

## RM Series Modular Online UPS 25-600kVA (380V/400V/415V)

The RM series modular UPS provides the most compact footprint of less than 2m<sup>2</sup> with maximum capacity of 900kVA. With the best reliability and high performance, it has been leading the domestic market for years.

RM series is considered to be the best power protection solution for large data centers, as well as for sensitive electronics.



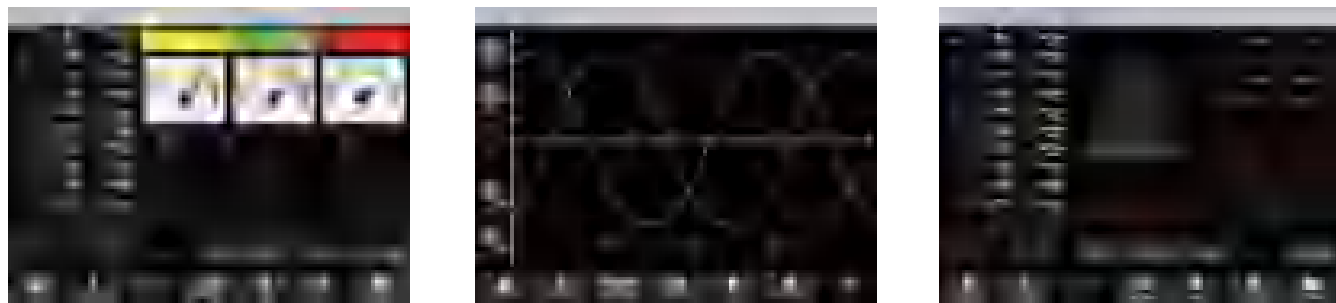
### Independent LCD for Each Power Module

Each power module has an independent LCD, giving users a direct overview of status data and alarms in real time.



### Friendly Interface

Providing graphical and text based information of alarms, status data, instructions so that users can have more friendly and safer operation.



### Isolated Air Flow

The dedicated and redundant hot-swappable power modules take the most unique structure design. In this design, the PCB boards and heat-sinkers are in two completely different layers, which allows the UPS run in dusty environments, significantly improving its stability and environmental adaptability.

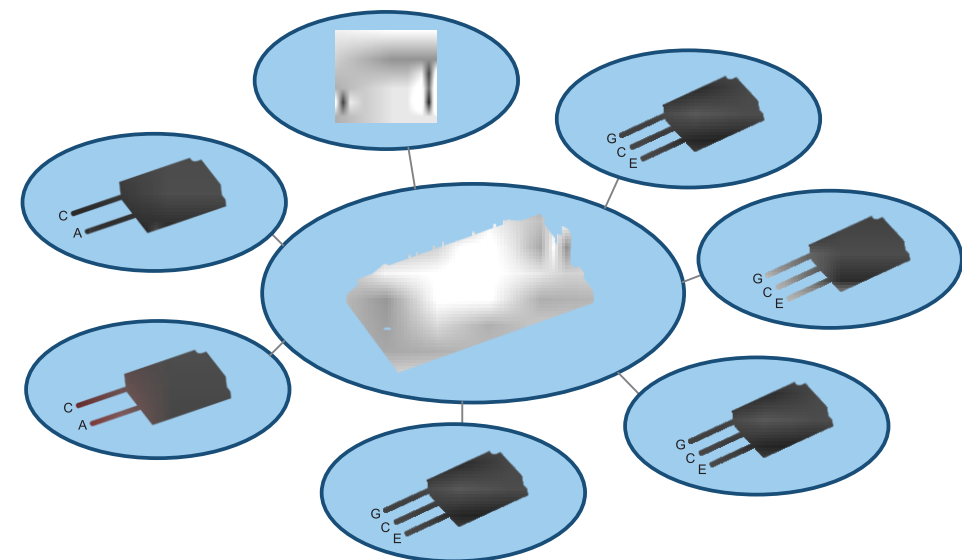
- Cooling air flows in the lower layer, keeping the upper PCB free of dust
- One air flow channel ensures fans redundancy, even one fan fails, power module can run normally



### Unique Design for High Reliability

Instead of discrete IGBT and SCR components, RM series UPS uses modular IGBT and SCR in Rectifier and Inverter, bringing in extremely high reliability.

- All components in one module, less fault points, higher reliability
- All components integrated as one modular design, smaller disparity
- Less space needed, UPS with compact design and higher power design
- Integrated inner thermal sensors display IGBT inner temperature directly



## High Density ,Modular, Scalable

- High power density, footprint for 300kVA is 0.66m<sup>2</sup>, power density 409kW/m<sup>2</sup>, saving valuable data center space
- Scalable from 30kVA to 900kVA, max 30 power modules in parallel

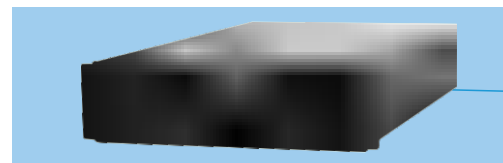


Three units in parallel

- Inherently N+X redundant
- Hot swappable power module and bypass & monitoring module
- Additional charging module, extra charging current 50A×N for long time back up application



Bypass & Monitoring module



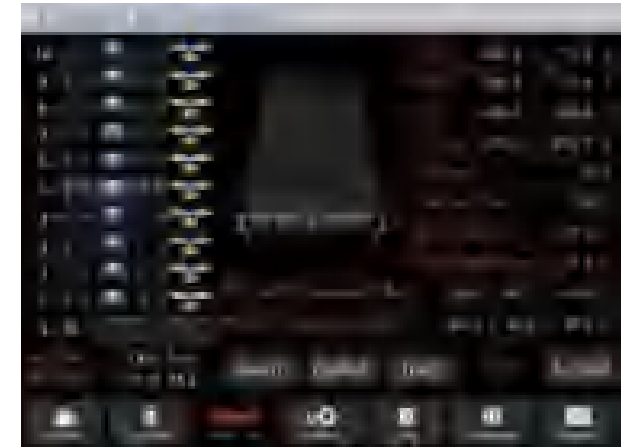
Power module



## Comprehensive Monitoring Management

In each power module, information of critical components is monitored and displayed in real time, giving customers a view of inner status of the system and providing reminder information for maintenance.

