



— Stock code: 002518 —

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Kstar Industrial Park, Zhongkai Hi-Tech Industrial Zone, Huizhou, P.R. China.



Intelligent Outdoor Integrated Cabinets Solution

COMPANY PROFILE

Founded in 1993, Shenzhen KSTAR Science & Technology Co., Ltd (Stock Code: 002518) is a National Torch Plan Key High-tech Enterprise, and also a pioneer of UPS industrial and a total solution provider for Data Center Critical Infrastructure & Photovoltaic Inverter Systems in Mainland China. KSTAR is fully committed to the R&D and has been providing high-quality products with full service to over 90 countries and regions worldwide, leading the industrial development with innovation.



KSTAR Industrial Park at Zhongkai Hi-Tech Zone, Huizhou, China



KSTAR Industrial Park at Guanlan Fuyuan industrial Zone, Shenzhen, China



ISO9001



ISO14001



OHSAS18001



IECQ QC080000



Global Service Network



7 × 24 Response and Support



**31 Domestic Service Centers
172 Domestic Service Stations**



**National Customer Service Hotline:
400-700-9662**



**19 Overseas Technical Service Centers
40 Overseas Service Engineers**



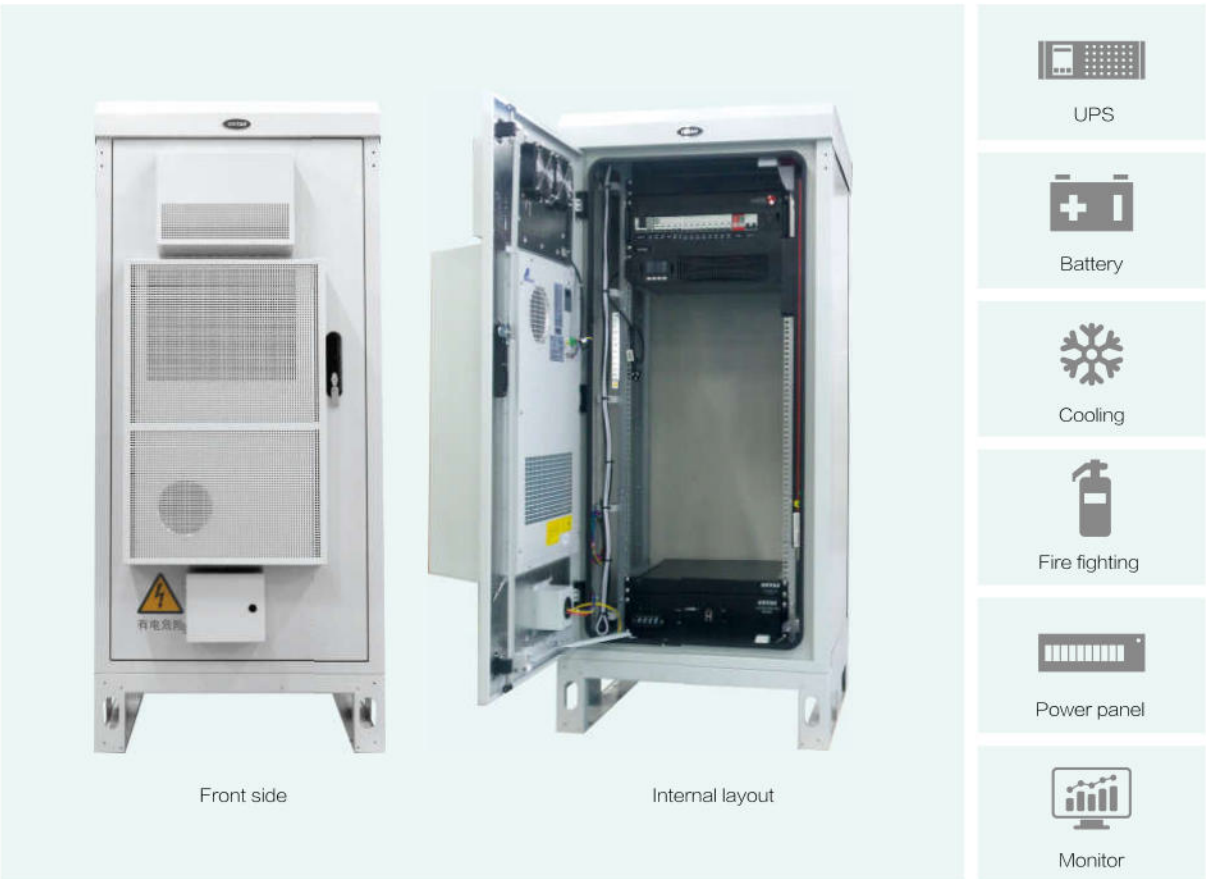
KSTAR Industrial Park at Guangming Hi-Tech Zone, Shenzhen, China



General introduction

Product Introduction

KSTAR intelligent integrated outdoor unit (IOU in abbreviation) consists of UPS, battery, fire-fighting, power panel and monitor unit, it reserves available space for IT equipment. IOU has the features that it includes power redundancy, constant cooling, Li - ion battery design, this increases the reliability of IT equipment.



Application

Application	Installation environment	Convenient maintenance
IOU can be used in the cell station of the remote area.	Outdoor installation, waterproof, dustproof, heat - resistant,steal-preventive.	High reliable power supply, long backup time, maintenance free, integrated monitor.

