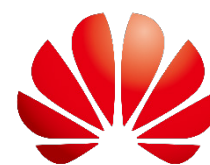




Huawei Data Center Facilities Solutions Catalogue →

HUAWEI TECHNOLOGIES CO., LTD.



HUAWEI

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Power ICT in a Smart Way

Huawei Data Center Facilities Solutions





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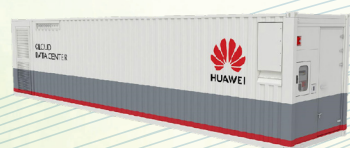


FusionModule800



FusionModule2000

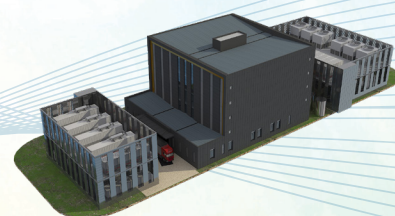
Outdoor Prefabricated Data Center



FusionDC1000A



FusionDC1000B



FusionDC1000C

Modular Data Center

FusionModule2000 Smart Modular Data Center

Introduction

Huawei FusionModule2000 is a new generation smart modular data center solution, which dedicated to providing customers with simple, efficient, and reliable data center solutions. Huawei FusionModule2000 is awarded World's First "Uptime Tier IV Ready" Certification and meets the highest availability requirements.

It's a modular-designed, highly integrated solution which comprises power supply system, cooling system, rack & structure system, cabling system, management system within a module, meeting the requirements for quick delivery and on-demand deployment.



Dual row, Contained cold/hot aisle

Application Scenarios

The FusionModule2000 is mainly applicable to small- and medium-sized data centers. The solution features simple design and high building adaptability, lowering the requirements of room height and reconstruction. It meets the data center deployment requirements of various sectors such as enterprise headquarters or large branches, bank headquarters and secondary branches, governments, carriers, education, and healthcare.



Features & Value

Simple

- Modular design, one module one DC, on-demand deployment and flexible expansion

Green

- iCooling intelligent optimization*, reducing the energy consumption of cooling system by 8% to 15%
- SmartLi Inside* supports Huawei smart lithium batteries deployed in the module. Compared with traditional lead-acid batteries, footprint is reduced by 70% under the same load and same backup time.
- Wet film humidification*: Compared with traditional electrode humidifiers, wet film humidifiers reduce energy consumption by 95%.
- Industry's first air-cooled smart modular DC PUE test and certification, The annual average PUE is as low as 1.245 @Beijing.

Smart

- iManager: Space, Power, Cooling (SPC) visualization, automatic asset management simplified O&M. 3D view* clear display of key information and alarms about power distribution and cooling system, automatic management of assets*, automatic asset tracking, and no manual counting.
- Local 10.1-inch touch PAD, intuitive display of intelligent features, simplifying O&M

Reliable

- iPower: Visualization of power supply chain, fault auto-locating and auto shutdown for proactive protection;
- SmartLi Inside* supports Huawei smart lithium batteries deployed in the module. Three-layer BMS ensure the reliability of lithium batteries.
- Innovative intelligent refrigerant leakage detection prevents cooling capacity decrease or air conditioner breakdown.



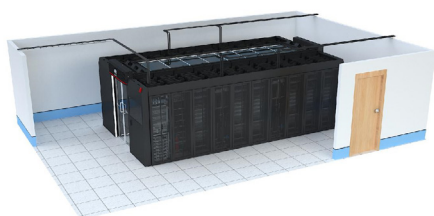
Specifications

Item	Specifications	
Micro Module	Dimension	Single row (with aisle containment) (L×W×H): L×2400×2410mm; L×2300×2410mm; L×2400×2610mm
		Dual row (with aisle containment) (L×W×H): L×3600×2410mm; L×3400×2410mm; L×3600×2610mm
	Cabinets per module	Single rows≤24 cabinets; dual row: ≤48 cabinets
	Power supply	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Max IT load per module	125kW (with integrated UPS)/ 145kW (with integrated PDC)/ 198kW (with New main way)/ 235kW (with precision PDC)
	Operation condition	Ultra low temperature condition: -40°C to 45°C(Need low-temp kit) T1 condition: -20°C to 45°C; T3 condition: -5°C to 55°C(Need T3 outdoor unit)
	Cable routing	Routed in/out through the top of cabinets
Installation	Installing on concrete floor or raised floor	
Cabinet	Dimensions (H×W×D)	2000mm×600/800mm×1200mm; 2000mm×600mm×1100mm; 2200mm×600/800mm×1200mm
	Space available	42U/47U
	Cabinet Porosity	Front and rear doors: hexagonal mesh door design, porosity rate ≥ 80%
	Protection level	IP20
Air-cooled In-row air conditioner	Cooling capacity	25kW/35kW/46kW
	Dimensions (H×W×D)	25kW:2000mm×300mm×1100mm; 35kW:2000mm×600mm×1200mm;46kW:2000mm×600mm×1200mm
	Power supply	380V AC~415V AC 50/60Hz, 3Ph+N+PE
	Refrigerant	R410A
Integrated UPS (UPS inside)	Input voltage	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Input	250/400A MCCB (single input); 250A/400A ATS (dual input)
	Input power factor	Full load > 0.99, Half load > 0.98
	Output power factor	1.0
	Rated capacity	30~125kVA: IT Load ≤ 120 kW, power modules ≤ 4, the capacity of a single power module is 30 kVA IT Load > 120 kW, power modules ≥5, the capacity of a single power module is derated to 25 kVA
	Output	IT: 40A/1P×24×2; A/C: 40A or 63A/3P×8; lighting: 10A/1P×3
	Efficiency	≥ 96% (Linear Load)
Integrated power distribution cabinet (UPS outside)	AC SPD	5kA, 8/20μs
	Input voltage	380/400/415Vac, 50/60Hz, 3Ph+N+PE
	Input	IT: 160/250A MCCB; A/C: 160/250A MCCB (single/dual input)
	Rated input current	IT: 160A/250A, Air conditioner: 160A/250A
	Output	IT: 40A/1P×24×2; A/C: 63A/3P×16; lighting: 10A/1P×3
Precision power distribution cabinet (UPS outside)	AC SPD	20kA, 8/20μs
	Input voltage	380/400/415Vac,50/60Hz,3Ph+N+PE
	Input	160/250/400A MCCB (single/dual input)
Smart busway (UPS outside)	Output	40A/1P, max 144 routes
	Input voltage	380/400/415Vac,50/60Hz,3Ph+N+PE
	Input	250/400A MCCB (single input)
SmartLi Inside	Output	40/63A 1P (6 branches in one Power Distribution Unit, can be expanded with the length of cabinet)
	Single Lithium battery cabinet	Contains 16 battery modules. Two battery strings are connected in parallel, and each battery string contains eight battery modules connected in series.
	Number of Lithium battery cabinets	2N scenario: ≤ 4 battery cabinets; N+1 scenario: ≤ 2 battery cabinets
	Typical backup time	The backup time can be 15 minutes, 30 minutes, or 1 hour

Recommended Configurations—UPS Inside



R24 Dual-Row Cabinets with Lithium Batteries Installed in Row



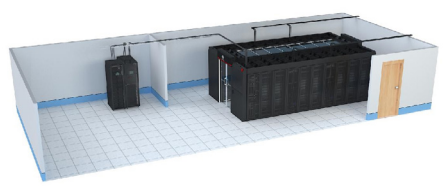
Dual-Row Cabinet Scenario

IT	IT	IT	IT	Smart Cooling	IT	IT	IT	Smart Cooling	IT	IT	IT	Smart Cooling	IT	IT	IT
R24-112kW (aisle)															
Integrated UPS	Battery cabinet	Battery cabinet	IT	Smart Cooling	IT	IT	IT	IT	IT	IT	IT	Smart Cooling	IT	IT	IT

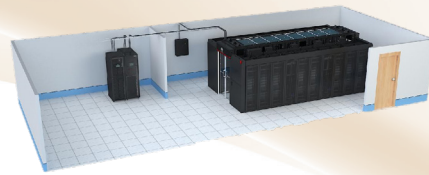
R24 Typical Layout of the UPS and Lithium Batteries in Row

IT Load (kW)	Power Supply	Redundancy	A/C Configuration	Battery
30	Integrated UPS	N+ 1/ 2N	25kW×2	In-row (Battery cabinet)/Outside Installation
40			25kW×3	
60			35kW×3	
80			35kW×4	
100			46kW×4	
125			46kW×5	

Recommended Configurations——UPS Outside Installation



UPS Outside the Module(Precision PDC)



UPS Inside the Module (Smart Busway)

IT	IT	Smart Cooling	IT	IT	IT	IT	Smart Cooling	IT	IT	IT	IT	Smart Cooling	IT	IT
R24-140kW (aisle)														
Precision PDC	IT	Smart Cooling	IT	IT	IT	IT	Smart Cooling	IT	IT	IT	IT	Smart Cooling	IT	IT

R24 Typical Layout of Dual-Row (Precision PDC)

IT	IT	Smart Cooling	IT	IT	IT	IT	Smart Cooling	IT	IT	IT	IT	Smart Cooling	IT	IT
R24-140kW (aisle)														
IT	IT	Smart Cooling	IT	IT	IT	IT	Smart Cooling	IT	IT	IT	IT	Smart Cooling	IT	IT

R24 Typical Layout of Dual-Row (Smart Busway)

IT Load (kW)	IT Power Supply	AC Power Supply	Redundancy	AC Configuration
20	Integrated PDC/ Precision PDC/Smart Busway	Integrated PDC/ Power Distribution Box	N+1/2N	25kW×2
30				35kW×2
40				25kW×3
60				35kW×3
90				35kW×4
120				46kW×4
145	Smart Busway/ Precision PDC	Power Distribution Box		46kW×5
160				46kW×6
198				46kW×7
235	Precision PDC			

Modular Data Center

FusionModule800 Smart Small Data Center

Introduction

FusionModule800 Smart Small Data Center is a new-generation data center solution. It is integrated with PDU, UPS, monitoring, cooling and rack system in a comprehensive rack in order to save space. IT racks can be deployed flexibly on both sides. A single module can support maximum 12 racks and 25kW IT load (T3: IT Load ≤ 21kW), the maximum power density for each rack is 7kW/R (T3: ≤ 6kW). Cold and hot aisle containment to saving Energy and reduce noise.

Application Scenarios

- Finance, Education, Health Care, Public Security, SMEs, Retailing & Merchandising, Edge DC, etc.
- Indoor modular data center

Features & Value

Simple

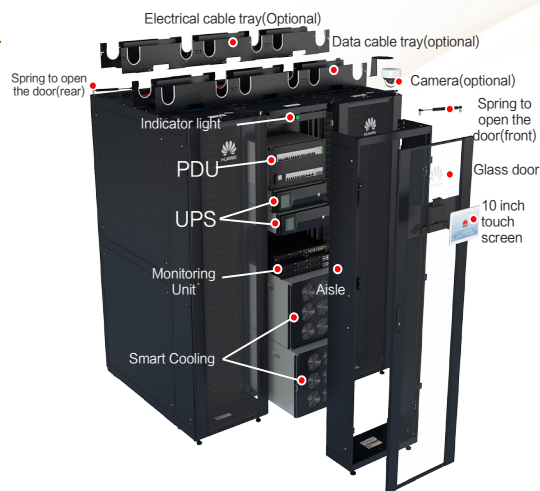
- Integrated cooling, PDU, UPS and monitoring system in one rack, footprint saving.
- All components are prefabricated in factories. Only need to be combined onsite, hardware are installed in 4 hours, 2 days business on line.
- The local PAD supports facial recognition, easy login without password.
- Support online maintenance through hot swap switches, local PAD indicates the PUE through intelligent power distribution (only for BC6 and BC7).

Efficient

- Rack-mounted air conditioner saves at least one rack footprint.
- Cold and hot aisle containment, saving energy and reducing noise.
- Improve the efficiency of cooling system through DC variable frequency compressor, wet film humidification, cold and hot aisle containment.
- Real-time monitoring of mobile apps, centralized monitoring of multiple sites.

Reliable

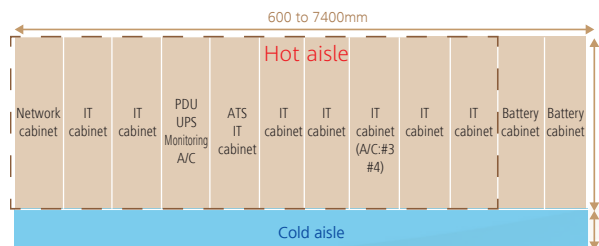
- Dehumidifying at min. 10% IT load avoids condensation risk.
- Automatic shutdown to prevent fire caused by battery overheating.
- Open rack doors automatically in case of cooling failure and the temperature exceeds the limit.
- When detect the fire alarm automatically open the rear door to let the fire extinguishing gas enters.



FusionModule800 Architecture



FusionModule800 Application

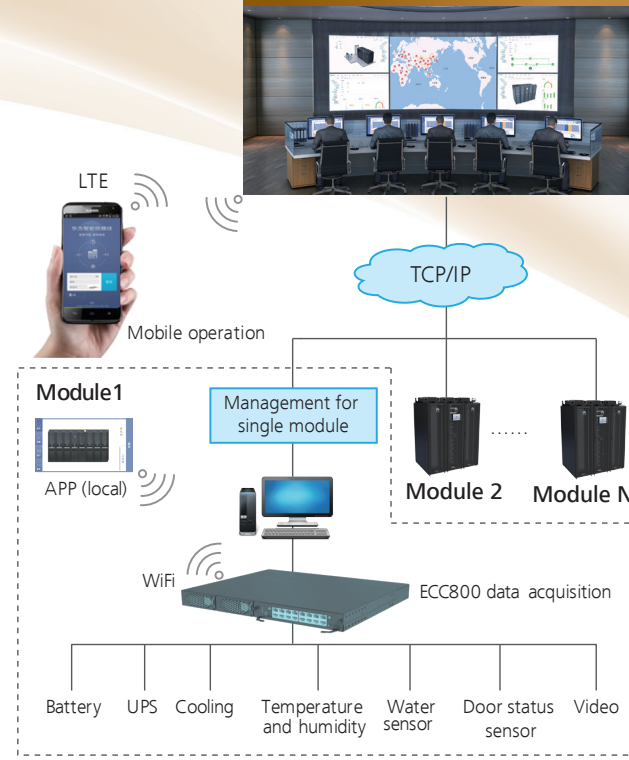


Maximum configuration:
IT load 17~25kW(T1/LT), 14kW~21kW(T3)

Specifications

System features	
Power system	380/400/415Vac, 50Hz, 3Ph+N+PE
Aisle containment	Cold and hot aisle containment
System protection level	IP20
Ambient temperature	T1*: -20°C ~+45°C; T3*: -10°C ~+55°C; LT*: -40°C ~+45°C;
Maximum cabinet quantity for a module	12
Quantity of IT cabinets	0-10
Maximum IT load	25kW (T1* & LT*) 21kW (T3*)
Max power density / Rack	7kW (T1* & LT*) 6kW (T3*)
IT cabinet weight	Static load 1500kg, Dynamic load 1000kg
Total Dimensions (H×W×D mm)	2000×(600-5000)×1350
Cooling system	
Power system	220/230/240Vac, 50Hz, 1Ph+N+PE
Cooling capacity	12.5kW ²
Operating temperature of the outdoor unit	T1*: -20°C ~+45°C; T3*: -10°C ~+55°C; LT*: -40°C ~+45°C;
Configuration	N, N+1
Cooling mode	Direct expansion air-cooled
Installation	Rack mounted
Air volume	2600m ³ /h
Air supply mode	Front supply, rear return
Power Supply and Distribution System	
SPD	CLASSII/C, In 20kA, I _{max} 40kA, 8/20us
Input power	Single or dual inputs
UPS capacity	10kVA 20kVA
UPS configuration	N, N+1
UPS output power factor	0.9
UPS rated output voltage	380/400/415Vac, 50/60HZ, 3Ph+N+PE
UPS input voltage range	138~485Vac, 40~70Hz, 3Ph+N+PE
UPS rated output voltage	220/230/240Vac 50/60Hz, 1Ph+N+PE 380/400/415Vac 50/60Hz, 3Ph+N+PE
UPS efficiency	94.5% 95%
Backup time	15min/30min
rPDU (Optional)	No-Intelligent rPDU: IEC or GB, on site installation Intelligent rPDU: IEC, on site installation
ATS (Optional)	On site installation
Maintenance bypass	Standard
Intelligent battery monitoring system	Optional
Monitoring system	
Monitoring system	Mobile phone APP, SMS alarm, Web access, centralized management for multi-DCs
10 inch Pad	Standard
Water sensor	Optional
Camera	Standard
Smoke sensor	Standard
Intelligent door lock	Standard
Facial recognition	Standard
Temperature and humidity sensor	Standard
Mobile O&M	Local app on the mobile phone, SMS alarm NetEco remote app on the mobile phone (optional)

Centralized management for multiple DCs



Seven Typical Configurations

IT load	≤8.5KW(T1/LT) ≤7KW(T3)		8.5KW~17kW(T1/LT) 7KW~14kW(T3)	
Basic configuration	BC1*	BC2	BC3	BC4*
Aisle type	Single row, cold & hot aisle containment			
UPS (kVA)	10+0	10+10	20+0	20+20
Smart cooling	1+0	1+1	2+0	2+0
Power input	Single input is default (ATS optional)			
IT output	4	12	12	12
Intelligent Power distribution	NO	NO	NO	NO

IT load	17~25KW(T1/LT) 14kW~21kW(T3)	≤8.5KW(T1/LT) ≤7KW(T3)	8.5~17kW(T1/LT) 7~14kW(T3)
Basic configuration	BC5*	BC6*	BC7*
Aisle type	Single row, cold&hot sealed		
UPS (kVA)	20*2+0	10+10	20+20
Smart cooling	3+0	1+1	2+0
Power input	Single input is default (ATS optional)		
IT output	20	12	12
Intelligent Power distribution	NO	Yes	Yes

Note:
 1, Basic configuration 1, 3,4,5,7 are only applicable to Tier1 DC.
 2, The cooling capacity 12.5kW is obtained when the indoor dry bulb temperature is 37.8°C , and outdoor dry bulb temperature is 35°C ,relative humidity 20%.
 3, ATS is optional and can be installed on site
 4, T1:-20°C ~ +45°C, LT: -40°C ~ +45°C ;T3:-10°C ~ +55°C
 5, BC1 cooling without heating and humidification, the others are all have one cooling with heating and humidification
 6, BC6 & BC7 are intelligent power distribution.
 7, The Converged cabinet part number don't include cooling out door unit.three type of outdoor unites are freely configured with the converged cabinet.

Smart Mini Data Center Solution

FusionModule500

Introduction

FusionModule500 smart mini data center solution integrate UPS, PDU, monitoring, battery pack in a cabinet. All parts are prefabricated, pre-installed, pre-tested. On-site installation is simple to achieve rapid deployment. The remote monitoring function with web interface can realize remote operation. At the same time, FusionModule500 can be equipped with Huawei NetEco management system, achieving centralized monitoring and unified management.

Feature

Simple

- All-in-one design, preassembly, two-hours installation
- Battery remote discharge, mobile phone APP, SMS alarm, remote web platform control, Network centralized monitoring, realizing unattended operation

Efficient

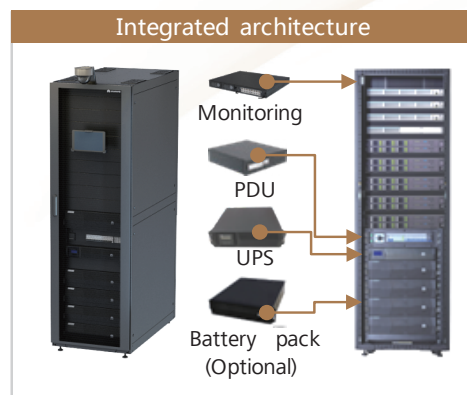
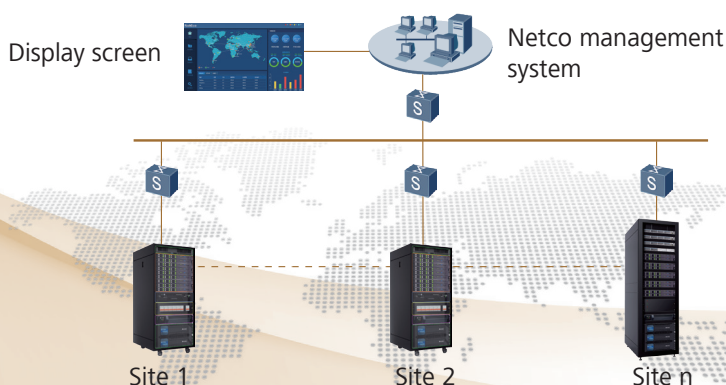
- Rack DC, saving at least 50% space

Reliable

- Civil smart cooling product intelligent start, no risk of overheat
- Battery overheating intelligent shutdown to prevent the fire

Application scenarios

- Bank sites, education, enterprise branches, retail merchandising and carrier business halls, etc.
- No need special data center room



Integrated cabinet



Integrated cabinet+network cabinet or Integrated cabinet+battery cabinet



Integrated cabinet+network cabinet+battery cabinet

Specifications

Item		Description	42U	24U	
Overall parameter	Power type		220/230/240Vac, 50/60Hz, 1Ph+N+PE		
	Temperature		0-40°C		
	Humidity		5-95%		
	Altitude		0-4000m (1000 meters or more to reduce capacity)		
Certificate	Certificate		CE, ROHS, REACH		
Cabinet system	Cabinet dimensions W×H×D (mm)		600×2000×1100	600×1200×850	
	Cabinet combination		IT cabinet / IT cabinet+battery cabinet, IT cabinet+network cabinet, IT cabinet+network cabinet+battery cabinet	IT cabinet, IT cabinet+battery cabinet	
User space	ICT space		36U (no battery pack) 24U (4 battery pack)	17U (no battery pack) 11U (2 battery pack)	
Power system	System input	Input switch capacity	32A (3kVA); 63A (6kVA,10kVA)		
		Input switch	4×40A/1P+1×16A/1P (6kVA/10kVA) 2×16A/1P+3×10A/1P (3kVA)	4×40A/1P+1×16A/1P (6kVA/10kVA) 2×16A/1P+3×10A/1P (3kVA)	
	UPS	Capacity	3kVA, 6kVA, 10kVA		3kVA
		Configuration	Single UPS		
		Power factor	0.9		
		Efficiency	94% (3kVA/6kVA), 94.5% (10kVA)		
	rPDU	Installation	Vertical (6kVA/10kVAUPS) Horizontal (3kVAUPS)	Horizontal	
		Type	IEC/GB		
		Configuration	IEC: 20×C13+2×C19	IEC: 8×C13	
	Battery pack	Capacity	7AH, 9AH		
		Quantity	0-4	0-2	
	Power backup	Backup type	Battery pack, Battery cabinet		
Battery cabinet	Backup time	15min-4H			
Monitoring system	Monitoring	ECC800e			
	Home A/C restart function	Optional			
	SMS	Optional			
	Remote mobile APP	Optional			
	Liquid sensor	Standard configuration			
	Tem&Hum sensor	Standard configuration			
	Door magnetic switch	Standard configuration			
	Smoke sensor	Standard configuration			
	9.6-inch display (wifi module)	Optional			
	Web monitoring	Standard configuration			
Camera	Optional				
Management system	NetEco6000	Optional			
Cooling system	Heat radiation	Natural heat dissipation			
Dimensions/weight	Package dimensions W×H×D (mm)	734×2200×1268	734×1400×1068		
	Integrated cabinet weight	144kg (no battery pack)	100kg (no battery pack)		
	Battery pack weight	61kg (7Ah), 69kg (9Ah)			

Prefabricated Data Center

FusionDC1000A Prefabricated All-in-One Data Center(380V-VRLA)

Introduction

Huawei FusionDC1000A is an advanced outdoor and prefabricated all-in-one data center facility solution. The solution provides reliable, stable and green environment for IT equipment. The solution can be applied to multiple industries and scenarios and meet data center's requirements on energy saving and fast deployment.

