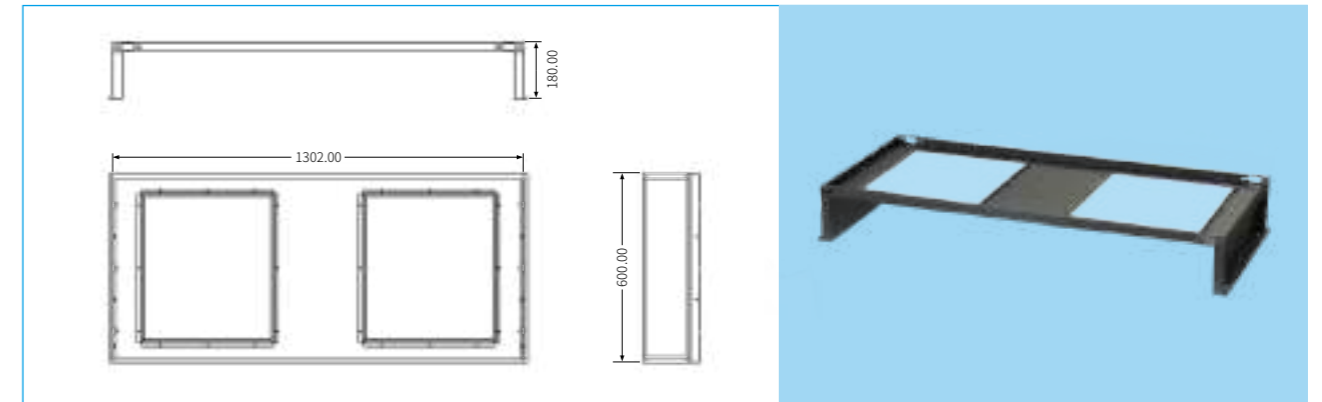


Hot Aisle

Aisle Skylight

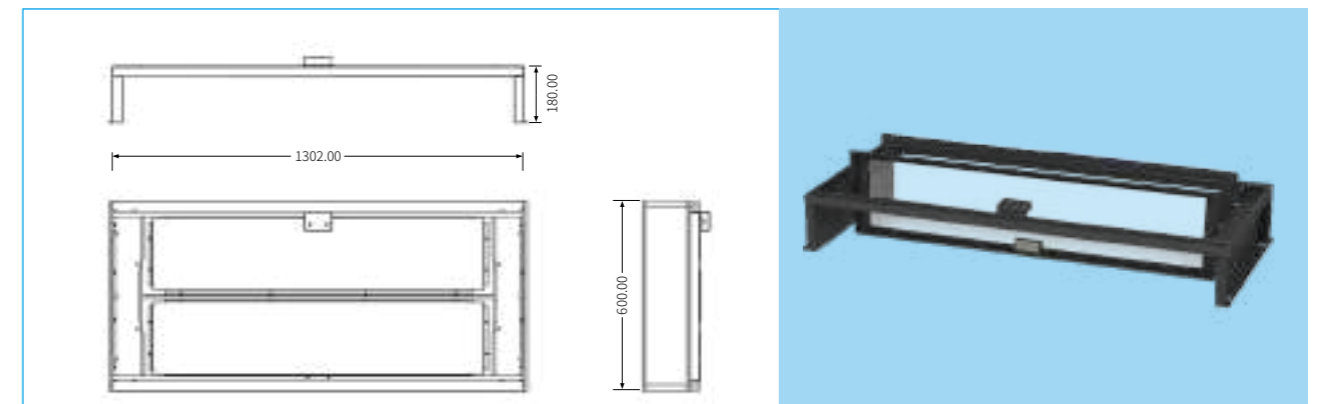
Functional Skylight

Installed in front and rear ends of the cold aisle; the middle reserved for hygrometer and thermometer, smoke alarm, surveillance cameras and other equipment



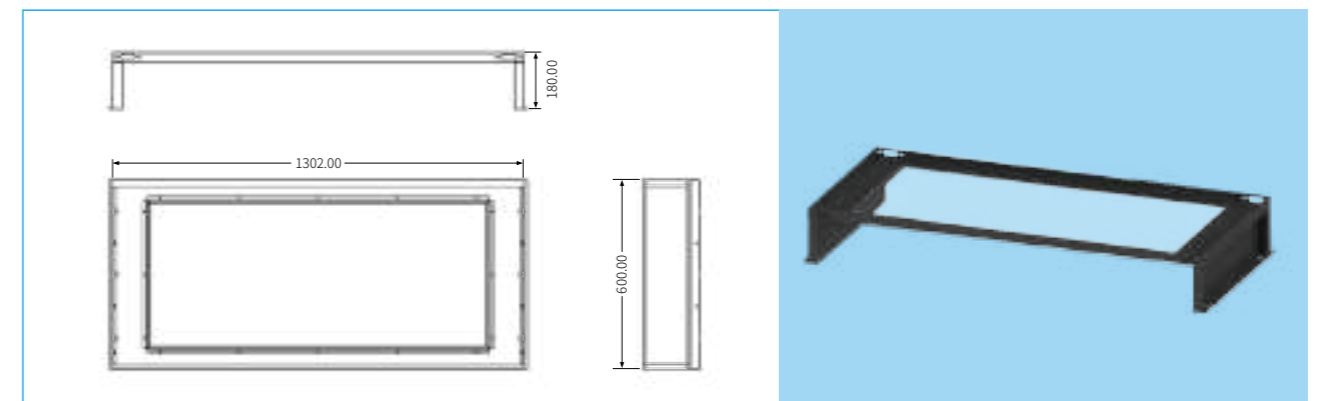
Fire Fighting Linkage Retractable Skylight

Installed in the middle of the cold aisle, in dual flip structure designed to reduce upper space



Fully Transparent Fixed Skylight

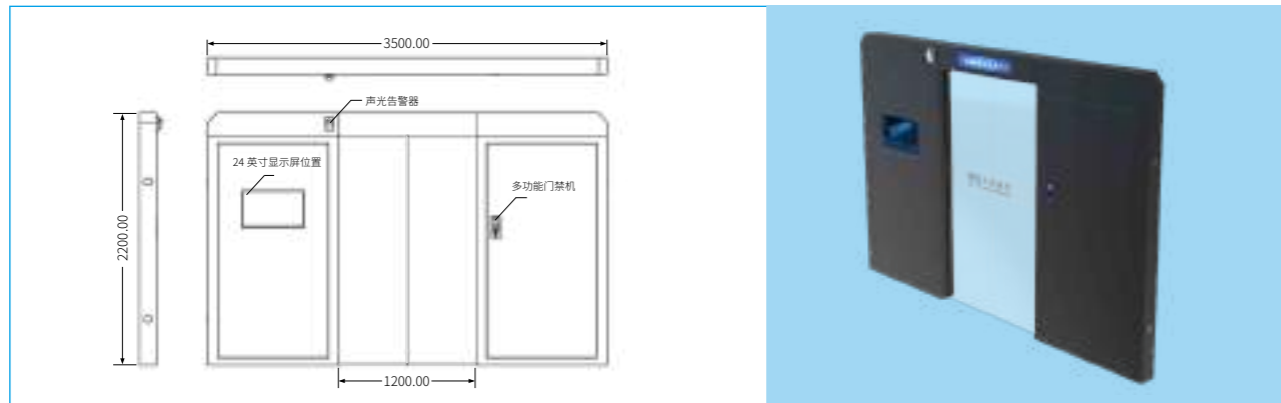
Installed in the middle of the cold aisle, with a huge scale of tempered glass, for better light penetrability inside the aisle



Aisle Door

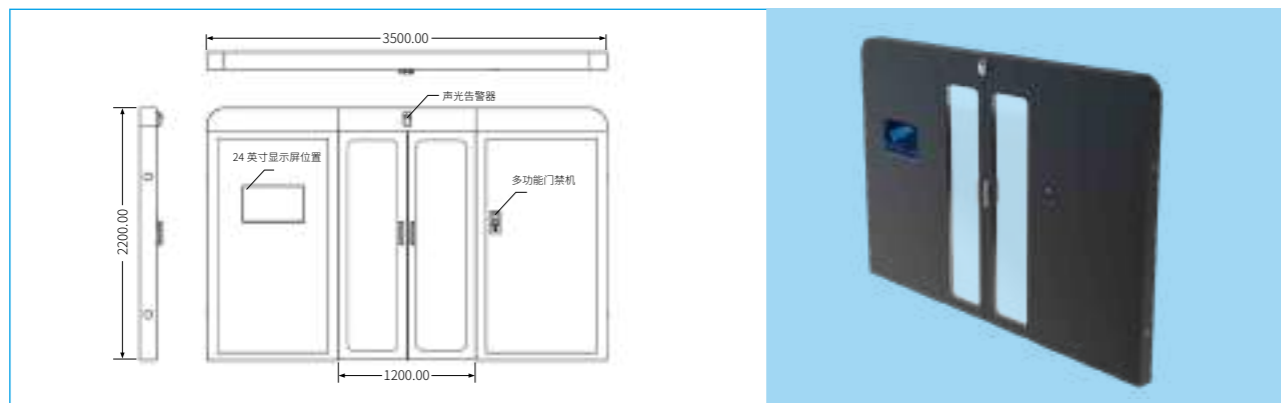
Electric Sliding Door

Single- / Double-opened frameless tempered glass electric sliding door, installed in front and rear ends of the cold aisle, with door access, anti-pinch, exit button, alarm and the screen



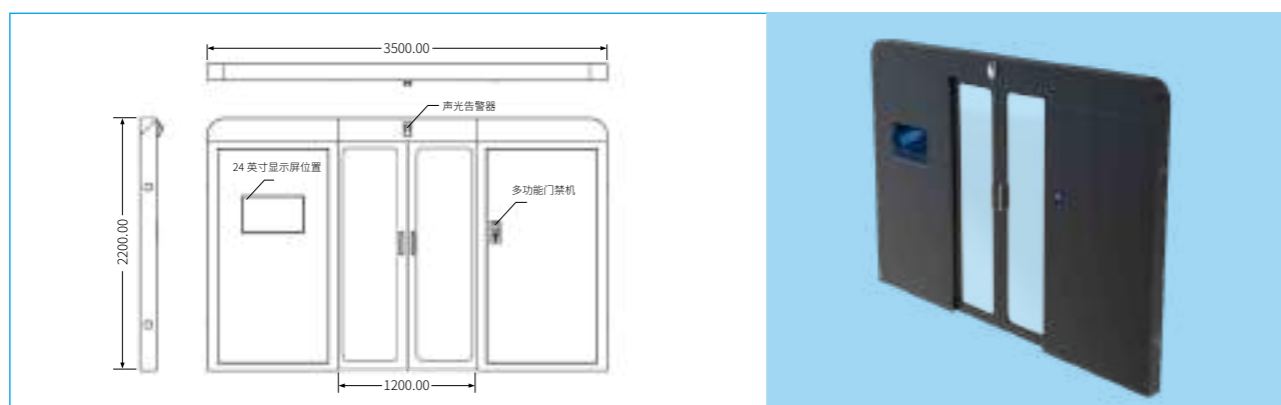
Double Flush Door

Single- / Double-opened manual extrapolation door, installed in front and rear ends of the cold aisle, with inbuilt door closer, door access, alarm and automatically closed device



Double Manual Sliding Door

Single- / Double-opened manual sliding door, installed in front and rear ends of the aisle, with door access, alarm and automatically closed device



Aisle Airflow Diagram



Classic Solution 1

Front Horizontal Airflow of Column Air Conditioner

Designed for small- / medium-sized data center applications in finance/securities, healthcare/education, Internet/big data, telecom operator, government and many more.