Product features

◎ Transformer-less UPS and transformer-based UPS are optional

- Rack-mounted 3KVA/6KVA transformer-less/ transformer -based UPS, the UPS can work in parallel and realize 1+1.
- Wide input voltage range and frequency, it can ensure the stable running of the generator.
- Transformer-based UPS is with the features that it can anti-impulse current, and it also contain output isolation

transformer inside ,that can increase the reliability and safety of power supply.



6KVA rack mounted tranformer-less UPS



3KVA rack mounted tranformer-based UPS



6KVA rack mounted tranformer-based UPS



Outdoor battery cabinet



Patent anti-leakage tray



Optional BMS

KSTAR Li – ion battery solution, it adopt KSTAR Li – ion battery cabinet, it's with the below features:

- High power density(Light weight and small dimension)
- Heat – resistant(Working temperature can be up to 45℃)
- Long life, environment friendly (cycle life of cell of Lithium iron phosphate is from 2000-6000, it's 4 to 5 times of lead acid battery)
- It includes self-developed battery management system(BMS), it' s with good compatibility and make the product more reliable.
- Maintenance free(Reduce the maintenance cost);
- Environment friendly and don't contain polluted metal such as lead.



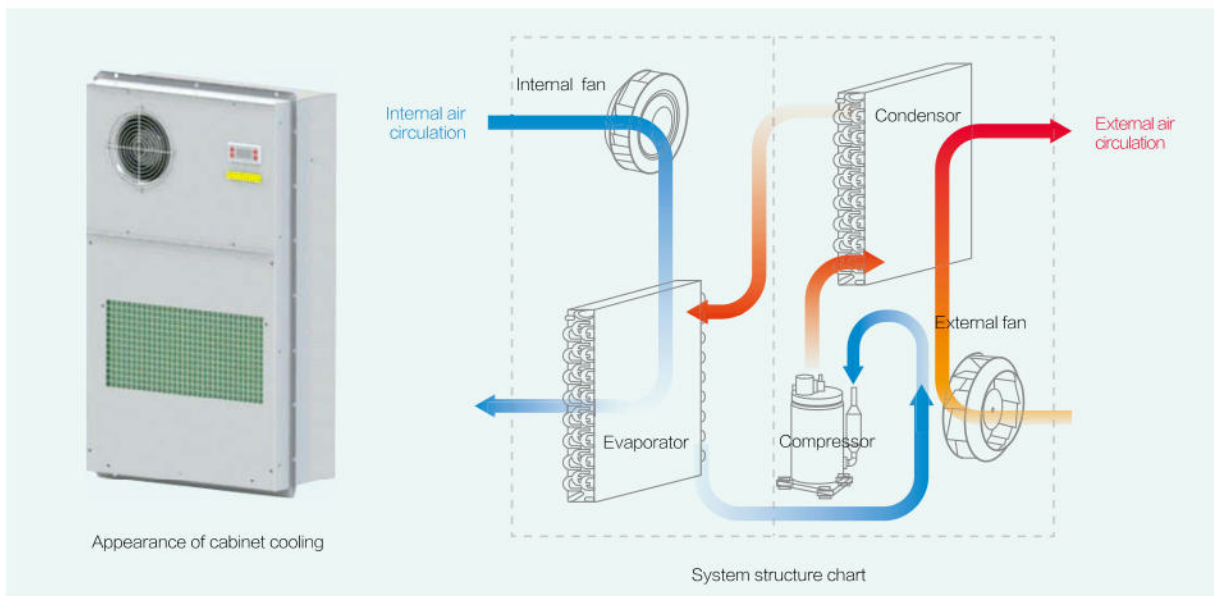
Rack mounted lithium battery pack

lithium battery /pack

Product introduction

◎ Cabinet cooling

- It's embedded in the door of IOU, it don't occupy the available space, and increase the available space for IT equipment.
- Single cabinet can be equipped with 1 or 2 air conditioner, the 2 air conditioner work as 1+1 redundancy, if one fails, the other can still work instead of the fault one immediately .
- AC/DC frequency conversion types air conditioners are optional. For 48V/dc frequency conversion type, low start current, and it is feed by UPS and will not affect by public grid.
- Working temperature range:-40~55℃ , wide temperature range for working.



◎ Rack mounted fire fighting

- It is special for data center, it's with FM200 suppression gas inside.
- Integrated with fire detection and fire extinguisher together.
- When it is working, it will release all the gas within 10 sec and put out the fire inside the cabinet immediately.
- Automatically temperature monitor, and it can set different alarm temperature.



◎ Rack mounted power panel module

- Rack mounted design;
- Customer can choose 2 paths design, one is for public grid, the other is for generator, fast connector for generator.
- Schneider brand breakers are standard equipment in the power panel module.
- C level surge protection for main input.
- Power monitor for the main input.