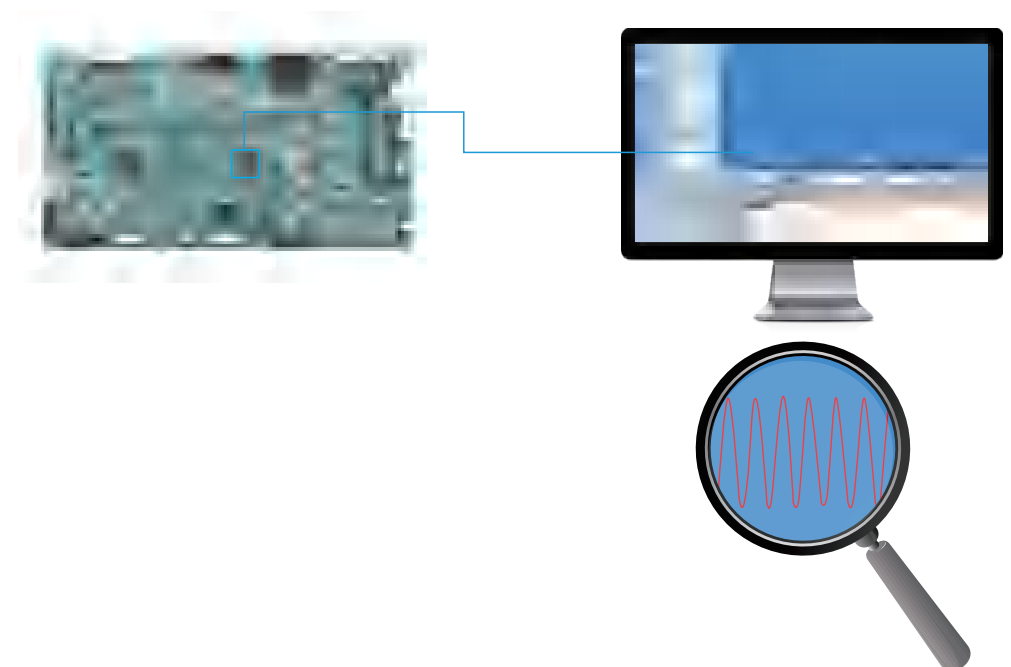
- Maintenance reminder, running time of capacitors and fans displayed and recorded
- Comprehensive temperature monitoring for thermal abnormal detection
- Intelligent battery charger for long battery life



## Critical Waveform Recording

UPS can record and save the data of the main parameters automatically when faults happen for further analysis.

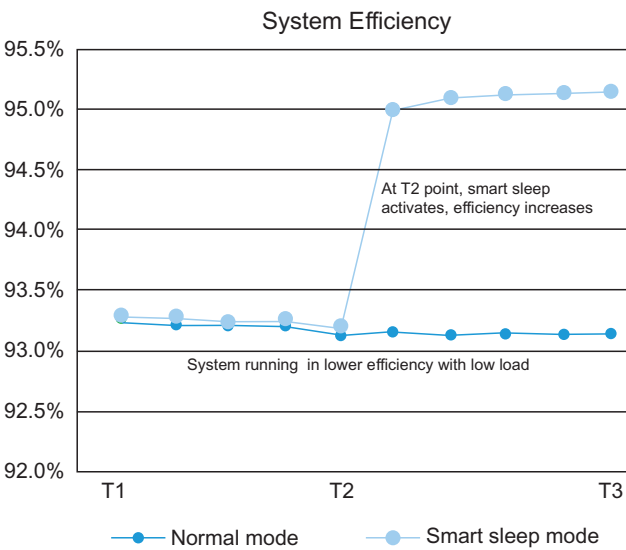
- Can record data information and present as waveform for further analysis
- Can easily spot the causes of the failures, avoid future similar faults



### Smart Sleep

Smart Sleep function can intelligently make some power modules go to sleep when load is relatively low, improving the efficiency of the remaining power modules and saving customers on power and cooling costs.

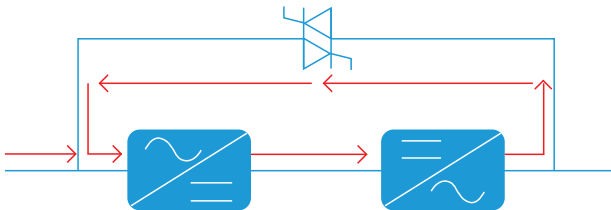
- Improving efficiency, reducing power and cooling costs
- Easy setting with just two steps. Customers can select sleep mode and rotation period
- Power modules working in rotation, prolong the life time



### Self-aging

Self-aging is an advanced function applied in all three phase UPS. Self-aging function can test UPS under different load situation without real load, saving more than 90% of energy.

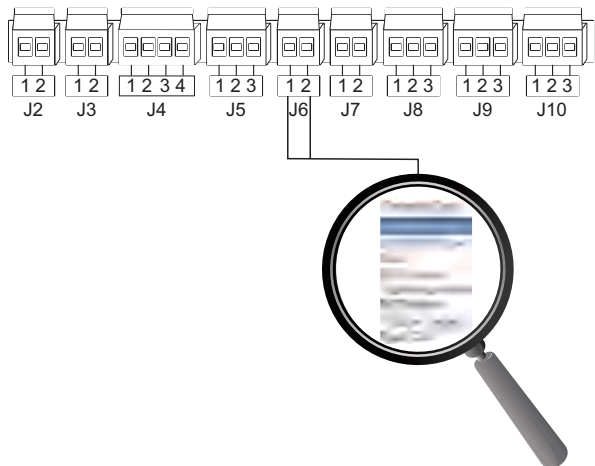
- Simulate different load conditions without connecting to any real load, saving 90% of energy
- On-site setting is supported, easy for factory testing



### Programmable Dry Contacts

Programmable dry contacts are available in all RM and HT33 series UPS. Customers can easily expand or modify the definition of each port.

- Abundant options with three inputs and four outputs, all programmable
- Easy setting, just pull the drop-down menu and set
- Compatible with all the RM and HT33