Applicable Industry and Scenario

- Enterprise:** small data center
- Government:** data center of smart city and safe city
- Education:** data center of university and science institute
- Energy:** data center of mining and exploration field
- Finance:** backup data center
- Transportation:** power supply for room of airport/railway station/port
- Telecom carrier:** small IDC, DR DC, edge DC

Features & Value

Simple

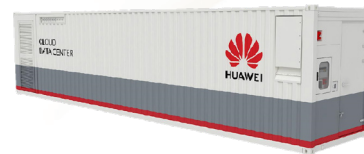
- Enclosure, power, cooling, firefighting, DCIM system are 100% prefabricated. All facilities and preinstalled and pretested before delivery
- Productized solution minimizes the engineering work and the on-site installation of a plug & play data center only takes one day
- Moveable design makes relocation easy and deployment flexibly

Efficient

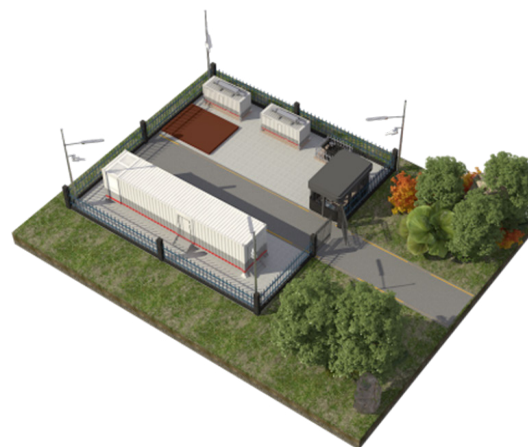
- High-efficiency modular UPS, smart in-row cooling, aisle containment, enclosure of low heat transfer coefficient, industry-leading PUE
- Huawei NetEco system centralize the management of multiple sites. 3D visualized management, power&cooling monitoring enable smart O&M
- Efficient O&M anywhere& anytime with PAD and mobile APP

Reliable

- The world's first all-in-one product with Uptime TIER-III Ready Certification
- Durable enclosure with 25-year service life; IP55 protection (IP65 optional) and GR-63-CORE Zone3 anti-seismic; 60min fire resistance duration of enclosure structures (structural walls), 120min with customized fire-proof panel; EN 1627~EN 1630 Class 3 anti-theft (optional)
- 3D temperature map eliminate the risk caused by hot spots.. Automatic refrigerant detection provides early-alarm on cooling running.



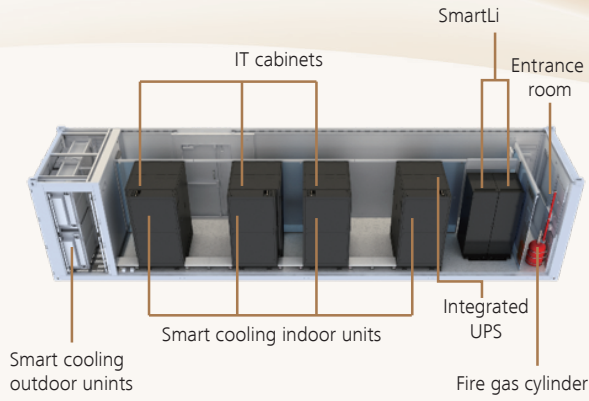
FusionDC1000A 40ft



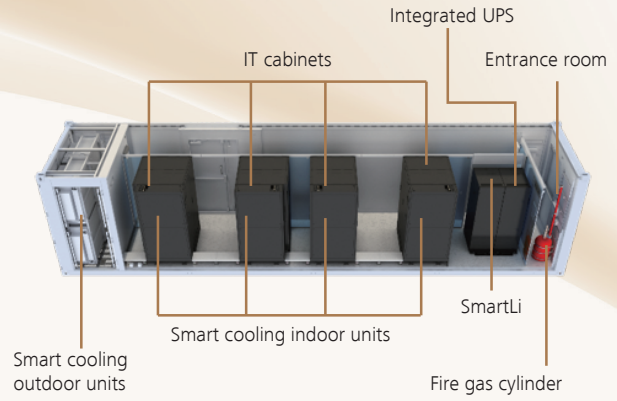
FusionDC1000A 40ft Site

Layout

Layout

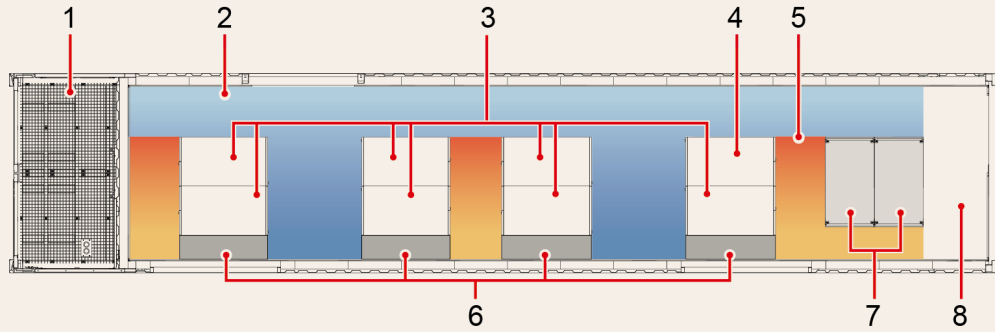


FusionDC1000A-40ft-IT-2N-380V-VRLA



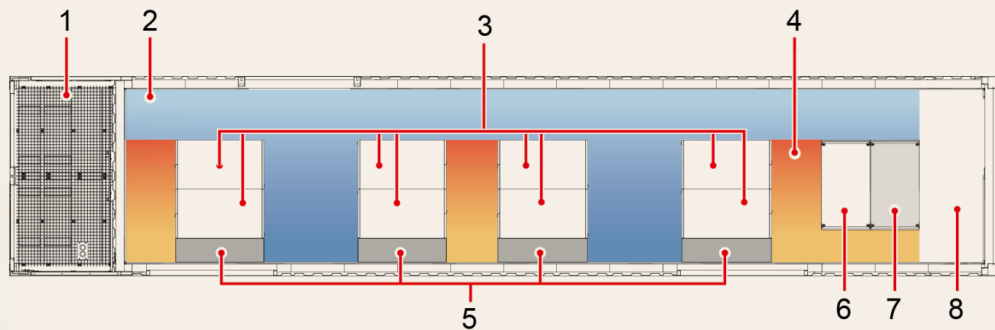
FusionDC1000A-40ft-IT-N+X-380V-VRLA

Plan View



FusionDC1000A-40ft-IT-2N-380V-VRLA

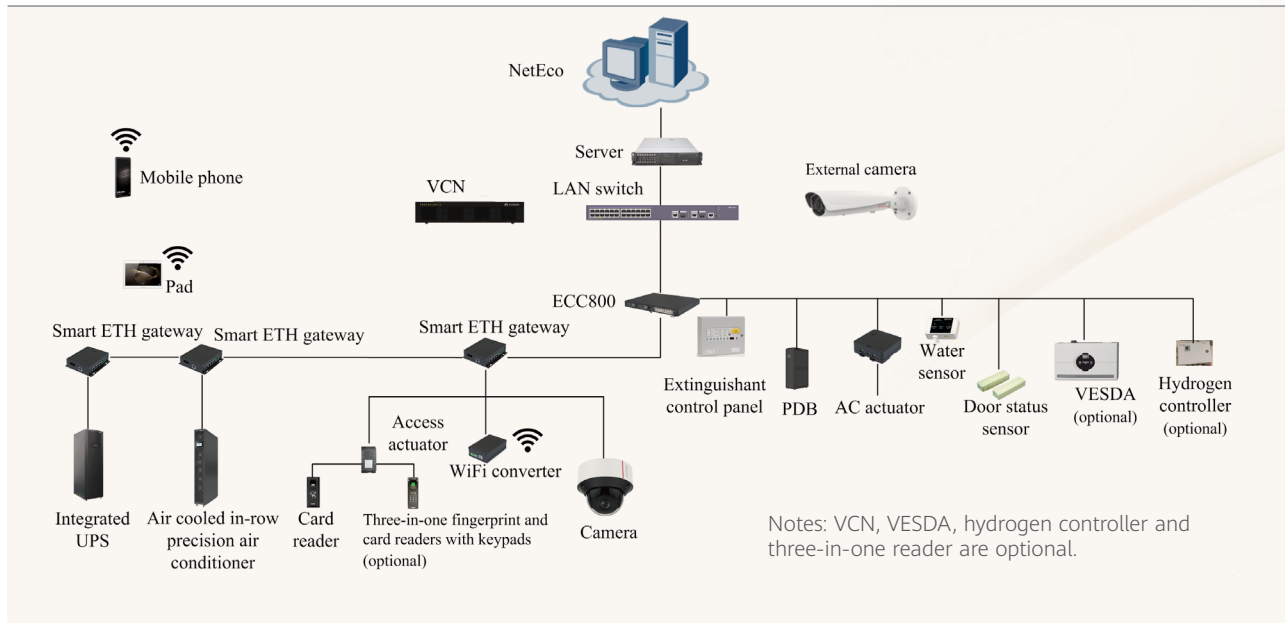
- ① Cooling units
- ② Cold aisle
- ③ IT cabinet
- ④ Battery cabinet
- ⑤ Hot aisle
- ⑥ Cooling units
- ⑦ Integrated UPS
- ⑧ Entrance room



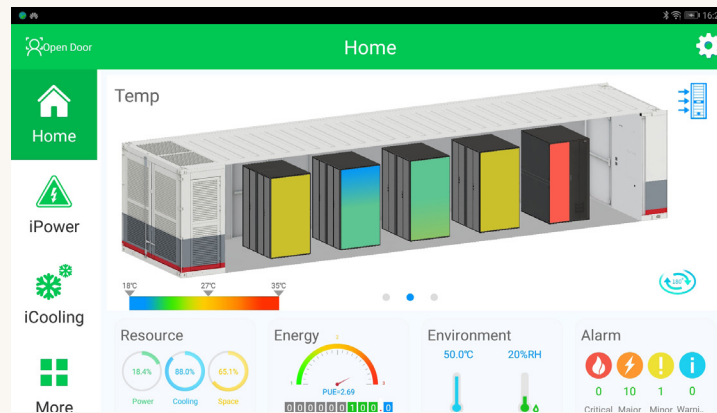
FusionDC1000A-40ft-IT-N+X-380V-VRLA

- ① Cooling outdoor units
- ② Cold aisle
- ③ IT cabinet
- ④ Hot aisle
- ⑤ Cooling indoor units
- ⑥ Battery cabinet
- ⑦ Integrated UPS
- ⑧ Entrance room

Management System



Local Display



Mobile Phone APP

The mobile phone app interface consists of five main screens:

- Homepage:** Overview of power, energy, environment, and resource usage.
- Real-time Alarm:** List of active and historical alarms with details like alarm name, device, and generation time.
- Power:** Graphs showing MaxPUE/NA, MinPUE/NA, and Smart Cooling Power over time.
- Cooling:** Detailed view of air conditioner information including Name (NetCo1), Compress speed (0 RPM), Ext. fan output (22%), Outdoor temp (25.1°C), Inner fan Output (0%), and Cooling cap (18.0 kW).
- Resource:** Circular gauge showing 42.4% Load Ratio and a bar chart of Current Power (kW) for IT Cabinet2, ITBE3, and ITBE4.

Specifications

System	Sub-item	FusionDC1000A-40ft IT-N+X-380V-VRLA	FusionDC1000A-40ft IT-2N-380V-VRLA	System	Sub-item	FusionDC1000A-40ft IT-N+X-380V-VRLA	FusionDC1000A-40ft IT-2N-380V-VRLA	
Power	Total IT load	≤ 54kW ^⑧		Monitoring	Module access	IC card reader as default optional three-in-one access control		
	Power density per rack	≤ 9kW			Rack access	Customization ^⑥		
	Input mode	3Ph+N+PE, 380V /400V/415V AC,50Hz/60Hz			Monitoring management	Real-time monitoring of temperature and humidity control, fire control, access control and cooling system		
	UPS model	Integrated modular UPS (with integrated ATS and 25kVA module)	Integrated modular UPS (with integrated MCCB and 25kVA module)		Local display	PAD		
	UPS capacity	75kVA			Remote O&M	App		
	Number of UPS power module	3+1 redundancy	3		E-mail	Optional		
	BAT backup time ^①	7.5min	10min		SNMP short message	Optional		
	Basic rPDU	Standard			Enclosure	External size (H×W×D)mm	2896×2438×12192	
	Smart rPDU	Optional				Aisle width	Cold aisle of 1150mm; hot aisle can be extended to 610mm;	
	Surge protection ^②	Level-2, maximum 60kA 8/20us			Protection	Dustproof and waterproof	IP55 (optional IP65)	
Rack	Rack capacity ^③	8×42U IT rack	7×42U IT rack	Anti-seismic		GR-63-CORE Zone3 (Equivalent to Mercalli Intensity 9)		
	Rack distribution	2×9kW/ Rack+6×6kW/ Rack	4×9kW/ rack+3×6kW/ rack	Anti-theft	EN 1627~EN 1630 Class 3(optional)			
	Size (H×W×D)	600×1100×2000 mm 600×1200×2000mm		Operating Environment	Operating humidity (RH)	5% ~ 95%		
Cooling	Technology	Air-cooled in-row			Operating temp. ^④	-20°C~+55°C	-40°C~+55°C	
	Sensible cooling capacity	25kW/unit (3+1 redundancy)			Altitude ^⑤	≤ 4000m		
	Coolant	R410A		Fire protection	Auto fire protection system	Automatic fire detection & suppression system c/w emergency release function		
	Fan type	EC fan			Alarm	Automatic monitoring and detection, support sound and light alarm		
	Compressor	DC variable-frequency			Gas	Standard HFC-227ea		
	A/C group control	Support						
	Temp. range	18~27°C						
	Humidity range	20%~80%						
	Hot/cold aisle	Hot aisle containment						
	Humidification	Wet-film humidifier						

① ③: The BAT backup time and rack capacity vary in configuration. Details refer to the Product Overview.

②: Surge protection level vary in configuration. Details refer to the Product Overview.

④⑧: Low-temperature air-conditioner is required for -40°C to -20°C. When the temperature is over 45°C, the IT load will be derated as follows: when 45°C < T ≤ 50°C, the derating coefficient is 0.89; when 50°C < T ≤ 55°C, the derating coefficient is 0.58.

⑤: Power derating is required when the altitude is over 1000m. Details refer to the Product Overview

⑥: Customized access control will cause changes to U space and monitoring solution.

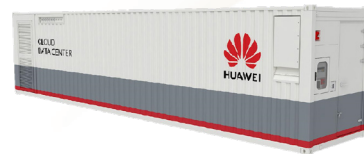
⑦ N+X and 2N refers to redundancy level of power system. N+X refers to UPS module redundancy. 2N refers to UPS unit redundancy.

Prefabricated Data Center

FusionDC1000A Prefabricated All-in-One Data Center(380V-SmartLi)

Introduction

Huawei FusionDC1000A is an advanced outdoor and prefabricated all-in-one data center facility solution. The solution can be applied to multiple industries and scenarios and has simple, green, smart, and reliable features.



FusionDC1000A 40ft

Applicable Industry and Scenario

Enterprise: small data center

Government: data center of smart city and safe city

Education: data center of university and science institute

Energy: data center of mining and exploration field

Finance: backup data center

Transportation: power supply for room of airport/railway station/port

Telecom carrier: small IDC, DR DC, edge DC

Features & Value

Simple

- Subsystems are factory-prefabricated; One DC within One container
- No new building; Onsite installation within one day; Plug-and-play
- Moveable design makes relocation easy and deployment flexibly

Green

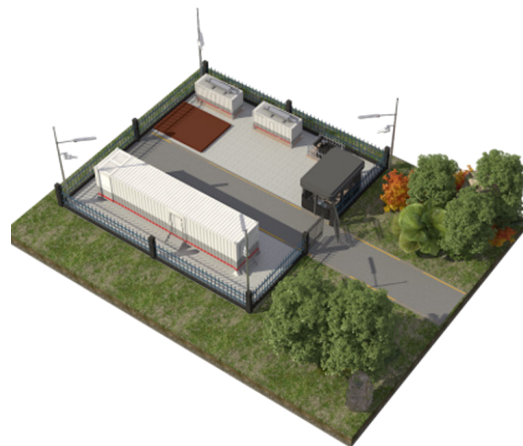
- Ultimate subsystem energy efficiency design, industry-leading PUE
- Dynamic optimization of system energy efficiency by AI technology
- One-stop delivery, less onsite construction waste and pollution

Smart

- NetEco intelligent system ensure full-facility 3D visualized management
- Intelligent O&M, reducing O&M costs and improving resource utilization
- Efficient O&M anywhere & anytime with PAD and mobile APP

Reliable

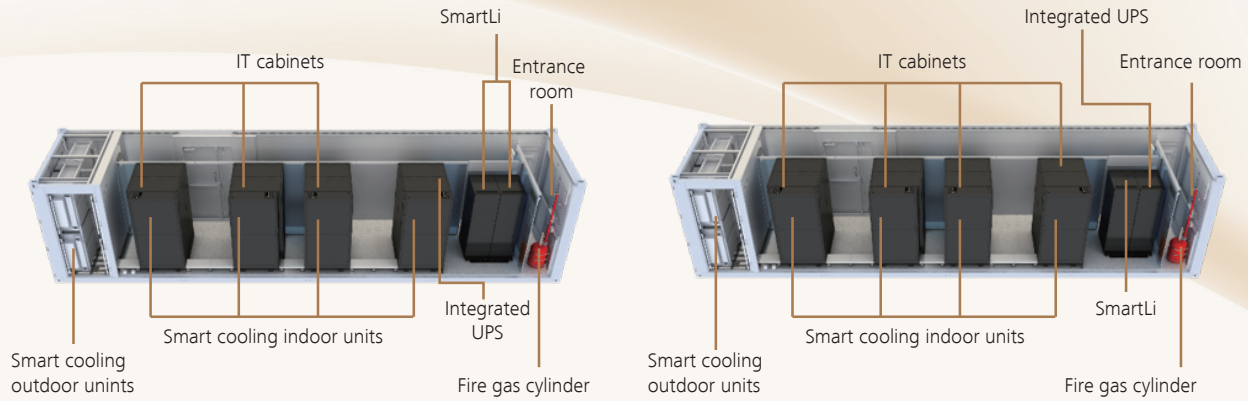
- Durable enclosure with 25-year service life; IP55 protection (IP65 optional); GR-63-CORE Zone3 anti-seismic; **60min fire resistance duration of enclosure structures (structural walls), 120min with customized fire-proof panel**; EN 1627~EN 1630 Class 3 anti-theft(optional)
- 3D temperature map eliminates the risk caused by hot spots. Full-link monitoring for power supply and distribution can isolate the fault actively; Automatic refrigerant detection can provide early-alarm to ensure reliable cooling running
- The intelligent monitoring system is used to implement reliable backup power and visualized O&M management of lithium batteries



FusionDC1000A 40ft Site

Layout

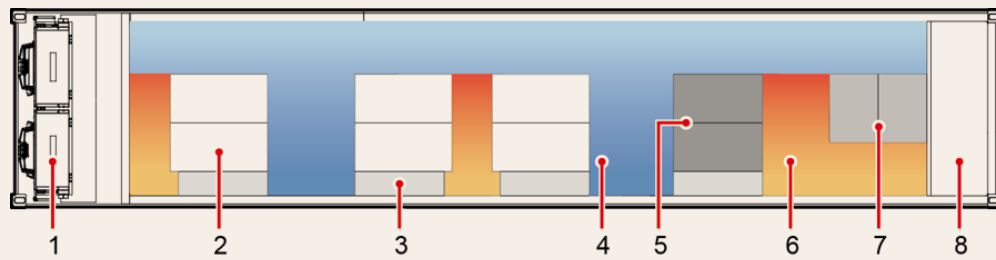
Layout



FusionDC1000A-40ft-IT-2N-380V-SmartLi

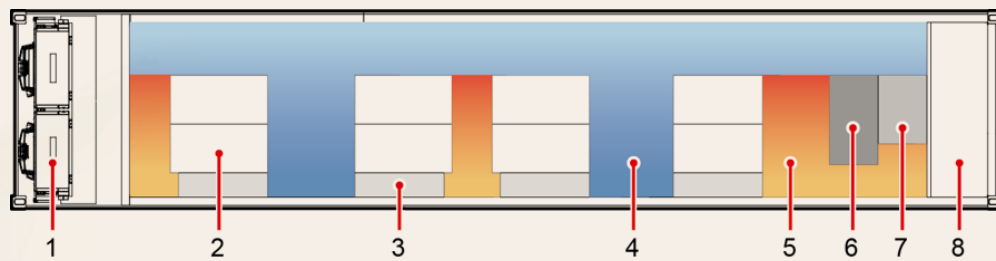
FusionDC1000A-40ft-IT-N+X-380V-SmartLi

Plan View



FusionDC1000A-40ft-IT-2N-380V-SmartLi

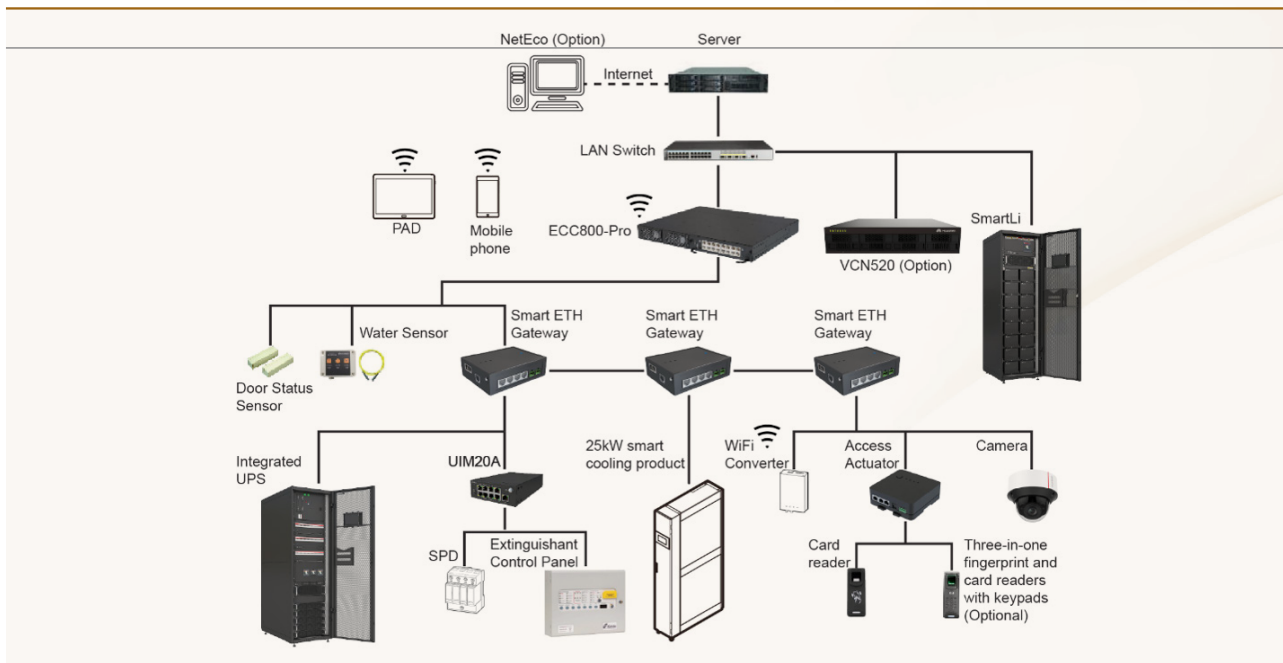
- ① Smart cooling product outdoor units ② IT cabinet ③ Smart cooling product indoor units
- ④ Cold aisle ⑤ Integrated UPS ⑥ Hot aisle ⑦ SmartLi ⑧ Entrance room



FusionDC1000A-40ft-IT-N+X-380V-SmartLi

- ① Smart cooling product outdoor units ② IT cabinet ③ Smart cooling product indoor units
- ④ Cold aisle ⑤ Hot aisle ⑥ Integrated UPS ⑦ SmartLi ⑧ Entrance room