Classic Configuration

3-15KW per cabinet; precision column-type air conditioners, with air pushed horizontally from the front; the number of PDUs flexibly adjusted according to the total distribution circuit; the number of air conditioners flexed by the total power and redundancies.



Classic Solution 2

Airflow of Precision Air Conditioner from Electrostatic Floor

Designed for medium- / large-sized data center applications in finance/securities, healthcare/education, Internet/big data, telecom operator, government and many more.

Classic Configuration

3-10KW per cabinet; precision air conditioners, with air pushed from the floor; the number of PDUs flexibly adjusted according to the total distribution circuit; the number of air conditioners flexed by the total power and redundancies.



Classic Solution 3

Integrated Management of Hot Air in Hot Aisle

Designed for medium- / large-sized data center applications in finance/securities, healthcare/education, Internet/big data, telecom operator, government and many more.

Classic Configuration

3-10KW per cabinet; cooling in precision air conditioners, and cold/hot aisle built to centrally manage the hot air; power supplied by busbar or precision power distribution cabinets; the number of air conditioners flexed by the total power and redundancies.

Modular Data Center

Standard 19 inch cabinet, modular design, cold & hot aisle containment, aisle skylight, aisle door, lighting/atmosphere light



Product Information

Applications

Modular Data Center can be used for medium-/ large-sized data center applications in finance/securities, healthcare/education, Internet/cloud computing, telecom operators, government and many more. Standardized components, de-engineered, ensure data center production in factories and realize the overall delivery to customers. Customers can quickly acquire products as needed and expand capacity according to businesses.

Features

- These centers have all of the infrastructure that traditional data centers have, including pre-configured components, modular subsystems as well as highly integrated equipment, such as UPS, air conditioner system, smart power supply system, environmental control system, access control system and more.
- Modular design makes it easier to install and maintain. Standard ports, prefabrication inspection, field deployment and maintenance ensure a shorter online time.
- Investment in infrastructure construction has been decreased due to high protection rating, low noise and easy-to-deploy in harsh environments.
- Thanks to high efficient green energy reduction, dual conversion online UPS, DC frequency conversion fan, smart power supply as well as supervision and control system, the cabinet guarantees the uptime availability and stability. The PUE rating drops to 1.4.
- The front and rear door can be customized for various types of light alarms. Touch screen control panel can record operational information in real time.
- Available in various types of doors, waterfall troughs and fire resistant retractable skylights.
- Sophisticated column air conditioner, smart power distribution cabinet, battery cabinet and gas fire control system can all be flexibly configured according to different demands so as to provide customers with a comprehensive solution and best quality services.

Standards Met

GB/T 18233 (ISO/IEC 11801); GB 50311; GB50174; TIA/EIA568-C.2

Type	Item	Parameters
Server Cabinet	Standards Met	In accordance with GB3047.2, IEC297-2, DIN41491 PART1, DIN41494 PART7, compatible with ETSI
	Dimensions	600X1200X2000mm (42U) W x D x H
	Load Capacity	Static load capacity 1,800 kg, dynamic load capacity 800 kg, 9.0 magnitude earthquake resistance
Power Distribution Units	Ventilation Rate of Mesh Door	Single-open mesh front door, double-open mesh rear door (available in hexagon hole, round hole, waist hole), ventilation rate up to 85%
	Rated Power	Single- or three-phase input, 50/60 Hz, 20 to 300 KVA
	Brands of Molded Case Circuit Breaker	Schneider, ABB, Siemens (customized)
	Dimensions	600X1200X2000mm (42U) W x D x H (customized)
Air Conditioning System	Functions	Single/ two-way busbar, smart monitoring gauge in the backbone and branches, anti-surge protection switch and protector
	Type	Precision air conditioner, column-type air conditioner, rack-mounted air conditioner, air conditioner in small machine room
	Cooling Type	Water cooling, air cooling, frozen water cooling
UPS System	Way of Isolation	Cold and hot aisle
	Rated Capacity	25 to 300KVA
	Rated Input	3-phase, 5-wire 380Vac, 50/60Hz
	Working Capacity	Backbone 95%, ECO mode 98%
Environmental Control System	Storage Battery	Maintenance-free, lead-acid batteries
	Environmental control	Hygrometer and thermometer, smoke alarm, water leakage alarm, door access, HD cameras
	Monitoring Equipment	Precision power distribution cabinets, UPS, air conditioning, storage batteries, fire fighting systems
Structured Cabling	Alarming Methods	24-inch touch display, local sound and light alarm, voice alarm, SMS alert
	Transmission Performance	Copper Cat.6/Cat.6A/Cat.7/Cat.7A/Class/II, multimode OM3/OM4/OM5, singlemode OS2
	Safety Performance	IEC60332-3 fire retardant, safe and environmentally friendly

Micro Modular Data Center with Single Cabinet / In-Row Multiple Cabinets

42U enclosure, invisible power distribution, frameless display, colored LED front door, 34U space for use



Product Information

Applications

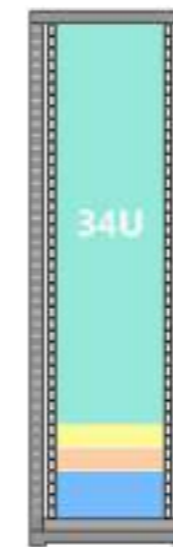
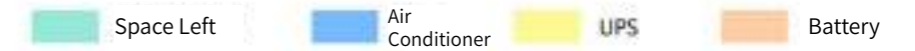
Micro Data Center can be used for medium-/ small-sized data center or edge data center applications in finance/securities, healthcare/education, Internet/cloud computing, telecom operators, government and many more. Standardized components, de-engineered, ensure data center production in factories and realize the overall delivery to customers. Customers can quickly acquire products as needed and expand capacity according to businesses.

Features

- These centers have all of the infrastructure designed for high integration within cabinets, including UPS, air conditioner system, smart power supply system, environmental control system, access control system and more.
- Modular design makes it easier to install and maintain. Standard ports, prefabrication inspection, field deployment and maintenance ensure a shorter online time.
- Investment in infrastructure construction has been decreased due to high protection rating, low noise and easy-to-deploy in harsh environments.
- Thanks to high efficient green energy reduction, dual conversion online UPS, DC frequency conversion fan, smart power supply as well as supervision and control system, the cabinet guarantees the uptime availability and stability. The PUE rating drops to 1.4.
- Configured with single cabinet or single-row cabinets, the center has no need to build the cold/hot aisle and covers only 2 square meters.
- 3 to 20KW per cabinet, 15mins to 4hrs (customized if necessary) for its UPS uptime.
- Patent overhead PDU and environmental control unit only cover a very small area. When refrigerating capacity of the integrated air conditioner reaches 4.2kw, its available inner space is up to 34U.
- The front door can be customized for diverse colors and patterns as well as different light alarms according to working conditions. PAD is magnetically mounted, easy to get and charge.
- Air conditioner can be arranged in rack-mounted way or in a sophisticated column order so as to meet different installation requirements and provide customers with a comprehensive solution and best quality services.

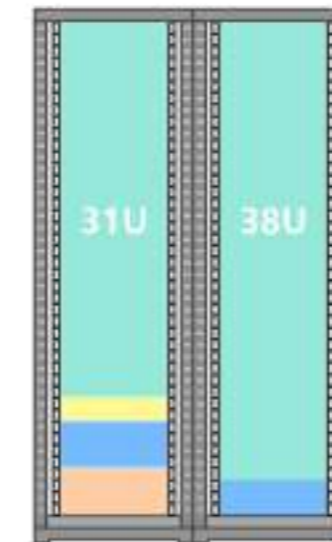
Standards Met

GB/T 18233 (ISO/IEC 11801); GB 50311; GB50174; TIA/EIA568-C.2



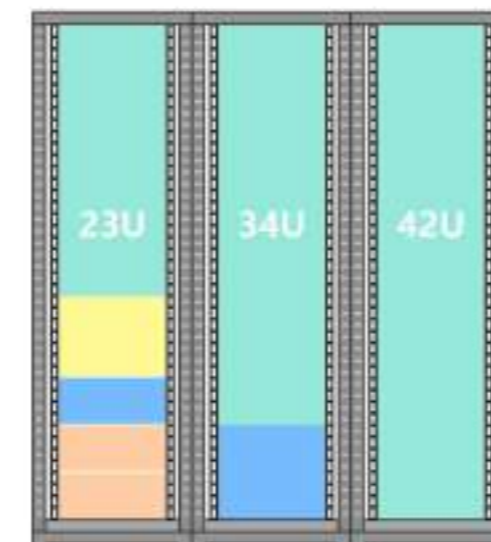
Parameters

Dimensions	600X1200X2000mm
Rated Capacity	3KVA
Space Available	34U
Type	Rack mounted EC frequency conversion
UPS Capacity	3KVA
Charge Time	15 min



Parameters

Dimensions	1200X1200X2000mm
Rated Capacity	10KVA
Space Available	31U+38U
Type	Rack mounted EC frequency conversion
UPS Capacity	10KVA
Charge Time	15min



Parameters

Dimensions	1800X1200X2000mm
Rated Capacity	20KVA
Space Available	23U+34U+42U
Type	Rack mounted EC frequency conversion
UPS Capacity	20KVA
Charge Time	15min

TCHR11 series Rack Mount UPS

3-10kVA rack mount UPS, online double conversion, split or integrated



Product Information

Applications

TCHR11 series Rack Mount UPS is widely used in government, finance, communications, education, transportation, meteorology, radio and television, industrial and commercial taxation, health care, energy and electricity and more.