### Specification

MODEL			RM600/30X	RM300/30X	RM180/30X	RM500/25X	RM250/25X	RM150/25X
System Capacity			600kVA	300kVA	180kVA	500kVA	250kVA	150kVA
Power Module Capacity			30kVA/30kW			25kVA/25kW		
Input	Dual Input		Optional					
	Phase		3 Phase+Neutral+Ground, 380V/400V/415V (line-line)					
	Input Voltage Range		304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min. phase voltage					
	Rate Frequency		50/60Hz					
	Input Frequency Range		40Hz ~ 70Hz					
	Input PF		>0.99					
	Input THDi		<3% (100% Linear load)					
Bypass	Rate Voltage		380/400/415Vac (line-line)					
	Rate Frequency		50/60Hz					
	Input Voltage Range		Settable, -40% ~ +25%					
	Bypass Frequency Range		Settable, ±1Hz, ±3Hz, ±5Hz					
	Bypass Overload		110% long term operation; 125% for 5 mins; 150% for 1 min					
Output	Rate Voltage		380/400/415Vac (line-line)					
	Voltage Regulation		1% for balance load; 1.5% for unbalance load					
	Rate Frequency		50/60Hz					
	Frequency Precision		0.1%					
	Output PF		1					
	Output THDu		<1% , Linear load; <5.5%, Non-linear load					
	Crest Factor		3:1					
	Inverter Overload		110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms					
Battery	Voltage		±240Vdc					
	Battery Number		40pcs (Settable: even number from 32 to 44)					
	Voltage Precision		±1%					
	Charge Power		up to 20% * Output active power					
	Battery Cold Start		Standard					
System	Efficiency	AC Mode	95.0%					
		ECO Mode	99.0%					
		Battery Mode	95.0%					
	Display		10.4" color touch screen LCD + LED + keyboard					
	IP Class		IP 20					
	Interface		RS232, RS485, Programmable Dry Contact, USB					
	Option		SNMP Card, Parallel kit, SPD, LBS, Dust filter, Expansion dry contact card					
	Temperature		Operation: 0 ~ 40 °C Storge: -40 ~ 70 °C					
	Relative Humidity		0 ~ 95% Non-condensing					
	Altitude		<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise					
	Noise (1 meter)		72dB@100%load 65dB@45%load	65dB@100%load 62dB@45%load		72dB@100%load 65dB@45%load	65dB@100%load 62dB@45%load	
	Applicable Standards		Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3					
Physical	Weight (kg)	Cabinet	660	242	178	660	242	178
		Power module	32.3			32.3		
	Dimension W*D*H(mm)	Cabinet	2000*1050*2000	600*1100*2000	600*1100*1600	2000*1050*2000	600*1100*2000	600*1100*1600
		Power module	460*790*134					

## RM Series Rack-Mounted Modular Online UPS

25-200kVA ( 380V/400V/415V )

The RM Series Rack Mounted Modular UPS is scalable, hot-swappable, online double conversion. The power capacity is from 25 to 200kVA/kW, which is the ideal choice for modern data center. With the latest IGBT three-level and full DSP control technology, the new RM series delivers the best combination of reliability and flexibility.



### Application

IDC(Internet Data Center), network servers and workstation, control system, communication system, office, PC etc

### Features

- High Power Density  
25kVA power module in 2U height, saving a great amount of space, easy for capacity expansion
- Rack Modular Design  
Module design, compatible with 19" standard rack cabinet, convenient to be integrated with servers
- Battery Cold Start  
UPS can be powered on from the battery without utility
- Friendly Interface  
Touch LCD display with abundant information

### Specification

MODEL		RM150/25C	RM200/25C
System Capacity		150kVA	200kVA
Power Module Capacity		25kVA/25kW	
Input	Dual Input	Optional	Standard
	Phase	3 Phase+Neutral+Ground, 380V/400V/415V(line-line)	
	Input Voltage Range	304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min. phase voltage	
	Rate Frequency	50/60Hz	
	Input Frequency Range	40Hz ~ 70Hz	
	Input PF	>0.99	
	Input THDi	<3% (100% Linear load)	
Bypass	Rate Voltage	380/400/415Vac (line-line)	
	Rate Frequency	50/60Hz	
	Input Voltage Range	Settable, -40% ~ +25%	
	Bypass Frequency Range	Settable, ±1Hz, ±3Hz, ±5Hz	
	Bypass Overload	110% long term operation; 125% for 5 mins; 150% for 1 min; >150% for 1s	
Output	Rate Voltage	380/400/415Vac (line-line)	
	Voltage Regulation	±1 (0~100% linear load)	
	Rate Frequency	50/60Hz	
	Frequency Precision	0.1%	
	Output PF	1	
	Output THDu	<1% , Linear load; <6%, Non-linear load	
	Crest Factor	3:1	
	Inverter Overload	110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms	
Battery	Voltage	±240Vdc	
	Battery Number	40pcs (Settable: even number from 32 to 44)	
	Voltage Precision	±1%	
	Charge Power	up to 20% * Output active power	
	Battery Cold Start	Standard	
System	Efficiency	AC Mode	96.0%
		ECO Mode	98.0%
		Battery Mode	95.5%
	Display	7.0" color touch screen LCD + LED + keyboard	
	IP Class	IP 20	
	Interface	RS232, RS485, Programmable Dry Contact	
	Option	PDU for RM150/25C, SNMP Card, Parallel kit, SPD, LBS	
	Temperature	Operation: 0 ~ 40 °C Storge: -40 ~ 70 °C	
	Relative Humidity	0 ~ 95% Non-condensing	
	Altitude	<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise	
	Noise (1 meter)	65dB @ 100% load, 62dB @ 45% load	
	Applicable Standards	Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3	
Physical	Weight (kg)	Cabinet	140
		Power module	18
	Dimension W*D*H(mm)	Cabinet	482*916*931
		Power module	436*677*85

RM Series Rack-Mounted Modular Online UPS

10-90kVA (380V/400V/415V)

The rack modular, scalable, hot-swappable, online double conversion UPS is ranging from 10 to 90kVA, with its flexible configuration of 3/3, 3/1 and 1/1, compact structure, is the ideal choice for small and medium data center.



Features

Rack modular design

Modular design, compatible with 19" standard rack cabinet, convenient to be integrated with servers

High power density

10/15kVA power module in 2U height, saving great amount of space, easy for capacity expansion

Integrated solution for data center

UPS can be integrated with battery cabinet, PDU and external maintenance bypass, offering excellent choice for data center

Intelligent charging management

The system intelligently control the whole process of the charging and discharging, effectively improving the life time of the battery

Flexible configuration

The system based on 10kVA power module can be configured to 3/3, 3/1 and 1/1 without derating

Friendly interface

7" touch color LCD with graphic display, more information displayed and easier for customer to operate

Smart sleep function

System can intelligently shutdown some power modules to increase total load rate, achieving higher efficiency

Self-aging mode

Energy internal circle technology, system can run with full load, saving more than 90% energy