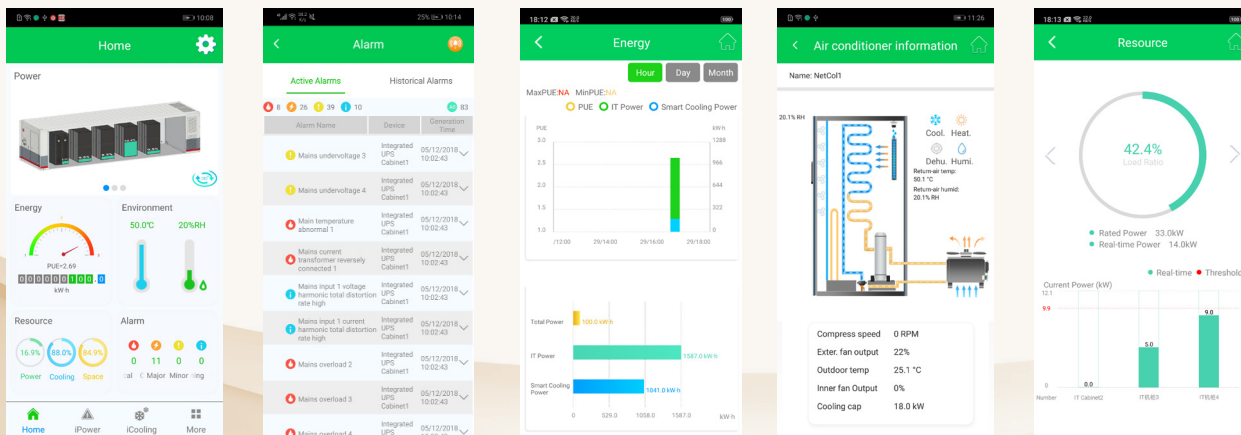
Management System



Local Display



Mobile Phone APP



Homepage

Real-time Alarm

Power

Cooling

Resource

Specifications

Type		FusionDC1000A-40ft-IT-N+X-380V-SmartLi ^①	FusionDC1000A-40ft-IT-N+X-380V-SmartLi ^①	Type		FusionDC1000A-40ft-IT-N+X-380V-SmartLi ^①	FusionDC1000A-40ft-IT-N+X-380V-SmartLi ^①	
Cooling Parameters	Deployment Site	Outdoor, awning, warehouse		Electrical parameters	Power mode	380/400/415V 50/60Hz, three-phase, four-wire+PE		
	Altitude range	Maximum altitude: 4000m (Power derating occurs when the altitude is greater than 1000m) ^②			Input voltage range	380/400/415V±15% (For 415V, the positive tolerance is +10%)		
	Humidity range	5%-95% RH			Input channels	2 channels	2 channels	
	Operating temperature	-20°C- +55°C(Power derating occurs when the temperature is higher than 37°C) ^②			UPS model and quantity	UPS5000-E, 1pcs	UPS5000-E, 2pcs	
	Storage temperature	-40°C - +70°C ^③			Power capacity	≤60KVA (2 Module+1 redundancy)	≤60KVA (Full kit 1+1)	
	Storage humidity	5%-95% RH			Total input surge protection	Class B, 8/20us, In=30kA, I _{max} =60kA		
	Power density	Total power≤54kW 6kw/R: 6pcs 9kw/R: 2pcs	Total power≤54kW 9kw/R: 6pcs		Battery specifications	40AH SmartLi	40AH SmartLi * 2	
	Number of cabinets/ Container	42U/Cabinet, 8pcs IT cabinets	42U/Cabinet, 6pcs IT cabinets		Backup time	15min	20min	
	Cabinet dimensions	4pcs: 600×1100×2000mm 4pcs: 600×1200×2000mm	2pcs: 600×1100×2000mm 4pcs: 600×1200×2000mm		Cooling Parameters	Cooling capacity	25kW/pcs(3+1 Redundancy)	
	Environment corrosion requirements	A/B/C environment is supported, Class C environments: At least 500m away from strong corrosive environments (Such as seaside, garbage pileup, and heavily polluted chemical plants) ^④				Unit dimensions (H*W*D)	2000mm*300mm*1100mm	
	Waterproof and dustproof	IP55 (IP65 Optional)		Compressor		DC frequency conversion		
	Anti-seismic	GR-63-CORE Zone3/9 intensity		Refrigerant		R410A		
	Anti-theft	EN 1627 - EN 1630 Class 3 (Optional)		Fan		EC Fan		
	Anti-elasticity	GJB 4300-2002 V&N.IJ.0108.01 IIIA (Customized)		Pipe		Copper tubing		
	Anti-wind	Wind speed≤130km/h(12 level)		Temperature control range		18 - 27°C		
Corrosion resistance in salt spray	Meets the 1440-hour salt spray test requirements		Humidity control range	20% - 80% RH				
Service life	Equivalent service life: 25 years ^⑤		Thermal insulation performance	Total heat transfer coefficient≤0.36 W/(m ² *K)				
Fixed-form	Preferentially installed on the ground ^⑥		Refrigerant leakage detection	Yes				
Structure parameters	Dimensions (H*W*D)	2896mm×2438mm×12192mm		Monitoring parameters	Container access control	IC card access control is default; Customized three-in-one access control is supported		
	Weight	Preinstalled weight before delivery ≤ 14T, fully-configured devices ≤ 20T			Video surveillance	Huawei high-definition IP camera		
	Integrated cabling	None. Customization is supported			Video storage	SD card (Stored for 7 days); VCN (Optional)		
	Transition hallway	Yes			Local display in the container	PAD		
	Aisle dimensions	Long aisle width: 640 mm; Cold aisle width: 1150 mm; The width of the hot aisle is greater than or equal to 610 mm			View function	Yes		
	Cabinet sliding	A 1.2m deep cabinet can slid 200mm in both directions			Mobile O&M	Mobile O&M on mobile phones and tablets		
					Fire protection parameters	E-mail	Email server configuration is supported	
						SMS alarm	The SMS modem can be customized	
						Temperature nephogram	The temperature sensor can be customized	
						U space management	None. Customization is supported	
				Automatic gas fire extinguishing system		CE Version		
				Very early smoke detection		None. Customization (ASD) is supported		
				Gas		HFC-227ea		
				Fireproof performance		60mins		

①N+X and 2N indicate the redundancy levels of the power supply and distribution system. N+X indicates UPS module redundancy; 2N indicates UPS full kit redundancy;

②For derating information about specific devices, please consult up the product description or contact Huawei technical support;

③The storage temperature range of the lithium battery is from 0°C to +40°C;

④For the definition of A/B/C environments, see GB/T15957 and Huawei enterprise standards. The corresponding ISO9223/12944 environments are classified into C1, (C2, C3), and C4;

⑤According to the definitions of corrosion categories and equivalent service life in ISO12944-2/ISO12944-1, the equivalent service life in the 1440-hour salt spray test in the C4-High environment can reach 25 years;

⑥The container can also be installed on a concrete pad. Four 300 mm high steel bases are configured at the bottom of the container.

Outdoor One-stop CO

FusionDC1000A Prefabricated All-in-one CO Solution(24kW-VRLA)

Introduction

Huawei FusionDC 1000A is an outdoor one-stop CO facility solution to house, power and manage ICT equipment with reliable and efficient power & environment system. The prefabricated all-in-one solution functions as a foundation for network facility, it meets the requirements of environmental protection, fast deployment and saving energy for small outdoor ICT room of telecom operator.



Site overview

Application Scenarios

- BBU-hotel/C-RAN access site
- Fixed network access & convergence site and fixed network modernization
- National broadband network
- Telecom network by grid company
- Cable landing station

Features & Value

Simple

- Prefabricated and one-stop end-to-end solution. Easy on-site installation in one day.
- Quick deployment of multi sites by modular design and rolling stock
- High environment adaptability and easy site acquisition

Reliable

- High delivery quality with productized solution
- Endurable enclosure of 25-year service life. Standard IP55 protection and anti-seismic of Mercalli intensity 9
- EN 1627 ~ EN 1630 Class 3 anti-theft(optional)

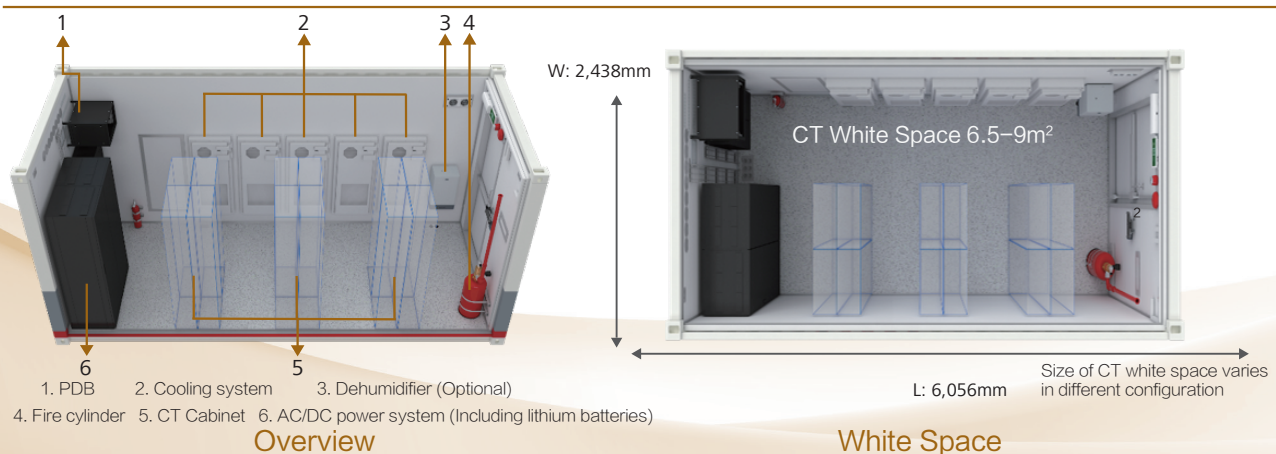
Efficient

- Centralized and remote management of multiple sites with NetEco platform
- Efficient and visualized management of subsystem with unified platform
- O&M anywhere and anytime with mobile APP



FusionDC 1000A 20ft

Layout



Specifications

Sub-system		FDC1000A-20ft-AIO-CT-2N-380V-24kW-VRLA	FDC1000A-20ft-AIO-CT-2N-208V-24kW-VRLA
Module	Dimension (H×W×D)	2896mm×2438mm×6058mm	
	White Space	7.2m ²	
	Weight	Prefabricated facilities ≤7.5T , Fully loaded≤10T	
	Maintenance Aisle	≥600mm	
Cabinet	Configuration of Cabinet	N63: 11 N66: 4 N68: 4	N63: 11 N66: 4 N68: 4
	Dimension (W×D×H)	N63: 600mm×300mm×2200mm N66: 600mm×600mm×2200mm N68: 600mm×800mm×2200mm	
	CT Load	≤24kW	
Power	Power Input	380/400/415V 50/60Hz, 3Ph+N+PE	208V 60Hz , 3Ph+N+PE
	Maximum Power Capacity	72kW	
	Battery Backup Time(Intial)	3 hours	
	Number of Input	2	
	Input Current	160A	
	D/C Output	Load: 4×500A (NT3), 2×400A (NT2), 6×160A (NT00), 6×100A (NT00)	
	Input Surge Protection	8/20us, In=20kA, I _{max} =40kA	
	Battery Configuration	1000AH×2 groups	1000AH×2 groups
	iBattery	Customized	
Cooling	Technology	Integrated Cooling Device with Free Cooling Function	
	Capacity (KW)	27kW (2+1 redundancy)	
	Device FireDimension (H×W×D)	2148mm×1160mm×700mm	
	Compressor	Viriable Frequency	
	Coolant	R410a	
	Fan	EC Fan	
	Free cooling	Support	
	Teamwork	Support	
Fire Extinguishing	Fire System	Manual Fire Extinguishing System(Local purchase) CE Automatic Fire Extinguishing System(Optional and customized)	
	VESDA	Only for Automatic Fire Control System(Optional)	
	Gas	HFC-227ea (Standard for Automatic Fire Extinguishing System)	
Monitoring	Access Control	IC Card(Standard),Multi-functional Access Control(Optional)	
	Video Monitoring	High Definition IP Camera	
	Video Storage	SD Card(Local purchase)	
	Display in the Enclosure	PAD(Optional)	
	Remote Maintenance	Cutomized Mobile Maintenance by Mobile Phone and PAD(Optional)	
Enclosure	Dust and Water Proof	Standard IP55, Optional IP65	
	Earthquake Proof	GR-63-CORE Zone3 (Equivelant to Mercalli Intensity-9)	
	Anti-theft	EN 1627~ EN 1630 Class 3(Optional)	
	Corrosion Proof	Pass UL1440 Hour Salt Spray Test	
	Thermal Insulation	Heat Transfer Coefficient≤0.59 W/(m ² *K)	
Environment	Application Environment	A/B type environment, at least 3700m away from the coast and the corrosion source (C type envrionment customized)	
	Altitude	≤3000m (Performance derate when the altitude is over 1000m)	
	Humidity Range	5% ~ 95%	
	Temperature Range	-20°C ~ +55°C	

Outdoor One-stop CO

FusionDC1000A Prefabricated All-in-one CO Solution(380V-SmartLi)

Introduction

Huawei FusionDC1000A outdoor AIO CO solution integrates the power system, lithium battery system, cooling system, and monitoring system. It applies to multiple industries and scenarios and meets customers' requirements for simplified deployment, safety and reliable, and intelligent management of small outdoor communication equipment rooms.



FusionDC1000A 20ft

Application Scenarios

- Wireless BTS/Node B/Enb, BBU-hotel/CRAN access site
- Fixed network access & convergence site, and fixed network modernization
- National broadband network
- Telecom network by grid company

Features & Value

Simple

- Subsystems are factory-prefabricated; One stop within One container
- One-stop delivery; Onsite installation within one day
- Applicable to various sites and spaces; Flexible deployment

Green

- Ultimate subsystem energy efficiency design, industry-leading PUE
- Dynamic optimization of system energy efficiency by AI technology
- One-stop delivery, less onsite construction waste and pollution

Smart

- Centralized and remote management of multiple sites with NetEco
- Efficient and visualized management of subsystem
- Efficient O&M anywhere & anytime with mobile APP

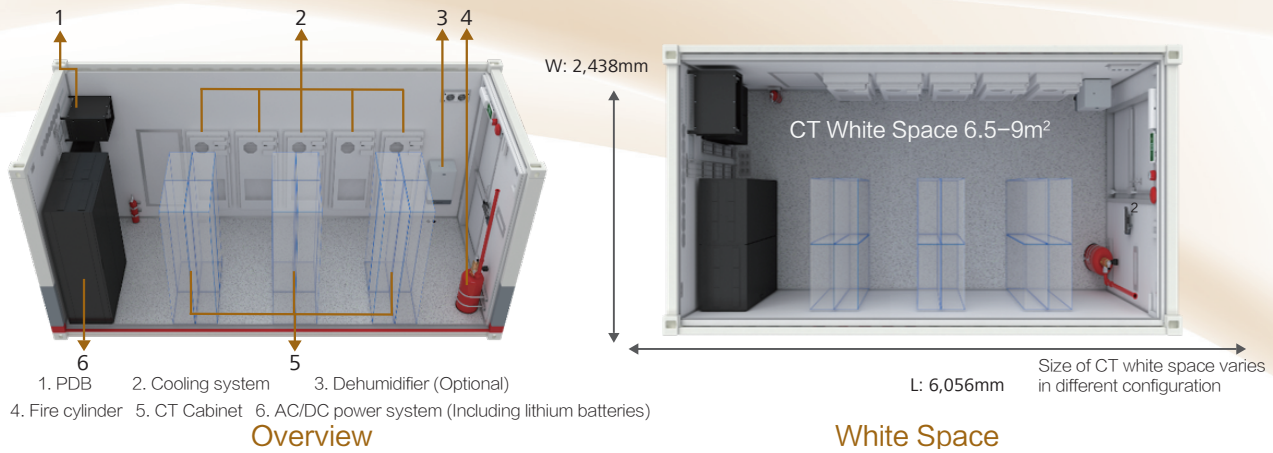
Reliable

- Durable enclosure with 25-year service life
- GR-63-CORE intel Zone3 anti-seismic; IP55 protection (IP65 optional)
- BoostLi lithium battery with digital intelligent O&M system, achieving ultimate backup power security



FusionDC1000A 20ft Site

Layout



Specifications

Type	FusionDC1000A-20ft-CT-N+X-380V-8kW-BoostLi ^①	FusionDC1000A-20ft-CT-2N-380V-8kW-BoostLi ^①	FusionDC1000A-20ft-CT-N+X-380V-16kW-BoostLi ^①	FusionDC1000A-20ft-CT-2N-380V-16kW-BoostLi ^①				
Entire system parameters	Deployment Site				Outdoor, awning, warehouse			
	Altitude range				Maximum altitude: 3000m (Power derating occurs when altitude \geq 1000m) ^②			
	Humidity range				5%~95% RH			
	Operating temperature				-20°C ~ +55°C (Power derating occurs when the temperature is higher than 35° C) ^②			
	Storage temperature				-40° C ~ +70° C ^③			
	Storage humidity				5% ~ 95% RH			
	Power density				Total power \leq 8kW	Total power \leq 8kW	Total power \leq 16kW	Total power \leq 16kW
	Number of cabinets/ Container				N63 cabinet: 13 Pcs N66 cabinet: 6 Pcs N68 cabinet: 4 Pcs	N63 cabinet: 12 Pcs N66 cabinet: 6 Pcs N68 cabinet: 4 Pcs	N63 cabinet: 12 Pcs N66 cabinet: 6 Pcs N68 cabinet: 4 Pcs	N63 cabinet: 8 Pcs N66 cabinet: 4 Pcs N68 cabinet: 2 Pcs
	Cabinet dimensions (W×D×H)				N63 cabinet: 600×300×2200mm (Air intake at front and exhaust at top) N66 cabinet: 600×600×2200mm (Air intake at front & back and exhaust at top) N68 cabinet: 600×800×2200mm (Air intake at front and exhaust at back)			
	CT White space				9m ²	8m ²	8m ²	6.5m ²
	Environment corrosion requirements				Class A & B environments (Customized delivery in Class C environment) ^④			
	Waterproof & dustproof				IP55(IP65 Optional)			
	Anti-seismic				GR-63-CORE Zone3/9 intensity (The container)			
	Anti-theft				EN 1627 ~ EN 1630 Class 3 (Optional)			
	Anti-elasticity				GJB 4300-2002 V&N.I.J.0108.01 IIIA (Customized)			
	Anti-wind				Wind speed \leq 200km/h(16 level)			
	Corrosion resistance in salt spray				Meets the 1440-hour salt spray test requirements			
	Container service life				Equivalent service life: 25 years ^⑤			
Fixed-form				Preferentially installed on the ground ^⑥				

Type		FusionDC1000A-20ft-CT-N+X-380V-8kW-BoostLi ^①	FusionDC1000A-20ft-CT-2N-380V-8kW-BoostLi ^①	FusionDC1000A-20ft-CT-N+X-380V-16kW-BoostLi ^①	FusionDC1000A-20ft-CT-2N-380V-16kW-BoostLi ^①
Structure parameters	Dimensions (H×W×D)	2896mm×2438mm×6058mm			
	Internal dimensions (H×W×D)	2585mm×2212mm×5690mm			
	Weight	Preinstalled weight before delivery ≤ 7T, maximum load-bearing capacity ≤ 10T			
	Integrated cabling	None. Customization is supported			
	Entrance room	None. Customization is supported			
	Cable routing mode	Cables can be routed in from the bottom or end			
	Aisle dimensions	Long aisle: ≥ 800 mm; maintenance aisle: ≥ 600 mm		Long aisle: ≥ 750 mm; maintenance aisle: ≥ 600 mm	
Electrical parameters	Power mode	380/400/415 V, 50/60 Hz, three-phase, four-wire+PE			
	Input voltage range	380/400/415V±15% (for 415 V, the positive tolerance is 10%)			
	Configuration of DC Power Supply	≤ 24 kW (18 kW in actual configuration, 5+1 redundancy)		≤ 24 kW (24 kW in actual configuration, 7+1 redundancy)	
	Input channels	1 channel	2 channels	1 channel	2 channels
	Input current	160A	250A	160A	250A
	DC power output (Available)	BLVD Circuit breaker: 100A×2, 63A×2 LLVD Circuit breaker: 100A×2, 32A×5 LLVD Fuse: 100A×2	BLVD Circuit breaker: 100A×4, 63A×4, 16A×4, 10A×2 LLVD Circuit breaker: 100A×4, 32A×11 LLVD Fuse: 100A×4	BLVD Circuit breaker: 100A×2, 63A×2, 16A×2, 10A×2 LLVD Circuit breaker: 100A×2 LLVD Fuse: 100A×2	BLVD Circuit breaker: 100A×4, 63A×4, 16A×4, 10A×4 LLVD Circuit breaker: 100A×4, 32A×6, 16A×2 LLVD Fuse: 100A×4
	Total input surge protection	Class3, In=20kA(8/20μs), I _{max} =40kA(8/20μs)			
	Battery specifications	BoostLi × 4 groups	BoostLi × 8 groups	BoostLi × 8 groups	BoostLi × 16 groups
	Backup time	3hours(Initial state)	6hours(Initial state)	2hours(Initial state)	4hours(Initial state)
	Cooling Parameters	Cooling capacity	3kw/pcs(4+1 Redundancy)		4.75kw/pcs(5+1 Redundancy)
Unit dimensions (H*W*D)		1300mm*500mm*250mm		1300mm*500mm*350mm	
Compressor		Constant frequency			
Refrigerant		R134A			
Fan		EC Fan			
Pipe		Copper pipe			
Humidifier		None. Customization is supported			
Dehumidifier		Optional			
Air conditioner backup power		None. Customization is supported			
Temperature control range		18 ~ 32°C			
Humidity control range		20% ~ 80% RH			
Thermal insulation performance		Total heat transfer coefficient≤0.59 W/(m ² *K)			

Type		FusionDC1000A-20ft-CT-N+X-380V-8kW-BoostLi ^①	FusionDC1000A-20ft-CT-2N-380V-8kW-BoostLi ^①	FusionDC1000A-20ft-CT-N+X-380V-16kW-BoostLi ^①	FusionDC1000A-20ft-CT-2N-380V-16kW-BoostLi ^①
Monitoring parameters	Container access control	IC card access control is default; Customized three-in-one access control is supported			
	Video surveillance	Huawei high-definition IP camera			
	Video storage	SD card (Stored for 7 days); VCN (Optional)			
	Local display in the container	None. Customization is supported (PAD)			
	Mobile O&M	Mobile O&M on mobile phones and tablets			
	E-mail	Email server configuration is supported			
	SMS alarm	The SMS modem can be customized			
Fire extinguishing parameters	Automatic gas fire extinguishing system	CE Version			
	Very early smoke detection	None. Customization is supported (ASD)			
	Gas	HFC-227ea			

①The power supply and distribution system has two configurations: 8 kW and 16 kW. Each configuration has two power distribution architectures: N+X and 2N. Two sets of DC power supplies are configured in 2N mode, and one set of DC power supply is configured in N+X mode.

②For derating information about specific devices, please consult up the product description or contact Huawei technical support;

③The storage temperature range of the lithium battery is from 0° C to +40° C;

④For the definition of A/B/C environments, see GB/T15957 and Huawei enterprise standards. The corresponding ISO9223/12944 environments are classified into C1, (C2, C3), and C4;

⑤According to the definitions of corrosion categories and equivalent service life in ISO12944-2/ISO12944-1, the equivalent service life in the 1440-hour salt spray test in the C4-High environment can reach 25 years;

⑥The container can also be installed on a concrete pad. Four 300 mm high steel bases are configured at the bottom of the container.

Prefabricated Modular Data Center

FusionDC1000B

Introduction

The FusionDC 1000B is a small- and medium-sized prefabricated modular solution. The data center solution consists of equipment modules and power modules. The number of modules can be flexibly selected based on customer requirements to form a data center that meets customer requirements. All modules are prefabricated in the factory to minimize onsite workload and implement quick deployment.

In addition, the solution integrates AI technologies (iPower, iManager, and iCooling) to improve the reliability and availability of the data center and reduce system energy consumption.

Application Scenarios

- Small- and medium-sized government and enterprise data centers
- Carrier-owned data center
- Small- and medium-sized IDC

Features & Value

Simple

- Pre-integration and pre-test of devices in the factory, reducing the TTM by 50%
- Modular design, on-demand deployment, and phased capacity expansion
- Less onsite workload and simple project management

Green

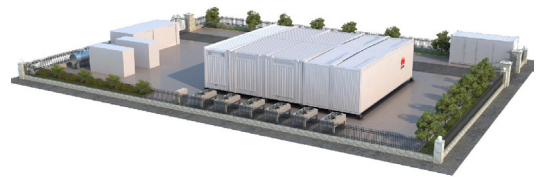
- Hot aisle containment design, saving energy
- Green building, no dust and noise on the construction site, and less construction waste

Smart

- Ai-based intelligent optimization continuously reduces data center energy consumption
- Use smart sensors and big data analysis to precisely manage available resources and tenant information, maximizing the value of data center resources.

Reliable

- GR 63-Zone3 Shockproof
- Huawei iPower technology implements full-link monitoring of power supply and distribution and generates warnings for core components to ensure uninterrupted operation



Application Scenario 1

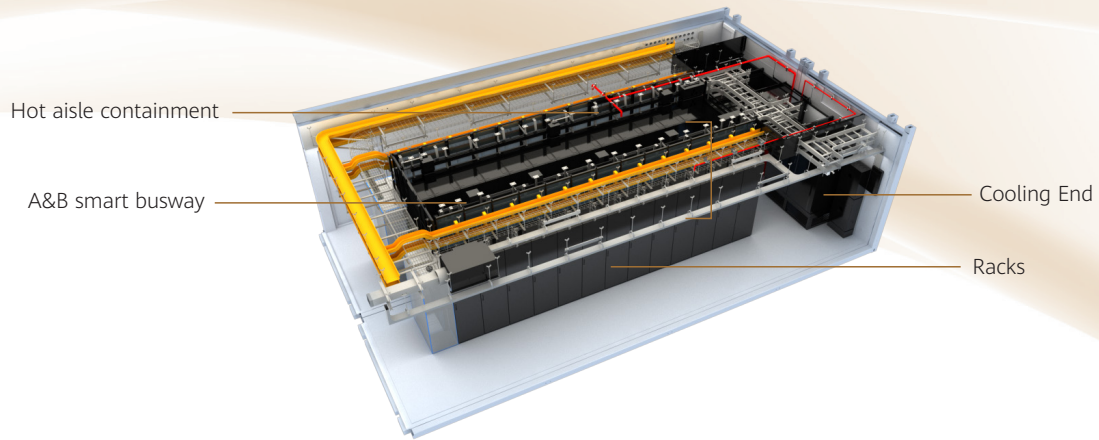


Application Scenario 2



Application Scenario 3

Equipment Module



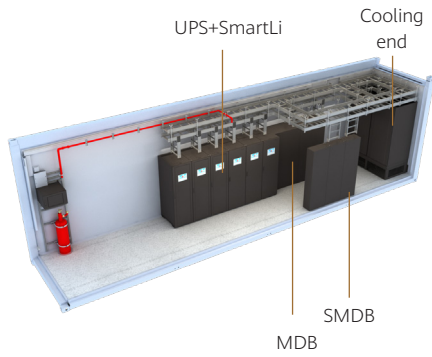
Category	Equipment module -26/28racks -150kW	
General	Capacity	≤150kW
	racks@600mm	26 (main channel ≤ 1.5m) 28 (main channel ≤ 0.9m)
	Average capacity per rack	6kW (25x6kW+monitoring rack) 5.5kW (27x5.5kW+monitoring rack)
	Maximum capacity per rack	10kW
Structure	length	12192mm
	Width	3495mm*2, 2438mm+3495mm, 2438mm*2 ①
	Height	3600mm
	Raised floor	No
Power	Power mode	380/400/415V 50/60Hz; Three-phase four-wire+PE
	Power distribution	Dual-bus A and B configurations for single-row cabinets
	Busway	250A
Cooling	Cooling end type	In room DX cooling end
	Number or cooling end	4
	Cooling capacity	55kW@35°C /35°C
	Aisle containment	Hot aisle containment
Fire extinguishing system	Fire extinguishing system	Automatic gas fire extinguishing, CE version, non-addressable ②
	Gas	HFC227-ea
	ASD	No, support customized
monitoring	Power and environment monitoring system	Equipped
	Access control system	Room-level and module-level. Card reader is configured by default. ③
	CCTV	Equipped. The default storage duration is 30 days.