Power Range

3~10kVA

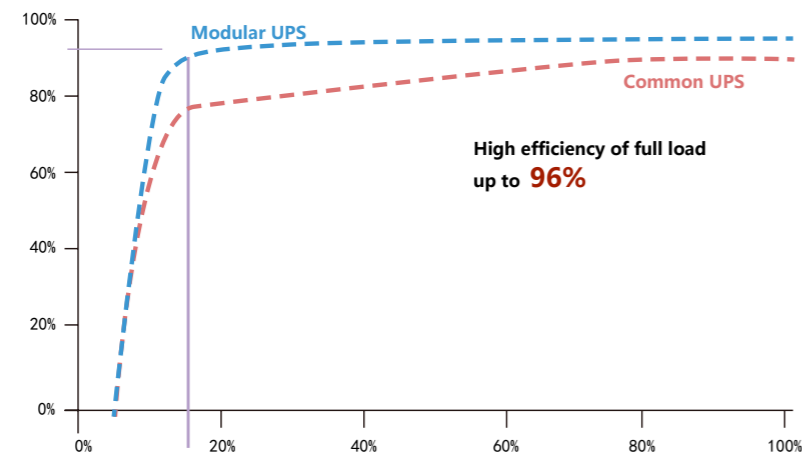
Operating Methods

1 in - 1 out, online double conversion

Features

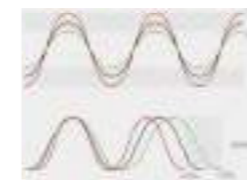
Features include smart battery, super network management and adaptive system between input and output frequency. Ultra-wide input frequency (40-70Hz) is adaptive to output frequency of 50/60Hz, designed to achieve online double conversion of all generators. Digital control technology, ultra-high input and output power using high performance DSP digital processor, ensure precision, efficiency and reliability of the data processing. The built-in battery can be replaced at runtime; in 6-10kVA, online maintenance can be performed; and it has self-aging function.

- Rack mounted design, easily integrated with standard 19 inch server cabinets
- User-friendly interface with LCD touchscreen, access to abundant information
- Smart charging, to monitor the process of charging and discharging for a longer lifetime
- High input power factor



Technical Parameters

Model	TCHR1103S	TCHR1103L	TCHR1106XS	TCHR1106XL	TCHR1110XS	TCHR1110XL	
Capacity	3kVA	3kVA	6kVA	6kVA	10kVA	10kVA	
Input	Range of voltage						110~288VAC (220/230/240VAC)
	Frequency						40-70Hz
	Power factor			≥ 0.97			≥ 0.99
Output	Range of voltage						220VAC±1%
	Frequency						50/60Hz adaptive (adjustable)
	Waveform						Sine wave
	Power factor			0.9			1
	Overload capacity (invert mode)			105% to 130% transfer to bypass after one minute; 150% transfer to bypass after 30 seconds			110% transfer to bypass after 10 minutes; 130% transfer to bypass after one minute; 150% transfer to bypass after 30 seconds, shutting down for one minute
	Peak ratio						3:1
Efficiency		Main mode 90%; ECO mode 97%			Main mode 95%; ECO mode 98%		
Battery	Model	12VDC/7Ah	Dependant on external batteries	12VDC/7Ah	Dependant on external batteries	12VDC/9Ah	Dependant on external batteries
	Quantity	8		16-20 cells (optional)		16-20 cells (optional)	
	Maximum charging current	1A	4A/8A	1A	5A	1A	5A
	Direct current	96VDC			192-288VDC		
Communication interface		RS232、SNMP					
Options		Swappable BD9 dry contact cards, B-type USB, SNMP communications cards, RS485 ports		Swappable dry contact cards, ECO mode, corporate cards, battery packs, as well as USB, SNMP and RS485 ports			
Maintenance bypass		/		Standard			
Environment	Temperature	0-40°C					
	Humidity	0-95°C					
Dimensions W*D*H (mm)		440*480*173 (4U)	440*480*86 (2U)	440*660*172	440*550*86	440*660*172	440*550*86
Weight (kg)		31	9.5	58	16	62	18



Strong grid adaptability



IGBT module



Three anti-coating technology in PCB manufacturing process

TCHR33 series Rack Mount UPS

10-25kVA rack mount UPS, online double conversion, split-type



Product Information

Applications

TCHR33 series Rack Mount UPS is widely used in government, finance, communications, education, transportation, meteorology, radio and television, industrial and commercial taxation, health care, energy and electricity and more.

Range of power / Working methods

10-25kVA, 3 in-3 out/ 3 in-1 out, online double conversion

Features

TCHR Series online rack-mounted UPS is compatible with three-phase and single-phase AC output, with rated power of 10-25 kVA, input power factor of 1, 3 U height, and the system - including rectification, inverter, static bypass, charger, battery converter, control and status display light unit - all involved with discrete device. Its control board and sensitive terminals are designed in dust proof, for ease of use and reliability. It is ideal for modern data centers.

Smart Management

Its fault self-diagnosis and self-protection functions speed up and simplify maintenance. With auto-switching float chargers, it also provides RS232/SNMP monitoring ports. Its monitoring software logs power events, provides a variety of network schemes, and supports TCP/IP protocol, so as to achieve remote control and management.

Stability and Reliability

Based on DSP fully-digital control technology, the control circuit is simplified and obtains higher flexibility and reliability. Thanks to short circuit, overload, overheating, output over-voltage protection and current limiting technology, the system runs more stably. What's more, the power devices gain more space capacity for more reliable operation.

Green and Environmental Protection

Built-in EMC filter and dual surge protection makes it safer for load power, high input power factor reduces grid contamination, and ROHS compliance is required to meet the high standards of Class B electromagnetic compatibility.

High Efficiency and Energy Reduction

It provides optimal quality of power supply and ECO mode available for reduced energy consumption, with operating efficiency up to 95% or more. Its smart fan is adjustable in speed in order to reduce noise and save energy consumption. High power density makes it possible to cover less space and better improve operation efficiency.

Flexibility

Rack mounted, suitable for standard server cabinets, it can easily integrate with the servers. With user-friendly interface and 6.5-inch LCD touchscreen, it boasts abundant information, compatible with 3/3 and 3/1 systems.

Special Design

Output power factor is 1, 15% higher than the common one. It supports a cold start with batteries to power on in order that an emergency power is available when needed. Its high input power factor is more than 0.99.



Very intuitive graphics and a variety of icon images are displayed distinctively, especially the battery monitoring interface. The battery capacity histograms show in different colors in response to the changes of the capacity percentage.

Technical Parameters

Model		TCHR3310CL	TCHR3315CL	TCHR3320CL	TCHR3325CL	
Capacity		10kVA	15kVA	20kVA	25kVA	
Main input	Terminal connection	three phase + N + PE				
	Input voltage	380/400/415VAC (Line-Line)				
	Input frequency	50/60Hz				
	Power factor	> 0.99				
	Current distortion rate	THDi < 4% (100% linear load)		THDi < 3% (100% linear load)		
	Range of voltage	304-478Vac (Line-Line) at full load; 304V-228Vac (Line-Line) linear derating from 100% to 75%				
	Frequency of voltage	40-70Hz				
Battery	Voltage of battery	±240VDC (32-44 cells adjustable)				
	Charging power	20%* Active power (Max)				
	Charging voltage accuracy	1%				
Bypass	Voltage of bypass	380V/400V/415V (Line-Line)				
	Range of voltage	Adjustable, Default -20%+15% Upper limit: +10%, +15%, +20%, +25% Lower limit: -10%, -15%, -20%, -30%, -40%				
	Frequency range of bypass	50/60Hz (rated power) , adjustable: ±1Hz, ±3Hz, ±5Hz				
Output	Rated output voltage	380/400/415VAC (Line-Line)				
	Rated frequency	50/60Hz				
	Output power factor	1				
	Voltage accuracy	±1.0%				
	Output dynamic response	< 5% (20%-80%-20% load step 0%)				
	Dynamic recovery time	< 30ms (0%-100%-0% load step)				
	Output total harmonic distortion	< 1% (linear load) , < 5.5% (nonlinear load)		< 1.5% (linear load) , < 6% (nonlinear load)		
	Inverter overload	110% transfer to bypass after 1 hour; 125% transfer to bypass after 10 minutes; 150% transfer to bypass after 1 minute; > 150% transfer to bypass after 200 ms				
	Frequency accuracy	0.1%				
	Range of tracking	adjustable, ±0.5Hz-±5Hz, default ±3Hz				
	Speed of tracking	adjustable, 0.5Hz/S-±3Hz/S, default 0.5Hz/S				
	Peak ratio	3:1				
	Three-phase accuracy	120° ±0.5°				
	System	Efficiency of main mode	> 95%		> 95.5%	
		Battery mode	> 94.5%		> 95%	
Screen		LCD+LED+ color touchscreen				
Protection Rating		IP20				
Communication interface		RS232, RS485, dray contacts, battery cold start				
Working environment		0-40°C (working temperature) ; -25°C ~70°C (storage temperature) ; 0-95% (no condensation)				
Noise (dB) / m		65dB@100% load, 62dB@45% load				
Options		SNMP communications cards, corporate cards, lightning protection		SNMP communications cards, corporate cards, lightning protection, LBS		
Dimensions (W*D*H) (mm)		485*750*130		485*750*130		
Weight (kg)		25		30		

TCRM series Modular UPS

10 to 90kVA rack mount modular UPS, single module 10/15kVA



Product Information

Applications

TCRM series modular UPS power, the industry leading, all-digital power supply product, collects the most advanced technology in power electronics and automatic control, thus resulting in breakthrough improvements in power reliability, availability and maintainability of the critical equipment.