Specification

MODEL			RM060/10X	RM040/10X	RM030/10X	RM020/10X	RM090/15X	RM045/15X	RM030/15X
System Capacity			60kVA	40kVA	30kVA	20kVA	90kVA	45kVA	30kVA
Power Module Capacity			10kVA/10kW				15kVA/15kW		
Input	Dual Input		Standard						
	Phase		3 Phase+Neutral+Ground, 380V/400V/415V(line-line)						
	Input Voltage Range		304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min. phase voltage						
	Rate Frequency		50/60Hz						
	Input Frequency Range		40Hz ~ 70Hz						
	Input PF		>0.99						
	Input THDi		<4% (100% Linear load)						
Bypass	Rate Voltage		380/400/415Vac (line-line)						
	Rate Frequency		50/60Hz						
	Input Voltage Range		Settable, -40% ~ +25%						
	Bypass Frequency Range		Settable, ±1Hz, ±3Hz, ±5Hz						
	Bypass Overload		125% long term operation; 130% for 10mins; 150% for 1 min; >150% for 300ms				110% long term operation; 130% for 5mins; 150% for 1 min; >150% for 300ms		
Output	Rate Voltage		380/400/415Vac (line-line)						
	Voltage Regulation		1% for balance load; 1.5% for unbalance load						
	Rate Frequency		50/60Hz						
	Frequency Precision		0.1%						
	Output PF		1						
	Output THDu		<1%, Linear load; <5.5%, Non-linear load						
	Crest Factor		3:1						
	Inverter Overload		110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms						
Battery	Voltage		±240Vdc						
	Battery Number		40pcs (Settable: even number from 32 to 44)						
	Voltage Precision		±1%						
	Charge Power		up to 20% * Output active power						
	Battery Cold Start		Optional						
System	Efficiency	AC Mode	95.0%						
		ECO Mode	98.0%						
		Battery Mode	94.5%						
	Display		7.0" color touch screen LCD + LED + keyboard						
	IP Class		IP 20						
	Interface		RS232, RS485, Programmable Dry Contact						
	Option		SNMP Card, Parallel kit, SPD, Power module with battery cold start function						
	Temperature		Operation: 0 ~ 40 °C Storge: -40 ~ 70 °C						
	Relative Humidity		0 ~ 95% Non-condensing						
	Altitude		<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise						
	Noise (1 meter)		56dB @ 50% load						
	Applicable Standards		Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3						
Physical	Weight (kg)	Cabinet	70	51	55	42	70	55	42
		Power module	15.3				15.5		
	Dimension W*D*H(mm)	Cabinet	485*751*1033	485*697*575	485*751*575	485*697*398	485*751*1033	485*751*575	485*697*398
		Power module	436*590*85						



# RM Series Modular Online UPS 20-200kVA (380V/400V/415V)

RM series is modular online UPS for sensitive equipments. The single cabinet power rating covers from 20kVA to 200kVA. With the latest IGBT three-level and full DSP control technology, the RM series delivers the best of combination of reliability, hot-swappable and flexibility.



## Features

### Modular design

Up to 20 power modules in parallel online hot-swappable  
N+X redundancy

### Independent charger

Independent charger for each module and intelligently control the whole charging process, prolong the life time of the battery

### Battery cold start

UPS can be powered on from the battery without utility

### Easy connection access

Top and bottom cable entry connection are supported, more convenient for site installation

### Modular design with transformer

Modular UPS up to 60kVA with in-built isolation transformer, meeting different requirement for customers

### High power density

200kVA with footprints of about 0.5m², saving valuable data center space

### Integrated IGBT design

Integrated IGBT in one module, less failure points with higher performance and reliability

### Friendly interface

Touch LCD display with abundant information

### Independent air channel

Cooling air runs in isolated channel, keeping PCB free of dust



## Specification

MODEL			RM200/20	RM120/20	RM060/20
System Capacity			200kVA	120kVA	60kVA
Power Module Capacity			20kVA/18kW		
Input	Dual Input		Optional		
	Phase		3 Phase+Neutral+Ground, 380V/400V/415V (line-line)		
	Input Voltage Range		304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min. phase voltage		
	Rate Frequency		50/60Hz		
	Input Frequency Range		40Hz ~ 70Hz		
	Input PF		>0.99		
	Input THDi		<3% (100% Linear load)		
Bypass	Rate Voltage		380/400/415Vac (line-line)		
	Rate Frequency		50/60Hz		
	Input Voltage Range		Settable, -40% ~ +25%		
	Bypass Frequency Range		Settable, ±1Hz, ±3Hz, ±5Hz		
	Bypass Overload		125% long term operation; 130% for 1 hour; 150% for 6 mins; 1000% for 100 ms		
Output	Rate Voltage		380/400/415Vac (line-line)		
	Voltage Regulation		1% for balance load; 1.5% for unbalance load		
	Rate Frequency		50/60Hz		
	Frequency Precision		0.1%		
	Output PF		0.9		
	Output THDu		<1% , Linear load; <5.5%, Non-linear load		
	Crest Factor		3:1		
	Inverter Overload		110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms		
Battery	Voltage		±240Vdc		
	Battery Number		40pcs (Settable: even number from 32 to 44)		
	Voltage Precision		±1%		
	Charge Power		up to 20% * Output active power		
	Battery Cold Start		Standard		
System	Efficiency	AC Mode	95.0%		
		ECO Mode	99.0%		
		Battery Mode	95.0%		
	Display		5.7" touch screen LCD + LED + keyboard		
	IP Class		IP 20		
	Interface		RS232, RS485, Programmable Dry Contact		
	Option		SNMP Card, Parallel kit, SPD, LBS, Dust filter		
	Temperature		Operation: 0 ~ 40 °C Storge: -40 ~ 70 °C		
	Relative Humidity		0 ~ 95% Non-condensing		
	Altitude		<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise		
	Noise (1 meter)		55dB @ 50% load		
	Applicable Standards		Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3		
Physical	Weight (kg)	Cabinet	180	150	105
		Power module	22		
	Dimension W*D*H(mm)	Cabinet	600*900*2000	600*900*1600	600*900*1100
		Power module	440*590*134		

# RM Series In-built Battery Modular Online UPS 20-60kVA (380V/400V/415V)

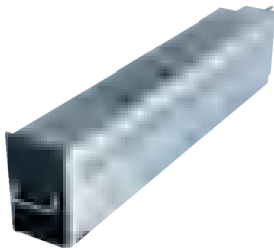
RM060/20B series is modular online UPS with hot-swappable battery. The single cabinet power rating covers from 20kVA to 60kVA which delivers the best of combination of reliability, hot-swappable and flexibility.

With intelligent battery protection and management technology, RM060/20B realizes a compact total power solution which is easy for installation, maintenance and power expansion.