① A device module contains two intermediate modules. To meet the maintenance requirements, you need to select an appropriate width for the intermediate module.

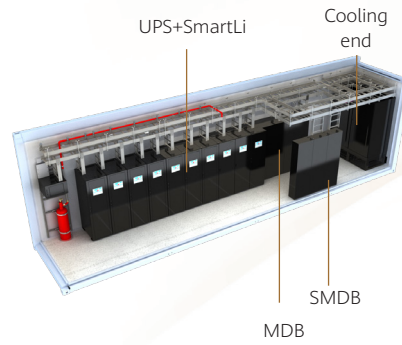
② The fire extinguishing system can be selected and addressed. The fire extinguishing system can be removed.

③ Supports customized cabinet-level access control.

POD Second & Third Floor Layout



200kW power module



400kW power module

Category		200kW power module	400kW power module
General	Capacity	≤200kW	≤ 400kW
Structure	Length	12192mm	
	Width	2438mm	
	Height	3600mm	
	Raised floor	No	
Power	Power mode	380/400/415V 50/60Hz, three phase four wire+PE	
	UPS configuration	200kVA	200kVA*2
	Battery configuration	SmartLi-512V-80Ah-3pcs ((one half-sized cabinet for continuous cooling)	SmartLi-512V-80Ah-5pcs (one cabinet for continuous cooling)
	Back up time	15min@full load	
Cooling	Cooling end	In room DX cooling	
	Redundancy configuration	1+1	
	Cooling capacity	38kW@24°C /35°C	
	Temperature control range of the equipment inlet	20~30°C	
	Humidity control range	noncondensing	
Fire extinguishing	Fire extinguishing system	Automatic gas fire extinguishing, CE version, non-addressable	
	Gas	HFC227-ea	
	ASD	No, support customized	
monitoring	Power and environment monitoring system	Equipped	
	Access control system	Card reader is configured by default	
	CCTV	Equipped. The default storage duration is 30 days.	

Overall Solution Parameters

Category	Parameters	
General	Application scenario	Outdoor, shed, and warehouse
	Installation type	Floor-mounted installation
	Altitude Range	≤ 4000m (derating above 1000m)
	Working humidity	5% ~ 95%
Structural Parameters	Working temperature	-20°C ~ +55°C, (-40°C can be customized)
Electrical Parameters	Environment adaptability	A/B/C type environment ①
	Bulletproof	Support customized
	Enclosure lifespan	25 years
Cooling Parameters	Anti- seismic	GR 63-Zone3
	Windproof	Wind speed ≤130km/h
	Length	12192mm (40ft)
	Height	3600mm
	Raised floor	No
	Power mode	380/400/415V 50/60Hz; three phase and four wire +PE
Fire Extinguishing Parameters	UPS configuration	2N
	Battery	SmartLi
	Backuptime	15min@full load
	Cooling end	NetCol8000-A055D (in room DX cooling)
	Redundancy	N+1
	Continuous cooling	15min
	Temperature control range of the cold aisle	18~27°C
Monitoring	Humidity control range of the cold aisle	20%~80% RH
	Fire extinguishing system	Automatic gas fire extinguishing, CE version, non-addressable ②
	Gas	HFC227-ea
	Fire resistance time of the external protective structure (structure wall)	90min, support customized 120min
	Fire resistance time of the fireproof door	90min
	ASD	No, support customized
	DCIM	Equipped
	Power and environment monitoring system	Equipped
	Access control system	Room-level and module-level. Card reader is configured by default. ③
	CCTV	Equipped. The default storage duration is 30 days

- Type C environments are at least 500 m away from strong corrosive environments (such as the seaside, garbage piled up, and heavily polluted chemical plants).
- The fire extinguishing system can be selected and addressed. The fire extinguishing system can be removed.
- Supports customized cabinet-level access control.

Large Prefabricated Modular Data Center

FusionDC1000C

Introduction

FusionDC1000C is a prefabricated modular data center that adopts the modular design, Lego block concept, and factory pre-integration test to minimize onsite workload and support fast deploy.

Pre-fab. modules are classified into five types based on functions: equipment module, MEP module (cooling), power module and hydropower module(Valves & Pumps).

The prefabricated modular data center is configured with the data center infrastructure management (DCIM) system. In addition, the AI technologies (iCooling, iPower, and iManager) are used to improve the TCO and cash flow of the customer throughout the data center life cycle, helping the customer achieve business success.

Application Scenarios

- Public cloud, large colocation data centers, and ultra-large Internet service data centers
- Medium- and large-sized data centers of enterprises or governments
- AI computing and HPC

Features & Value

Simple

- Pre-integration and pre-test of devices in the factory, synchronous basic civil work and module factory production, reducing TTM by 50%^①
- Modularized components, modularized functions, and PODs^② on-demand deployment, and phased capacity expansion
- Less onsite workload and simple project management

Green

- Indirect evaporative cooling maximizes the use of natural cooling sources and reduces the PUE.
- Optional smart fanwall cooling technology and high-temperature chilled water reduce power consumption by 3%.
- Green building, no dust and noise on the construction site, and less construction waste

Smart

- AI-based intelligent optimization continuously reduces data center energy consumption

- Use smart sensors and big data analysis to precisely manage available resources and tenant information, maximizing the value of data center resources.

Reliable

- AI-based intelligent optimization continuously reduces data center energy consumption
- Use smart sensors and big data analysis to precisely manage available resources and tenant information, maximizing the value of data center resources.

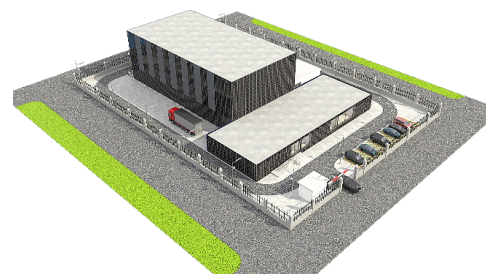
① In China, to delivery 1000 racks, about 20 months in traditional way ,9months in prefab. modular way
In Middle East, to delivery 600 racks, about 30 months in traditional way, 15 months in prefab. modular way
②Standard configuration support 3 layers stacking, and customized configuration can support 5 layers stacking



Reference layout 1



Reference layout 2



Reference layout 3

Typical Reference Design

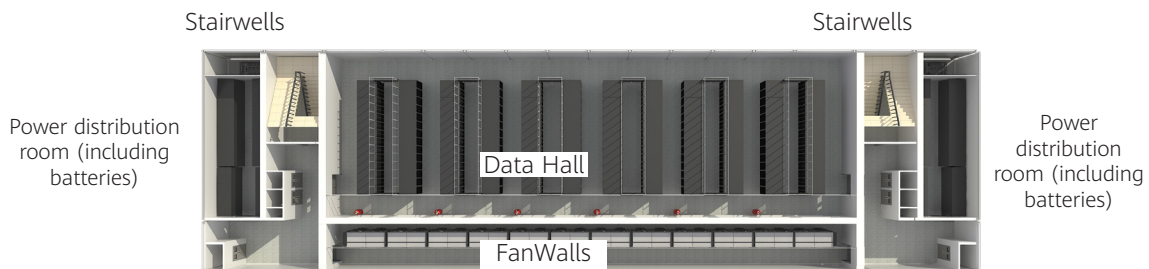
Based on customer requirements and the granularity of power distribution and cooling, we can match various combinations. The following uses the FusionDC1000C IT load of 4 MW as an example to describe the reference design.



Reference design for the Smart FanWall cooling scenario

- Introduction: 2 layers, 336 racks, maximum IT power load of 1920 kW per layer (including 6 IT micro-modules, 28 racks per micro-module, 320 kW load, and maximum of 15 kW/R)
- Highlights: The power supply and distribution devices and IT devices are deployed at the same layer, "one layer, one DC". The Smart Busway is adopted to support power density expansion. Adopts Fanwall, no raised floor, and high space utilization in vertical.

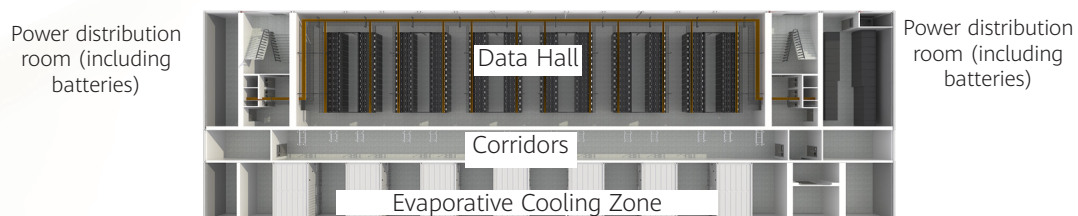
Features & Value



Reference design layout 1

(FanWall Cooling solution)

Symmetric design on both sides, 6 IT micro-modules, 28 cabinets, and each module



Reference design layout 2

(indirect evaporative cooling scenario)

Main parameters of the reference design(POD)

Item	Overall specifications of the intelligent air wall cooling scenario	
General parameters	Environment adaptability	<ul style="list-style-type: none"> Altitude $\leq 4,000\text{m}^{\text{①}}$; Class A/B environment: Class B environment is at least 3,700m away from strong corrosive environments (such as seaside, garbage pileup, and heavily polluted chemical plants)^②; The operating temperature ranges from -20°C to $+45^{\circ}\text{C}$. If the temperature is lower than -5°C, external wall insulation is required.
	Tier Level	Tier III
	Stack Layers	Two layers(reference design), stackable, up to five layers
	Prefab module life	25-year standard, 50-year customization for specific environments ^③
	Total capacity/Density of a single cabinet	$\leq 5,040\text{ kW}/12\text{ kW}$ (maximum 15 kW/R)
	Total number and dimensions of IT cabinets (H x W x D)	336; 600*1200*2000/2200mm ^④
load design	live load	Power supply area: 15 kN/m ² ; equipment area: 12 kN/m ² ; corridors and public areas: 5 kN/m ² ; ceilings: 2.4 kN/m ² ; rooftops: 0.75 kN/m ²
	Other payloads	Wind load $\leq 1,000\text{ mph}$
	load combination	ASCE7-10
Electrical specifications	Power System	380/400/415V 50/60Hz 3P+N+PE
	Backup time	2N, Lithium Battery 10 minutes@full load
Temperature control parameters	Cooling redundancy	N+1, 10 minutes continuous cooling @ full load
	Temperature range of the device area	20-28°C
	Humidity range of the equipment area	20%~80%
	heat transfer coefficient of envelope	Total heat transfer coefficient $\leq 0.3\text{ W}/(\text{m}^2\text{K})$
fire protection coefficient	Fire extinguishing system	Including gas fire extinguishing in equipment areas, water spray in non-equipment areas, non-addressable (customized addressing type)
	Fire resistance time of bearing beam and column	120 minutes
	Fire resistance time of the external protective structure	Standard: 90 minutes; customizable: 120 minutes
	Other fire resistance time	60 minutes fire resistance for internal partitions; Fireproof door fire resistance: 90 minutes
	Fire Extinguishing Agent and Detector	Heptafluoropropane, equipped with suction smoke detectors
Monitoring parameters	DCIM Configuration	iManager NetEco
	Optional Features	Work order management, energy efficiency management, temperature map, mobile app O&M, asset capacity management, iCooling, and third-party southbound access
	Northbound access	SNMP NBI, Webservice NBI, CTCC C NBI, and FTP NBI
	Power and environment monitoring system	Yes, collected by the ECC
	In-room access control system - security	Yes, third-party security platform
	Modular Access Control System - Operation	Yes, managed by the ECC800
	Cabinet-level access control system -operation	None. The ECC800 supports customization.
	In-room CCTV system -security	Yes. Facial recognition is available at entrances and exits. The default storage duration is 90 days.
	Module-level CCTV system-operation	Yes. The default storage duration is 90 days.
	Hydrogen detection	Yes
	Water immersion system	Yes, addressable
	Intelligent lighting	Optional

1. The power supply and distribution capability is derated according to EN/IEC 62040-3 when the altitude exceeds 1000 m. For details about the cooling parameters, see Huawei smart cooling product data sheet. The overall derating is the one with the larger derating coefficient.

2. For the definition of class 2A/B/C environments, see Huawei enterprise standards. The corresponding ISO9223/12944 environment classification is C1/C2/C3/C4

3. According to ISO12944-2/ISO12944-1, the equivalent service life of a 1440-hour salt spray test in a C4-High environment is 25 years. 50 years in the C3 environment and 40 years in the C4/C5 environment (A third-party certification report can be provided.)

4. Cabinets are not defaulted, only showing the dimension limitation.

Introduction to Core Modules



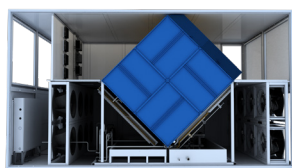
Power Module

- 380/400/415V 50/60Hz; 3P, four-wire+PE, 2*1,200 kW, input power factor 0.99
- SmartLi-512V-80Ah, SmartLi 10min@full load
- Dimensions (mm): 12,192 (40ft) (L) * (2*2,438) (W)*4,150(H)
- Busbar connection



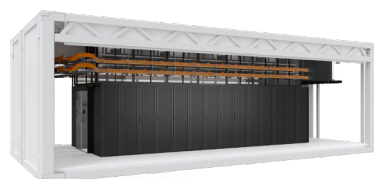
**MEP Module
(intelligent wind wall)**

- 4* CRAH210Hs (210 kW), total cooling capacity of 840 kW
- Dimensions(mm): 9,827 (L)*3,495 (W)*4,150 (H)
- Inlet/return water temperatures: 20°C/28°C;
- Cold aisle temperature control: 18°C to 27°C
- 10min continuous cooling@full load



**MEP Module
(indirect evaporative cooling)**

- Cooling capacity: 220 kW; air volume: 55,000 m3/h; maximum non-cooling capacity: 110 kW
- Supply air temperature (°C)/Humidity (%): 25°C/50%
- Return air temperature (°C)/Humidity (%): 38°C/25%
- Dimensions (mm): 6,058(L)*2,438(20ft)(W)*3,600(H)
- Net weight/Gross weight (excluding air channels): 5,150kg/5,700 kg



IT Equipment Module

- 28 IT cabinets: 1,320 kW (a single cabinet supports a maximum of 15 kW)
- Dimensions (mm): 12,192 (40 ft) (L)*4,901(W)*4,150(H)
- Support cabinet dimensions (mm): 600(W)*1,200(D)-2,000/2,200(H)^①
- With aisle containment
- 400A busway, A/B dual power supply for each row
- 2 pcs 3P/32A rPDUs for each cabinet
- No raised floor, floor-mounted

FusionDC is combination of Huawei latest solution and technology. It helps customer to build more efficiency, more reliable and future proof data center. All above showing is only the concept and some reference solution. More information please contact Huawei region interface.

2

Modular Design, Beyond Reliability

Huawei FusionModule Series
UPS Solutions





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UPS2000-A Series
(1-10kVA)



UPS2000-G Series
(1-20kVA)



UPS5000-E Series
(25-800kVA)



UPS5000-S Series
(50-800kVA)



SmartLi

FusionPower Series

UPS2000-A (1-3kVA)

Introduction

UPS2000-A series with a capacity ranging from 1kVA to 3kVA is an online double conversion power system that delivers continuous, high-quality AC Power. It is a perfect power protection solution for small power scenarios.

Scenarios

- Small- and medium-sized enterprises, large enterprise branches, and bank outlets
- Network, communication system, automatic control system AC power supply
- AC Power Supply for Precision Instruments
- Large supermarket, home, office, and other AC power supply scenarios

Features

Reliable

- Wide input voltage range to minimize battery use
- Online double conversion power system provides continuous, high-quality AC Power

Efficient

- Efficiency up to 90%, reduce energy consumption, green and energy-saving
- Ultra small volume, compared to the traditional UPS system to save space

Simple

- LCD screen supports real-time monitoring and convenient operation
- Built-in battery, easy to use
- Enables quick and easy configuration of the UPS
- NetEco network manager, supporting centralized management to all the UPSs



UPS2000-A-1K/2K/3K

Specifications

Rated capacity (kVA/kW)		1kVA/0.8kW	2kVA/1.6kW	3kVA/2.4kW	
Input: Output		1-in: 1-out			
Mains Input	Input Wiring	L+N+PE			
	Rated Voltage	220/230/240VAC			
	Input Voltage Range	110-300VAC			
	Input Frequency Range	40-70Hz			
	Input Power Factor	0.99			
Bypass Input	Input Rated Voltage	220/230/240VAC			
	Input Voltage Range	174-264VAC			
	Input Frequency Range	47-53Hz / 57-63Hz			
Battery	Battery Voltage	Standard	24VDC	48VDC	72VDC
		Long Backup	36VDC	72VDC	96VDC
	Backup Time	Standard	>5 minutes @ 80% load		
		Long Backup	Depending on the capacity of external batteries		
Output	Output Wiring	L+N+PE			
	Output Connections	3 X IEC C13	4 X IEC C13	4 X IEC C13 + 1 X IEC C19	
	Rated Voltage	220/230/240VAC \pm 1%			
	Output Frequency	Tracking the bypass input (Normal mode); 50/60Hz \pm 0.05%			
	Output Power Factor	0.8			
	Waveform	Sinewave, THDv< 3%			
	System Efficiency	88%	89%	90%	
	Overload Capacity	\leq 110% overload for 10 minutes; \leq 130% overload for 1 minute; \leq 150% overload for 3 seconds			
Environment	Operating Temperature	0 to 40°C			
	Storage Temperature	-40 to +70°C (battery: -20 to +40°C)			
	Relative Humidity	0%-95% RH (no condensation)			
	Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3			
	Audible Noise	<50dB			
Others	D x W x H (mm)	Standard	282 x 145 x 220	397 x 145 x 220	421 x 190 x 318
		Long Backup	282 x 145 x 220	397 x 145 x 220	397 x 145 x 220
	Weight (kg)	Standard	9.9	17.3	26.7
		Long Backup	4.8	7.6	8.2
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.			
	Communications	USB&RS232 (optional RS485/Dry contact/SNMP)			

FusionPower Series

UPS2000-A (6-10kVA)

Introduction

UPS2000-A series (6-10kVA) is a tower-mounted, online double conversion power system that delivers continuous, high-quality AC Power. up to 96% efficiency at online mode for 6/10kVA models helps save 50% energy cost. It's really a perfect power protection solution for small power scenarios.

Scenarios

- Small and medium enterprises, large enterprise branch offices, bank branches and other small data centers
- Networks, communications systems, automatic control systems and other precision equipment
- Family, office

Features

Reliable

- Wide input voltage range to minimize battery use
- Key component failure pre-alarm including fans, batteries to remind customers to maintain before failure occurs
- Coating design & key device pin special protection enhance reliability

Efficient

- High efficiency of up to 96% at online mode for 6/10kVA reduces power loss of UPS and smart cooling product and saves customers more than 50% over less efficient models
- The output power factor is 0.9, high load capacity

Simple

- LCD screen supports real-time monitoring and convenient operation
- Built-in battery design provides you integrated solution and makes it especially applicable for space-scarce use
- 6kVA/10kVA Professional Edition supports 4 machines in parallel operation, built in maintenance bypass, easy to use
- The NetEco 1000U management system monitors UPSs in real time and allows users easy management, and operation
- Multiple remote monitoring: supports SMS, E-mail, etc
- NetEco network manager, supporting centralized management to all the UPSs



UPS2000-A-6K/10K

Specifications

Rated capacity (kVA/kW)		6kVA/5.4kW (Standard Version)		10kVA/9kW (Standard Version)		
Model		UPS2000-A-6KTTL-S		UPS2000-A-10KTTL-S		
Input: Output		1 phase input, 1 phase output				
Mains	Input Wiring	L+N+PE				
	Rated Input Voltage	220/230/240V AC				
	Input Voltage Range	80-280V AC				
	Input Frequency Range	50/60Hz ± 5Hz				
	Input power factor	≥ 0.99				
	Total Harmonic Distortion	Total Harmonic Distortion of current <3% at rated load				
Bypass Input	Input rated voltage	220/230/240V AC				
	Input frequency range	50/60Hz ± 5Hz				
Battery	Battery voltage	Standard	192V DC	192V DC		
		Long backup	192-240V DC	192-240V DC		
	Backup time	Standard	> 5 minutes at 80% rated load	> 4 minutes at 80% rated load		
		Long backup	Depending on the capacity of external batteries			
Output	Output wiring	L+N+PE				
	Rated voltage	220/230/240V AC ±1%				
	Output frequency	Tracking the bypass input (Normal mode); 50/60Hz ± 0.05% (Battery Mode)				
	Output power factor	0.9				
	Waveform	Sine wave, THDv ≤ 2%				
System	Efficiency	96%				
	Overload capacity	≤125% overload for 5 minutes; ≤150% overload for 1 minute				
Environment	Operating Temperature	0°C to 40°C				
	Relative Humidity	0%–95% RH (no condensation)				
	Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3				
	Audible Noise	<50dB				
Others	Height×Width×Depth (mm)		580 x 250 x 605			
	Weight	Long backup	20kg	21kg		
	Certifications		EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.			
	Communications		USB (optional RS485/Dry contact/SNMP)			

FusionPower Series

UPS2000-G (1-3kVA)

Introduction

UPS2000-G series with a capacity ranging from 1kVA to 3kVA is an online double conversion power system that delivers continuous, high-quality AC Power. It's really a perfect power protection solution for small power scenarios. It supports tower and rack installation.



UPS2000-G-1K/2K/3K

Scenarios

- Small-sized data centers such as small- and medium-sized enterprises, large enterprise branches, and bank outlets
- Network, communication system, and automatic control system AC power supply
- AC Power Supply for Precision Instruments

Features

Reliable

- Wide input voltage range to minimize battery use
- Online double conversion power system provides continuous, high-quality AC Power

Efficient

- Efficiency up to 90%, reduce energy consumption, green and energy-saving
- Ultra small volume, compared to the traditional UPS system to save space

Simple

- LCD screen supports real-time monitoring and convenient operation
- Built-in battery, easy to use
- Enables quick and easy configuration of the UPS
- NetEco network manager, supporting centralized management to all the UPSs

Specifications

Rated capacity (kVA/kW)		1kVA/0.8kW	2kVA/1.6kW	3kVA/2.4kW	
Input: Output		1-in: 1-out			
Mains Input	Input Wiring	L+N+PE			
	Rated Voltage	200/208/220/230/240VAC			
	Input Voltage Range	110-300VAC			
	Input Frequency Range	40-70Hz			
	Input Power Factor	0.99			
Bypass Input	Input Rated Voltage	200/208/220/230/240VAC			
	Input Frequency Range	50/60±3Hz			
Battery	Battery Voltage	Standard	24VDC	48VDC	72VDC
		Long Backup	36VDC	72VDC	96VDC
Output	Output Wiring	L+N+PE			
	Output Connections	4 X IEC C13	6 X IEC C13	6 X IEC C13 + 1 X IEC C19	
	Rated Voltage	200/208/220/230/240VAC ±1%			
	Output Frequency	Tracking the bypass input (Normal mode); 50/60Hz ± 0.05%			
	Output Power Factor	0.8			
	Waveform	Sinewave, THDv< 3%			
	System Efficiency	88%	89%	90%	
Environment	Operating Temperature	0 to 40°C			
	Storage Temperature	-40 to +70°C (battery: -20 to +40°C)			
	Relative Humidity	0%-95% RH (no condensation)			
	Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3			
	Audible Noise	<50dB			
Others	D x W x H (mm)	Standard	88 x 438 x 310	88 x 438 x 410	88 x 438 x 630
		Long Backup	88 x 438 x 310	88 x 438 x 410	88 x 438 x 410
	Weight (kg)	Standard	11.1	18.8	28.9
		Long Backup	6.0	8.7	9.3
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.			
	Communications	USB&RS232(optional RS485/Dry contact/SNMP)			

FusionPower Series

UPS2000-G (6-20kVA)

Introduction

UPS2000-G series with a capacity ranging from 6kVA to 20kVA is an online double conversion power system that delivers continuous, high-quality AC power. It is rack/tower convertible and 95% high efficiency helps it get ECA energy saving certification from United Kingdom government and the world's first batch of "Energy Star" certification. It's really a perfect power protection solution for small power scenarios.