It integrates the technical features of traditional tower-type with the need of modern modular machine rooms, ensuring modular design together with high reliability of the system.

Range of power / Working methods

10-90kVA, 3 in - 3 out, 3 in - 1 out, 1 in - 1 out, (TCRM020/10X, TCRM040/10X, TCRM060/10X), online double conversion

Features

Smart protection solutions

TCRM series modular UPS power supply has both software and hardware in the power modules and has its system under protection. When possible problems of voltage, current, thermal performance and short circuits occur, rapid and efficient protection can be provided so as to ensure the whole system's security and reliability.

Full digital control

With 32-bit high-speed DSP digital control, the communication system introduces the most advanced CAN-BUS technology, making its performance more stable and safer.

Core power devices with an integrated packaging structure of IGBT modules

TCRM series modular UPS features an integrated packaging of IGBT modules, greatly improving the reliability of core devices. It avoids the uneven flow and voltage stress caused by the discrete IGBT parallel approach, and its unique isolation duct design significantly improves its adaptability to the environment.

Smart battery management solutions

Each power module has a separate, digital high-power charger built in, provision of 20% power capacity for charging. Charge and discharge circuits are in DSP digital control, for excellent battery management and extended battery life.

Green energy conservation

Input power factor is more than 0.99, input harmonics less than 3%, and overall efficiency up to 95% or more; and its smart sleep function effectively improves the efficiency of the entire UPS.

Powerful remote network management solutions

SNMP network management card allows for remote monitoring and control of the UPS system via the network, and for simultaneous remote monitoring of multiple devices via the matching remote control box.

"Zero threshold" of maintenance

It is maintained just in minutes, and adopts autonomous identification of module IDs without need to manually set the program. Critical waveform recording makes it convenient for fault analysis.

Battery cold start

The system comes with a cold start with batteries to power on (for 20kVA/25kVA/30kVA/45kVA/50kVA power module).

Hot-swapping static bypass monitoring module

Monitoring and static bypass modules are hot-swappable, with each power module auto-controlled and auto operated to avoid single point failure.

Technical Parameters

Model		TCRM 020/10X	TCRM 040/10X	TCRM 060/10X	TCRM 030/15X	TCRM 045/15X	TCRM 090/15X
Capacity		20kVA	40kVA	60kVA	30kVA	45kVA	90kVA
Main input	Terminal connection	three phase + N + PE					
	Input voltage	380/400/415VAC (Line-Line) 220/230/240VAC (phase voltage)					
	Input frequency	50/60Hz					
	Power factor	> 0.99					
	Current distortion rate	THDi < 4%					
	Range of voltage	304-478Vac (Line-Line) at full load; 304V-228Vac (Line-Line) linear derating from 100% to 75%					
	Frequency of voltage	40-70Hz					
Battery	Voltage of battery	±240VDC (32-44 cells adjustable)					
	Charging power	20%* Active power					
	Charging voltage accuracy	±1%					
Bypass	Voltage of bypass	380V/400V/415V (Line-Line), 220V/230V/240V (phase voltage)					
	Range of voltage	Default -20%+15%; -40%+25% optional					
	Overload capacity	125% long time operation; 130% last for 10 minutes; 150% last for 1 minute; 150% > load last for 300ms			110% long time operation; 130% < load < 130% last for 10 minutes; 150% > load last for 300ms		
Output	Rated output voltage	380/400/415VAC (Line-Line) ; 220/230/240VAC (phase voltage)					
	Rated frequency	50/60Hz					
	Output power factor	1					
	Voltage accuracy	1.50%					
	Output dynamic response	< 5% (20%-80%-20% load step)					
	Dynamic recovery time	< 20ms (0%-100%-0% load step)					
	Output total harmonic distortion	< 1% (load step) , < 5.5% (nonlinear load)					
	Inverter overload	102% long time operation; 110% transfer to bypass after 1 hour; 125% transfer to bypass after 10 minutes; 150% transfer to bypass after 1 minute; > 150% transfer to bypass after 200 ms					
	Frequency accuracy	0.10%					
	Range of tracking	adjustable, ±0.5Hz-±5Hz, default ±3Hz					
	Speed of tracking	adjustable, 0.5Hz/S-±3Hz/S, default 0.5Hz/S					
	Peak ratio	3:01					
	Three-phase accuracy	120° ±0.5°					
	System	Efficiency	Main mode: 95% Max; Economic mode: 98%; Battery mode: 94.5%				
Screen		LCD+LED+color touchscreen, 9-inch					
Language		Chinese, traditional Chinese, English, Russian, Italian, Spanish, German					
Protection Rating		IP20					
Communication interface		RS232, RS485, dry contacts, SNMP cards (option), emergency shutdown					
Wiring methods		Back and down wiring, optional	Down wiring	Back and down wiring, optional	Down wiring		
Working environment		0-40°C (working temperature) ; -25°C ~70°C (storage temperature) ; 0-95% (no condensation)					
Noise (dB) / m		< 56dB					
Type of cabinet		2-modular cabinet	4-modular cabinet	6-modular cabinet	2-modular cabinet	3-modular cabinet	6-modular cabinet
Dimensions (W*D*H) (mm)		Main body	485*697*398 (7U)	485*697*575 (11U)	485*751*1033 (22U)	485*697*398 (7U)	485*751*575 (11U)
	Main body (put into server cabinet)	485*697*308 (7U)	485*697*485 (11U)	485*751*928 (21U)	485*697*308 (7U)	485*751*485 (11U)	485*751*928 (21U)
	Module	436*590*85mm (2U)					
Weight (kg)	Main body (including modules)	73kg	113kg	175kg	73kg	119kg	175kg
	Modules	15.3kg (PM10X)			15.5kg (PM15)		

TCRM Series Modular UPS

20 to 200kVA rack mount modular UPS, single-module 20kVA



Product Information

Applications

TCRM series modular UPS power, the industry leading, all-digital power supply product, collects the most advanced technology in power electronics and automatic control, thus resulting in breakthrough improvements in power reliability, availability and maintainability of the critical equipment.

It integrates the technical features of traditional tower-type with the need of modern modular machine rooms, ensuring modular design together with high reliability of the system. It is widely used in government, finance, communications, education, transportation, meteorology, radio and television, industrial and commercial taxation, health care, energy and electricity and other sectors.

Range of Power / Working Methods

20-200 kVA, 3 in-3 out, online double conversion

Features

Its core power device introduces an integrated packaging structure of IGBT modules for high input power factor. Its main body is equipped with a 5.7-inch LCD touchscreen for all-digital control, and with a hot-swapping static bypass monitoring module for remote EPO function. Highly efficient remote network management realizes "zero threshold" of maintenance. Smart battery management supports a cold start designed in redundancy module. Extra wide range of voltage input supports direct paralleling of cabinets.



Power Module

Technical Parameters

Model		TCRM 060/20	TCRM 120/20	TCRM 200/20	
Capacity		60kVA	120kVA	200kVA	
Main input	Terminal connection	three phase + N + PE			
	Input voltage	380/400/415VAC (Line-Line)			
	Input frequency	50/60Hz			
	Power factor	> 0.99			
	Current distortion rate	THDi < 3% (100% linear load)			
	Range of voltage	304-478Vac (Line-Line) at full load; 304V-228Vac (Line-Line) linear derating from 100% to 75%			
	Frequency of voltage	40-70Hz			
Battery	Voltage of battery	±240VDC (32-44 cells adjustable)			
	Charging power	20%* Active power			
	Charging voltage accuracy	±1%			
Bypass	Voltage of bypass	380V/400V/415V (Line-Line)			
	Range of voltage	-20%-+15%			
	Range of bypass frequency	50/60Hz (rated frequency) ±1Hz, ±3Hz, ±5Hz			
Output	Rated output voltage	380/400/415VAC (Line-Line)			
	Rated frequency	50/60Hz			
	Output power factor	0.9			
	Voltage accuracy	±1.0%			
	Output dynamic response	< 5% (20%-80%-20% load step)			
	Dynamic recovery time	< 20ms (0%-100%-0% load step)			
	Output total harmonic distortion	< 1% (load step) , < 5.5% (nonlinear load)			
	Inverter overload	110% transfer to bypass after 1 hour; 125% transfer to bypass after 10 minutes; 150% transfer to bypass after 1 minute; > 150% transfer to bypass after 200 ms			
	Frequency accuracy	0.10%			
	Range of tracking	adjustable, ±0.5Hz-±5Hz, default ±3Hz			
	Speed of tracking	adjustable, 0.5Hz/S-±3Hz/S, default 0.5Hz/S			
	Peak ratio	3:1			
	Three-phase accuracy	120° ±0.5°			
	System	Efficiency	Normal mode: 95% Economic mode: 99%		
		Battery mode	95%		
Screen		LCD+LED, touchscreen + keyboard			
Protection Rating		IP20			
Communication interface		RS232, RS485, dry contacts, SNMP cards, generator interface			
Working environment		0-40°C (working temperature) ; -25°C ~70°C (storage temperature) ; 0-95% (no condensation)			
Noise (dB) / m		< 66dB			
Options		SNMP communications cards, lightning protection, battery temperature compensation, SMS alarm, dust net, dual input unit, seismic assembly			
Type of cabinet		3-modular cabinet	6-modular cabinet	10-modular cabinet	
Dimensions (W*D*H) (mm)		Main body	600*900*1100	600*900*1600	600*900*2000
	TCPM20 Module	440*590*134			
Weight (kg)	Main body (including mosules)	171kg	277kg	399kg	
	TCPM20 Module	22kg			

TCMC series Rack Mount Air Conditioner

4kW to 30kW rack mount air conditioner, 4 U size, DC frequency conversion



Product Information

Applications

TCMC Series Rack Mount Air Conditioner is mainly intended to cool the servers in small micro-modular data centers, such as integrated cabinets, multiple cabinets and so on, and widely used for machine room cabinets and edge computer rooms in the government, banks, schools, enterprises and institutions.