Intelligent monitor system

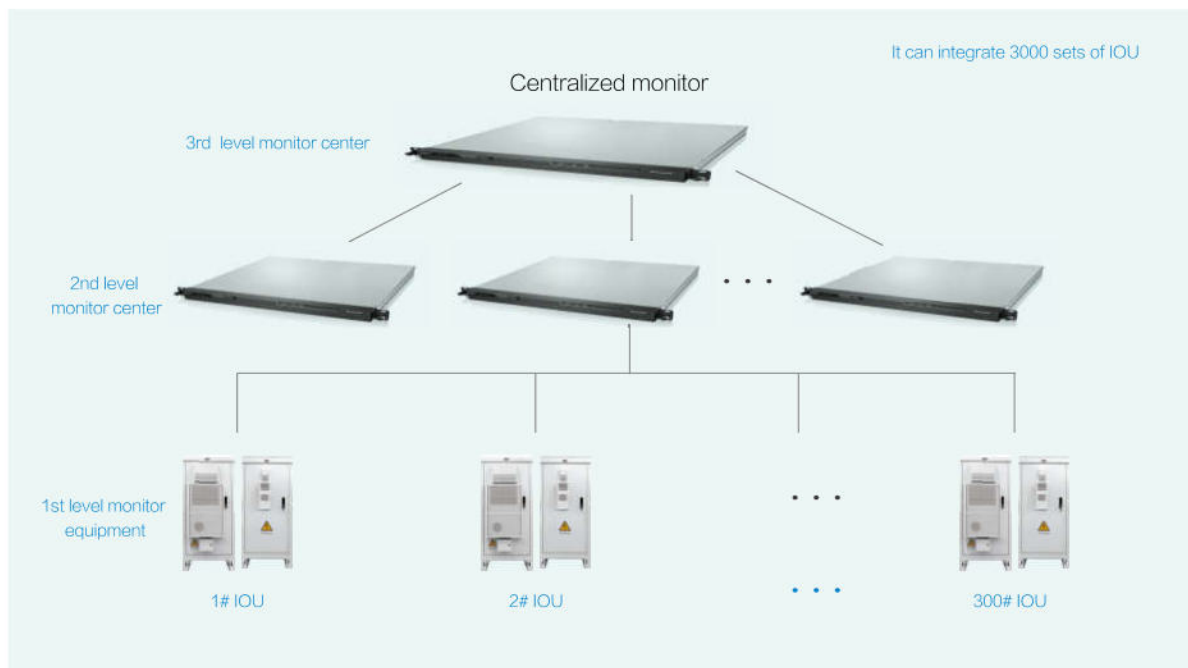
Monitor unit

- Power supply: dual power input, automatic transfer between two path when power failure.
- Large equipment access: 1 unit can integrated 50 equipment at most.
- Multi-level monitor: Multi-level integration can confirm the exactly quantity of IT equipment.
- Wifi hotspot: It support Wifi hotspot and can realized movable operation and maintenance.
- Easy to expand: reserve slot, it can expand IO port, switch card and telephone audible card.



Monitor software

- Software configuration: Customized software interface, no need to modify software code.
- Flexible : Support B/S and C/S browsing.
- Good compatibility: Compatible with the intelligent equipment from different supplier (UPS, cooling) , support series port communication, SNMP, MODBUS TCP.
- Friendly communication interface: Monitor system can supply Northbound Interface free, the third part can integrate monitor system throughSNMP and Web Service.



Cabinet of IOU

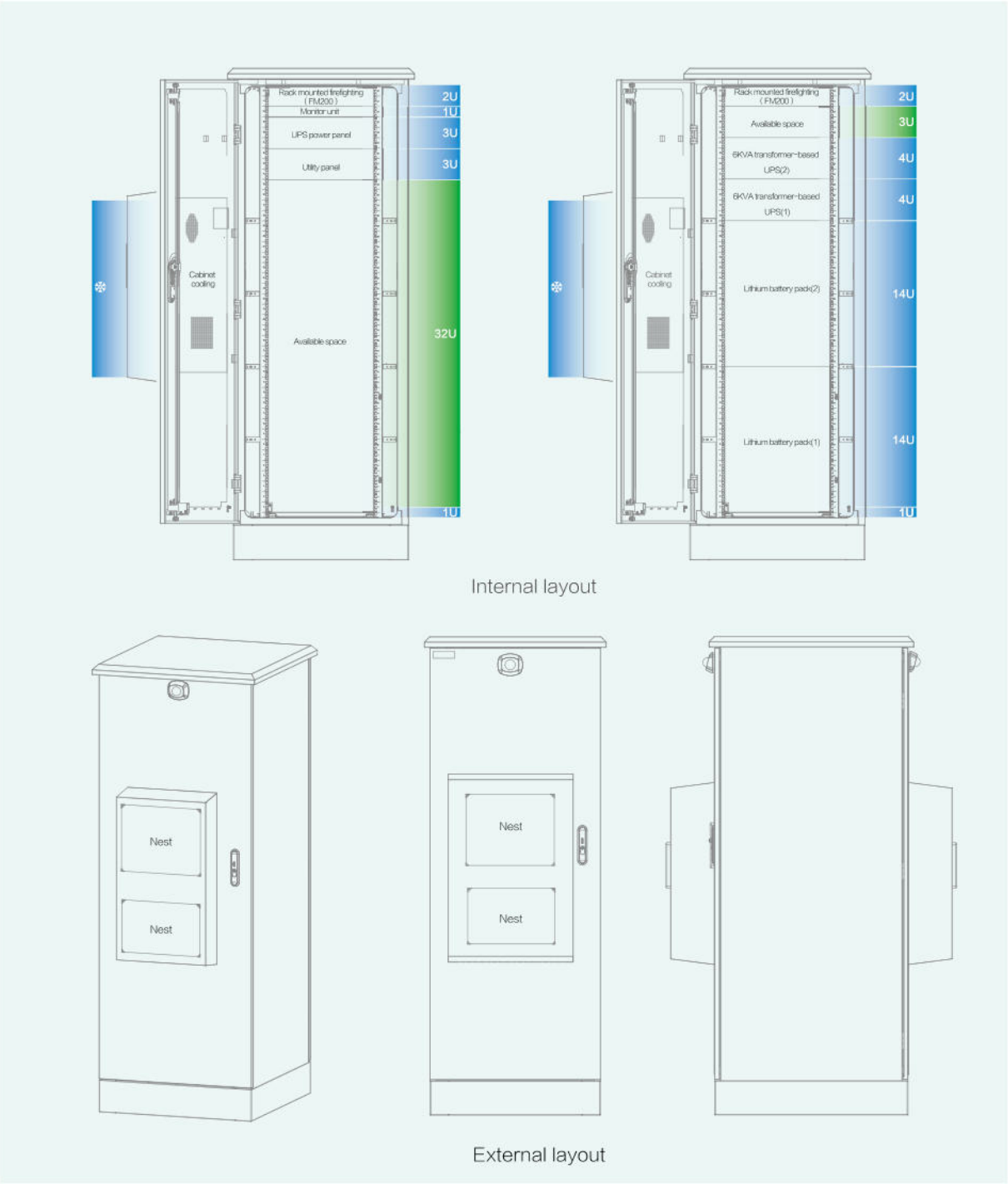
- IP55
- Sandwich panels (color steel plate + Polystyrene heat-insulating material)
- heat insulating material, the depth is 45mm.