Scenarios

- Small-sized data centers such as small- and medium-sized enterprises, large enterprise branches, and bank outlets
- Network, communication system, and automatic control system AC power supply
- AC Power Supply for Precision Instruments

Features

Reliable

- 5kA lightning protection design, reducing lightning-related failure rate
- Key component failure pre-alarm including fans, batteries, bus capacitors to remind customers to maintain before failure occurs
- Ultra-wide voltage input range to extend battery service life by effectively reducing times of switchover to battery mode

Efficient

- High efficiency at online mode to reduce power loss of UPS and air conditioner: up to 95% for 15/20kVA, 94.5% for 10kVA, 94% for 6kVA

Simple

- Rack/tower convertible, suitable for different installation scenarios
- High expandability design: up to four units can be connected in parallel to achieve higher capacity or reliability
- NetEco network manager, supporting centralized management to all the UPSs



UPS2000-G-6K/10K



UPS2000-G-15K/20K

Specifications

Rated Capacity(kVA/kW)		6/5.4	10/9	15/13.5	20/18
Input: Output		1-in: 1-out	1-in: 1-out or 3-in: 1-out	1-in: 1-out, 3-in: 1-out or 3-in: 3-out	
Mains Input	Input Wiring	L+N+PE	L+N+PE /3Ph+N+PE		
	Rated Voltage	L-N: 220/230/240V AC			
	Input Voltage Range	L-N: 80-280V AC			
	Input Frequency Range	40-70Hz			
	Input Power Factor	0.99			
Bypass Input	Rated Voltage	L-N: 220/230/240V AC			
	Frequency	50/60 ± 6Hz			
Battery	Rated Average	192-240V DC		384-480V DC, 32-40 section adjustable, default 40	
	Long Backup				
Output	Output Wiring	L+N+PE		L+N+PE /3Ph+N+PE	
	Output Sockets	2 × C13 (10A)	-		
	Rated Voltage	220/230/240V AC ±1%		L-N: 220/230/240V AC ±1%	
	Rated Frequency	Tracking the bypass input (Normal mode); 50/60 Hz±0.05% (Battery mode)			
	Output Power Factor	0.9			
	Waveform	Sine wave, THDv<2%			
	Efficiency	94%	94.5%	95%	
Environment	Operating Temperature	0-40°C			
	Storage Temperature	-40 to 70°C			
	Relative Humidity	0%-95% (No condensing)			
	Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3			
	Audible Noise	< 55dB		< 58dB	
Others	H × W × D (mm)	86 × 430 × 615		130 × 430 × 757	
	Weight	14kg	16kg	32kg	
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc			
	Communications	USB(optional RS485/Dry contact/SNMP)			

FusionPower Series

UPS5000-E (25-125kVA)

Introduction

Based on the online double conversion technology, UPS5000-E series (25-125kVA) can provide reliable, pure and uninterrupted power for critical ICT equipment. The modularized architecture helps improve the availability and reduce the engineering cost significantly.

Scenarios

- Small & medium data center, large enterprise regional datacenter
- Central offices, dispatch center, control center, etc.

Features

Reliable

- UPS power, bypass, and control modules are fully redundant, without any single point of failure.
- 138-485Vac wide input voltage range, adapting to various harsh power grids
- PF (inductive/capacitive) 0.5 above derating, perfect match for various loads
- iPower fault warning function, warning of key components such as batteries, capacitors, and fans, preventing fault expansion

Efficient

- High efficiency up to 96% at most frequently-used load rate, reducing power consumption of UPS and cooling efficiency
- Intelligent hibernation technology ensures efficient UPS operation

Simple

- Hot-swappable design. The power, bypass, and control modules support hot swap. Common engineers 5min complete the maintenance.
- Smoothly expanded on demand, which effectively reduces the initial investment of the UPS and improves the UPS operating efficiency.
- The power supply and distribution status is monitored in real time. The core parameters of the UPS power supply and distribution system are automatically inspected, eliminating manual inspection.



25kVA Power Module @ 2U



UPS5000-E-125K-FM

Specifications

Model		UPS5000-E-125K-FM				
Rated Capacity (kVA/kW)		25kVA/kW	50kVA/kW	75kVA/kW	100kVA/kW	125kVA/kW
Number of Power Modules		1	2	3	4	5
Mains Input	Input Wiring	3Ph+N+PE				
	Rated Voltage	380/400/415Vac				
	Voltage Range	138-485Vac				
	Input Frequency	40-70Hz				
	Total Harmonic Distortion	THDi<3% for linear load				
	Input Power Factor	0.99				
Bypass Input	Input Wiring	3Ph+N+PE				
	Rated Voltage	380/400/415Vac				
	Input Frequency	50/60 ± 6Hz				
Battery	Rated Voltage	360-528Vdc (The number of batteries can be selected from 30 to 44; 32 batteries in default)				
Output	Output Wiring	3Ph+N+PE				
	Voltage	380/400/415Vac±1%				
	Frequency	Tracking the bypass input (Normal mode); 50/60Hz±0.05% (Battery mode)				
	Waveform	Sine wave (THDv<1% for linear load)				
	Output Power Factor	1				
	Overload Capacity	Inverter: 110% overload for 60 minutes; 125% overload for 10 minutes; 150% overload for 1 minute				
	Efficiency	Up to 96%				
	Expandability	4				
Environment	Operating Temperature	0-40°C				
	Storage Temperature	-40 to 70°C				
	Relative Humidity	0%-95% (No condensing)				
	Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3				
Others	Height×Width×Depth (mm)	2000 × 600 × 850				
	Weight	250kg	270kg	290kg	310kg	330kg
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.				
	Communication Interface/Protocol	Dry contacts, RS485, FE; Support SNMP, Modbus.				

Notice:

1. The UPS series are for commercial/industrial use and not used for life support equipment;
2. The critical systems concerning economic and public security must adopt power supply architecture that comply with Uptime TIERIII or TIER IV requirements stated in TIA942.

FusionPower Series

UPS5000-E (30-120kVA)

Introduction

Based on the online double conversion technology, FusionPower Series UPS5000-E-(30-120kVA) can provide reliable, pure and uninterrupted power for critical ICT equipment. The modularized architecture helps improve the availability and reduce the engineering cost significantly.

Scenarios

- Small & medium data center, large enterprise regional datacenter
- Central offices, dispatch center, control center, etc.

Features

Reliable

- 138-485Vac ultra-wide input voltage range, suitable for the worst power grid
- Redundant design for modules, elimination of the single point of failure
- iPower pre-warnings for key components in case of power supply interruption

Efficient

- High efficiency up to 96% at most frequently-used load rate, reducing power consumption of UPS and cooling efficiency
- Intelligent hibernation technology ensures efficient UPS operation

Simple

- Hot swappable power module, bypass module and control module, simple maintenance and expansion in 5 minutes
- iPower real time monitoring system for UPS, PDU and batteries, elimination of manual routing inspection



30kVA Power Module @ 2U



UPS5000-E-120K-FM

Specifications

Model		UPS5000-E-(30-120kVA)-FM			
Rated Capacity (kVA/kW)		30kVA/30kW	60kVA/60kW	90kVA/90kW	120kVA/120kW
Number of Power Modules		1	2	3	4
Mains Input	Input Wiring	3Ph+N+PE			
	Rated Voltage	380/400/415Vac			
	Voltage Range	138-485Vac			
	Input Frequency	40-70Hz			
	Total Harmonic Distortion	THDi<3% for linear load			
	Input Power Factor	0.99			
Bypass Input	Input Wiring	3Ph+N+PE			
	Rated Voltage	380/400/415Vac			
	Input Frequency	50/60 ± 6Hz			
Battery	Rated Voltage	360-528Vdc (VRLA, the number of batteries can be selected from 30 to 44; 40 batteries in default)			
Output	Output Wiring	3Ph+N+PE			
	Voltage	380/400/415Vac±1%			
	Frequency	Tracking the bypass input (Normal mode); 50/60Hz±0.05% (Battery mode)			
	Waveform	Sine wave (THDv<1% for linear load)			
	Output Power Factor	1			
	Overload Capacity	Inverter: 110% overload for 60 minutes; 125% overload for 10 minutes; 150% overload for 1 minute			
	Efficiency	Up to 96%			
	Expandability	4			
Environment	Operating Temperature	0-40°C			
	Storage Temperature	-40 to 70°C			
	Relative Humidity	0%-95% (No condensing)			
	Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3			
Others	Height×Width×Depth (mm)	2000 × 600 × 850			
	Weight	250kg	270kg	290kg	310kg
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.			
	Communication	Dry contacts, RS485, FE; Support SNMP, Modbus.			

Remark: For important systems that are related to important economic interests or public security, such as civil aviation management center, financial clearing center, and trading center, the Tier IV or Tier III power supply level specified in TI942 must be used. That is, two UPSs form dual-bus power supply or the UPS and mains form dual-bus power supply.

FusionPower Series

UPS5000-E (50-800kVA)

Introduction

UPS5000-E Series (50-800kVA) is an advanced modular UPS based on Huawei's extensive experience in digital technology and power electronics. Benefiting from high performance DSP and high speed communication technology, the UPS5000-E system achieves leading expandability and availability. Its high efficiency, high availability match the requirements of cloud data center perfectly.

Scenarios

- Data centers in headquarter or disaster recovery data centers
- Internet data centers
- Large cloud computing data centers

Features

Reliable

- UPS power, bypass, and control modules are fully redundant, without any single point of failure.
- 138-485Vac wide input voltage range, adapting to various harsh power grids
- PF (inductive/capacitive) 0.5 above derating, perfect match for various loads
- iPower fault warning function, warning of key components such as batteries, capacitors, and fans, preventing fault expansion

Efficient

- High efficiency up to 95%-96% at most frequently-used load rate
- Intelligent hibernation technology ensures efficient UPS operation
- Single UPS capacity up to 800kVA, 50% footprint saving, more IT rack space

Simple

- Hot-swappable power module. The power, bypass, and control modules support hot swap. Common engineers 5min complete the maintenance.
- Smoothly expanded on demand. The capacity of a single UPS can be expanded to 800kVA, which effectively reduces the initial investment of the UPS and improves the UPS operating efficiency.
- The power supply and distribution status are monitored in real time. The core parameters of the UPS power supply and distribution system are automatically inspected, eliminating manual inspection.
- iPower real time monitoring system for UPS, PDU and batteries, elimination of manual routing inspection



UPS5000-E-400/500K

Specifications

Model		UPS5000-E-200K	UPS5000-E-300K	UPS5000-E-400K	UPS5000-E-500K	UPS5000-E-600K	UPS5000-E-800K
Rated Capacity (kVA/kW)		50-200	50-300	50-400	50-500	50-600	50-800
Number of Power Modules		1-4	1-6	1-8	1-10	1-12	1-16
Mains Input	Input Wiring	3Ph+PE (Neutral wire: optional*)					
	Rated Voltage	380/400/415Vac					
	Voltage Range	138-485Vac (305-485Vac for 100% load; 138-305Vac for 40%-100% load)					
	Frequency Range	40-70Hz					
	Total Harmonic Distortion	THDi<3% for 100% linear load					
	Input Power Factor	0.99					
Bypass Input	Rated Voltage	380/400/415Vac					
	Input Frequency	50/60±6Hz					
Battery	Rated Voltage	360-528Vdc (The number of batteries can be selected from 30 to 44; 40 batteries in default)					
Output	Output Wiring	3Ph+N+PE					
	Voltage	380/400/415Vac±1%					
	Frequency	Tracking the bypass input (Normal mode); 50/60Hz±0.05% (Battery mode)					
	Waveform	Sine wave (THDv<1% for linear load)					
	Overload Capacity	Inverter: 110% overload for 60 minutes; 125% overload for 10 minutes; 150% overload for 1 minute					
System	Output Power Factor	1					
	Efficiency	Up to 96%					
	Expandability	8					
Environment	Operating Temperature	0-40°C					
	Storage Temperature	-40 to 70°C					
	Relative Humidity	0%-95% (No condensing)					
	Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3					
	Audible Noise	66-75dB					
Others	Height × Width × Depth (mm)	2000 × 600 × 850		2000 × 1200 × 850		2000 × 1400 × 850	2000 × 2400 × 850
	Weight	285-390kg	275-450kg	465-710kg	515-830kg	705-1090kg	1075-1540kg
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.					
	Communication Interface/ Protocol	Dry contacts, RS485, FE; Support SNMP, Modbus.					

* Without neutral wire, it's TN-C system.

Notice:

1. The UPS series are for commercial/industrial use and not used for life support equipment;
2. The critical systems concerning economic and public security must adopt power supply architecture that comply with Uptime TIERIII or TIER IV requirements stated in TIA942.

FusionPower Series

UPS5000-S (50-800kVA)

Introduction

UPS5000-S Series (50-800kVA) is an advanced modular UPS based on Huawei's extensive experience in digital technology and power electronics. Benefiting from high performance DSP and high speed communication technology, the UPS5000-S system achieves leading expandability and availability. Its high efficiency, high availability match the requirements of cloud data center perfectly.

Scenarios

- Data centers in headquarter or disaster recovery data centers
- Internet data centers
- Large cloud computing data centers

Features

Reliable

- UPS power, bypass, and control modules are fully redundant. No single point of failure occurs.
- 138-485Vac wide input voltage range, adapting to various harsh power grids
- PF (inductive/capacitive) 0.5 above derating, perfect match for various loads
- iPower fault warning function, warning of key components such as batteries, capacitors, and fans, preventing fault expansion

Efficient

- High module efficiency up to 97.5% and system efficiency up to 96%-97% at most frequently-used load rate
- Intelligent hibernation technology ensures efficient UPS operation
- Single cabinet power capacity up to 600kVA, 50% footprint saving, more IT rack space

Simple

- Hot-swappable design. The power, bypass, and control modules support hot swap. Common engineers 5min complete the maintenance.
- On demand expansion. The capacity of a single UPS can be expanded to 800kVA, which effectively reduces the initial investment of the UPS and improves the UPS operating efficiency.
- The power supply and distribution status are monitored in real time. The core parameters of the UPS power supply and distribution system are automatically inspected, eliminating manual inspection.



UPS5000-S-
200/300kVA



UPS5000-S-
400/500kVA



UPS5000-S-
600kVA



UPS5000-S-800kVA

Specifications

Model		UPS5000-S-200K	UPS5000-S-300K	UPS5000-S-400K	UPS5000-S-500K	UPS5000-S-600K	UPS5000-S-800K
Rated Capacity (kVA/kW)		50-200	50-300	50-400	50-500	50-600	50-800
Number of Power Modules		1-4	1-6	1-8	1-10	1-12	1-16
Mains Input	Input Wiring	3Ph+PE					
	Rated Voltage	380/400/415Vac					
	Voltage Range	138-485Vac (305-485Vac for 100% load; 138-305Vac for 40%-100% load)					
	Frequency Range	40-70Hz					
	Total Harmonic Distortion	THDi<3% for 100% linear load					
	Input Power Factor	0.99					
Bypass Input	Input Wiring	3Ph+N+PE					
	Rated Voltage	380/400/415Vac					
	Input Frequency	50/60±6Hz					
Battery	Rated Voltage	360-600Vdc (The number of batteries can be selected from 30 to 50; 40 batteries in default)					
Output	Output Wiring	3Ph+N+PE					
	Voltage	380/400/415Vac±1%					
	Frequency	Tracking the bypass input (Normal mode); 50/60Hz±0.1% (Battery mode)					
	Waveform	Sine wave (THDv<1% for linear load)					
	Overload Capacity	Inverter: 110% overload for 60 minutes; 125% overload for 10 minutes; 150% overload for 1 minute					
System	Output Power Factor	1					
	Efficiency	Up to 97.1%					
	Expandability	8					
Environment	Operating Temperature	0-40°C					
	Storage Temperature	-40 to 70°C					
	Relative Humidity	0%-95% (No condensing)					
	Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3					
	Audible Noise	66-75dB					
Others	Height×Width×Depth(mm)	2000 × 600 × 850		2000 × 1200 × 850		2000 × 1400 × 850	2000 × 2400 × 850
	Weight	285-390kg	275-450kg	465-710kg	515-830kg	705-1090kg	1075-1540kg
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.					
	Communication Interface/Protocol	Dry contacts, RS485, FE; Support SNMP, Modbus.					

Notice:

1. The UPS series are for commercial/industrial use and not used for life support equipment;
2. The critical systems concerning economic and public security must adopt power supply architecture that comply with Uptime TIERIII or TIER IV requirements stated in TIA942.

Data Center Smart Li-ion Battery Solution

SmartLi

Introduction

SmartLi is a battery energy storage system developed by Huawei for UPS, which has the features of safety and reliability, long lifespan, space saving and easy maintenance. LFP is the safest cell of Li-ion battery. The unique active current balance control technology supports the mix use of new and old batteries, which reduces Capex. Three-level BMS system realizes intelligent battery management with Huawei UPS and Network management system, which reduces Opex.

Features

Reliable

- Long cycle lifespan, cycle lifetime can be up to 5000 times
- Highly stable LFP cell, no fire after thermal runaway
- Three-level BMS system ensures reliability
- Cabinet-level fire extinguishing, precise and quick fire fighting, non-proliferation

Efficient

- High power density, saving 70% footprint
- Smart BMS system, saving 80% routine O&M costs

Simple

- Active current balance control, supporting new and old battery cabinets mixed using, flexible to expand
- Smart active voltage balance control, Battery strings of different numbers of lithium batteries can be connected in parallel *



SmartLi

Specifications

	Item	Description
Basic Parameters	Product Model	SmartLi-512V-80AH
	Battery Cell Material	LiFePO ₄
	Nominal Voltage	512Vdc
	Nominal Charging Voltage	544Vdc
	Charging Current	≤ 1C, 0.5C by default
	Rated Max. Discharging Current	500A continuous discharge
	Cycle Life	5000 cycles @ 50% DOD
	Nominal Capacity	80Ah / 40.96kWh (6C); 52kWh(1C)*
	Weight	800kg
	Dimension (W*D*H)	600mm*850mm*2000mm
	Self Discharge	≤5% (0-30°C /3 months)
	Fire protection	Cabinet-level fire protection

	Item	Description
Basic Parameters	Communication Interface	FE, RS485, Dry contacts
	Protection	Over temperature, over current, short circuit, over charge/discharge, etc.
	Design Life	15 years
	Certification	UL1642, UN38.3, IEC62619, IEC62040,RoHS

- If a single module is faulty, remove the faulty module and connect the other modules in series to restart the system.
- The backup time is calculated based on the capacity 52 kWh (1C) and the capacity under different backup time or discharge rates. $52\text{kWh}=25.5\text{Ah}\times 40\times 16\times 3.2\text{V}$ (The battery cell is 27 Ah. The margin is calculated based on the reserved 25.5 Ah. For details, see the battery cell certification report.)

	Item	Description
Basic Parameters	IP Protection Level	IP20 according to IEC60529 standard
	Mounting Type	Can be installed against a wall at the rear, Reserve at least 800 mm from the front.
EMC	Surge	IEC61000-4-5
	ESD	IEC61000-4-2
	Radiated electric fields	IEC61000-4-3
	Emission	IEC62040-3
Environment	Storage Temperature	0°C - 40°C
	Transportation Temperature	-40°C to 60°C
	Operating Temperature	0°C - 40°C (20-25° C is recommended)
	Relative Humidity	5% - 95%
	Max. Operating Altitude	0 - 4000m. Derating is required if the altitude exceeds 1000 m*

Specifications

	Cell	Module	Full Cabinet	Half Cabinet
Configuration	Single cell	20S2P	16 module(2 groups)	8 module(1 group)
Declared Capacity (6C)	> 20Ah	40Ah	80Ah	40Ah
Nominal Voltage	3.2Vdc	64Vdc	512Vdc	512Vdc
Charging Voltage	3.4Vdc	68Vdc	544Vdc	544Vdc
Operation Voltage Range	2.5 - 3.6Vdc	50 - 72Vdc	408 - 544Vdc	408 - 544Vdc
Dimension(W*D*H: mm)	21*100*140	200.5*592*157.5	600*850*2000	600*850*2000
Weight	605g	35kg	800kg	520kg

Back-up Time @SOL (in minutes)

0-40°C (8+8 can support 200kW/10 min)								
UPS Power	0.5 cabinet	1 cabinet	1.5 cabinet	2 cabinet	2.5 cabinet	3 cabinet	3.5 cabinet	4 cabinet
100kW	10	24	36	48	64	77	90	103
200kW	-	10	18	24	31	37	43	49
300kW	-	-	10	16	20	24	28	32
400kW	-	-	-	10	15	18	21	24
500kW	-	-	-	-	10	15	17	19
550kW	-	-	-	-	-	11	15	17
600kW	-	-	-	-	-	10	13	16
700kW	-	-	-	-	-	-	10	13
800kW	-	-	-	-	-	-	-	10

0-40°C (8+8 can support 200kW/10 min)								
UPS Power	4.5 cabinet	5 cabinet	5.5 cabinet	6 cabinet	6.5 cabinet	7 cabinet	7.5 cabinet	8 cabinet
100kW	116	129	142	155	168	181	194	207
200kW	55	64	71	77	84	90	97	103
300kW	37	41	45	49	53	57	64	69
400kW	27	30	34	37	40	43	46	49
500kW	22	24	27	29	32	34	37	39
550kW	20	22	24	27	29	31	33	36
600kW	18	20	22	24	26	28	31	33
700kW	15	17	19	21	23	24	26	28
800kW	12	14	16	18	19	21	23	24

Back-up Time @SOL (in minutes)

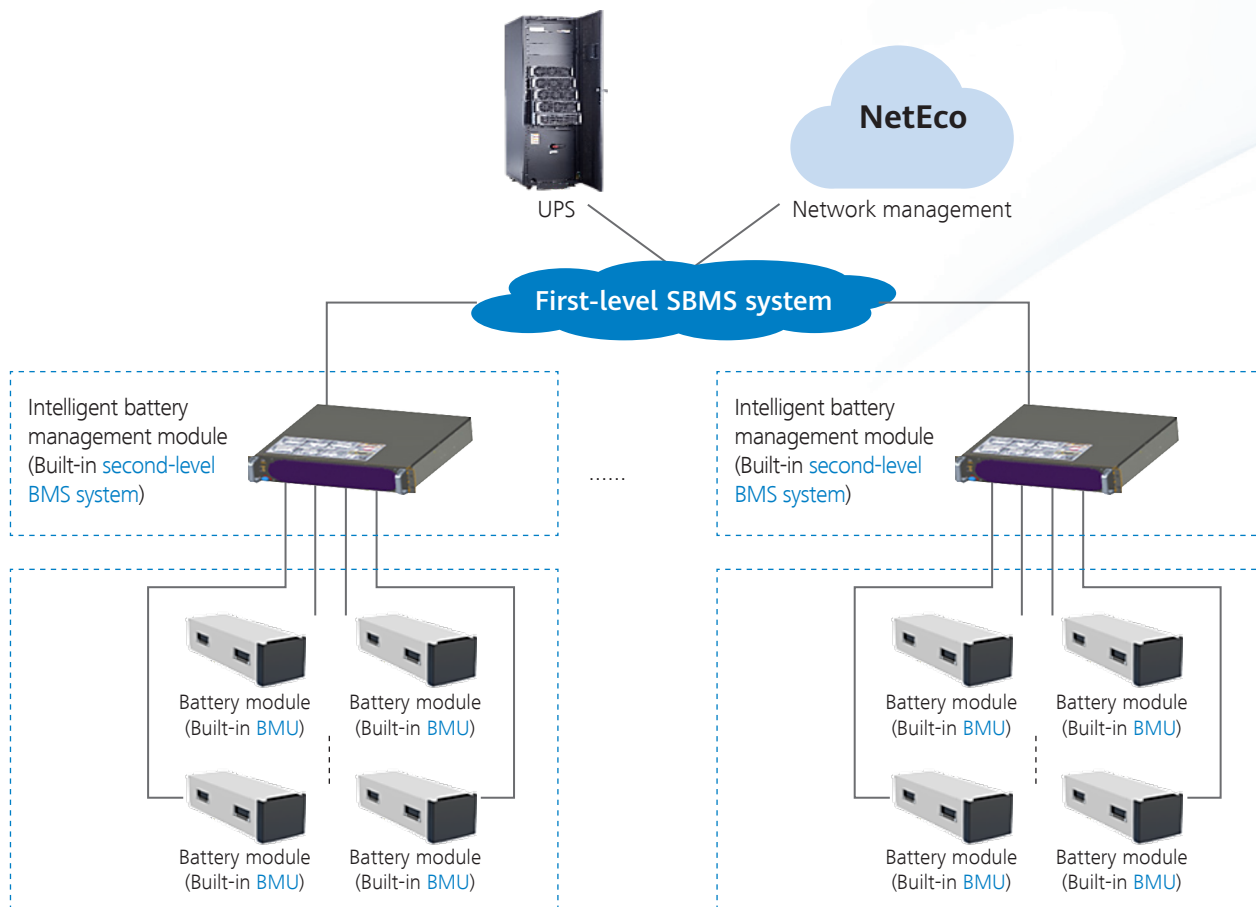
0-27°C (8+8 can support 230kW/10 min)								
UPS Power	0.5 cabinet	1 cabinet	1.5 cabinet	2 cabinet	2.5 cabinet	3 cabinet	3.5 cabinet	4 cabinet
100kW	12	24	36	48	64	77	90	103
200kW	-	12	18	24	31	37	43	49
300kW	-	-	12	16	20	24	28	32
400kW	-	-	-	12	15	18	21	24
500kW	-	-	-	-	12	15	17	19
550kW	-	-	-	-	-	13	15	17
600kW	-	-	-	-	-	12	14	16
700kW	-	-	-	-	-	-	12	13
800kW	-	-	-	-	-	-	-	12