Refrigeration capacity

4~30kW

Features

High Efficiency and Energy Reduction

Close to heat source, high-efficient, total heat, energy efficiency ratio of 3.3

R410A Eco-Refrigerant

Efficient EC fan coupled with EC compressor

High Reliability

24 hours, 365 days of continuous operation, with a lifespan of 10 years

All accessories subject to rigorous inspection and testing, all in stable performance

Multiple protection for proper operation

Flexible Configuration

4U of rack space, perfectly matched to the server cabinet

Multiple return air methods available to meet a variety of installation requirements

Equipped with a handle for easy installation and maintenance

Smart Control

Multi-channel sensor monitoring, advanced PID control technology

Sound protection and alarm function, master diagnostic function

RS485 smart communication interface for easy remote monitoring



TCMC08/15



TCMC30

Technical Parameters

Model	Unit	TCMC04	TCMC08	TCMC15	TCMC30
Overall cooling capacity (Max air volume)	kW	4.5	8.8	15.9	31.2
Overall cooling capacity (Rated air volume)	kW	4.2	8	14.0	28.8
Quantity of fans	No.	1	1	1	2
Air volume	m ³ /h	750	1900	2400	5450
Power source	--	220V~/50Hz			
Max input current for the entire body	A	8	21.5	28	55
Coil material	--	Brass forging aluminum fin			
Refrigerant	--	R410A			
Size for liquid pipe / air pipe (Copper)	mm	9.52/12.7	9.52/15.88	9.52/15.88	9.52/15.88
Condensate pump size (optional)	--	--	6mm PE Flexible pipe	6mm PE Flexible pipe	6mm PE Flexible pipe
Indoor units operating weight	kg	26	55	75	100
Indoor units size (WxDxH)	mm	439*878*176	440*903*440	440*996*530	440*996*930
Model for corresponding outdoor units	--	TCMC04A1W	TCMC08A1W	TCRV050B1	2*TCRV050B1
Max input current for the outdoor units	A	6.5	18.5	24.9	24.9
Outdoor units power supply	--	220V~/50Hz			
Outdoor units weight (single)	kg	48	105	115	115
Outdoor units size (WxDxH)	mm	856*296*617	1100*430*810	900*350*1160	900*350*1160

Notes:

1. Refrigeration test conditions: indoor dry bulb temperature is 38°C , relative humidity 25%, and outdoor dry bulb temperature 35°C .
2. TCMC04: Max. equivalent connecting pipe for indoor and outdoor units is 20m.
3. TCMC08/15/30: Max. equivalent connecting pipe for indoor and outdoor units is 30m. When the air pipe increases one size up, the maximum equivalent pipe distance reaches up to 50m.
4. There is a drop between indoor and outdoor units. When the outdoor units are on top, a return bend is required every 6m.
5. Its refrigeration normal operating range is at -15°C to +48°C .



EC Fan



DC frequency conversion compressor

TCMC series Column-type Air Conditioner

25kW to 40kW column type air conditioner, 300/600mm width, constant speed, DC frequency conversion



Product Information

Applications

TCMC series Column-type Air Conditioner is intended to cool the equipment in medium and large modular data centers, container data centers, and large data rooms with high thermal density.

Refrigeration capacity

25~40kW

Features

High efficiency and energy reduction

High efficient frequency conversion compressor, smart adjustment of cooling capacity;
EC fan, as the revolutionary new air treatment device, introduces aviation-grade DC motor-driven non-polar speed control. The fan has precise electronic control in rapid response to the output demand. Its load mode is more economical and energy-saving. And its nearly 92% working efficiency, 30% higher than the normal ones, brings a notable reduction in operation cost. The fan enjoys a longer lifespan, small vibration, low noise, maintenance-free, continuous and stable operation, for operation stability of all units;
Optimal control strategy to ensure maximum energy saving;
Heat exchangers and ducts in CFD optimization for high efficiency and low resistance of heat and mass transfer;
Ultra-high thermal ratio to avoid repeated loss in humidification and dehumidification;
Efficient environmental refrigerant.

High reliability

Modular design to enhance space utilization and reduce maintenance space;
Close to heat source to reduce energy consumption;
Unique airflow organization for cold and hot aisle containment;

24 hours, 365 days of continuous operation;
All accessories are subject to rigorous inspection and testing, all in stable performance;
PTC electric heater, safe and reliable;
Condensate pump with high and low water level control, double protection;
Complete alarm protection and expert self-diagnosis function, in high-strength framework for land, sea and air transportation.

Smart management

7-inch huge color LCD touchscreen;
Human-centered design, one-click operation;
Optional interface in Both English and Chinese;
Unit operating mode display function (cooling, heating, dehumidification, humidification);
Dynamic display of color images;
Expert self-diagnosis;
Call self-start function;
Standard RS485 communication interface and mod-bus communication protocol;
Up to 32 units of networked group control;
Backup, round-tour and cascade, to avoid competitive operation;

Technical Parameters

Model	TCMC25	TCMC40	TCMCE25	TCMCE40
Air supply	Rear return air supplied from the front, using on-site guide plate to adjust the air direction, with air pushed horizontally from the front, left side, right side and left-right side			
Circulation air volume	5000	8200	5000	8200
Overall cooling capacity	25.0	38.1	25.0	38.1
Sensible capacity	25.0	38.1	25.0	38.1
Type of refrigerant	Eco-Refrigerant			
Type of compressor	Full hermetic constant speed scroll compressor		Full hermetic EC scroll compressor	
Type of expansion valve	Mechanical thermal expansion valve		Electronic expansion valve	
Quantity of fan (pc)	6	2	6	2
Type of fan	Direct connect EC fan			
Air filter	G4 filter			
Power supply	380V/3N~/50Hz			
Power distribution parameter FLA (A) (only for cold)	23.8	27.9	23.8	27.9
Power distribution parameter FLA (A) (constant temperature and humidity)	28.3	37	28.3	37
Optional heating capacity (kW)	3	6	3	6
Optional humidity capacity (kg/h)	2	2	2	2
Inlet pipe for humidifier (only for humidification)	G1/2	G1/2	G1/2	G1/2
Outlet pipe for condensate water (mm)	20	20	20	20
Air pipe for refrigerant (mm)	19	22	19	22
Liquid pipe for refrigerant (mm)	16	19	16	19
Unit weight (kg)	310	400	290	380
Cabinet size W*D*H (mm)	300*1200*2000	600*1200*2000	300*1200*2000	600*1200*2000
Model for corresponding outdoor units	TCMC10Y1STCT-ACS42	TCMC15Y1STCT-ACS72	TCMC10Y1STCT-ACS42	TCMC15Y1STCT-ACS72
Power supply for outdoor units	380V/3N~/50Hz			
Fan quantity of outdoor units (pc)	1	2	1	2
Refrigerant pipe port size	φ22/φ16	φ28/φ22	φ22/φ16	φ28/φ22
Unit size	1360*968*661	1860*1273*655	1360*968*661	1860*1273*655

Notes:

1. Test conditions: return air temperature at 37°C , relative humidity of 24%; Air-cooled/water-cooled/glycol-cold condensation temperature at 45°C .
2. Power distribution parameter shows the maximum current of the standard unit configuration, only for power supply, not for air-cooled outdoor unit current.
3. Outdoor unit can be installed horizontally and vertically. The size in the data sheet does not contain the height of the support foot. Low temperature assembly should be added when the unit operating temperature is below -15°C .
4. If the data is not listed in the table, please contact us.

TCMC series Precision Air Conditioner / Air Cooling / Water Cooling / Ethylene Glycol

25 to 100KW, EC fan / inverter compressor



Product Information

Applications

Mainly used for cooling in industrial control rooms, high-precision instruments or equipment, laboratories for high demanding environments, large data centers as well as high-heat, high-density data centers.

Refrigeration Capacity

26 to 100KW Air Cooling / Water Cooling / Ethylene Glycol

Features

- High reliability, efficiency, adaptability, long life and low cost
- Fully tested before leaving factory
- Precise water valve control and variable air volume control; refrigerating capacity, air volume and air pressure output adjusted according to the cabinet temperature and air pressure conditions
- EVO control system designed for optimal efficiency of the refrigeration system
- High efficient dehumidification for absolute humidity control
- 100% maintenance from front for space saving
- Air supply from upwards or downwards
- Standard EC fan with downward air supply in sinking design, over 30% energy saved than the common one; meet the needs of different outside pressure
- Modular design, using V- or A-type large evaporator in high air volume and high humid/heat ratio
- High efficient electrode humidifier with large volume, used for harsh water conditions; low cost of maintenance which can be detached for cleaning
- Large multicolor touch screen in Chinese
- EVO control system, group control of multiple units and easy networking
- Group control mode: demand energy efficiency management, trend energy efficiency management, timed round inspection and fault automatic switching, to achieve adaptive energy saving of air conditioning units
- Various configurations for downwind and upper wind units
- Multiple monitoring methods
- Air condenser available in configurations for different temperatures
- Modular design
- Optional eco-friendly refrigerant
- Customization tailored to customers' requirements
- 7-inch 800-by-480 dot matrix large multicolor touchscreen
- Temperature and humidity curve displayed visually
- Operation status of each components in graphics
- Multi-level password protection, hierarchically authorized management.
- Group control system, externally connected to several temperature and humidity sensors for multiple cabinets or racks
- Control mode can be selected according to the refrigeration demands calculated by the basis of maximum and average value; energy reduction can be achieved by the fixed-point precise air apply.
- RS485 ports, supporting ModBus protocols
- Optional Ethernet port, supporting TCP/IP, SNMP protocols
- Optional GPRS module with automatic SMS, to indicate fault status and thus facilitate maintenance
- Standard telecommunication protocol with special-format monitoring protocols tailored to customers' requirements