Configuration

Configuration 1

· 6KVA transformer UPS(1+1) parallel + lithium battery



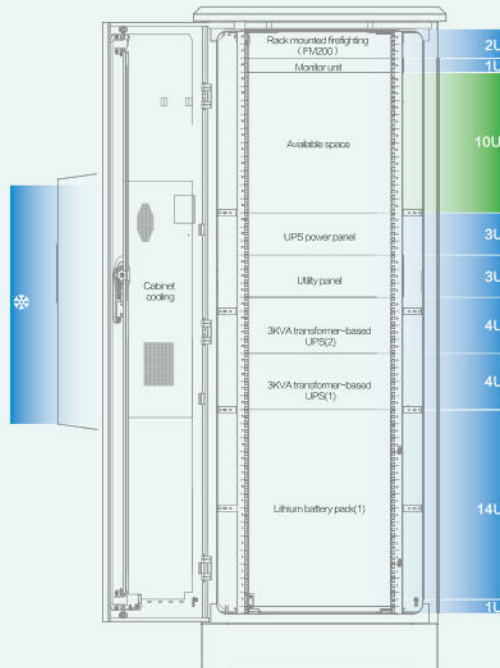
Specification

Subsystem	General introduction
General features	
Dimension (W×D×H) mm	750×850×2100
Quantity of cabinet	2
Power of single power module (kVA)	6
Reliability	Tier II or Tier II above
Installation	Deploy on flat ground
Power of single module	
6kVA	
USP system	
Input voltage range	220 or 230Vac, 50/60Hz, Single phase 3 wires (L+N+PE)
Output voltage range	220 or 230Vac
Output power factor	0.8
Rated capacity (kVA)	6, Single unit or 1+1 redundancy
Maintenance bypass	Support
Efficiency (%)	≥90
Lithium battery	192V50Ah (2group) ;3KW load, backup time 4 hours
Cooling system	
Cooling capacity (kW)	1.5 (Integrated cooling, support 1+1 redundancy)
Air flow	Front and forward return air, down and front supply air
Dimension (W×D×H) mm	479×200×783
Cooling type	Air cooling
Cabinet system	
Dimension (W×D×H) mm	750×850×2100
Available space	42U
Optional kits	Fixed plate, L type rack, heavy load plate, LED, Industrial connector(Connected with generator)
IP degree	IP55, Other IP degree can be customized
Power system	
Input voltage range	220 or 230Vac, 50/60Hz, single phase three wires (L+N+PE)
Input type	Single input/Dual input
Output branch	4 (Utility output) , 22 (UPS output) , can be customized
Surge protection	C level surge protection
Monitor system	
Alarm	SMS alarm, E-mail alarm, Audible and visual alarm (Optional) etc
Interface	Web browse, APP, Wechat public account
Function modules	Integrated management(UPS/Cooling/Power panel/ battery etc.), access control management, video management, alarm management. Environment management(TH, smoking sensor, water leakage detection)
Fire fighting	
Fire fighting module	FM200-J