0-27°C (8+8 can support 230kW/10 min)								
UPS Power	4.5 cabinet	5 cabinet	5.5 cabinet	6 cabinet	6.5 cabinet	7 cabinet	7.5 cabinet	8 cabinet
100kW	116	129	142	155	168	181	194	207
200kW	55	64	71	77	84	90	97	103
300kW	37	41	45	49	53	57	64	69
400kW	27	30	34	37	40	43	46	49
500kW	22	24	27	29	32	34	37	39
550kW	20	22	24	27	29	31	33	36
600kW	18	20	22	24	26	28	31	33
700kW	15	17	19	21	23	24	26	28
800kW	13	15	16	18	19	21	23	24

0-27°C (7+7 can support 200kW/10 min)								
UPS Power	0.5 cabinet	1 cabinet	1.5 cabinet	2 cabinet	2.5 cabinet	3 cabinet	3.5 cabinet	4 cabinet
100kW	10	21	32	43	54	68	79	90
200kW	-	10	16	21	27	32	37	43
300kW	-	-	10	14	17	21	25	28
400kW	-	-	-	10	13	16	18	21
500kW	-	-	-	-	10	12	14	17
550kW	-	-	-	-	-	11	13	15
600kW	-	-	-	-	-	10	12	14
700kW	-	-	-	-	-	-	10	12
800kW	-	-	-	-	-	-	-	10

0-27°C (7+7 can support 200kW/10 min)								
UPS Power	4.5 cabinet	5 cabinet	5.5 cabinet	6 cabinet	6.5 cabinet	7 cabinet	7.5 cabinet	8 cabinet
100kW	102	113	124	136	147	158	170	181
200kW	48	54	62	68	73	79	85	90
300kW	32	36	39	43	47	50	54	57
400kW	24	27	29	32	35	37	40	43
500kW	19	21	23	26	28	30	32	34
550kW	17	19	21	23	25	27	29	31
600kW	16	17	19	21	23	25	27	28
700kW	13	15	16	18	20	21	23	24
800kW	11	13	14	16	17	18	20	21

Monitoring



Monitoring

	BMU	BCU	SBCU
Monitored Object	Battery Pack	Battery Rack	System
Function Description	<ul style="list-style-type: none"> Measure the cell voltage, temperature. Electrochemical cell voltage equalization; Communicates with the BMS. Save the battery module fault information 	<ul style="list-style-type: none"> Manages all BMUs Collects statistics on the battery voltage, temperature, SOC, and SOH, and reports the statistics to the SBCU. Detects the charge and discharge currents of battery strings to adjust the parallel current sharing. Protects the hardware and batteries against exceptions, disconnects the loop in a timely manner when an exception occurs, and reports the exception to the SBCU. Save the battery cabinet fault information. 	<ul style="list-style-type: none"> Displays the total voltage, SOC, SOH, current, and temperature of the battery system, and battery information of each battery cabinet. Receives common parameters reported by each BCU and saves local data. Receives alarms and protection events reported by the BCU and saves the events locally. Communicates with the UPS, provides human-machine interaction, communications ports, and permission management for local and remote operations, sets battery management system parameters, and upgrades programs.
Measurement Parameter	Cell voltage Cell temperature	Cabinet Voltage Cabinet Current	System Voltage System Current
Measurement Precision	0.2% (voltage) 2°C (temperature)	1% (voltage) 2% (> 40A); 3A (< 40A)	1% (voltage) 2% (> 40A); 3A (< 40A)

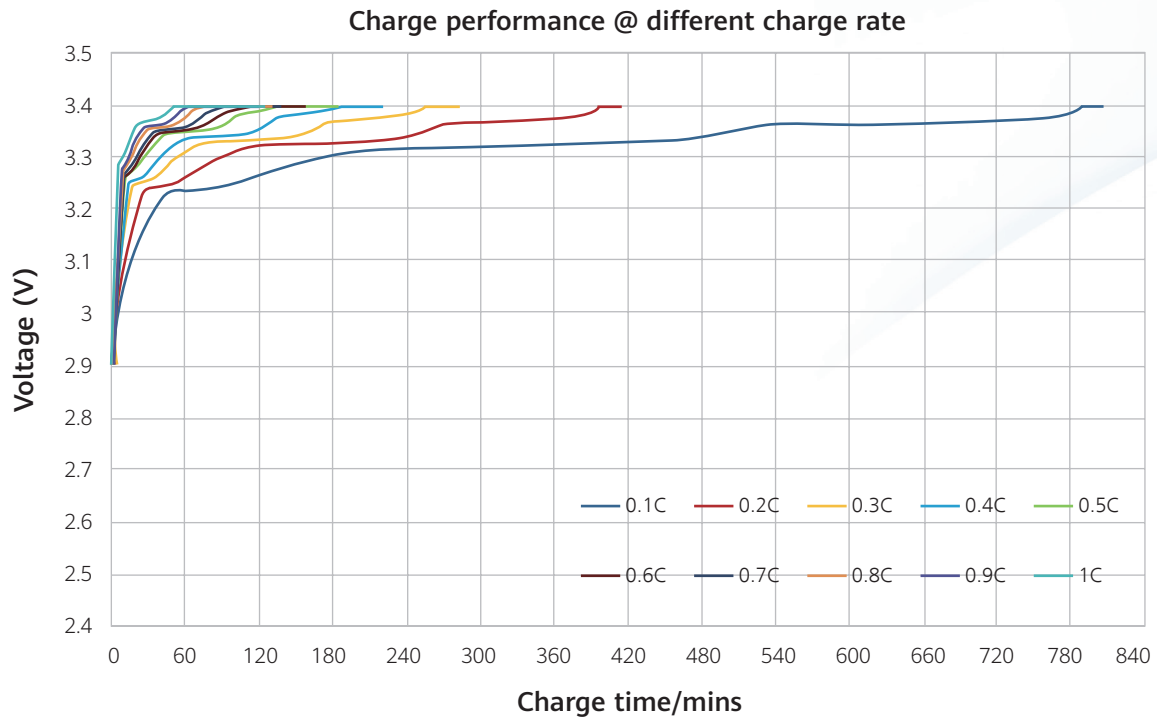
	BMU	BCU	SBCU
Display information	Battery module Module Cell Voltage	Battery Cabinet Voltage	Battery System Voltage
	Battery module SOH	Battery Cabinet Current	Battery System Current
	Battery module SOC	Battery Cabinet SOC	Battery System SOC
	Battery module Maximum Cell Voltage	Battery Cabinet SOH	Battery System SOH
	Battery module Minimum Cell Voltage	Battery Cabinet Maximum Cell Voltage	Battery System Maximum Cell Voltage
	Battery module Maximum Cell Temperature	Battery Cabinet Minimum Cell Voltage	Battery System Minimum Cell Voltage
	Battery module Minimum Cell Temperature	Battery Cabinet Maximum Cell Temperature	Battery System Maximum Cell Temperature
		Battery Cabinet Minimum Cell Temperature	Battery System Minimum Cell Temperature
		Discharge Times	Battery Capacity
		Discharge Capacity	Discharge Times
		Discharge Capacity	

Protection Function

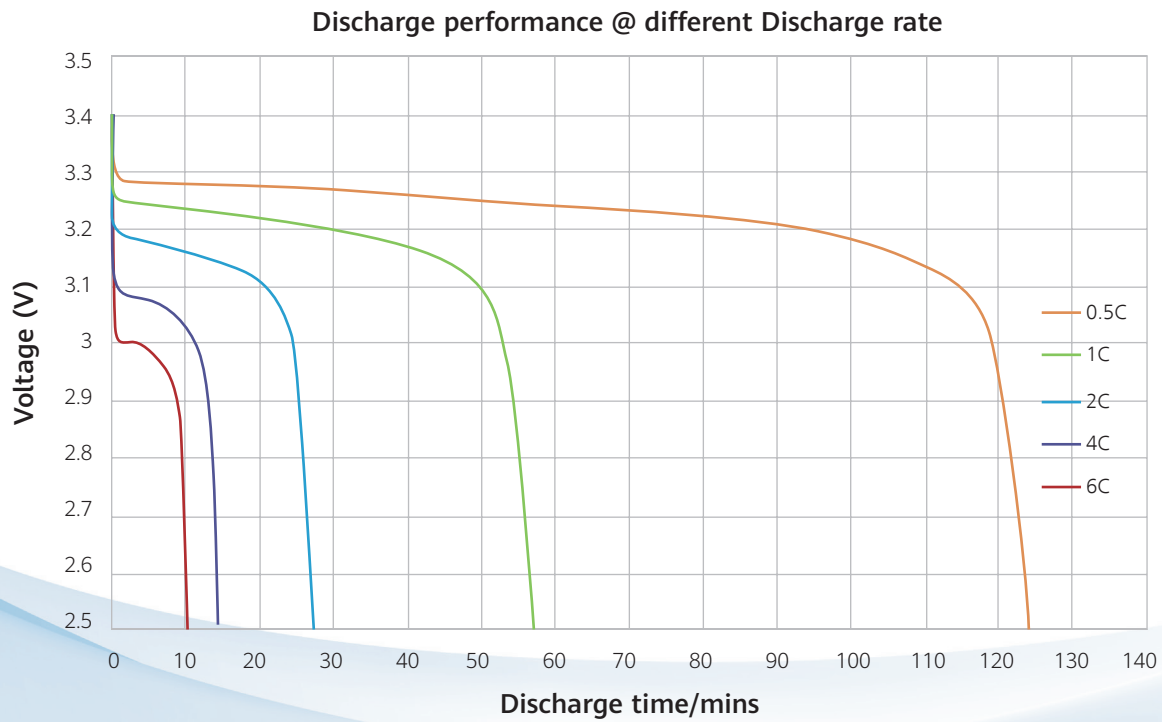
Alarm Type	Alarm Descriptio	Alarm Cause	Alarm Confirmation Time	Solution
Battery charge protection	Low temperature protection under battery charge	The temperature of battery cell is under 0°C .	30s	Trip off battery breaker
	Over temperature protection under battery charge	The temperature of battery cell above 65°C .	10s	
	Over voltage protection of battery cell	The voltage of battery cell is above 3.9V	1s	
	Over voltage protection of battery string.	The voltage of battery string is above 3.625N V	1s	
	Over current protection of battery charge	>200A	20ms	
Battery discharge protection	Low temperature protection under battery discharge	The temperature of battery cell is under 0°C	5s	Trip off battery breaker
	Over temperature protection under battery discharge	The temperature of battery cell above 65°C	30s	
	Low voltage protection of battery cell	The voltage of battery cell is under 2.3V	700ms	
	Low voltage protection of battery string	The voltage of battery string is under 2.55N V	2s	
	Over current protection of battery discharge	>520A	30s	
Battery charge alarm	Low temperature alarm under battery charge	The temperature of battery cell is under 5°C	30s	Alarm
	Over temperature alarm under battery charge	The temperature of battery cell above 55°C	30s	
	Over voltage alarm of battery cell	The voltage of battery cell is above 3.8V	5s	
	Over voltage alarm of battery string.	The voltage of battery string is above 3.55N V	5s	
	Over current alarm of battery charge	>96A	5s	
Battery discharge alarm	Low temperature alarm under battery discharge	The temperature of battery cell is under 5°C	30s	Alarm
	Over temperature alarm under battery discharge	The temperature of battery cell above 60°C	30s	
	Low voltage alarm of battery cell	The voltage of battery cell is under 2.6V	5s	
	Low voltage alarm of battery string.	The voltage of battery string is under 2.8N V	5s	
	Over current alarm of battery discharge	>500A	5s	

* N is the number of battery cell per string

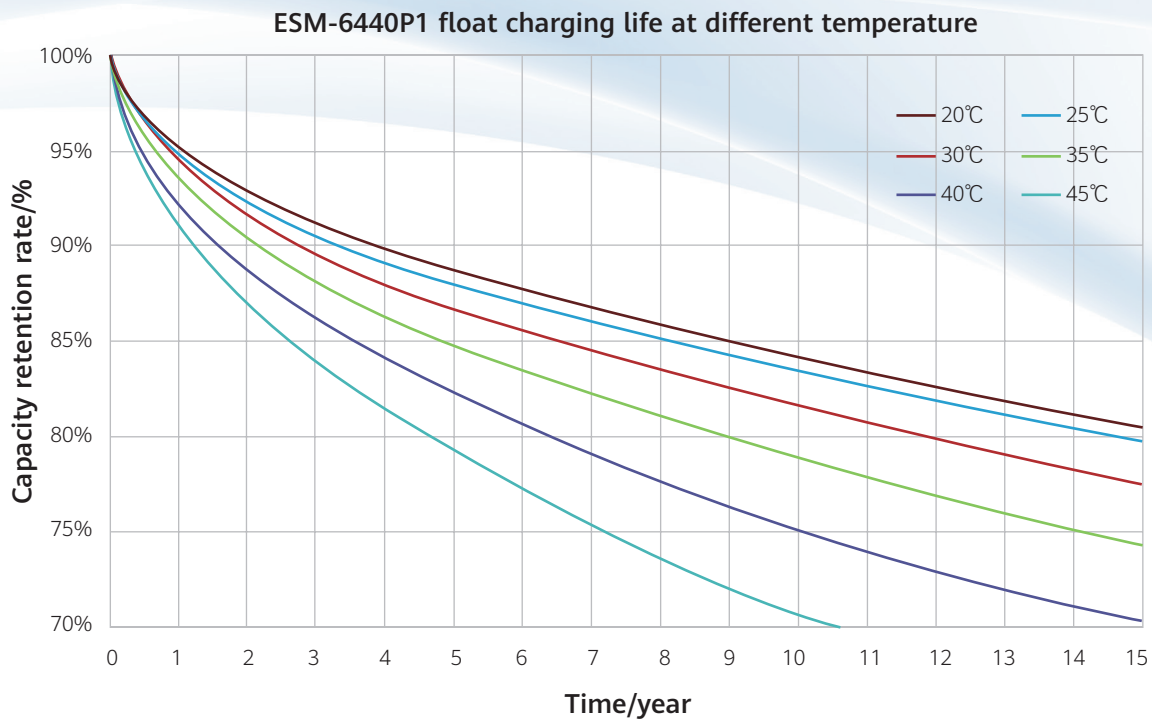
Charge at Different Charging Tare



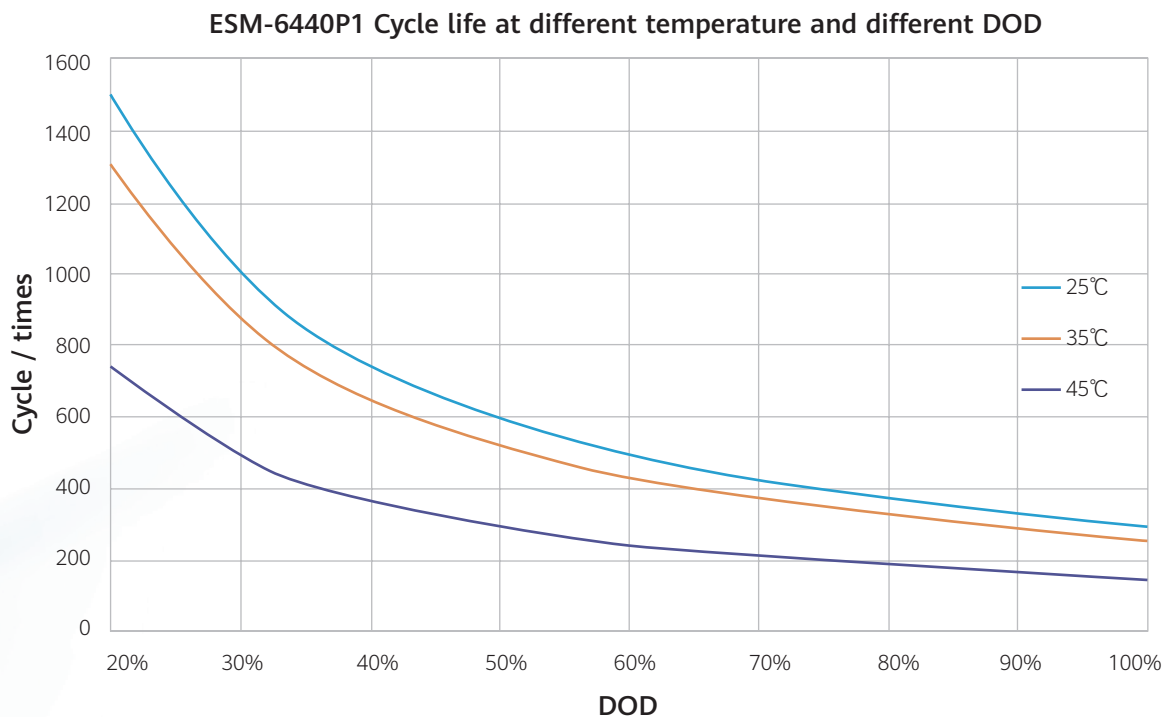
Discharge at Different Discharge Rate



Lifetime at Different Temperature



Cycle Lifetime at Different Temperature and DOD



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FusionPower Series

UPS5000-H-1200k-NT

Introduction

UPS5000-H-1200k-NT is Huawei's large-scale uninterruptible power supply system with advanced 100kVA/3U hot swappable power modules. The system achieves 1 MW, 1 rack, effectively saves footprint and installation time. System efficiency is up to 97%. Intelligent iPower improves system reliability and simplifies operation and maintenance for customers.

Scenarios

- Data centers in headquarter or disaster recovery data centers
- Internet data centers
- Large cloud computing data centers

Features

Simple

- Hot swappable power module, bypass module and control module simplify maintenance and expansion in 5 minutes
- Top busway prefabricated design, reducing on-site installation time by 60%

Efficient

- 1 MW, 1 rack, saving the footprint by 50%
- 97% system efficiency, high efficiency at light-load

Smart

- iPower pre-warnings for key components by AI method

Reliable

- Redundant architecture eliminates single point of failure



Power Module: 100kVA/3U



UPS5000-H-1200k-NT H×W×D(mm):
2200×1600×1000

Specifications

Model		UPS5000-H-1200k-NT
Capacity	Capacity	1200kVA
Mains Input	Input Wiring	3Ph+N+PE/3Ph+PE(Three-phase, three-wire)
	Rated Voltage	380/400/415Vac
	Voltage Range	138-485Vac (100% load: 324-485V; 40%-100% load: 138-324V)
	Frequency Range	40-70Hz
	Total Harmonic Distortion	THDi<3% for 100% linear load
	Input Power Factor	0.99
Bypass Input	Input Wiring	3Ph+N+PE/3Ph+PE(Three-phase, three-wire)
	Rated Voltage	380/400/415Vac
	Input Frequency	50/60±6Hz
Battery	Rated Voltage	360-600Vdc (The number of VRLA can be selected from 30 to 50; 40 batteries in default); 512Vdc(Huawei SmartLi)
	Single power module charge Capacity	15kW
	Battery Category	Huawei SmartLi, VRLA
Output	Output Wiring	3Ph+N+PE/3Ph+PE(Three-phase, three-wire)
	Voltage	380/400/415Vac±1%
	Frequency	Tracking the bypass input (Normal mode); 50/60Hz±0.25% (Battery mode)
	THDv	THDv<1% for linear load
	Overload Capacity	Inverter: 100% < load≤110% for 60 minutes, then transfer to bypass mode; 110% < load≤125% for 10 minutes, then transfer to bypass mode; 125% < load≤150% for 1 minute, then transfer to bypass mode
System	Output Power Factor	1
	Efficiency	Up to 97%
Environment	Operating Temperature	0-1000m. Above 1000m, derating based on EN/IEC 62040-3
	Storage Temperature	System 1500kg, power module 55kg, bypass module 90kg
	Relative Humidity	0%-95% (No condensing)
	Operating Altitude	0-1000m. Above 1000m, derating based on EN/IEC 62040-3
Others	Weight(kg)	System 1500kg, power module 55kg, bypass module 90kg
	Height×Width×Depth(mm)	2200*1600*1000
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.
	Communications	Dry contacts, RS485, FE; Support web, Modbus and SNMP

Note:

Tier4 or Tier3 levels specified in TI942 are required, that two UPSs form a dual bus or a UPS and utility form dual bus for important systems related to major economy or public safety, such as civil aviation management centers, financial liquidation centers and trading centers, etc.

FusionPower Series

UPS5000-S-1200kVA-FP

Introduction

UPS5000-S-1200kVA-FP which belongs to FusionPower series solution is an advanced power supply solution integrate modular UPS, input PDU and output PDU. The system adopts UPS5000-S which achieves high efficiency, the system efficiency is up to 97%. This integrated solution can save more space for customers and its high efficiency, high availability match the requirements of data center perfectly.

Scenarios

- Data centers in headquarter or disaster recovery data centers
- Internet data centers
- Large cloud computing data centers

Features

Reliable

- All module redundant design to enhance reliability of power supply
- Power cabinet configured with breaker, failure can be isolated more reliably
- iPower full-link monitoring improves reliability
- iBattery monitors battery status to avoid fires

Efficient

- System efficiency is up to 97%, saving power consumption
- Integrated power solutions save 40% footprint

Smart

- Prefabricated busbar connection, installation time saved by 60%
- Hot swappable modular, on-line maintenance in 5mins



PowerModule: 55kVA/3U



UPS5000-S-1200kVA-FP

Specifications

Model		UPS5000-S-1200kVA-FP
Mains Input	Input Wiring	3Ph+N+PE
	Rated Voltage	380/400/415Vac
	Voltage Range	138-485Vac (324-485Vac for 100% load; 138-324Vac for 35%-100% load)
	Frequency Range	40-70Hz
	Total Harmonic Distortion	THDi<3% for 100% linear load
	Input Power Factor	0.99
Bypass Input	Input Wiring	3Ph+N+PE
	Rated Voltage	380/400/415Vac
	Input Frequency	50/60±6Hz
Battery	Rated Voltage	360-600Vdc (The number of VRLA can be selected from 30 to 50; 40 batteries in default); 512Vdc(Huawei SmartLi)
Output	Output Wiring	3Ph+N+PE
	Voltage	380/400/415Vac±1%
	Frequency	Tracking the bypass input (Normal mode); 50/60Hz±0.1% (Battery mode)
	Waveform	Sine wave(THDv<1% for linear load)
	Overload Capacity	Inverter: 110% overload for 60 minutes; 125% overload for 10 minutes
System	Output Power Factor	1
	Efficiency	Up to 97%
Environment	Operating Temperature	0-40°C
	Storage Temperature	-40 to 70°C
	Relative Humidity	0%-95% (No condensing)
	Operating Altitude	0-1000m. Above 1000m, derating based on EN/IEC 62040-3
Others	Weight(kg)	2360 kg (withno maintenance bypass unit); 2590 kg (witha maintenance bypass unit)
	Height×Width×Depth(mm)	2200*2800*1000(withno maintenance bypass unit); 2200*3400*1000(witha maintenance bypass unit)
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.
	Communications	Drycontacts, RS485,SNMP
	Optional Components	Battery insulation monitor, Temperature and Humidity Sensor, Dry Contact Extended Card, Back feed Protection Card

Remark: For important systems that are related to important economic interests or public security, such as civil aviation management center, financial clearing center, and trading center, the Tier IV or Tier III power supply level specified in T1942 must be used. That is, two UPSs form dual-bus power supply or the UPS and mains form dual-bus power supply.

FusionPower Series

UPS5000-S-1600kVA-FP

Introduction

UPS5000-S-1600kVA-FP which belongs to FusionPower series solution is an advanced power supply solution integrate modular UPS, input PDU and output PDU. The system adopts UPS5000-S which achieves high efficiency, the module efficiency is up to 97.5% and system efficiency is up to 97%. This integrated solution can save more space for customers and its high efficiency, high availability match the requirements of data center perfectly.