Technical Parameters

Air Return: 24°C /50% RH														
Model of Inner Units	TCMC526	TCMC530	TCMC535	TCMC540	TCMC546	TCMC740	TCMC746	TCMC755	TCMC765	TCMC770	TCMC780	TCMC790	TCMC799	
Main Power	380V 3Ph 50Hz													
Unit Parameters														
Refrigerating Capacity - kW	26.8	30.9	35.9	40.3	46.9	40.7	47.6	55.6	65.8	71.6	80.2	92.6	100.2	
Sensible Capacity - kW	24.2	27.9	32.6	36.4	42.3	36.8	42.9	50.2	59.3	64.5	72.7	83.6	90.6	
Unit FLA-A	28.3	31.3	38.7	41.2	48.0	43.6	48.0	51.3	58.5	62.9	69.3	82.5	84.3	
Quantity of Compressors	1						2							
Inner Fan Parameters														
Air Volume -m2/h	8000	9000	10000	11000	13000	11000	13000	14000	17000	18000	21500	23000	25000	
Quantity of Fans	1				2	1	2							
Electrical Heating Parameters														
Heating Capacity - kW	6					9								
Humidifier Parameters														
Humidifier Capacity - kg/h	6				10	6	10							
Connection Pipe Dimensions														
Liquid Pipe - mm	16													
Gas Pipe - mm	22													
Drain Pipe - ID, mm	25													
Humidifier Inlet Pipe - Female Thread	G1/2"													
Unit Dimensions and Weight														
Height - mm	1050	1050	1400	1400	1700	1400	1700	1700	2100	2100	2550	2550	2550	
Depth - mm	890	890	890	890	890	890	890	890	890	890	890	890	890	
Height -mm	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	
Weight - kg	365	370	450	460	480	415	535	550	720	730	800	820	825	
Water Cooling Unit Parameters														
Water	Water Inlet/Outlet Pipe - mm	35	42	42	42	54	42	54	54	54	63	63	70	70
	Water Flow - m3/h	6.0	7.0	8.2	9.2	10.7	9.2	10.8	12.5	14.9	16.4	18.3	21.0	22.8
	Water-Side Pressure Drop - kPa	86.0	99.2	76.0	83.1	94.7	82.8	95.4	75.1	85.6	93.1	71.0	77.6	82.5
40% Ethylene Glycol	Water Inlet/Outlet Pipe - mm	35	42	42	54	54	42	54	54	54	63	63	70	70
	Water Flow - m3/h	7.06	8.25	9.60	10.83	12.58	10.79	12.69	14.74	17.55	19.30	21.58	24.73	26.82
	Water-Side Pressure Drop - kPa	99.8	76.6	86.0	95.8	75.3	95.4	112.9	84.8	99.3	73.3	79.1	88.2	95.0
Spare Capacity and Cable Size														
Inner Unit	Spare Capacity - A	50	50	63	63	80	63	80	80	100	100	125	125	125
	Cable Size - mm2	10	10	10	16	16	16	16	16	16	16	25	25	25
Outer Unit	Spare Capacity - A	20	20	20	20	20	20	20	20	20	20	20	20	
	Cable Size - mm2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	

Notes:

1. Test conditions: return air temperature at 37°C , relative humidity of 24%; Air-cooled/water-cooled/glycol-cold condensation temperature at 45°C .
2. Power distribution parameter shows the maximum current of the standard unit configuration, only for power supply, not for air-cooled outdoor unit current.
3. Outdoor unit can be installed horizontally and vertically. The size in the data sheet does not contain the height of the support foot. Low temperature assembly should be added when the unit operating temperature is below -15°C .
4. If the data is not listed in the table, please contact us.



EC Fan



Noctua Fan



Humidifying Barrel



Compressor

Power Environment Monitoring System

System topology



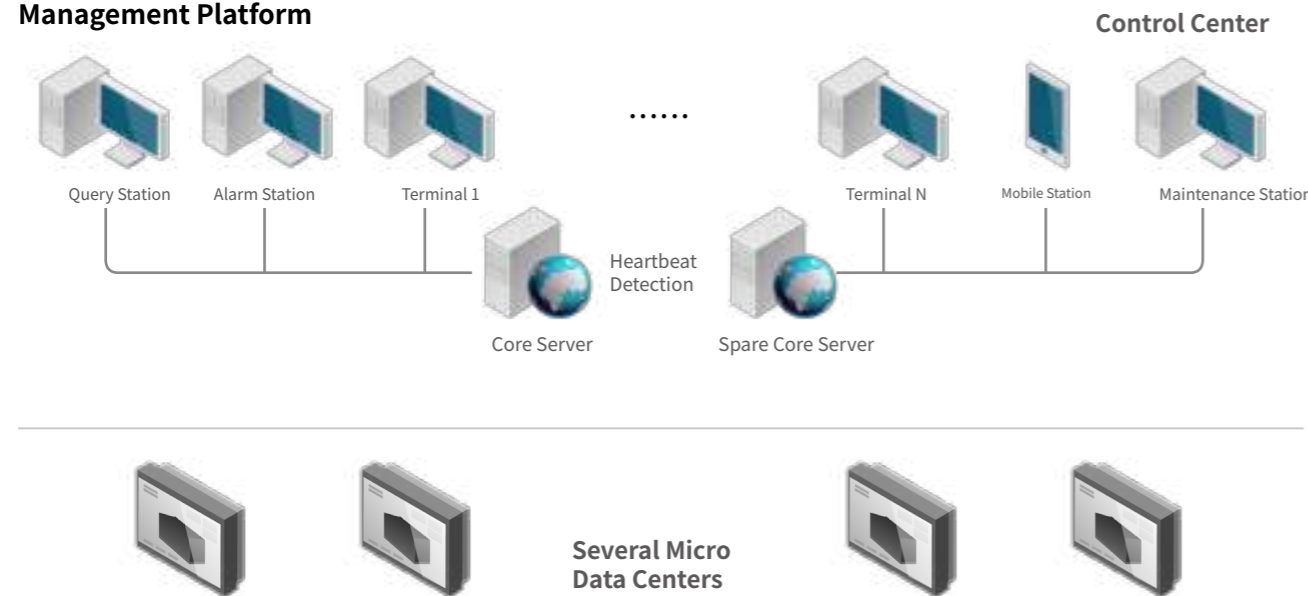
Power environment monitoring system provides modular data centers with integration of power distribution, high voltage DC/ modular UPS, column air conditioner, IT cabinet, remote intercom, access control, fire fighting control, surveillance and more.

1. Standard 19 inch cabinet, rack- / wall-mounted
2. One RJ45 port for master computers
3. 10 S485 ports for slave computers in addition to 12 DI, 4 DO and 4 USB ports
4. Single pathway video interface HDMI, with external TF card (32 GB)
5. Powered by either AC220V or DC270V (high voltage DC)
6. Custom linkage, with access to general equipment, or to access controllers and alarms

Benifits:

- Stable operation: Ultra-low power ARM architecture and Linux operating system, for secure and stable performances
- Standard interface: all with standard RJ45 ports and POE networking; standardized installation to save resources
- Various functions: supporting local WIFI hotspots, greatly improving compatibility and scalability
- Convenient management: integrating power environment, access control, video, intrusion alarm and more, to speed up and facilitate networking management
- Easy configuration: with remote Web configuration, easy to install only with little training; and profiles exported and copied with one click
- Easy maintenance: unattended operation, to improve maintenance efficiency and reduce management costs

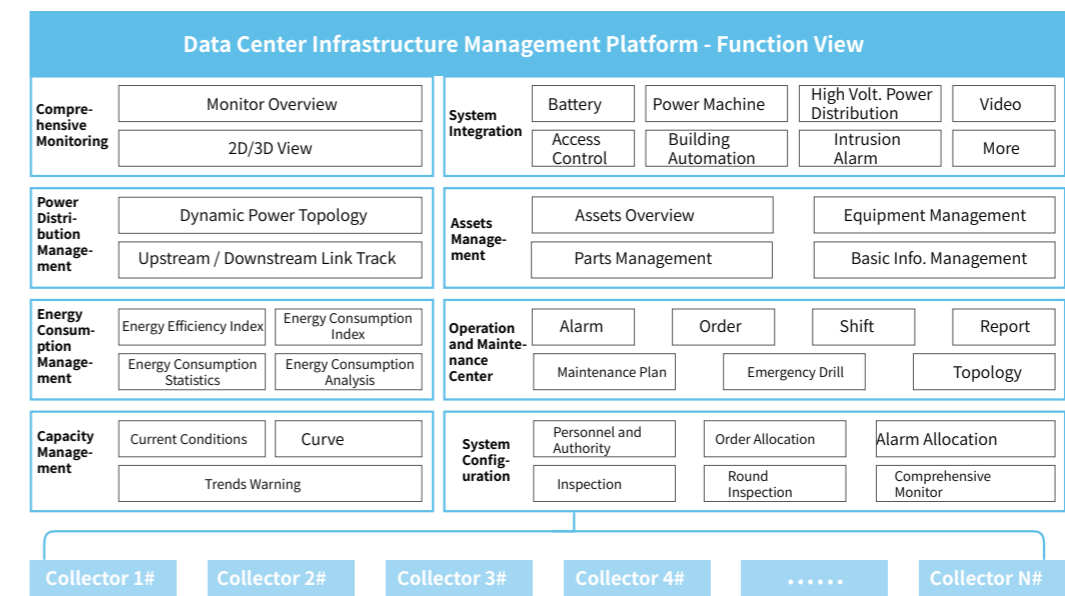
Structure Chart for Micro Modular Data Center Management Platform



Software Interface of Power Environment System



Central Management Platform



Power Distribution System

10A-40A rack-mounted / embedded / invisible PDUs



4U Rack-Mounted PDU



Embedded / Invisible PDU



8U Rack-Mounted PDU

Features

- Standard 19 inch rack installation
- Total input voltage, current, frequency, power detection
- Each output voltage, current, frequency, power detection
- Switch detection
- Two-circuit output, system-level redundancy
- Cost and space reduction
- Flexible load power distribution expansion
- Super zero-line busbar design
- Standard C-level surge protector and protection switch
- Mains power, oil engine, UPS input/output indicator
- Sound/lighting alarm and remote monitoring interface

Benefits

- Advanced integrated power distribution system
- Traditional ones have many of the problems, such as complicated parts purchasing, long installation time, untidy cable management and other related quality problems.
- While smart power distribution provides a reliable power supply, a higher protection rating for loading capacity as well as reduced installation time.
- With only one or two cable inlets can smart power distribution system provide power for racks, air conditioner, lighting, sockets, security and fire fighting and other equipment. It delivers uninterrupted power distribution for industry applications in telecommunications, transportation, finance, securities, insurance and many more. In addition, it also provides a full range of professional services, such as design, manufacturing, installation, maintenance, by integrating cable inlets/outlets, smart distribution monitoring, cable troughs, rack distribution equipment.