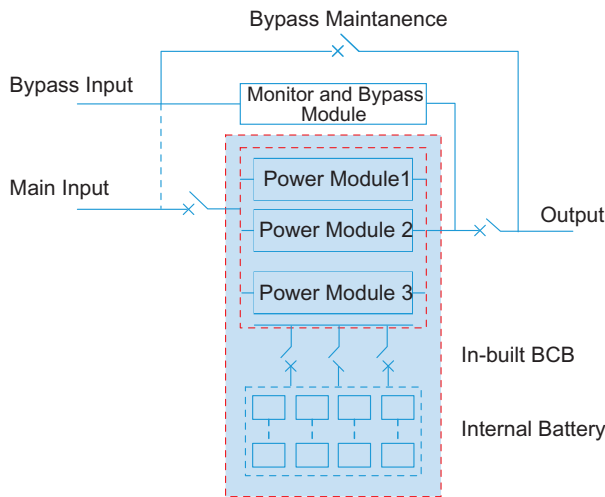


## Features

- Modular design with swappable battery package
- Monitoring system for battery
- Integrated IGBT module with improved performance and reduced size
- Easy for installation and maintenance
- Easy for power expansion and backup time expansion
- Intelligent protection technology for safe and reliable hot swappable battery package of the system
- Smart charging management system, intelligently control the whole process of the charging and discharging, effectively improving the life time of the battery
- Battery cold start
- Friendly human machine interface with touch screen



10pcs 7 or 9 Ah batteries



## Specification

MODEL			RM060/20B
System Capacity			60kVA
Power Module Capacity			20kVA/18kW
Input	Dual Input		Optional
	Phase		3 Phase+Neutral+Ground, 380V/400V/415V(line-line)
	Input Voltage Range		304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min. phase voltage
	Rate Frequency		50/60Hz
	Input Frequency Range		40Hz ~ 70Hz
	Input PF		>0.99
	Input THDi		<3% (100% Linear load)
Bypass	Rate Voltage		380/400/415Vac (line-line)
	Rate Frequency		50/60Hz
	Input Voltage Range		Settable, -40% ~ +25%
	Bypass Frequency Range		Settable, ±1Hz, ±3Hz, ±5Hz
	Bypass Overload		125% long term operation; 130% for 1 hour; 150% for 6 mins; 1000% for 100 ms
Output	Rate Voltage		380/400/415Vac (line-line)
	Voltage Regulation		1% for balance load; 1.5% for unbalance load
	Rate Frequency		50/60Hz
	Frequency Precision		0.1%
	Output PF		0.9
	Output THDu		<1% , Linear load; <5.5%, Non-linear load
	Crest Factor		3:1
	Inverter Overload		110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms
Battery	Voltage		±240Vdc
	Battery Number		40pcs (Settable: even number from 32 to 44)
	Voltage Precision		±1%
	Charge Power		up to 20% * Output active power
	Battery Cold Start		Standard
System	Efficiency	AC Mode	95.0%
		ECO Mode	99.0%
		Battery Mode	95.0%
	Display		5.7" touch screen LCD + LED + keyboard
	IP Class		IP 20
	Interface		RS232, RS485, Programmable Dry Contact
	Option		SNMP Card, Parallel kit, SPD, LBS, Dust filter
	Temperature		Operation: 0 ~ 40 °C    Storage: -40 ~ 70 °C
	Relative Humidity		0 ~ 95% Non-condensing
	Altitude		<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise
	Noise (1 meter)		55dB @ 50% load
	Applicable Standards		Safety: IEC/EN 62040-1   EMC: IEC/EN 62040-2   Performance: IEC/EN 62040-3
	Physical	Weight (kg)	
Dimension W*D*H(mm)		Cabinet	600*1020*2000
		Power module	440*590*134
		Battery package	120*824*177

# RM Series Modular Online UPS 40-600kVA (380V/400V/415V)

The RM series modular, online UPS ranging from 40kVA to 600kVA is designed to protect any critical load for medium and large data center achieving maximum availability. The RM series features the latest technology of 3-level technology and PFC input control, which guarantees high efficiency of 96% and ultra-reliability. Its compact design ensures power density of 600kVA in one cabinet, 3 units can be paralleled for capacity or redundancy up to 1500kVA, making it an excellent choice for medium and large facilities.



## Features

### Compact design

600kVA in one cabinet, footprint less than 1.45m<sup>2</sup>, saving valuable room space

### High power density

50kVA power module in 4U height, easy for capacity expansion

### High efficiency

Advanced 3-level technology guarantees high efficiency operating in double conversion mode up to 96%

### Intelligent charging management

The system intelligently control the whole process of the charging and discharging, effectively improve the life time of the battery

### High scalability

The system can be configured from 40kVA to 600kVA in one single cabinet, 3 units in parallel for a capacity up to 1500kVA

### Friendly HMI

10.4" touch color LCD with graphic display, independent LCD for each power module

### Smart sleep function

System can intelligently shutdown some power modules to increase total load rate, achieving higher efficiency

### Multi communication interface

Provide RS232, RS485, USB, SNMP, AS400 and programmable dry contacts

## Specification

MODEL			RM600/50X	RM500/50X	RM400/50X	RM300/50X	RM200/50X	RM100/50X	RM240/40X	RM160/40X	RM080/40X
System Capacity			600kVA	500kVA	400kVA	300kVA	200kVA	100kVA	240kVA	160kVA	80kVA
Power Module Capacity			50kVA/50kW						40kVA/40kW		
Input	Dual Input	Standard									
	Phase	3 Phases + Neutral + Ground, 380/400/415VAC (line-line)									
	Input Voltage Range	304~478Vac (Line-Line),full load 228V~304Vac (line-line),load decrease linearly according to the min. phase voltage									
	Rated Frequency	50/60Hz									
	Input Frequency Range	40Hz ~ 70Hz									
	Input PF	>0.99									
	Input THDi	<3% (100% Linear Load)									
Bypass	Rate Voltage	380/400/415VAC (Line-Line)									
	Rate Frequency	50/60Hz									
	Input Voltage Range	Settable, -40% ~ +25%									
	Input Frequency Range	Settable, ±1Hz, ±3Hz, ±5Hz									
	Bypass Overload	110% Long term operation 110%~125% last for more than 5 min 125%~150% last for more than 1 min					125%, long time <130%, for 10 mins <150%, for 1 min		110% long term 125% for 5 mins 150% for 1 min	125%, long time 130%, for 10 minutes 150%, for 1 min	
Output	Rated Inverter Voltage	380/400/415VAC (Line-Line)									
	Voltage Regulation	1% for balance load; 1.5% for unbalance load									
	Rate Frequency	50/60Hz									
	Frequency Precision	0.1%									
	Output PF	1									
	Output THDu	<1% linear load; <5.5% non-linear load									
	Crest Factor	3:1									
	Inverter Overload	<110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms									
Battery	Battery Rate Voltage	±240VDC									
	Battery Number	40pcs (settable: even number from 32 to 44)									
	Voltage Precision	1%									
	Charger Power	up to 20% *Output active power									
	Battery Cold Start	Standard				Optional			Standard	Optional	
System	Efficiency	AC Mode: 96% ECO Mode: 99% Battery Mode: 96%									
	Display	10.4" (240-600kVA) or 7" (80-200kVA) touch screen LCD + LED+ Keyboard									
	IP Class	IP20									
	Interface	RS232, RS485, USB, Programmable dry contact									
	Option	SNMP, Parallel kit, SPD, Dust Filter, LBS									
	Temperature	Operation: 0 ~ 40 °C Storge: -40 ~ 70 °C									
	Relative Humidity	0 ~ 95% Non condensing									
	Altitude	<1000m, Load derated 1% per 100m From 1000 ~ 2000m									
	Noise (1 meter)	72dB @ 100% load, 69dB @ 45% load									
	Applicable Standard	Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3									
Physical	Weight (kg)	Cabinet	1040	900	700	490	350	210	490	350	210
		Power module	45						44		
	Dimension W*D*H (mm)	Cabinet	1300*1100*2000		1050*1000*2000	650*1095*2000	650*960*1600	600*980*1150	650*1095*2000	650*960*1600	600*980*1150
		Power module	510*700*178						510*700*178		



