



HUAWEI DATA CENTER FACILITIES SOLUTIONS **CATALOGUE**



2. Modular Design, Beyond Reliability

Reliable



FusionPower series
**Smart Power
Solutions**

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.



30kVA Power Module @2U

Scenarios

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

Features

Simple

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

Green

- Compact design, saving the footprint by 50%
- 96% 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
- 138-485Vac ultra-wide input voltage range, suitable for the worst power grid



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 (305-485Vac for 100% load; 138-305Vac for 40%-100% load)			
	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) 512Vdc (Li-ion battery, Huawei SmartLi)			
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: 105%<load≤110% for 60 mins, then transfer to bypass mode; 110%<load≤125% for 10 mins, then transfer to bypass mode; 125%<load≤150% for 1 min, then transfer to bypass mode; load>150% for 200ms, then transfer to bypass mode;			
	Efficiency	Up to 96%			
Environment	Expandability	4			
	Operating Temperature	0-40°C			
	Storage Temperature	-40 to 70°C			
	Relative Humidity	0%-95% (No condensing)			
Others	Operating Altitude	0-1000m. Above 1000m, derating rate based on EN/IEC 62040-3			
	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.			
Communications		Dry contacts, RS485, SNMP			
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.					

UPS5000-E

(50-800 kVA)

INTRODUCTION

FusionPower Series UPS5000-E-(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.

APPLICATION SCENARIOS

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

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%

Green

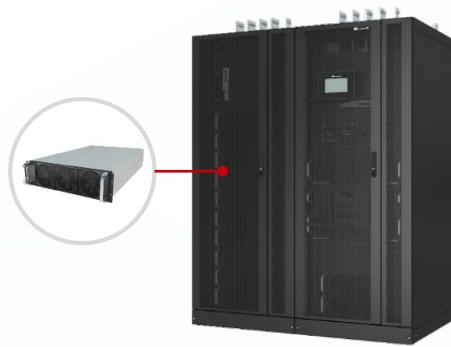
- 1 MW, 1 rack, saving the footprint by 50%
- Online mode: 97% system efficiency, high efficiency at light-load
- Smart online mode: 99% system efficiency, saving 140,000\$ in lifetime
- Smart online mode active filtering, optimal power quality

Smart

- iPower pre-warnings for key components by AI method
- Source share of main and battery achieves intelligent peak shaving, eliminating the reconstruction of grid.

Reliable

- Redundant architecture eliminates single point of failure
- Smart online mode: non-interruptible mode transferring.
- AI temperature prediction, eliminate the over temperature risk in light load



UPS5000-H-
400/500/600kVA

UPS5000-H-
800kVA



UPS5000-H-
1200kVA

UPS5000-H-
1600kVA

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
Display Unit	LCD Touchscreen	7 Inch LCD shows the status of system by line diagram.				
	Operation LED	There are status indicator on power modules, bypass module and monitor module.				
	Load Rate Display	load rate; Using percentage, remaining backup time for battery				
Environment	Operating Temperature	0~40°C				
	Storage Temperature	-40 to 70°C				
	Relative Humidity	0%~95% (No condensing)				
	Protection Class	IP20 (IP21 components is optional)				
	Operating Altitude	0~1000m. Above 1000m, derating rate based on EN/IEC 62040-3				
	Audible Noise	66~75dB				
Standard Features	Soft Start	Support, Configurable 0.5 to 120s				
	Cold Start	Support start without mains input				
	Communication Card	SNMP Card, Dry contact card				
	Emergency Stop (EPO)	Provide dry contact card for remote EPO switch				
Optional components	Battery Protection Box	PDU8000 series battery protection box, Controls the connection between battery strings and the UPS				
	Top air-flow cabinet	Used for top air exhaust and allows the UPS to be installed against a wall.				
	Ant seismic kit	Reinforces the cabinet to meet 9 degree seismic fortification intensity				
	IP21 component	Prevents water from dropping into the cabinet, protecting the cabinet to IP21.				
	Backfeed Protection Card	Detects mains and bypass backfeed and provides protection.				
	Dry Contact Extended Card	Provides extra five relay dry contact outputs and five signal input ports				
	Ambient Temperature and Humidity Sensor	Monitors the ambient temperature and humidity				
Others	Height × Width × Depth (mm)	2000 × 600 × 850	2000 × 1200 × 850	2000 × 1400 × 850	2000 × 2400 × 850	
	Weight (kg)	285~390	275~450	465~710	515~830	705~1090
	Certifications	EN/IEC 62040-1; EN/IEC 62040-2; EN/IEC 62040-3; CE; CB; RoHS, REACH, WEEE, EAC, RCM etc.				
	Communications	Dry contacts, RS485, SNMP				
Mains input	Mains input current (A)	355	533	711	889	1066
	Recommend cable size (mm ²) L1/L2/L3/N	2× (4×95)	2× (4×120)	2× (4×185)	3× (4×150)	3× (4×185)
	Recommended Circuit Breaker	400A/3P	630A/3P	800A/3P	1000A/3P	1250A/3P
Bypass input	Bypass input current (A)	304	456	608	760	912
	Recommend cable size (mm ²) L1/L2/L3/N	2× (4×95)	2× (4×120)	2× (4×185)	3× (4×150)	3× (4×185)
	Recommended Circuit Breaker	400A/3P	630A/3P	630A/3P	800A/3P	1000A/3P
Output	Output current (A)	304	456	608	760	912
	Recommend cable size (mm ²) U/V/W/N	2× (4×95)	2× (4×120)	2× (4×185)	3× (4×150)	3× (4×185)
	Recommended Circuit Breaker	400A/3P	630A/3P	630A/3P	800A/3P	1000A/3P
PE	Recommend cable size (mm ²)	95	150	240	240	240
	Maintenance Space	Front: 800mm, rear:500mm				

Remark:

- 1# UPS5000-E- 200K-SM (standard version, without main input and output switches) cloud support cable connection from both top and bottom of the UPS.
- UPS5000-E- 200K-FM (Full version, contains the mains, bypass and output switches) cloud support cable connection from top of the UPS, The bottom cable entry cabinet is optional.
- UPS5000-E- 300K-SM only support bottom cable connection, UPS5000-E- 300K-SMT only support top cable connection.
- 2# UPS5000-E standard version only support less than 4 UPS working parallel.