Technical Parameters

Type	Embedded/Invisible PDU	Rack Mounted PDU	In-Row PDU
Power Capacity	10KVA	25KVA	40KVA
Input Voltage	220VAC	220VAC	380VAC
Input Frequency	50/60Hz		
Efficiency	≥ 98%		
Total Input	63A	100A	125A
Functional Switch	Mains power, oil engine, maintenance bypass, indicator, surge protection, surge switch, air conditioner, UPS input/output, PDU, power environment, spare parts and more		
Screen	LCD 1.3 inch screen	LCD 1.3 inch screen	LCD 3.9 inch screen
Warning Methods	Sound and lighting alarm, telecommunication protocol alarm		
Monitor Protocol	ModBus protocol		
Communication interface	Standard RS485, RS232, optional LAN port		
Backbone Monitor Indicators	Single-phase / three-phase voltage, current, frequency, zero-sequence current, power factor, active power, reactive power, apparent power, harmonic percentage		
Backbone Warning	Harmonic active power, harmonic reactive power, harmonic apparent power		
Branch Monitor Indicators	Single-phase/ three-phase voltage overvoltage, undervoltage, out-of-voltage, wrong voltage sequence, missing phase, unbalance, single/three-phase overcurrent, zero-sequence overcurrent, etc.		
Branch Warning	Actual voltage, current, load percentage, voltage or on/off status		
Warning Dry Contact	Split overload warning, split open alarm, split power, split current harmonics, split power		
Grounding / Neutral Methods	Optional		
Inlet/Outlet Methods	Separate grounding/neutral		
Dual -Busbar System	Inlet/outlet of rear ends		Upper/bottom wiring of rear ends
Protection Rating	None	None	Optional
Working temperature	IP20		
Working Humidity	-10~+50°C		
Dimensions	435*70*520	440*88*652	440*665*725
Rack Space	0U	8U	15U
Weight	14.2KG	24.6KG	38.6KG
Standards Met	GB7251.1-2013/IEC61439-1/YDT585-2010		

Air Switch / Micro Circuit Breaker / Surge Protection / Smart Power Meter



1P

2P

3P

Surge Protection

Smart Power Meter

Power Distribution System

80A-630A mains power / ATS / UPS input, output / precision power distribution cabinet



ATS Power Distribution Cabinet

Mains Power Distribution Cabinet

Precision Power Distribution Cabinet

Product Information

Applications

It is widely used in Internet Data Centers, Micro Data Centers for government, finance, communications, education, transportation, meteorology, radio and television, industrial and commercial taxation, health care, energy and electricity and more.

ATS Power Distribution Cabinet

ATS Power Distribution Cabinet can switch a load between two power supply sources (usually mains-mains/mains-generator). When one power supply fails, it switches to the other for stable operation. With strong stability, diverse functions, compact structure and easy maintenance, it is ideal for harsh power environments, such as finance, healthcare, aviation, control center, data center and more.

Mains Power Distribution Cabinet

Mains Power Distribution Cabinet is mainly used in industrial control room, automation building distribution room and other distribution system control rooms. As low voltage power distribution kits for distribution and control, power compensation, it has single/three-phase AC frequency of 50/60Hz, rated voltage of 220/380V and rated current less than 4000A. It is equipped with various protective equipment, such as fuse protector (fuse wire) to prevent short circuits, air switches to prevent overload. In addition, it protects distribution control of electrical equipment, and avoids overload, short circuit and electricity leakage. The entire power distribution system uses standard network cabinet and fully modular structure, with optional accessories designed to meet the needs of different data centers.

Precision Power Distribution Cabinet

Modular Precision Power Distribution Cabinet, with HMI as the core and RS485 bus interface, effectively controls power environment system. It is equipped with full power detection module, branch current measurement module, switch value module, measuring the full power of the total input line (including three-phase current/voltage, active/reactive power, frequency, power factor, electrical degree) as well as the current and on-off status of each branch. It also measures the electrical degree of each branch via HMI and generates a site monitoring interface.

Technical Parameters

Type	Mains Power Distribution Cabinet	UPS Input/Outlet Cabinet	Precision Power Distribution Cabinet
Input Voltage	380VAC 3ph+N+PE		
Output Voltage	220VAC single-phase two wire + ground wire, 380VAC		
Working Frequency	50/60Hz		
Power Distribution Circuit	For single busbar, dual busbar and multiple busbar		
Input Total Switch	125A-630A		
Screen	7 inch/10inch LED touchscreen		
Warning Methods	Sound/lighting alarm, communication protocol alarm		
Monitor Protocol	ModBus protocol /TCP/IP		
Communication Interface	Standard RS485, RS232, and optional LAN ports		
Backbone Monitor Indicators	Single-phase / three-phase voltage, current, frequency, zero-sequence current, power factor, active power, reactive power, apparent power, harmonic percentage Harmonic active power, harmonic reactive power, harmonic apparent power		
Backbone Warning	Single-phase/ three-phase voltage overvoltage, undervoltage, out-of-voltage, wrong voltage sequence, missing phase, unbalance, single/three-phase overcurrent, zero-sequence overcurrent, etc.		
Branch Monitor Indicators	Actual voltage, current, load percentage, voltage or on/off status		
Detection Accuracy	Current: accuracy 0.5%, range:1%-120%; voltage: accuracy 0.5%, range: 5%-120% Frequency: 45~60Hz±0.01Hz; electricity: accuracy 1%; temperature: ±1°C		
Split Warning	Split overload warning, split open alarm, split power, split current harmonics, split power, temperature		
Dry Contact	DI/DO/AI		
Ground/Neutral Methods	Separate grounding/neutral		
Inlet/Outlet Line Mode	Up inlet line or down inlet line		
Protection Rating	IP30		
Working Temperature	-10~+70°C		
Working Humidity	0~95%		
Dimensions	Standard 600*1200*2000mm (customized)		
Package	Wooden case		
Weight	Gross: 235KG	Gross: 265KG	Gross: 300KG
Standards Met	GB7251.1-2013/IEC61439-1/YDT585-2010		

Features

- Standard 19 inch rack, modular structure, glass (mesh) door, cable inlet from upwards and downwards
- Pre-configured load warning, such as overload alarm and over pressure alarm
- 13 inch colored touchscreen and management of harmonics, energy, history trends, current trends, voltage trends and load curves
- Interfaces for sound, lighting and remote control
- Surge protection, lightning protection, and overcurrent protection
- Local LCD display and panel operation, convenient real-time query and monitoring

Power Distribution System

60KVA/90KVA/120KVA UPS input, output cabinet, UPS precision power distribution integrated cabinet



UPS Input/Output Cabinet



UPS Precision Power Distribution Integrated Cabinet

UPS Input/Output Cabinet

UPS Input/Output Cabinet is targeted at UPS, including an input distribution cabinet to deliver UPS via cables, a UPS for storage and transformation into a stable three-phase output, as well as an output distribution cabinet. Features include impact structure, stability and reliability, flexible configuration as well as easy maintenance. It is ideal for electricity, hospitals, government agencies, banks, communications, small and medium enterprises, large and medium data centers and many more.

UPS Precision Power Distribution Integrated Cabinet

This is our newly launched three-in-one smart power module, integrating an input power distribution cabinet, a UPS and an output precision power distribution cabinet, 67% of space and installation time saved. Features include innovation, reliability, flexible configuration and more.

High Integration: Integrate an input power distribution, a UPS and an output precision power distribution

High Reliability: UPS power module invests the original busbar parallel technology, for better system sharing-current technique. Its enhanced safety design and harsh testing environments improve its reliability, input and output cabling have its separate section to avoid cross-line risks.

Remote Operation: With LED 9-/13-inch touchscreen to exhibit detailed operating parameters; and with an integrated networking interface for smooth access to remote operation platform.

Smart Load: Built-in functional smart meter to detect each input/output on-off status, voltage, current, power factor, current harmonics and many more.

Energy Efficiency: Online double conversion with up to 99% efficiency.

Flexible Configuration: Built-in 20KVA power module that takes up 3U rack and allows flexible expansion as needed.

Sense of Beauty: Unified structure

Technical Parameters

Type	60KVA	90VA	120KVA
Input Voltage	380/400/415VAC 3ph+N+PE		
Output Voltage	220VAC single-phase two wire + ground wire, 380VAC		
Working Frequency	50/60Hz		
Power Distribution Circuit	For single busbar, dual busbar and multiple busbar		
Input Power Factor	≥ 99		
Output Power Factor	1		
Inverter Overload:	110% transfer to bypass after 1 hour; 125% transfer to bypass after 10 minutes; 150% transfer to bypass after 1 minute; > 150% transfer to bypass after 200 ms		
Bypass Input Voltage	380/400/415VAC 3ph+N+PE		
Bypass Voltage Range	-20%~+15%		
Screen	7 inch/10inch LED touchscreen		
Warning Methods	Sound/lighting alarm, communication protocol alarm		
Monitor Protocol	ModBus protocol /TCP/IP		
Communication Interface	Standard RS485, RS232, and optional LAN ports		
Backbone Monitor Indicators	Single-phase / three-phase voltage, current, frequency, zero-sequence current, power factor, active power, reactive power, apparent power, harmonic percentage Harmonic active power, harmonic reactive power, harmonic apparent power		
Backbone Warning	Single-phase/ three-phase voltage overvoltage, undervoltage, out-of-voltage, wrong voltage sequence, missing phase, unbalance, single/three-phase overcurrent, zero-sequence overcurrent, etc.		
Branch Monitor Indicators	Actual voltage, current, load percentage, voltage or on/off status		
Detection Accuracy	Current: accuracy 0.5%, range: 1%-120%; voltage: accuracy 0.5%, range: 5%-120% Frequency: 45~60Hz±0.01Hz; electricity: accuracy 1%; temperature: ±1°C		
Split Warning	Split overload warning, split open alarm, split power, split current harmonics, split power, temperature		
Dry Contact	DI/DO/AI		
Ground/Neutral Methods	Separate grounding/neutral		
Inlet/Outlet Line Mode	Up inlet line or down inlet line		
Protection Rating	IP30		
Working Temperature	-10~+70°C		
Working Humidity	0~95%		
Dimensions	Standard 600*1200*2000mm (customized)		
Package	Wooden case		
Weight	Gross: 314KG	Gross: 358KG	Gross: 432KG
Standards Met	GB7251.1-2013/IEC61439-1/YDT585-2010		

Features

Key devices play a vital role in reliability of UPS precision power distribution integrated cabinet. "TPDS" series all use internationally renowned brands.