# RM Series Modular Online UPS 5-20kVA (220V/230V/240V)

RM3120/05D series is modular online UPS with hot-swappable battery. The single cabinet power is ranging from 5kVA to 20kVA, with its flexible configuration of 3/1 and 1/1, compact structure is the ideal choice for small data center, as well as for sensitive electronics, convenient to be integrated with server. With its high power factor and excellent overload capability, and the improvement of the efficiency of power utilization, it ensures the system operate steadily.



## Application

All kinds of small and medium data center, network servers, control system, precision instruments and intelligent equipments.

## Features

- High efficiency, more than 94.5%
- Rack modular design, compatible with 19" standard rack cabinet, convenient to be integrated with server
- Easy for power expansion and backup time expansion
- Intelligent protection and monitoring technology for safe and reliable battery package of the system
- Modular design with swappable power module and battery
- Flexible configuration, based on 5kVA can be configured to 3/1 and 1/1 without derating
- Friendly interface with 7" touch color LCD with graphic display, more information displayed and easier to operate
- Complete solution for small data room center

## Specification

MODEL			RM3120/05DS	
Sytem Capacity			20kVA	
Power Module Capacity			5kVA/5kW	
Input	Phase		3Phase+Neutral+Ground, 380V/400V/415V (line to line)	
	Input Voltage Range		277~478Vac (line-line),full load; 147~277Vac (line-line) load decreases linearly from 100%~50% according to the min. phase voltage	
	Rate Frequency		50/60Hz	
	Inout Frequency Range		40~70Hz	
	Input PF		>0.99	
Bypass	Input THDi		<5%(100%Linear load)	
	Rate Voltage		220V/230V/240V (line-neutral)	
	Rate Frequency		50/60Hz	
	Input Voltage Range		settable, default -20% ~ +15%; upper limit: +25%; lower limit: -40%	
	Bypass Frequency Range		settable,±1Hz, ±3Hz, ±5Hz	
Output	Rate Voltage		220V/230V/240V (line-neutral)	
	Voltage Regulation		±2%	
	Rate Frequency		50/60Hz±0.01%	
	Output PF		1	
	Output THDu		<1% linear load, <5% non-linear load	
	Inverter Overload	Normal	<110% for 1 hour; 110%~130% for 10 mins; 130%~150% for 1 mins; >150% for 200 ms	
		Battery	<110% for 10 mins; 110%~125% for 1 min; 125%~130% for 10 s; >130% for 200 ms	
Battery	Voltage		144VDC (12pcs, settable 12 to14pcs)	
	Charge Power		0~1.8A settable(each module) 0-10A (charger module)	
	Voltage Precision		1%	
System	Efficiency	AC Mode	>94.5%	
		Eco Mode	>98%	
		Battery Mode	>90%	
	Display		LCD+LED, 7" touch color screen and keyboard	
	IP Class		IP20	
	Interface		Standard: RS232, RS485, USB, Dry contacts	
	Option		SNMP card, AS400 card, SPD, dust filter, LBS	
	Temperature		Operation: 0-40°C Storge: -40~70°C	
	Relative Humidity		0-95% Non-condensing	
Physical	Altitude		<1000m, Load derated 1% per 100m From 1000~2000m	
	Noise(dB) (1 meter)		55dB @100% load	
	Weight(kg)	UPS		Battery
		Cabinet	66.5kg	67.3kg
		Module	7.5kg	17.8kg
	Dimension (W*D*H)(mm)	Cabinet	443*695*928	
		Module	200*431*84.5	200*516*84.5

# RM Series Modular Online UPS 60-600kVA (380V/400V/415V)

RM600/60D series are modular online UPS with brand-new topology, a bidirectional DC-DC converter circuit, which greatly improve the system performance and guarantees high efficiency of 97%. Its compact design ensures the power density, achieving this 600kW system`s occupation only an area of 0.9m<sup>2</sup>. RM series is considered to be an excellent power supply solution for large data centers and facilities.



## Features

**Staggered and combined power supply**  
The utility and battery supply power to the load together and the compensation ratio is automatically calculated

**Compact design**  
600kVA in one cabinet, footprint less than 0.88m<sup>2</sup>, saving great space of data center

**High power density**  
60kVA power module in 2U height, easy for capacity expansion

**Intelligent charging management**  
The system intelligently control the whole process of the charging and discharging, double side DC-DC topology, support charging power reaching 30%

**Friendly HMI**  
Ultra-large 10" color touch LCD display for IoT appliacation, storage of the history log up to 2000

**Multi communication interface**  
Provide CAN, RS485, USB, SNMP, AS400 and programmable dry contacts

**High scalability**  
The system can be configured from 60kVA to 1.8MW, max 30 power modules 3 cabinets in parallel.

**Smart sleep function**  
System can intelligently shutdown some power modules to increase total load rate, achieving higher efficiency