Configuration

Configuration 2

- 3KVA transformer UPS(1+1) parallel + lithium battery



Internal layout



External layout

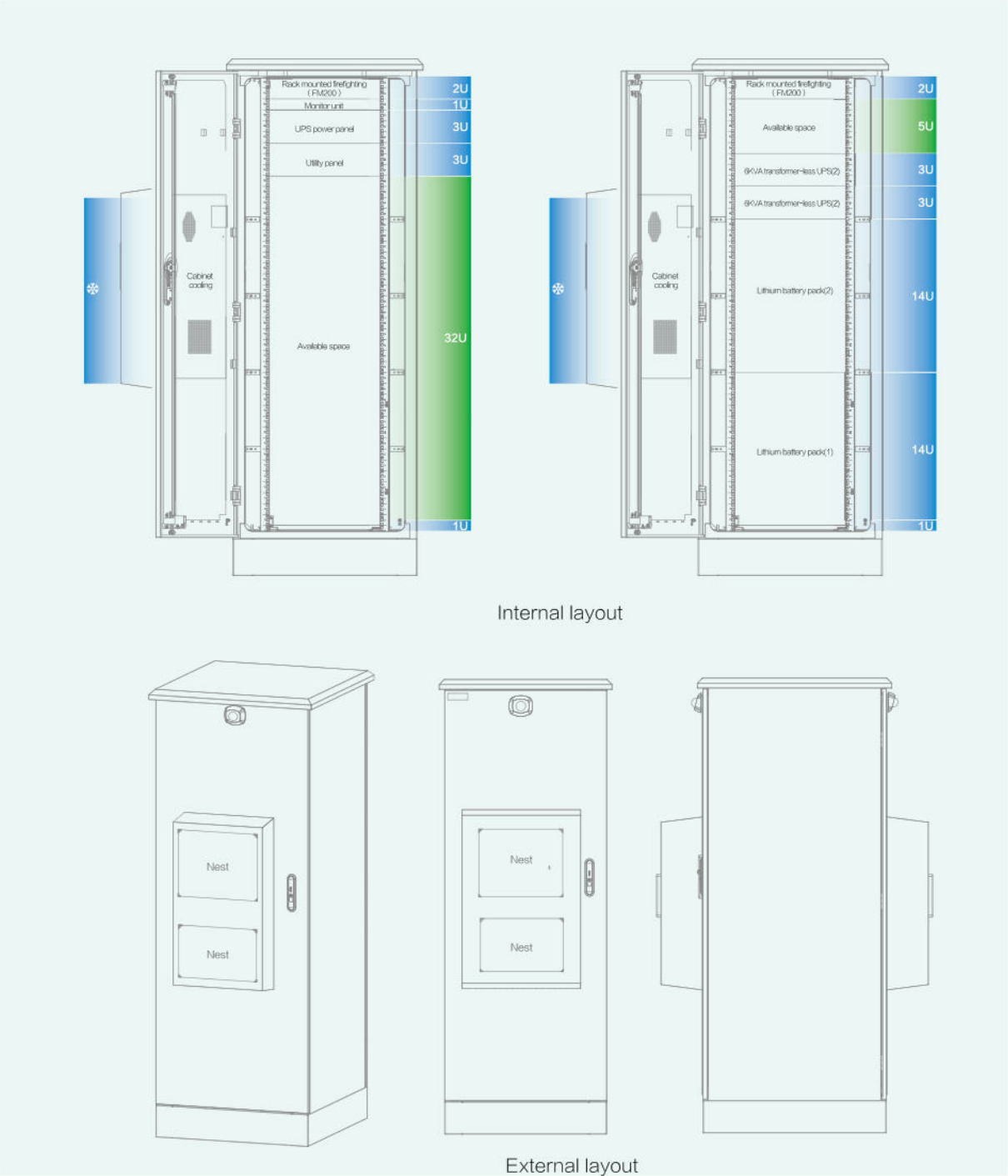
Specification

Subsystem	General introduction
General features	
Dimension (W × D × H) mm	750 × 850 × 2100
Quantity of cabinet	1
Power of single power module (kVA)	3
Reliability	Tier II or Tier II above
Installation	Deploy on flat ground
Power of single module	
3kVA	
USP system	
Input voltage range	220 or 230Vac, 50/60Hz, Single phase 3 wires (L+N+PE)
Output voltage range	220 or 230Vac
Output power factor	0.8
Rated capacity (kVA)	3, Single unit or 1+1 redundancy
Maintenance bypass	Support
Efficiency (%)	≥90
Lithium battery	192V50Ah; 2KW load, backup time 4 hours
Cooling system	
Cooling capacity (kW)	1.5 (Integrated cooling, support 1+1 redundancy)
Air flow	Front and forward return air, down and front supply air
Dimension (W × D × H) mm	479 × 200 × 783
Cooling type	Air cooling
Cabinet system	
Dimension (W × D × H) mm	750 × 850 × 2100
Available space	42U
Optional kits	Fixed plate, L type rack, heavy load plate, LED, Industrial connector(Connected with generator)
IP degree	IP55, Other IP degree can be customized
Power system	
Input voltage range	220 or 230Vac, 50/60Hz, single phase three wires (L+N+PE)
Input type	Single input/Dual input
Output branch	4 (Utility output) , 22 (UPS output) , can be customized
Surge protection	C level surge protection
Monitor system	
Alarm	SMS alarm, E-mail alarm, Audible and visual alarm (Optional) etc
Interface	Web browse, APP, Wechat public account
Function modules	Integrated management(UPS/Cooling/Power panel/ battery etc.), access control management, video management, alarm management. Environment management(TH, smoking sensor, water leakage detection)
Fire fighting	
Fire fighting module	FM200-J