Circuit Breaker: All using brands such as ABB, Schneider, and Siemens; 63A or less using hot-swap, adjustable phase switch; 100A and more using molded case

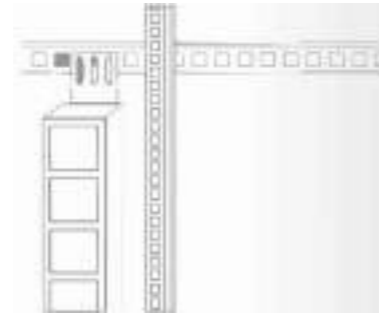
Terminal Block: All output switches configured with Phoenix-brand

Lightning Protector: Brands such as Schneider, OBO, ABB, Phoenix and BodyShielder

UPS precision power distribution integrated cabinet is designed with dual circuit input and output interfaces. Smart monitoring module can be hot-swappable so that monitoring and maintenance are easily carried out only if the system does not shut down. Hot-swappable and adjusted phase switches are optional. The system with UPS is designed for fault maintenance for switches, and there is no need to change any power distribution cable in order to gain three-phase balanced loads. Its input switch is fully equipped with terminal blocks for easy termination and constant expansion.

PDU

AC 220V/380V, high voltage DC, Basic-type, Functional-type, Smart-type, Customized-type



Installed Vertically



Installed Horizontally

Product Information

Applications

"TCEL" PDUs are widely used in IDCs, MDCs, network communications, telecommunications and power, finance and insurance, aerospace, information processing, education and health care, e-government, transportation, enterprise management and many more.

Basic-Type PDU

1U, standard 19 inch rack, industrial alu housing, professional power distribution solutions for electronic information equipment. Support tailored services regarding plug type, plug function, PDU color management and installation methods from manufacturers.

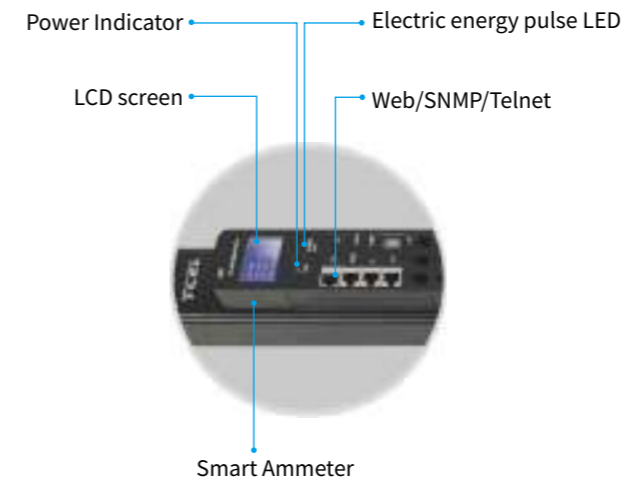
Functional-Type PDU

Functional-type builds on the features on the Basic-type, adding external ports, together with optional current, voltage and power modules, delivering real-time parameters. It is connected to the external sensors via ModBus 485 communication protocols and uploads PDU parameters such as operation and detection.

Functional-type with measurement can measure the total power supply loads in real-time and monitor them over Ethernet so as to avoid overcapacity and achieve balance between capacity and load. It also optimizes use of energy, supports SNMP, HTTP and ModBus 485 protocol, reduces the network resources and has a good compatibility.

Smart-Type PDU

This type can detect each output port in real time, avoid overcapacity over the industrial Ethernet so as to achieve balance between capacity and load. It supports SNMP, HTTP and ModBus 485 protocol, reduces the network resources and has a good compatibility. In addition to the functions that the function one has, Smart-type PDU provides the output ports with deferred power supply, sequential power supply, time-sharing interruption, remote power restart control and management of single output port. Its optional hydraulic magnetic circuit breakers meet the needs of extreme environments.



Functional-Type PDU:

Functions include the measurement of the total power, voltage, electricity, power, power factor; 485 serial port communication, uplinked and hot-swapped.



Smart-Type PDU:

With indicators in each port

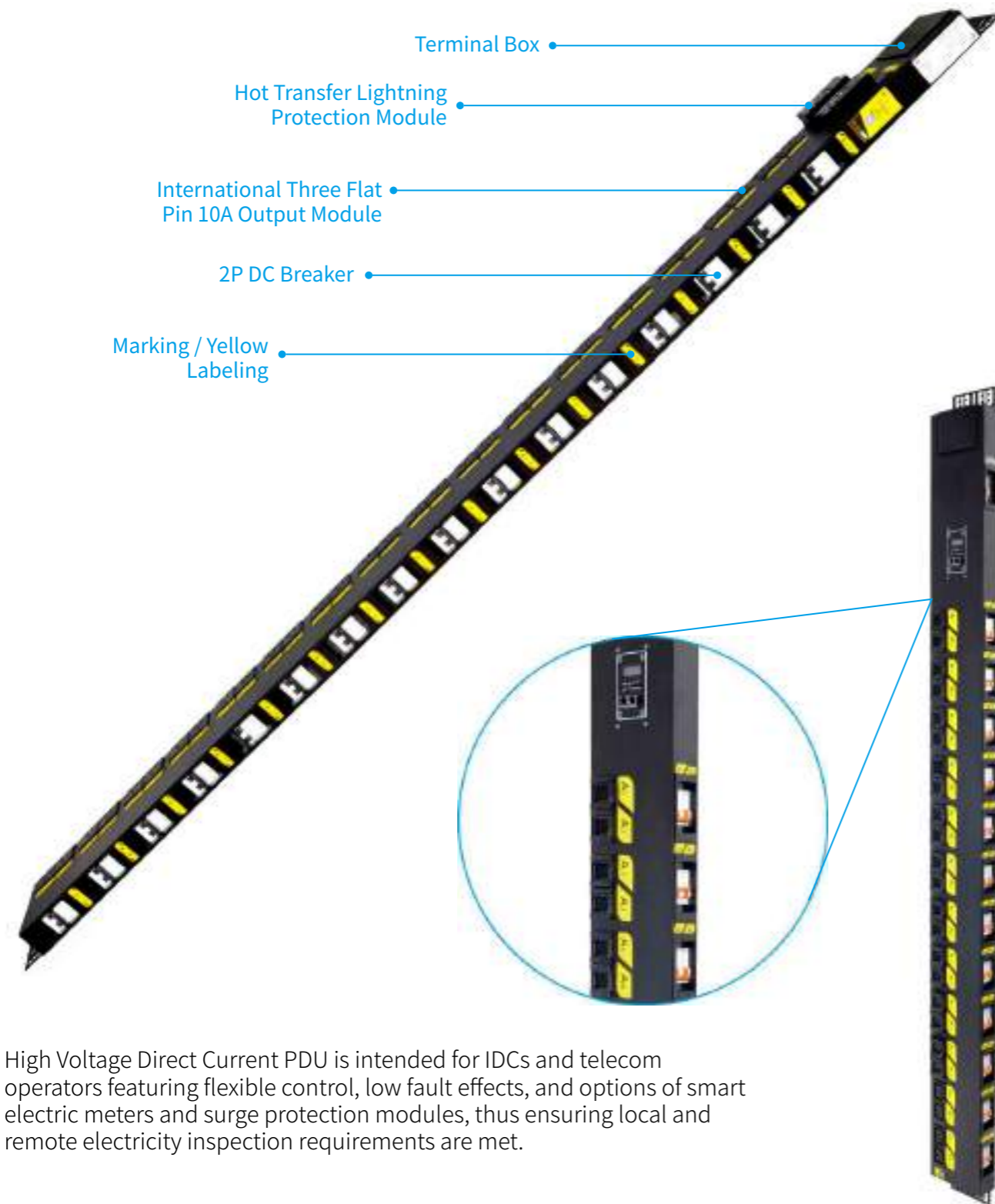
Features

- Modular design
- Available with diverse plugs
- Multiple colors for visual management
- Tailored services for specifications and performances
- Intelligent electricity system, for easy remote operation and maintenance
- Various installation methods compatible with all cabinets in the market
- Standard connecting terminals and special terminals for PDUs
- Power modules using PC/ABS materials, with heat distortion temperature up to 120 °C or more; flame resistance in accordance with UL94-V0.

INP, fully functional among the new generation of smart products, provides powerful network management ports and integrates a variety of practical functions, thus meeting consumers' requirements for PDU performances of remote smart monitoring. It supports 220V/380V power input, sequential power supply, monitoring and control of each input port. It detects voltage, current, electricity, power factor for the backbone and branches, together with temperature, humidity, smoke, water leakage, access control and many more. Its LED screen displays parameters such as current, voltage, power, voltage frequency, power factor and energy value.



High Voltage DC PDU



High Voltage Direct Current PDU is intended for IDCs and telecom operators featuring flexible control, low fault effects, and options of smart electric meters and surge protection modules, thus ensuring local and remote electricity inspection requirements are met.

Diversified Customization

Output Plugs



Output Plug Module



Certificates and Test Reports

UPS Certificate



Test Reports for Cabinet and Cold Aisle



Test Reports for Air Conditioner



Test Reports for PDU



Patent Certificates



Project Cases

Alibaba Customized Data Center
Tencent Data Center
STNC Data Center

Wanda Data Center
Bank of Communications Data Center
Suning Yuhua Data Center

Jiading Service Center Machine Room
Jiading Service Center Modular Data Center Xuhui Housing
Fund Center Machine Room
Jiaxing Data Center

Shanghai Shipping Center Machine Room
SPDB, Hefei Branch, Emergency Machine Room
Overseas Chinese Town Dual-Row MDC

Chongqing Lingjiang Data Center
Guangzhou CloudGoing Data Center, Phase II
Suzhou Public Security Bureau Big Data Command Center
Jiangxi Forestry Office Information Center Computer Room
Sichuan University West China Hospital
Hefei Mind Machine Room, Phase II
Guizhou Shenqian Internet Data Center
Yangzhou RCB Machine Room
Ji'nan Education Television
Zhenzhou Enjoy Snow Hotel
Zhangjiakou Ali Temple Data Center
Zhoukou XueLiang Project
GCL Data Center
China Enterprise Union Building
Phicomm Data Center
Work Safety Supervision Information Project, Phase I