## Specification

Model		RM 600/60D
System Capacity		600kVA
Power Module Capacity		60kVA/kW
Input	Dual Input	Standard
	Phase	3Phase+Neutral+Ground, 380/400/415VAC (line-line)
	Rate Frequency	50/60Hz
	Input Voltage Range	323~478Vac (line-line), full load 323V~138Vac (line-line), load decrease linearly from 100% to 30% according to the min. phase voltage
	Input Frequency Range	40Hz ~ 70Hz
	Inpput PF	>0.99
	Input THDi	<3% (100% Linear load)
Bypass	Rate Voltage	380/400/415VAC (line-line)
	Rate Frequency	50/60Hz
	Input Voltage Range	Settable, default -20%~+15% Up limit: +10%, +15%, +20%, +25% Down limit: -10%, -15%, -20%, -30%, -40%
	Bypass Frequency Range	Settable, ±1Hz, ±3Hz, ±5Hz
Output	Bypass Overload	110% for long term operation; 110%~125% for 10 mins; 125%~150% for 1 min; >150% for 200 ms
	Rate Voltage	380/400/415VAC (line-line)
	Rate Frequency	50/60Hz
	Output PF	1
	Voltage Regulation	±1%
	Output THDu	<1% Linear load; <5%, Non-linear load
	Inverter Overload	<110%, 1 hour; 110%~125%, 10 mins; 125%~150% for 1 min; >150% for 200 ms
Battery	Rate Frequency	50/60Hz
	Frequency Precision	± 0.1%
	Voltage	±180~264VDC 30pcs derate to 0.7; 32~34pcs derate to 0.8; 36~38pcs derate to 0.9; 40~44pcs
	Voltage Precision	1%
System	Charge Power	Up to 30% * Output active power
	Efficiency	AC Mode >97% Battery Mode >96%
	Display	LED+Color touch LCD
	Interface	Standard: RS485, USB, CAN, Programmable Dry Contact Intelligent card slot*2, Extendable dry contact slot
	Option	SNMP card, AS400 card, Parallel kit, SPD, Dual input kit, LBS
	Temperature	Operation: 0~40 °C Storage: -40~70 °C
	Relative Humidity	0~95% Non-condensing
	Noise(1 meter)	75dB @ 100% load, 70dB @ 45% load
	Altitude	<1000m. Within 1000m~2000m, 1% power derating for every 100m
	Application Standard	Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3
Physical	Dimension (W*D*H,mm)	Cabinet 800*1100*2000 Power Module 550*750*85
	Weight (kg)	Cabinet 443 Power Module 35.7

RM Series Modular Online UPS

100-600kVA (380V/400V/415V)

The RM Series modular online UPS single cabinet power rating covers from 100kVA to 600kVA, provides the highest power density of 100kW modules in 4U height. 4 units can be paralleled for capacity maximum up to 3.2MW. With the latest technology of 3-level technology and PFC input control, the RM series delivers the best combination of reliability, hot-swappable function and flexibility.



Features

- High efficiency

Advanced 3-level technology guarantees, high efficiency operating in double conversion mode up to 96%

Friendly HMI

Ultra-large 10" color touch LCD display for IoT appliication intuitive information and easier to operate
- Battery neutral free design

Two kind of power module to choose, battery N line free or not, saving instruction cost for customer

Multi communication interface

Provide CAN, RS485, USB, SNMP, AS400 and programmable dry contacts
- High power density

100kVA power module in 4U height, easy for capacity expansion

High scalability

The system can be configured from 100kVA to 3.2MW, max 32 power modules in parallel.
- Reliable Performance

Fully digital control, achieving the input power factor >0.99, input THDi<3% and overall efficiency>96%

Smart sleep function

System can intelligently shutdown some power modules to increase total load rate, achieving higher efficiency

Specification

Model		RM 600/100D
System Capacity		600kVA
Power Module Capacity		100kVA/100kW
Input	Dual Input	Optinal
	Phase	3Phase+Neutral+Ground, 380/400/415VAC (line-line)
	Rate Frequency	50/60Hz
	Input Voltage Range	323~478Vac (line-line), full load; 323V~191Vac (line-line), load decrease linearly from 100%~40%; 191V~138V (line-line), load decrease linearly from 45%~35% according to the min. phase voltage
	Input Frequency Range	40Hz ~ 70Hz
	Input PF	>0.99
	Input THDi	<3% (100% Linear load)
Bypass	Rate Voltage	380/400/415VAC (line-line)
	Rate Frequency	50/60Hz
	Input voltage Range	Settable, default -20% ~ +15% Up limit: +10%, +15%, +20%, +25% Down limit: -10%, -15%, -20%, -30%, -40%
	Bypass Frequency Range	Settable, ±1Hz, ±3Hz, ±5Hz
	Bypass Overload	110% long term operation; 110% ~ 125% for 5 mins; 125% ~ 150% for 1 min; 150% ~ 400% for 1 s; >400% less than 200 ms
Output	Rate Voltage	380/400/415VAC (line-line)
	Rate Frequency	50/60Hz
	Output PF	1
	Voltage Regulation	±1%
	Output THDu	<1% , Linear load, <5% , Non-linear load
	Inverter Overload	<110% for 1 hour; 110%~125% for 10 mins; 125%~150% for 1 min; >150% for 200 ms
	Frequency Precision	±0.1%
Battery	Voltage	±180 ~ 288VDC
		30 ~ 32pcs derate to 0.7
		34 ~ 36pcs derate to 0.8
		38pcs derate to 0.9
	40 ~ 48pcs	
	Voltage Precision	±1%
	Charge Power	Up to 15% * Output active power
	Efficiency	AC Mode
		Battery Mode
System	Display	>96%
		>95%
	Interface	LED+ Color touch LCD screen
	Option	RS485, USB, CAN, Programmable Dry Contact, 2 Intelligent slots
	Temperature	SNMP Card, AS400 Card, Parallel kit, dual input kit, SPD, LBS, GSM
	Relative Humidity	Operation: 0 ~ 40 °C Storage: -40~70°C
	Noise (1 meter)	0 ~ 95% Non-condensing
Physical	Altitude	75dB @ 100% load, 70dB @ 45% load
		<1000m. Within 1000~2000m, 1% power derating for every 100m rise
	Dimension (W*D*H,mm)	Cabinet
		Power module
	Weight (kg)	1000*1100*2000
		440*795*174
		400
		53.5

# HT33 Series Tower Online UPS

60-500kVA (380V/400V/415V)

HT33 series three phase UPS offers advanced technology that increase performance and reliability: three high speed DSPs with completed digital control fully ensure high quality of power supply, high input power factor and low input current distortion. It also offers humanization design: full front access of serviceability and user friendly interface.