Configuration

Configuration 3

- 6KVA transformer-less UPS(1+1) parallel + lithium battery



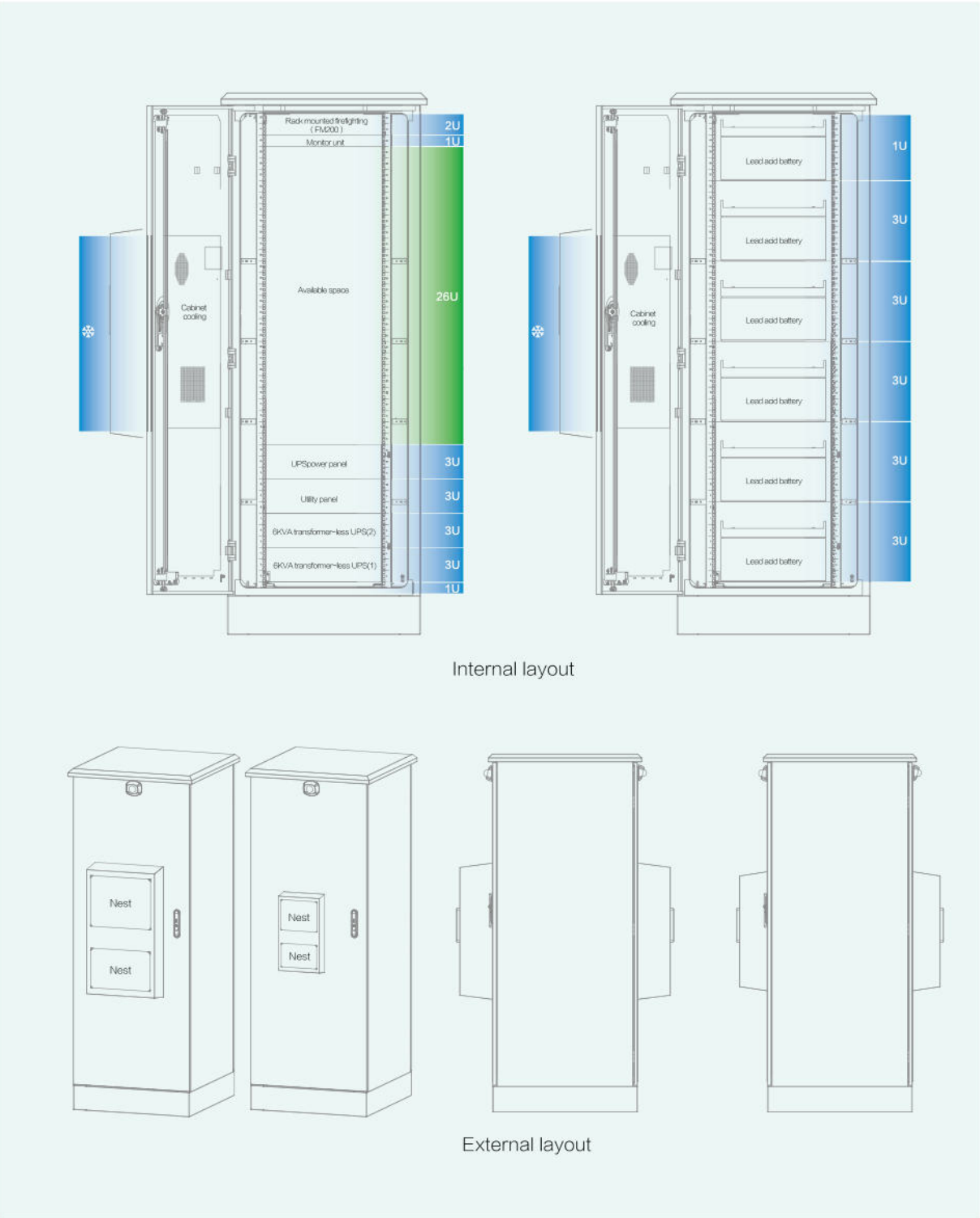
Specification

Subsystem	General introduction
General features	
Dimension (W×D×H) mm	750×850×2100
Quantity of cabinet	2
Power of single power module (kVA)	6
Reliability	Tier II or Tier II above
Installation	Deploy on flat ground
Power of single module	6kVA
USP system	
Input voltage range	220/230 or 240Vac, 50/60Hz, Single phase 3 wires (L+N+PE)
Output voltage range	220/230 or 240Vac
Output power factor	0.8
Rated capacity (kVA)	6, Single unit or 1+1 redundancy
Maintenance bypass	Support
Efficiency (%)	≥90
Lithium battery	±96V50Ah (2group) ;3KW load, backup time 4 hours
Cooling system	
Cooling capacity (kW)	1.5 (Integrated cooling, support 1+1 redundancy)
Air flow	Front and forward return air, down and front supply air
Dimension (W×D×H) mm	479×200×783
Cooling type	Air cooling
Cabinet system	
Dimension (W×D×H) mm	750×850×2100
Available space	42U
Optional kits	Fixed plate, L type rack, heavy load plate, LED, Industrial connector(Connected with generator)
IP degree	IP55, Other IP degree can be customized
Power system	
Input voltage range	220/230 or 240Vac, 50/60Hz, single phase three wires (L+N+PE)
Input type	Single input/Dual input
Output branch	4 (Utility output) , 22 (UPS output) , can be customized
Surge protection	C level surge protection
Monitor system	
Alarm	SMS alarm, E-mail alarm, Audible and visual alarm (Optional) etc
Interface	Web browse, APP, Wechat public account
Function modules	Integrated management(UPS/Cooling/Power panel/ battery etc.), access control management, video management, alarm management. Environment management(TH, smoking sensor, water leakage detection)
Fire fighting	
Fire fighting module	FM200-J