Scenarios

- Data centers in headquarter or disaster recovery data centers
- Internet data centers
- Large cloud computing data centers

Features

Reliable

- All module redundant design to enhance reliability of power supply
- Power cabinet configured with breaker, failure can be isolated more reliably
- iPower full-link monitoring improves reliability
- iBattery monitors battery status to avoid fires

Efficient

- System efficiency is up to 97% , saving power consumption
- Integrated power solution saves 30% footprint

Simple

- Prefabricated busbar connection, installation time saved by 60%
- Hot swappable modular, on-line maintenance in 5mins



Power Module: 55kVA/3U & 97.5% efficiency



UPS5000-S-1600kVA-FP

Specifications

Model		UPS5000-S-1600kVA-FP
	Power Capacity	990kVA - 1600kVA
Mains Input	Input Wiring	3Ph+N+PE
	Rated Voltage	380/400/415Vac
	Voltage Range	138-485Vac (324-485Vac for 100% load; 138-324Vac for 35%-100% load)
	Frequency Range	40-70Hz
	Total Harmonic Distortion	THDi<3% for 100% linear load
	Input Power Factor	0.99
Bypass Input	Input Wiring	3Ph+N+PE
	Rated Voltage	380/400/415Vac
	Input Frequency	50/60±6Hz
Battery	Rated Voltage	360-600Vdc (The number of batteries can be selected from 30 to 50; 40 batteries in default)
Output	Output Wiring	3Ph+N+PE
	Rated Voltage	380/400/415 Vac±1%
	Frequency	Tracking the bypass input (Normal mode); 50/60 Hz±0.05% (Battery mode)
	Waveform	Sine wave (THDv<1% for 100% linear load)
	Overload Capacity	Inverter: 110% overload for 60 minutes; 125% overload for 10 minutes
System	Output Power Factor	1
	Efficiency	Up to 97%
Environment	Operating Temperature	0-40°C
	Storage Temperature	-40 to 70°C
	Relative Humidity	0%-95% (No condensing)
	Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3
Others	Height×Width×Depth (mm)	2200*4200*1000
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, etc.
	Communications	Dry contacts, RS485, SNMP
	Optional Components	Battery insulation monitor, Temperature and Humidity Sensor, Dry Contact Extended Card, Backfeed Protection Card

FusionPower Series

UPS5000-S-600kVA-NN(3-Phase 3-wire)

Introduction

UPS5000-S-600kVA Three Phase Three wire adopts UPS5000-S which achieves high efficiency, the module efficiency up to 97.5% and system efficiency up to 97%. Benefiting from high performance DSP and high speed communication technology, the system achieves leading expandability and availability. Its high efficiency, high availability match the requirements of cloud data center perfectly.



Power Module:50VA/3U &Module efficiency 97.5%

Scenarios

- Data centers in headquarter or disaster recovery data centers
- Internet data centers
- Semiconductor industry
- Large cloud computing data centers

Features

Reliable

- Redundant design for modules, elimination of the single point of failure
- iPower pre-warnings for key components in case of power supply interruption
- iBattery to monitor battery status in case of fire
- Various environmental verification to ensure high reliability

Efficient

- High module efficiency up to 97.5% and system efficiency up to 96.5%-97% at most frequently-used load rate
- 50% footprint savin

Simple

- Hot swappable power module, bypass module and control module, simple maintenance and expansion in 5 minutes



UPS5000-S-600K-NN

Specifications

Model		UPS5000-S-600K-NN (3-phase 3-wire)
Mains Input	Input Wiring	3Ph+PE
	Rated Voltage	380V/400V/415V/420/480Vac
	Input Voltage Range	380V/400V/415V/420V Mode: 138-485Vac (304-485Vac for full load);
	Total Harmonic Distortion	480V Mode: 192-528Vac (384-528Vac for full load)
	Input Frequency Range	40-70Hz
	Input Power Factor	>0.99(Full load)
Bypass Input	Input Wiring	3Ph+PE
	Rated Voltage	380V/400V/415V/420/480Vac
	Input Frequency	50/60±6Hz
Battery	Rated Voltage	360-600Vdc (The number of batteries can be selected from 30 to 50; 40 batteries in default)
Output	Output Wiring	3Ph+PE
	Voltage	380V/400V/415V/420/480Vac±1%
	Frequency	Tracking the bypass input (Normal mode); 50/60Hz±0.1% (Battery mode)
	Waveform	Sine wave (THDv<1% for linear load)
	Overload Capacity	Inverter: 110% overload for 60 minutes; 125% overload for 10 minutes
System	Output Power Factor	1
	Efficiency	Up to 97%
	Stand-alone Capacity	50-600kVA
	Parallel Quantity	6 Sets
	Cabling Mode	Top or bottom
Environment	Operating Temperature	0-40°C
	Storage Temperature	-40 to 70°C
	Relative Humidity	0%-95% (No condensing)
	Operating Altitude	0-100-1000m. Above 1000m, derating rate based on EN/IEC 62040-3
Others	Height × Width × Depth (mm)	2000*1400*850
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; UL; RoHS, REACH, WEEE, GR63-zone4; NTT Class 7 anti-seismic, etc. UL1778; FCC Part15 Class A (for 480V only)
	Communications	Dry contacts, RS485, SNMP
	Intelligent Hibernation	Customizable number of redundant power modules during hibernation□Hibernation wake-up time 10ms
	Optional Components	Top air-flow cabinet, Cable entry cabinet, Back feed protection card, surge protection devic

FusionPower Series

Modular Precision Power Distribution Cabinet PDU8000

Introduction

The Precision Power Distribution Cabinet provides power distribution, electrical parameters measurement and risk pre-alarm functions to match the reliable operation of data center.

Scenarios

- Large data centers
- Disaster recovery data center
- Enterprise data centers

Features

Reliable

- A full range of type tests, environmental tests and 9 intensity seismic tests to ensure high reliability
- Intelligent risk management, 24 hours key node temperature real-time detection
- Modular design, standardized production, fully automated testing to ensure product reliability

Simple

- The monitoring module and the output switch can be hot-swappable, which is easy to expand and maintain
- 7 inch LCD color touch screen, visual intelligent detection, simple management



Specifications

Items	Precision PDC (Standard)
Parameter	
Rated Voltage	208/380/400/415
Rated current (A)	160/250/400/630(optional)
Rated frequency (Hz)	50/60
Total Harmonic Distortion	THDi<3% for 100% linear load
Input switch	MCCB
Bus architecture	Dual buses or single bus(optional)
Outputs	Max. 144 1-pole MCBs or 48 3-pole MCBs (optional)
Rated current of outputs(A)	10/16/20/32/40/63 (optional)
Ingress Protection	IP20
Surge protection	level-C SPD (In=20kA)
Cabling route	from the top
Maintenance	Front operation and rear maintenance
Monitoring Function	
Monitoring Function	Monitoring the voltage, current, power, power factor, harmonic etc. of the main circuit Monitoring the current, load ratio, active power, switch status etc. of the branch circuit
Communication	Modbus , SNMP
Environment	
Operating Temperature	-5°C to +40°C
Storage Temperature	-40 to 70°C
Relative Humidity	5%~95% (No condensation)
Altitude	2000 m, derated when the altitude exceeds 2000 m
Others	
Dimensions (WxDxH) (mm)	600×1100×2000, 600×1200×2000, 600×1200×2200
Installation	Floor-mounted
Weight	< 380 kg
Certification	CCC, CE, TLC

PowerPod Solution

FusionPower6000

Introduction

The PowerPOD(FusionPower6000) integrates full-power links from the medium-voltage transformer to the feeder end of the load to provide MW-level integrated power supply, distribution, and backup solutions for large data centers.



Scenarios

- Indoor power supply and distribution system of the data center in a large traditional building.
- Prefabricated power modules for large prefabricated modular data centers.

FusionPower6000-2.4MVA(Indoor)



Features

Simple

- Prefabricated in factory, TTM ↓ 75%
- Full-link convergence, Footprint ↓ 30%+

Smart

- Visualized system, easy-to-manage
- AI fault prediction and proactive maintenance

Green

- UPS efficiency is up to 97%
- Power link efficiency is up to 95.5%



FusionPower6000-2.4MVA(Indoor)

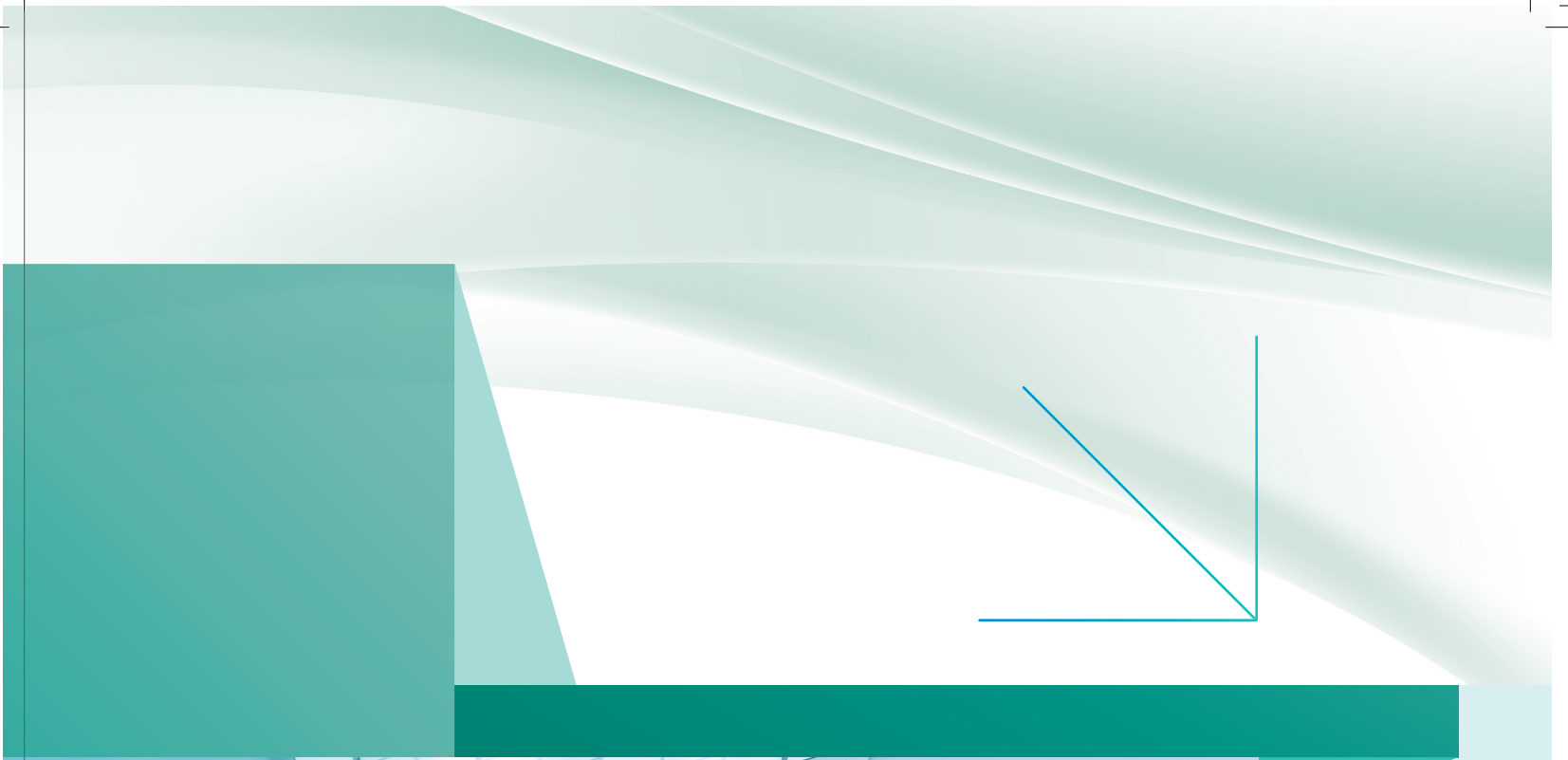
Specifications

Items		FusionPower6000-2.4MVA(Indoor)	FusionPower6000-2.0MVA(Indoor)	FusionPower6000-1.6MVA(Indoor)	FusionPower6000-1.2MVA(Indoor)
Power supply and distribution	Power input	Three-phase four-wire + PE, 380 V AC/400 V AC/415 V AC, 50 Hz/60 Hz			
	Transformer	2500kVA	2000kV	1600kVA	1250kVA
	SVG	500kVar	400kVar	300kVar	250kVar
	UPS	UPS5000-H-1200k 2PCS	UPS5000-H-1000k 2PCS	UPS5000-H-1600k 1PCS	UPS5000-H-1200k 1PCS
	Branch Feeder	Feeder cabinet (6*400A 3P) 3PCS			
Monitoring	Power and environment monitoring system	ECC for centralized management			
Structure	External dimensions (H x W x D)	3002mm×13350mm×1600mm	3002mm×13350mm×1600mm	3002mm×9900mm×1600mm	3002mm×9000mm×1400mm
	Installation mode	<ul style="list-style-type: none"> • Directly install on the ground; • Assemble and install on the base onsite 			
Environmental requirements	Operating temperature	0°C ~ +40°C			
	Storage temperature	-40°C ~ +70°C			
	Ambient humidity	≤ 95% RH (non-condensing)			
	Application environment	Class A environment			
	Altitude	0-4000 m. When the altitude is greater than 1000 m, the power is derated according to the industry standard.			

3

Huawei Energy Powering the Future Huawei Smart Cooling Solutions





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In-row Smart Cooling Product



NetCol5000-A
(25-46kW)



NetCol5000-C
(30-65kW)

In-room Smart Cooling Product



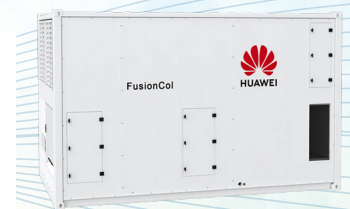
NetCol8000-A013U



NetCol8000-A
(45/60/90/120kW)



NetCol8000-C
(62-190kW)



Indirect Evaporative
Cooling
FusionCol8000-E
(220kW)

A: Air cooled
C: Chilled water
E: Evaporative Cooling

In-row Air Cooled Cooling Product

NetCol5000-A

Introduction

NetCol5000-A is an in-row air cooled smart cooling product, adopts DC inverter and high return air temperature design, matches load requirements intelligently. NetCol5000-A uses unique algorithm construct a precision management and intelligent O&M system, makes an efficient, reliable and simple data center.

Application Scenarios

- Modular data center
- Prefabricated data center
- High power density data center
- Small and medium scale data center

Value & Features

Efficient

- High efficiency DC inverter compressor and EC fan. 20%-100% stepless cooling capacity regulation
- "0" energy consumption by isenthalpic wet-film humidification
- iCooling algorithm intelligently optimizes running parameters, reducing power consumption by up to 8%

Reliable

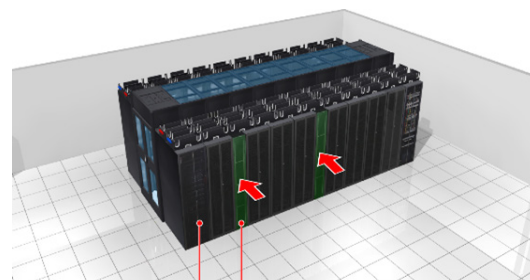
- Indoor fan can be maintained online and replaced while keeps cooling
- Expansion valve can be shut automatically upon unexpected power outage, eliminating liquid refrigerant return which may damage compressor
- AI algorithm detects the refrigerant content, triggering alarm when the refrigerant is insufficient

Simple

- 7" true color touch screen, displaying cooling capacity and air volume real-time for easy O&M
- Fault self-diagnosis analyzes malfunction reason intelligently, guiding O&M engineer maintain quickly
- Compressor adopts Rotalock connection, no welding required on maintenance



NetCol5000-A050H



IT Equipment 1 2 Smart Cooling

Typical applications



7 inch LCD true color touch screen



EC fan

Technical Specification

	Unit	NetCol5000-A025H	NetCol5000-A035H
Air Flow	-	Horizontal	Horizontal
Total cooling capacity ¹⁾	kW	25.0	35.0
Sensible cooling capacity	kW	25.0	35.0
Air flow	m ³ /h	6,000	6,000
Power supply	V/Ph/Hz	380/400/415Vac, 50/60Hz, 3Ph+N+PE 208~220Vac, 50/60Hz, 3Ph+N+PE	380/400/415Vac, 50/60Hz, 3Ph+N+PE
Refrigerant	-	R410A	R410A
Heating capacity	kW	4	4.0
Humidifier capacity	kg/h	1.0	1.5
Dimensions: W*D*H	mm	300*1100*2000	300*1,200*2,000

Notes:

1. Nominal condition: indoor: return air temp. 37°C/RH20%, outdoor: 35°C.
2. Heating and humidification function are optional.

Outdoor Condenser Technical Specification

	Unit	NetCol500-A040	NetCol500-A060	NetCol500-A080	NetCol500-A0120
Power supply	-	Power supply from indoor unit			
Liquid pipe	in.	5/8	Diameter 5/8 in		
Gas pipe	in.	3/4	Diameter 7/8 in		
Full load current	A	2.5	2.5	2.5	2.5*2
Dimensions: W*D*H	mm	1120×1094×1096	1356×1094×1107	2186×1094×1107	2189×1356×1107
Net Weight	kg	155	130	240	250

Notes: Pipe size in actual project may vary. NetCol500-A120 is a dual-system unit. Two indoor units are used together with one dual-system outdoor unit

In-row Air Cooled & Water Cooled Cooling Product

NetCol5000-A050H

Introduction

NetCol5000-A is an in-row air cooled smart cooling product, adopts DC inverter and high return air temperature design, matches load requirements intelligently. NetCol5000-A uses unique algorithm construct a precision management and intelligent O&M system, makes an efficient, reliable and simple data center.

Application Scenarios

- Modular data center
- High power density data center
- Small and medium scale data center
- Especially for high height distance or long refrigerant pipe scenarios

Value & Features

Efficient

- Variable frequency design: 10%-100% stepless cooling capacity regulation, higher efficiency
- Wet-film humidifier: saves energy by 95%+ compared with electrode humidifier
- iCooling algorithm: intelligently optimizes operation status, reduces power consumption by 8%+

Reliable

- On-line maintain: Indoor fan can be maintained on-line and replaced without shutdown
- EEV shut automatically: Expansion valve will shut automatically after unexpected power cut, eliminate liquid return which may hit compressor
- Refrigerant detection: AI algorithm detects the refrigerant content, generating charging prompt when the refrigerant is insufficient

Simple

- Intelligent display: 7" true color screen, display cooling capacity, air volume real-time, easy O&M
- Fault self-diagnosis: remove irrelevant reason intelligently, guiding O&M engineer maintain quickly
- No welding maintain: Compressor and dry filter use Rotalock connection, no welding on maintenance



NetCol5000-A050H



Typical applications



DC inverter scroll compressor



EC fan

Technical Specification

Indoor Unit Technical Specification

Item	Unit	NetCol5000-A035H
Air Discharge Direction	-	Horizontal
Total cooling capacity ¹	kW	46.0
Sensible cooling capacity	kW	46.0
Air Volume	m ³ /h	9,000
Power supply	V/Ph/Hz	380/400/415Vac, 50/60Hz, 3Ph+N+PE
Refrigerant	-	R410A
Heating capacity	kW	6.0
Humidifier capacity	kg/h	3.0
Full Load Current		46
Dimensions: W*D*H	mm	600×1,200×2,000
Net Weight	kg	305

Notes:

- Nominal condition: indoor: return air temp. 37°C/RH20%, outdoor: 35°C.
- Heating and humidification function are optional.

Outdoor Air-cooled Condenser Technical Specification

Item	Unit	NetCol500-A060	NetCol500-A080	NetCol500-A0120
Power supply	V/Ph/Hz	Power supply from indoor unit		
Quantity of fans	pcs	1	2	2
Liquid pipe	in	Diameter 5/8 in		
Gas pipe	in	Diameter 7/8 in		
Dimensions: W*D*H	mm	1356×1094×1107	2186×1094×1107	2189×1356×1107

Notes: actual pipe size may vary

Outdoor Water-cooled Module Technical Specification

Item	Unit	NetCol500-W055
Power supply	-	220-240Vac, 50/60Hz, 1Ph+N+PE
Refrigerant Pipe	in	Gas pipe: 7/8; Liquid pipe: 5/8
Water Pipe	-	Inlet/outlet: G1-1/2 internal screw
Full Load Current	A	0.15
Dimensions: W*D*H	mm	1510*262*530
Net Weight	kg	60

Notes: Pipe size in actual project may vary. NetCol500-A120 is a dual-system unit. Two indoor units are used together with one dual-system outdoor unit

In-row Chilled Water Cooling Product

NetCol5000-C

Introduction

NetCol5000-C is in-row cooling unit combined with chiller, pump and piping system to build a complete cooling system. It is configured with EC fan and installed between the IT racks, closely coupled with heat source for medium to high density DC. NetCol5000-C is an efficient, reliable and simple cooling product, helping to build the next generation green data center.

Application Scenarios

- Medium-large switch room
- Industry control room
- Computer room and prefabricated DC
- Standard test room and calibration center

Value & Features

Efficient

- High efficiency DC power module: Efficiency is up to 93%, unit's total rated power input is only 1.0 kW.
- High efficiency wet-film humidifier: isenthalpic humidification, saving up to 95% of energy compared with electrode humidifier.
- High efficiency heat exchanger: CFD simulation and field synergy improves heat transfer efficiency by 10%.

Reliable

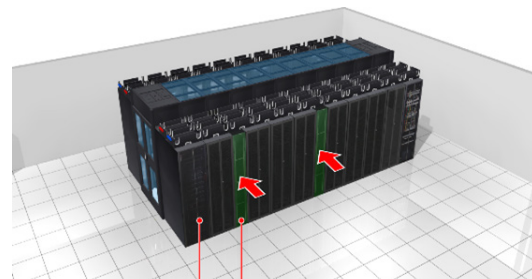
- Dual power sources: automatically switches to backup power source in case of power failure.
- Multi. EC fans: Mutual backup to ensures air flow rate in case of single fan failure. Continuous cooling output during fan maintenance.

Simple

- Multifunction self-diagnosis: analyze malfunction reason intelligently, guiding O&M engineer maintain quickly
- 7-inch LCD colored touch screen features innovative one-touch interface switch and provides temperature & humidity curves display of the last 30 days, bringing an excellent usage experience.



NetCol5000-C



IT Equipment 1 2 Smart Cooling

Typical applications



7 inch LCD true color touch screen



EC fan

Technical Specification

NetCol5000-C Technical Specification

Unit model	Unit	NetCol5000-C030H	NetCol5000-C032H
Air Discharge Direction	-	Horizontal	Horizontal
Total Cooling Capacity ¹⁾	kW	30.0	32.0
Sensible Cooling Capacity	kW	30.0	32.0
Air Flow Rate	m ³ /h	5,000	5,000
Power Supply	V/Ph/Hz	220-240/1/50(60)	220-240/1/50(60)
Water Flow Rate	l/s	1.5	1.6
Dimension: W × D × H	mm	300×1200×2000	300×1200×2200
Net Weight	kg	166	176

Unit Model	Unit	NetCol5000-C065H
Air Discharge Direction	-	Horizontal
Total Cooling Capacity ¹⁾	kW	65.0
Sensible Cooling Capacity	kW	65.0
Air Flow Rate	m ³ /h	10,000
Power Supply	V/Ph/Hz	220-240/1/50(60)
Water Flow Rate	l/s	3.2
Dimension: W × D × H	mm	600×1200×2000
Net Weight	kg	200

1. Cooling capacity condition: Return air dry bulb temperature 37°C/RH24%, inlet/outlet water temperature 10°C/15°C

In-room Air Cooled Cooling Product

NetCol8000-A

Introduction

NetCol8000-A is in-room air cooled smart cooling product, composed of indoor and outdoor unit, it adopts all-variable-frequency design, supports upflow and downflow to meets the cooling requirements for different computer rooms. It is usually deployed around the computer room, and supply the efficient, reliable and simple cooling solution for middle-small sized low power density computer room, helps to build next generation green data center.



NetCol8000-A

Application Scenarios

- Medium and large exchange room and data room
- Computer room and data center
- High-tech environment and lab
- UPS and battery room

Value & Features

Efficient

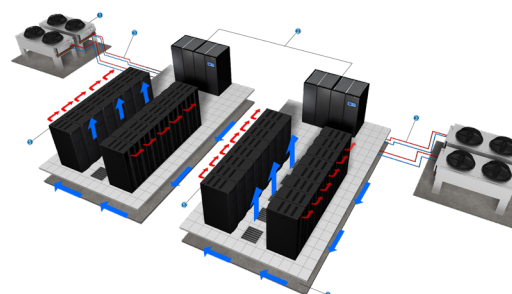
- All-variable-frequency design: Inverter compressor, EC fan and electronic expansion valve, saving 30% energy compared with fixed-frequency system
- iCooling algorithm: intelligently optimize operation, AEER can be increased by 8%+
- Wet-film humidifier: Without heating water, "0" power consumption for humidification

Reliable

- Refrigerant detection: AI algorithm detects the refrigerant content, generating charging prompt when the refrigerant is insufficient
- Stable operation: Reliable the dehumidification at minimum 10% load, eliminate condensation risk

Simple

- Intelligent display: Display key parameters real-time, promptly knows the unit running status
- Fault self-diagnosis: Intelligently locate the malfunction, guiding O&M engineer maintain quickly
- Fast installation for fan: No need for auxiliary tools, saving fan installation time 70%+



Typical Application



Inverter Compressor



7" Color Screen

Technical Specification

Indoor Unit Technical Specification

Unit Model	Unit	NetCol8000-A045D/U	NetCol8000-A060D/U	NetCol8000-A090D	NetCol8000-A120D
Air Discharge Direction	-	D: Downflow; U: Upflow			
Total Cooling Capacity	kW	45.0	60.0	90.0	120.0
Sensible Cooling Capacity	kW	45.0	60.0	90.0	120.0
Air Volume	m ³ /h	11,250	12,500	22,500	25,000
Power Supply	V/Ph/Hz	380/400/415/3Ph/50/60Hz			
Heating Capacity	kW	6	6	12	12
Humidifier Capacity	kg/h	4.5	6	10	10
Full Load Current	A	36(40)	41(45)	72(80)	82(90)
Dimension: W×D×H	mm	900*900*2000	1100*1000*2000	1800*1000*2000	2200*1000*2000
Net Weight	kg	355	480	643	850

1. Nominal condition: indoor return air 35°C/26%RH, outdoor 35°C.
2. The current data in brackets are applicable to the indoor unit with electric heater & humidifier (Optional).
3. NetCol8000-A045 and NetCol8000-A060 is a single-system unit. NetCol8000-A090 and NetCol8000-A120 is a dual-system unit.