UPS5000-H

(400-1600kVA)

Introduction

UPS5000-H is Huawei's medium and 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. The S-ECO(Super ECO) mode achieves not only high efficiency and optimal power quality but also non-interruptible mode transferring.



Power Module: 100kVA/3U

Application Scenarios

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

Features & Value

Simple

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



UPS5000-H-
400/500/600kVA



UPS5000-H-
800kVA

Green

- 1 MW, 1 rack, saving the footprint by 50%
- Online mode: 97% system efficiency, high efficiency at light-load
- S-ECO mode: 99% system efficiency, saving 140,000\$ in lifetime
- S-ECO mode active filtering, optimal power quality



UPS5000-H-
1200kVA



UPS5000-H-
1600kVA

Smart

- iPower pre-warnings for key components by AI method
- Source share of main and battery achieves intelligent peak shaving, eliminating the reconstruction of grid.

Reliable

- Redundant architecture eliminates single point of failure
- S-ECO mode: non-interruptible mode transferring.

Specifications

Model		UPS5000-H-400/500/600k	UPS5000-H-800k	UPS5000-H-1200k	UPS5000-H-1600k
Capacity	Rack Capacity	400/500/600kVA(380/400/415Vac) 200/250/300kVA(200/208/210Vac)	800kVA	1200kVA	1600kVA
	Module number	2-4/2-5/2-6	2-8	2-12	2-16
Mains Input	Input Wiring	3Ph+N+PE			
	Rated Voltage	200/208/210/380/400/415Vac	380/400/415/480Vac	380/400/415Vac	
	Voltage Range	380/400/415V: 138-485Vac (100% load: 323-485V) 200/208/210V: 139-260Vac (100% load: 170-260V) 480V: 192-528Vac (100% load: 409-528V)			
	Frequency Range	40-70Hz			
	Total Harmonic Distortion	Normal mode: THDi<3% for 100% linear load S-ECO mode: THDi<3% for 100% linear load			
	Input Power Factor	Normal mode: 0.99; S-ECO mode: 0.99			
Bypass Input	Input Wiring	3Ph+N+PE			
	Rated Voltage	200/208/210/380/400/415Vac	380/400/415/480Vac	380/400/415Vac	
	Input Frequency	50/60±6Hz			
Battery	Rated Voltage	200/208/210Vac: 180-600Vdc (The number of VRLA can be selected from 15 to 50; 20 batteries rated, no battery neutral, support odd battery number); 380/400/415/480Vac: 360-600Vdc (The number of VRLA can be selected from 30 to 50; 40 batteries rated, no battery neutral, support odd battery number); 512Vdc(Huawei SmartLi)			
	Maximum charge capacity and current	Single power module: 15%, 30A			
	Battery Category	Huawei SmartLi, VRLA			
	Battery sharing	Support (VRLA)			
Output	Output Wiring	3Ph+N+PE			
	Voltage	200/208/210/380/400/415Vac±1%	380/400/415/480Vac±1%	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	Normal mode: Up to 97% S-ECO mode: Up to 99%			
	Source share mode	Support main input and battery joint operating			
	Parallel	4	4	3	1
Environment	Operating Temperature	0-40°C			
	Storage Temperature	-40-70°C			
	Relative Humidity	0%-95% (No condensing)			
	Operating Altitude	0-1000m. Above 1000m, derating based on EN/IEC 62040-3			
Others	Weight	580/690/800kg	1300kg	1500kg	1900kg
	Height*Width*Depth(mm)	2000*800*1000	2000*1600*1000	2200*1600*1000	2200*2400*1000
	Standards and certifications	Standards: EN/IEC 62040-1, EN/IEC 62040-2, EN/IEC 62040-3 Certifications: CE; CB; RoHS, REACH, WEEE, etc.			
	Communications ports and protocol	Communications ports: Dry contacts, RS485, FE Communications protocol: 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

Power Distribution Unit

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.



~~Application Scenarios~~

- Large datacenters
- Disasterrecovery Datacenter
- Enterprisedatacenters

Features

Reliable

- A fullrange of type tests, environmental tests and 9 intensityseismic tests to ensure high reliability
- Intelligent risk management,24hours key node temperaturereal- timedetection
- Modular design, standardized production, fully automated testing to ensure product reliability

Simple

- The monitoringmoduleand the outputswitch can be hot-swappable,which is easy to expandand maintain
- 7 inchLCD colortouchscreen,visualintelligentdetection,simpleman agement

Specifications

Items		Precision PDC (Standard)
Parameter	Rated voltage (V)	208/380/400/415
	Rated current (A)	160/250/400/630(optional)
	Rated frequency (Hz)	50/60
	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 ~ +40°C
	Storage temperature	-40°C ~ +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	<380kg
	Certification	CCC, CE, TLC



Huawei Digital Power

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