Configuration

Configuration 4

- 6KVA transformer-less UPS(1+1) parallel + lead acid battery



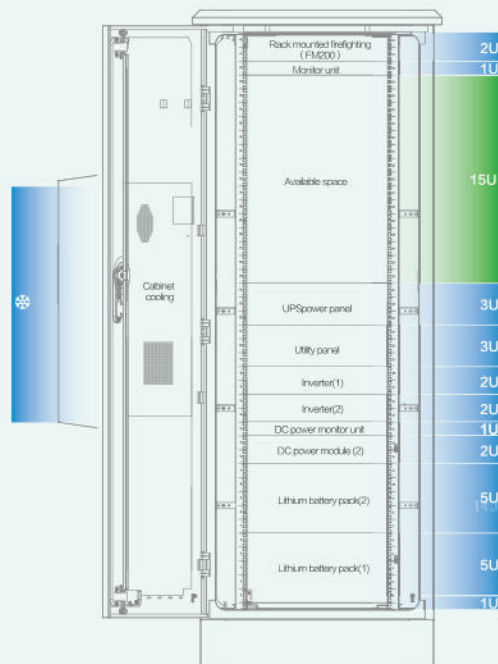
Specification

Subsystem		General introduction	
General features			
Dimension (W×D×H) mm	750×850×2100		
Quantity of cabinet	2		
Power of single power module (kVA)	6		
Reliability	Tier II orTier II above		
Installation	Deploy on flat ground		
Power of single module		6kVA	
USP system			
Input voltage range	220/230 or 240Vac, 50/60Hz, Single phase 3 wires (L+N+PE)		
Output voltage range	220/230 or 240Vac		
Output power factor	0.8		
Rated capacity (kVA)	6, Single unit or 1+1 redundancy		
Maintenance bypass	Support		
Efficiency (%)	≥94		
Lithium battery	±96V100AH ;3KW load, backup time 4 hours		
Cooling system			
Cooling capacity (kW)	1.5 (Integrated cooling, support 1+1 redundancy)		0.5(Integrated cooling, support 1+1 redundancy)
Air flow	Front and forward return air, down and front supply air		
Dimension (W×D×H) mm	479×200×783		319X175x550
Cooling type	Air cooling		
Cabinet system			
Dimension (W×D×H) mm	750×850×2100		
Available space	42U		
Optional kits	Fixed plate, L type rack, heavy load plate, LED, Industrial connector(Connected with generator)		
IP degree	IP55, Other IP degree can be customized		
Power system			
Input voltage range	220/230 or 240Vac, 50/60Hz, single phase three wires (L+N+PE)		
Input type	Single input/Dual input		
Output branch	4 (Utility output) , 21 (UPS output) , can be customized		
Surge protection	C level surge protection		
Monitor system			
Alarm	SMS alarm, E-mail alarm, Audible and visual alarm (Optional) etc		
Interface	Web browse, APP, Wechat public account		
Function modules	Integrated management(UPS/Cooling/Power panel/ battery etc.), access control management, video management, alarm management. Environment management(TH, smoking sensor, water leakage detection)		
Fire fighting			
Fire fighting module	FM200-J		