Outdoor Condenser Technical Specification

Unit Model	Unit	NetCol500-A060	NetCol500-A080	NetCol500-A110	NetCol500-A120
Power Supply	V/Ph/Hz	Power supply from indoor unit			
Liquid Pipe Diameter	in	5/8	5/8	5/8	5/8
Gas pipe diameter	in	7/8	7/8	7/8	7/8
Full Load Current	A	2.5	4.5	7.0	5.0
Dimension:W×D×H	mm	1356×1094×1107	2186×1094×1107	2250×1100×1769	2189×1356×1107
NetWeight	kg	130	240	366	250

1. NetCol500-A060, NetCol500-A080 and NetCol500-A110 are single-system units. NetCol500-A120 is a dual-system unit.
2. A single-system indoor unit is used with a single-system outdoor unit; two single-system indoor units are used together with a dual-system outdoor unit; a dual-system indoor unit is used with two single system outdoor units; a dual-system indoor unit is used with a dual-system outdoor unit.

In-room Air Cooled Cooling Product

NetCol8000-A013U

Introduction

NetCol8000-A013U is composed of indoor and outdoor unit. Indoor unit is configured with scroll compressor, large surface evaporator, EC fan, wet-film humidifier and electric heater. The cooling capacity is 13kW, and it is commonly deployed around the equipment room. NetCol8000-A013U is an efficient, reliable and simple solution, which helps to build next generation green data center.



NetCol8000-A013U

Application Scenarios

- Data center power distribution room
- Small computer room
- Communication room

Value & Features

Efficient

- Full DC variable frequency design, cooling capacity stepless regulation, high efficiency at partial load
- Wet-film humidifier, save energy 95%+ compared with electrode humidifier

Reliable

- 6kV surge protection level, greatly reduces the risk of lightning strike
- Works stably at extremely ambient temperature, with less cooling capacity derating

Simple

- The unit is delivered with refrigerant for 30m long pipes, fast install on-site
- The connectors of indoor and outdoor unit adopt welding-free design, easy to install and maintain



Condenser Appearance

Technical Specification

Indoor Unit Technical Specification

Unit Model	Unit	NetCol8000-A013U
AirDischarge Direction	-	Upflow
Total Cooling Capacity ¹	kW	13.0
Sensible Cooling Capacity	kW	11.7
AirVolume	m ³ /h	3600
Power Supply Voltage	V/Ph/Hz	380-415/3/50(60)
Refrigerant	-	R410A
Heating Capacity ²	kW	4.0
Humidifier Capacity ²	kg/h	3.0
Dimension:W×D×H	mm	800×664×1886
NetWeight ²	kg	141(153)

1. Nominal cooling condition: Return air dry bulb temperature 24°C/RH50%, outdoor temperature 35°C.
2. The heating and humidification functions are optional.
3. The data in bracket is suitable for the unit with heater and humidifier.

Outdoor Condenser Technical Specification

Model	Unit	NetCol500-A022
Power Supply	V/Ph/Hz	220-240/1/50(60)
FanQuantity	-	2
Liquid Pipe Diameter	in	3/8 in (outer diameter)
Gas Pipe Diameter	in	3/4 in (outer diameter)
FullLoad Current	A	30
Dimension: W×D×H	mm	903×320×1325
Net Weight	kg	117

Notice: The pipe diameter is only for reference and it may be changed based on the actual configuration. If the pipe length is longer than 60m, please contact Huawei system engineer.

In-room Chilled Water Cooling Product

NetCol8000-C

Introduction

NetCol8000-C is the in-room chilled water smart cooling product developed by Huawei. A complete cooling system can be built by combining NetCol8000-C, chillers, water pumps and pipes. The cooling capacity ranges from 62 kW to 190 kW. The efficient, reliable and simple NetCol8000-C helps to build next generation green data center.



NetCol8000-C

Application Scenarios

- Medium-large switch room
- Industry control room
- Computer room and prefabricated DC
- Standard test room and calibration center

Value & Features

Efficient

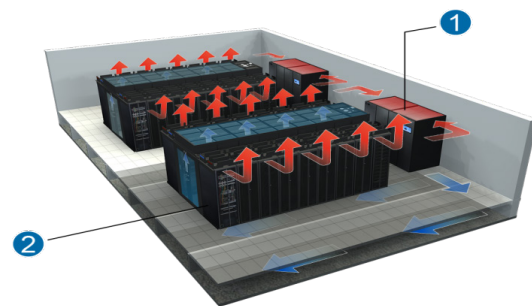
- **High efficiency wet-film humidifier:** Isenthalpic humidification, saving up to 95% of energy compared to electrode humidifier.
- **Pressure difference control:** Save 10%+ energy compared to EC fan with supply and return air control.

Reliable

- **Dual power sources:** Dual auto-switch power supply with independent dual 6kV surge protection and power detection. Continuous cooling power switch.
- **On-line maintenance:** Hot swappable for control module and auxiliary power module.

Simple

- **Malfunction self-diagnosis:** Analyze malfunction reason intelligently, guiding O&M engineer maintain quickly.
- **7-inch LCD colored touch screen** features innovative one-touch interface switch and provides temperature & humidity curves display of the last 30 days, bringing an excellent usage experience.



1. PAC
2. DC equipment



Hot swappable control module

Technical Specification

Model	Unit	NetCol8000-C070D	NetCol8000-C130D	NetCol8000-C190D
Air direction	-	Down flow	Down flow	Down flow
Total cooling capacity ^①	kW	63.2	126.4	189.6
Sensible cooling capacity	kW	51.4	102.8	154.2
Air flow	m ³ /h	13,500	27,000	40,500
Power supply	V/Ph/Hz	380-415/3/50, 380-415/3/60		
Water flow	l/s	3.02	6.03	9.05
Dimensions:W*D*H	mm	900*1000*2000	1800*1000*2000	2700*1000*2000
Net weight	kg	300	500	690

Model	Unit	NetCol8000-C070U	NetCol8000-C130U	NetCol8000-C190U
Air direction	-	Up flow	Up flow	Up flow
Total cooling capacity ^①	kW	61.9	123.8	185.7
Sensible cooling capacity	kW	50.3	100.6	150.9
Air flow	m ³ /h	13,200	26,400	39,600
Power supply	V/Ph/Hz	380-415/3/50, 380-415/3/60		
Water flow	l/s	2.95	5.91	8.86
Water pressure drop	kPa	60.5	82.6	92.7
Dimensions:W*D*H	mm	900*1000*2000	1800*1000*2000	2700*1000*2000
Net weight	kg	294	546	786

Note:

1. Cooling capacity condition: Return air dry bulb temperature 24℃/RH50%, inlet/outlet water temperature 7℃/12℃, ESP: 20Pa

In-room Chilled Water Cooling Product

FusionCol8000-C

Introduction

FusionCol8000-C is the in-room chilled water smart cooling product developed by Huawei. A complete cooling system can be built by combining FusionCol8000-C, chillers, water pumps and pipes. FusionCol8000-C is an efficient, reliable and simple cooling product, helping to build the next generation green data center.

Application Scenarios

- Medium-large switch room
- Industry control room
- Computer room and prefabricated DC
- Standard test room and calibration center

Value & Features

Efficient

- High chilled water temperature up to 20 °C for lower PUE.
- iCooling@AI, PUE<1.45@middle East, annual saving 88k\$
- High efficiency wet-film humidifier: Isenthalpic humidification, saving up to 95% of energy compared to electrode humidifier.

Reliable

- Enhanced fan reliability by separating motor and driver.
- Dual power sources: Dual auto-switch power supply with independent dual 6kV surge protection and power detection. Continuous cooling during power switch.
- On-line maintenance: Hot swappable for control module and auxiliary power module.

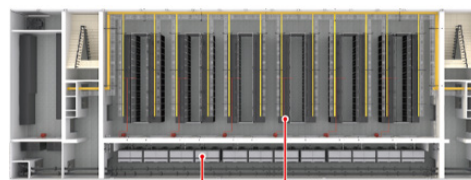
Simple

- Horizontal air flow. No need for raised floor.
- Malfunction self-diagnosis: Analyze malfunction reason intelligently, guiding O&M engineer maintain quickly.
- 7-inch LCD colored touch screen features innovative one-touch interface switch and provides temperature & humidity curves display of the last 30 days, bringing an excellent usage experience.

*Model: 6.5kW/R, 4MW, 50% load rate, 0.1 USD/(kW-h) , 2N UPS



NetCol8000-C



1. PAC
2. DC equipment

Typical Application Scenario



7 inch LCD true color touch screen



Hot swappable controller and power module

Technical Specification

NetCol8000-C Technical Specification

Model	Unit	NetCol8000-C070D
Air Flow direction	-	Horizontal
Total cooling capacity ¹⁾	kW	210.0
Sensible cooling capacity	kW	210.0
Air flow	m ³ /h	53,000 (up to 57,000)
Quantity of Fan	PCs	4
Air Filter Class	-	G4
Power Supply	V/Ph/Hz	380-415/3/50, 380-415/3/60
Humidification Capacity (Optional)	kg/h	10.0
Dimensions:W*D*H	mm	2350×1100×2450
Net weight	kg	1000

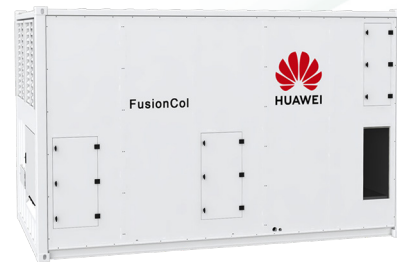
1. Cooling capacity condition: return air dry bulb temperature 36 °C/24% RH, inlet/outlet water temperature 20 °C/28 °C.

Modular Indirect Evaporative Cooling

NetCol8000-E

Introduction

FusionCol is an indirect evaporative cooling product launched by Huawei. Indirect evaporative cooling technology can extend the free cooling time significantly, reduce the energy consumption of whole data center. Built in DX supplemental cooling system can support continuous cooling. All components include container body structure are prefabricated in the factory. Box transportation support rapid installation. Efficient, reliable and simple solution helps customer to build a green data center.



External

Application Scenarios

- ISP, IDC, EDC

Value & Features

Efficient

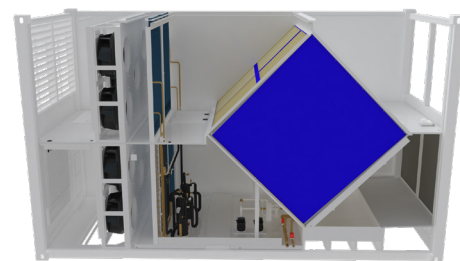
- "Fusion-iCooling" extend free cooling time, maximize the use of natural cold sources
- Intelligent recommendation of water-saving & power-saving mode
- Match IT load changes in real time, control air supply accurately
- High efficiency heat exchanger, $pPUE \leq 0.07^*$
- High efficiency EC fan, 30%-100% stepless adjustment

Reliable

- Redundant design of components and there is no single failure
- Support dual power input and continuous cooling
- Modular system design , faulted module isolation

Simple

- Container body design, factory pre-installation and pre-test, support fast delivery
- Supports automatic fault diagnosis and easy O&M



Internal

* Cooling Model:

- Location: London
- IT load: 12MW
- Load ratio: 50%

Technical Specification

Type	NetCol8000-E220	
Power specifications	380-415V/3PH/50/60Hz	
Total capacity /Sensible capacity(kW)	220/220	
Air Flow(m ³ /h)	55,000	
Added refrigerant (kW)	Model	DX
	Percentage	10%-50%
Temperature & Humidity	Supply Temp/Relative Humidity	25°C/50%
	Return Temp/Relative Humidity	38°C/25%
Filter(EN779)	Indoor	G4
	Outdoor	G2
Dimension (LxWxH)	Equipment(mmxmmxmm)	6058x2438x3600mm
	Air duct (optional)	5810x2020x800mm
Weight	Net weight/Running weight (without air duct) (kg)	Enhanced type:5,750/6,300
Altitude	Range: 0-4000m, not derated below 1000 m	
Communication	FE, RS485	
Certification	CE/ Eurovent/ RoHS/ REACH/ WEEE	

(Note: Cooling capacity: Indoor return air temp.38 °C (dry bulb), air supply temp 25°C (dry temp)

4

Digital Maintenance and Intelligent Data Center Infrastructure Management System



Operation



Data Center Infrastructure Management System

iManager NetEco6000

Introduction

The NetEco6000 is a next-generation data center infrastructure management system developed and continuously evolved by Huawei. It is dedicated to providing an innovative and leading intelligent O&M solution for data centers to maximize the efficiency and value of data centers.



Application Scenarios

- Micro/Small-sized data center, medium- and large-sized data center, outdoor prefabricated data center

Value & Design Concept

Digital Visualization

- Micro/Small-sized data center, medium- and large-sized data center, outdoor prefabricated data center

Autonomous Maintenance

- Digital and intelligent O&M, improve O&M quality and efficiency, and save O&M costs by 35%.

Intelligent Operation

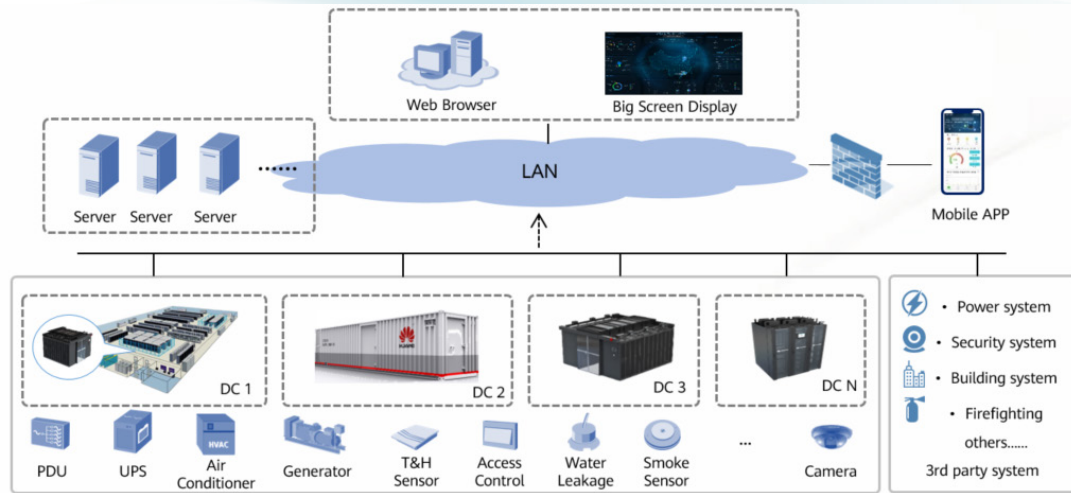
- Asset life cycle management, intelligent capacity planning, and increase resource utilization by 20%.

AI PUE Optimization

- iCooling@AI solution enable energy efficiency optimization, reducing PUE by 8%-15%



Digital Maintenance



Product Features

Features Overview

Category	License	Features	Group
Basic features	NA	Device Monitoring, Big Screen Display, Alarm Management, Power Link Visualization, Cooling Link Visualization, Report Management.	
Platform Interface	Northbound Interface	Device/ System Integration.	Digital Visualization
	Southbound Interface		
Optional Features	3D view	3D Visualization	Autonomous Maintenance
	Temperature Nephogram	Temperature Nephogram	
	Predictive Maintenance of Power Link	Predictive Maintenance of Power Link	
	E-Inspection	Electronic Inspection, App O&M, Risk Management	
	Electronic O&M	Conserve, Repair Management, O&M Process Management, Routine Drill, Entry and Exit Registration, Knowledge Base.	Intelligent Operation
	Shift Management	Shift Management.	
	Supplier Management	Supplier Management.	
	Asset Management	Asset management, Warehouse Management.	AI PUE Optimization
	Capacity Management	Capacity Management, U Space Management.	
	Tenant Management	Tenant management	
Energy Efficiency Management	Energy Efficiency Analysis.		
Cooling Optimization	Cooling Optimization.		

Digital Visualization Module

Feature	Description	Advantage	Specification
Device Monitoring	Real-time monitoring of data center infrastructure.	Topology of the power and cooling system.	<ul style="list-style-type: none"> Monitor data center infrastructure in real time, such as power equipment, cooling equipment, sensors, etc. Can centrally manage multiple data centers.
Big screen display	Display the KPI on the splicing LCD.	Professional customized big screen	<ul style="list-style-type: none"> You can flexibly display the alarm, energy efficiency, capacity and O&M dashboards on the big screen Support custom development of big screen.
Alarm Management	Viewing and Handling Alarms	Alarm masking rules that support multiple conditions.	<ul style="list-style-type: none"> Supports alarm browsing, query, masking, redefinition and threshold setting. Notification methods include SMS, phone and mail. Supports the expert experience library to record alarm handling experience and suggestions.
Power Link Visualization	Displays the operating status of the power system.	Accurately locate problems and reduce repair time	<ul style="list-style-type: none"> Automatically generate power links, which can be customized and show power flow. You can click the device or alarm icon on the link to quickly jump to view.
Report Management	Statistics and analysis of platform data.	Supports report customization and create scheduled report tasks.	<ul style="list-style-type: none"> Built-in report templates, such as asset reports, capacity reports, energy consumption reports, etc. The content, logo, etc. of the report can be customized. Reports can be sent to designated users regularly.
3D Management	Provides a 3D view of the data center.	Built-in 3D engine, 2D/3D view one-click switching.	<ul style="list-style-type: none"> Provides 3D views of data center, smart modules and cabinets. Automatically generate 3D view based on 2D layout. Provide 3D capacity view and 3D temperature map.
Temperature Nephogram	Temperature distribution in the data center.	The data is accurate, which is collected by the sensor in real time.	<ul style="list-style-type: none"> Three-layer temperature maps are supported, automatically identifying top 5 hot and cold spots.
Device/System integration	Integration with 3rd party systems.	Pre-integrated with many 3rd party systems	<ul style="list-style-type: none"> Provides southbound and northbound interfaces. Monitors performance and alarm information reported by system. Pre-integrated with many systems for fast delivery.

Product Features

Autonomous Maintenance Module

Feature	Description	Advantage	Details
Predictive Maintenance of Power Link	AI technology is used to predict the busbar and terminal temperature of the power distribution cabinet in the power module.	AI-based dynamic load prediction to identify risks in advance and prevent accidents.	<ul style="list-style-type: none"> • Preset temperature curve model, which supports AI deep learning. • The system provides fault early warning and alarm analysis by detecting real-time temperature, current and other parameters of the power distribution cabinet in the power module.
Electronic Inspection	Electronic and mobile routine inspection of equipment rooms.	Provide inspection templates, share expert experience, and reduce inspection skill requirements.	<ul style="list-style-type: none"> • You can plan inspection tasks and create inspection templates, such as inspection content, sequence, methods, reference values, and notes. • Receive inspection tasks on the APP and obtain details through QR codes or NFC to restrict the inspection. • Inspection reports can be generated.
App O&M	Remote access through mobile phones.	APP permission control, support offline data cache.	<ul style="list-style-type: none"> • View alarms, PUE and device parameters on the APP. • Supports viewing and processing O&M tasks. • Supports asset entry, binding, verification and audit.
Risk Management	Track and handle data center risks.	Closed-loop risk management and hierarchical review.	<ul style="list-style-type: none"> • Create risk tickets based on abnormal inspection items. • Support closed-loop tracking and hierarchical approval of risks.
Conserve	Routine conservation of equipment.	Conservation statistics and conservation calendar.	<ul style="list-style-type: none"> • Conserve tasks can be created, processed, and Tracked. • Guidance can be created to avoid human error. • Provide maintenance statistics and calendar.
Repair Management	Track and handle the repair process.	Operation instructions for repair to avoid manual errors.	<ul style="list-style-type: none"> • Repair tasks can be created, approved and urged. • Track the status of repair orders throughout the process, such as regularly pushing repair status.
O&M Process Management	Provide O&M process management according to ITIL	O&M process can be customized.	<ul style="list-style-type: none"> • Including problems, incidents, changes and other processes, which supports the creation, approval, processing and tracking of work orders. • Support status statistics and trend analysis of processes such as problems, events, and changes. • You can define process nodes and approvers, etc.
Routine Drill	Drilling of various emergencies	The template for emergency drills can be customized.	<ul style="list-style-type: none"> • Supports emergency drill planning, start tasks regularly and remind users, and track task status throughout. • Supports the trend statistics of emergency drill tasks.

Product Features

Feature	Description	Advantages	Specifications
Routine Drill	Drilling of various emergencies	The template for emergency drills can be customized.	<ul style="list-style-type: none"> Supports emergency drill planning, start tasks regularly and remind users, and track task status throughout. Supports the trend statistics of emergency drill tasks.
Entry and Exit Registration	Record the entry and exit of personnel and goods	Strict control of personnel and goods.	<ul style="list-style-type: none"> Supports entry and exit registration of basic personnel information, carrying goods, visiting areas and carriers. You can query historical records.
Knowledge Base	Share O&M experience, technical document, etc.	Expert review to ensure the quality of knowledge cases.	<ul style="list-style-type: none"> You can share the O&M experience, operation manuals and technical documents into the knowledge base. You can comment, share and collect knowledge cases.
Knowledge Management	Share O&M experience, technical document, etc	Expert review to ensure the quality of knowledge cases.	<ul style="list-style-type: none"> You can share the O&M experience, operation manuals and technical documents into the knowledge base. You can comment, share and collect knowledge cases.
Shift Management	Personnel management and shift management.	Distribute O&M tasks automatically based on duty.	<ul style="list-style-type: none"> You can configure the basic information, shifts and groups of O&M personnel. Quickly view the duty information on the shift calendar. Provide duty plan and handover plan etc. Provide statistics and analysis of abnormal shifts.
Supplier Management	Supplier basic information and evaluation management.	You can customize the evaluation rules, content and tasks, etc.	<ul style="list-style-type: none"> Manage basic supplier information and categories. Supplier evaluation content and rules can be customized. Support the creation and scoring statistics of supplier evaluation tasks.

Intelligent Operation Module

Feature	Description	Advantages	Specifications
Asset Management	Manage on-rack and inventory assets.	Built-in IT equipment model library to manage the life cycle status of assets.	<ul style="list-style-type: none"> Provide life cycle management of assets, from storage, allocation, migration, maintenance to retirement. Allow users to customize asset attributes, such as model, department, maintenance information, etc. Supports the IT device model library and provides IT device model information of top N vendors in the recent three years.
Capacity Management	Statistical analysis of data center capacity resource usage.	Automatically identify U space, intelligent capacity planning.	<ul style="list-style-type: none"> Provide historical curve analysis, dashboard and capacity report of SPCN capacity usage. You can connect IT device, such as power connection with rPDU and network connection with switch. You can quickly find the best installation location based on SPCN, customer affiliation and business area. Supports interconnection with the ITSM system to obtain service requirement order information.

Product Features

Feature	Description	Advantages	Specifications
U space management	Automatically identify the location of IT device.	U space capacity management accuracy: 100%	<ul style="list-style-type: none"> Automatically identifies the positions of devices. Automatically collects the available capacity of each cabinet. Real-time and accurate tracking of asset changes.
Warehouse management	Manage the equipment, spare parts, consumables, and tools.	Manage assets in the warehouse and ensure the full lifecycle management of assets.	<ul style="list-style-type: none"> Asset inbound, outbound, and use processes. Support real-time statistics of inventory quantity, and give a prompt for spare parts and consumables with insufficient inventory.
Tenant Management	Manage data center tenants and resource leasing	Customer segment analysis, cabinet resources can be allocated to match co-lo scenario	<ul style="list-style-type: none"> Support the allocation, pre-allocation and resource statistics of area, cabinet and U-bit resources. Provide statistical analysis of rental rates and trends. Analyze the rental preferences of VIP customers and customer groups. Identifying tenants whose electricity consumption exceeds the limit and listing detailed records Identifies tenants whose leases expire or whose resource usage is high, facilitating precision marketing.

AI PUE Optimization Module

Feature	Description	Advantages	Specifications
Energy Efficiency Management	Statistical analysis of data center energy efficiency indicators	The calculation method of energy efficiency indicators can be customized, and different levels of PUE calculations are also provided	<ul style="list-style-type: none"> Support different levels of PUE and historical curve analysis such as data center, room and smart module. The threshold and reference value of PUE can be set, and an alarm is generated when PUE is too high. Electricity cost calculation supports multistep electricity price. Identify abnormal cPUE and energy consumption. Evaluate the energy consumption of the UPS and give suggestions on whether to sleep.
Cooling optimization	Adjust the cooling system through AI to reduce energy consumption.	iCooling technology based on AI algorithm	<ul style="list-style-type: none"> Dynamically adjust the state of the cooling system to reduce data center energy consumption by 8% to 15%. It is suitable for air-cooled chilled water system, water-cooled chilled water system, AHU, etc., and the system has been pre-integrated with multiple BMS



Huawei Digital Power

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