Configuration

Configuration 5

- DC power module(1+1) parallel + lithium battery + 3KVA inverter (1+1) parallel



Internal layout



External layout

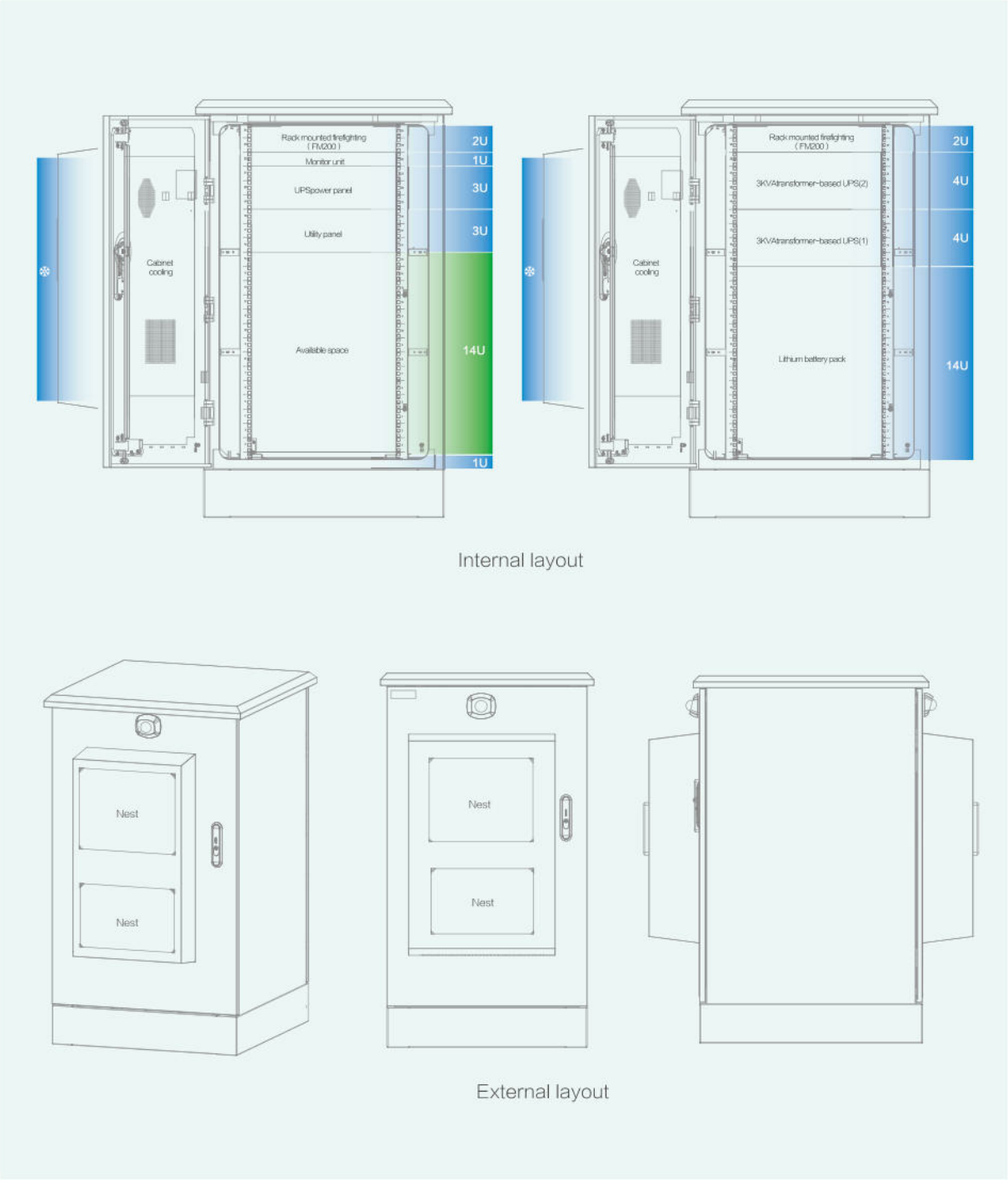
Specification

Subsystem	General introduction
General features	
Dimension (W×D×H) mm	750×850×2100
Quantity of cabinet	1
Power of single power module (kVA)	3
Reliability	Tier II or Tier II above
Installation	Deploy on flat ground
Power of single module	
3kVA	
USP system	
Input voltage range	220/230 or 240Vac, 50/60Hz, Single phase 3 wires (L+N+PE)
Output voltage range	42 ~ 58Vdc; Rated voltage 53.5Vdc
Output current(A)	50
Efficiency(%)	≥ 95
Lithium battery	48V100Ah(2 group); 2KW load, backup time 4 hours
Inverter	
Input voltage	48Vdc
Output voltage	220Vac
Output power factor	0.8
Rate capacity(KVA)	3
Efficiency(%)	≥ 85
Cooling system	
Cooling capacity (kW)	1.5 (Integrated cooling, support 1+1 redundancy)
Air flow	Front and forward return air, down and front supply air
Dimension (W×D×H) mm	479×200×783
Cooling type	Air cooling
Cabinet system	
Dimension (W×D×H) mm	750×850×2100
Available space	24U
Optional kits	Fixed plate, L type rack, heavy load plate, LED, Industrial connector(Connected with generator)
IP degree	IP55, Other IP degree can be customized
Power system	
Input voltage range	220/230 or 240Vac, 50/60Hz, single phase three wires (L+N+PE)
Input type	Single input/Dual input
Output branch	4 (Utility output) , 15 (DC output) , 8 (Inverter output) , can be customized.
Input type	C level surge protection
Monitor system	
Alarm	SMS alarm, E-mail alarm, Audible and visual alarm (Optional) etc
Interface	Web browse, APP, Wechat public account
Function modules	Integrated management(UPS/Cooling/Power panel/ battery etc.), access control management, video management, alarm management. Environment management(TH, smoking sensor, water leakage detection)
Fire fighting	
Fire fighting module	FM200-J

Configuration

Configuration 6

- 3KVA transformer-base UPS (1+1) parallel + lithium battery



Specification

Subsystem	General introduction
General features	
Dimension (W×D×H) mm	750×850×2100
Quantity of cabinet	2
Power of single power module (kVA)	3
Reliability	Tier II or Tier II above
Installation	Deploy on flat ground
Power of single module	3kVA
USP system	
Input voltage range	220 or 230Vac, 50/60Hz, Single phase 3 wires (L+N+PE)
Output voltage range	220 or 230Vac
Output power factor	0.8
Rated capacity (kVA)	6, Single unit or 1+1 redundancy
Maintenance bypass	Support
Efficiency (%)	≥90
Lithium battery	192V50Ah; 2kW load, backup time 4 hours
Cooling system	
Cooling capacity (kW)	1.5 (Integrated cooling, support 1+1 redundancy)
Air flow	Front and forward return air, down and front supply air
Dimension (W×D×H) mm	479×200×783
Cooling type	Air cooling
Cabinet system	
Dimension (W×D×H) mm	750×850×2100
Available space	42U
Optional kits	Fixed plate, L type rack, heavy load plate, LED, Industrial connector(Connected with generator)
IP degree	IP55, Other IP degree can be customized
Power system	
Input voltage range	220 or 230Vac, 50/60Hz, single phase three wires (L+N+PE)
Input type	Single input/Dual input
Output branch	4 (Utility output) , 22 (UPS output) , can be customized
Surge protection	C level surge protection
Monitor system	
Alarm	SMS alarm, E-mail alarm, Audible and visual alarm etc
Interface	Web browse, APP, Wechat public account
Function modules	Integrated management(UPS/Cooling/Power panel/ battery etc.), access control management, video management, alarm management. Environment management(TH, smoking sensor, water leakage detection)
Fire fighting	
Fire fighting module	FM200-J

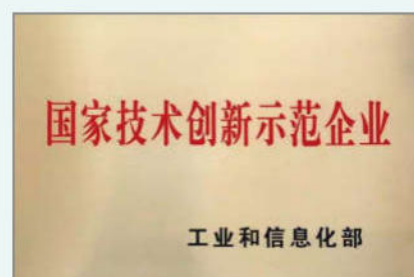
Certifications of Qualifications



Key Hi-Tech Enterprise of National Torch Plan



Nationally-Recognized Enterprise Technology Center



National Technological Innovation Demonstration Enterprise



Post-doctorate Scientific Research Station



Production License for Storage Battery



Production License for Precision Air Conditioner



A-Share Listed Company



ISO9001 Certification



ISO14001 Certification



OHSAS18001 Certification



IECQ QC080000 Hazardous Materials Process Management System Certification



Standing Member Unit of China
Power Supply Society



Model Enterprise of Integrity of
Guangdong Province



Pollutant Discharge License



Appraisal Certificate for
Informatization and
Industrialization Integration
Management System



Certification of Radio,
Film and Television



TLC Certification



Energy-Saving Certification



UL Certification



CE Certification