## Application

- IDC(Internet Data center), ISP, IT Room, Service Center
- Precision instruments, Intelligent equipments

## Features

- High efficiency, up to 96%
- High input PF > 0.99; Input current THDi < 3%
- Multi-protection, over-temperature protection with 8 sensors, over-load, battery under voltage, fan failures, short-circuit
- Battery cold start
- Battery management with smart charging control, greatly extend the battery life
- High power density
- Parallel up to 1500kVA
- Modular design of subsystem, convenient for field maintenance
- Friendly operation interface, color touch LCD screen

## Specification

MODEL			HT33060X	HT33080X	HT33090X	HT33100X	HT33120X	HT33150X	HT33200X	HT33250X	HT33300X	HT33400X	HT33500X
System Capacity			60kVA	80kVA	90kVA	100kVA	120kVA	150kVA	200kVA	250kVA	300kVA	400kVA	500kVA
Input	Dual Input		Standard							Optional		Standard	
	Phase		3 Phase+Neutral+Ground, 380V/400V/415V (line-line)										
	Input Voltage Range		304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min. phase voltage										
	Rate Frequency		50/60Hz										
	Input Frequency Range		40Hz ~ 70Hz										
	Input PF		>0.99										
	Input THDi		<3% (100% Linear load)										
Bypass	Rate Voltage		380/400/415Vac (line-line)										
	Rate Frequency		50/60Hz										
	Input Voltage Range		Settable, -40% ~ +25%										
	Bypass Frequency Range		Settable, ±1Hz, ±3Hz, ±5Hz										
	Bypass Overload		125% long term operation 130% for 10 mins 150% for 1 min >150% for 300 ms							110% long term operation 125% for 5 mins 150% for 1 min >150% for 1 s			
Output	Rate Voltage		380/400/415Vac (line-line)										
	Voltage Regulation		1% for balance load; 1.5% for unbalance load										
	Rate Frequency		50/60Hz										
	Frequency Precision		0.1%										
	Output PF		1										
	Output THDu		<1% , Linear load; <5%, Non-linear load										
	Crest Factor		3:1										
Inverter Overload		110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms											
Battery	Voltage		±240Vdc										
	Battery Number		40pcs (Settable: even number from 32 to 44)										
	Voltage Precision		±1%										
	Charge Power		up to 20% * Output active power										
	Battery Cold Start		Optional							Standard			
System	Efficiency	AC Mode	95%	96%	95%	96%	95%	96%					
		ECO Mode	99%										
		Battery Mode	95%	96%	95%	96%	95%	96%					
	Display		10.4"(240kVA-500kVA) or 7"(60kVA-200kVA) touch screen LCD + LED + keyboard										
	IP Class		IP 20										
	Interface		RS232, RS485, Programmable Dry Contact, USB										
	Option		SNMP Card, Parallel kit, SPD, LBS, Dust filter										
	Temperature		Operation: 0 ~ 40 °C    Storge: -40 ~ 70 °C										
	Relative Humidity		0 ~ 95% Non-condensing										
	Altitude		<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise										
	Noise (1 meter)		65dB @ 100% load, 62dB @ 45% load										
Physical	Applicable Standards		Safety: IEC/EN 62040-1    EMC: IEC/EN 62040-2    Performance: IEC/EN 62040-3										
	Weight (kg)		170	210	231	210	266	305	350	445	490	700	900
	Dimension W*D*H (mm)		600*980 *950	600*980 *1150	600*980 *1400	600*980 *1150	600*980 *1400	650*960 *1600	650*960 *1600	650*970 *2000	650*970 *2000	1050*1000 *2000	1300*1100 *2000



HT33 Series Tower Online UPS

10-40kVA (380V/400V/415V)

HT33 series UPS applies advanced technology that increases performance and reliability: two high speed DSPs with completed digital control to ensure high quality of power supply, high input power factor and low input current distortion.



Application

- IDC(Internet Data center), ISP, Computer Room, Service Center
- Precision instruments, Intelligent equipments

Features

- High efficiency, up to 96%

• High input PF > 0.99; Input current THDi < 4%

• Multi-protection, over-temperature protection with 8 sensors, over-load, battery under voltage, fan failures, short-circuit

• Four circuit breakers, providing full protection when fault happens
- Battery cold start

• Battery management with smart charging control, greatly extend the battery life

• Parallel up to 4 units

• Friendly operation interface, high-resolution LCD screen

Specification

MODEL			HT33010XS	HT33015XS	HT33020XS	HT33030XS	HT33040XS
			HT33010XL	HT33015XL	HT33020XL	HT33030XL	HT33040XL
System Capacity			10kVA	15kVA	20kVA	30kVA	40kVA
Input	Dual Input		Standard				
	Phase		3 Phase+Neutral+Ground, 380V/400V/415V (line-line)				
	Input Voltage Range		304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min. phase voltage				
	Rate Frequency		50/60Hz				
	Input Frequency Range		40Hz ~ 70Hz				
	Input PF		>0.99				
	Input THDi		<4% (100% Linear load)		<3% (100% Linear load)		
Bypass	Rate Voltage		380/400/415Vac (line-line)				
	Rate Frequency		50/60Hz				
	Input Voltage Range		Settable, -40% ~ +25%				
	Bypass Frequency Range		Settable, ±1Hz, ±3Hz, ±5Hz				
	Bypass Overload		125% long term operation; 130% for 10 mins; 150% for 1 min				
Output	Rate Voltage		380/400/415Vac (line-line)				
	Voltage Regulation		1% for balance load; 1.5% for unbalance load				
	Rate Frequency		50/60Hz				
	Frequency Precision		0.1%				
	Output PF		1		0.9		
	Output THDu		<1%, Linear load; <5.5%, Non-linear load				
	Crest Factor		3:1				
	Inverter Overload		110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms				
Battery	Voltage		±240Vdc				
	Battery Number		40pcs (Settable: even number from 32 to 44)				
	Voltage Precision		±1%				
	Charge Power		up to 20% * Output active power				
	Battery Cold Start		Optional				
System	Efficiency	AC Mode	95.0%				96.0%
		ECO Mode	98.0%				
		Battery Mode	95.0%				96.0%
	Display		LCD + LED + keyboard				
	IP Class		IP 20				
	Interface		RS232, RS485				
	Option		SNMP Card, Parallel kit, USB, Programmable Dry Contact				
	Temperature		Operation: 0 ~ 40 °C Storge: -40 ~ 70 °C				
	Relative Humidity		0 ~ 95% Non-condensing				
	Altitude		<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise				
	Noise (1 meter)		55dB @ 50% load				
	Applicable Standards		Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 Performance: IEC/EN 62040-3				
Physical	Weight (kg)		51.5	51.5	89	89	140
			31	31	50	52	61
	Dimension W*D*H (mm)		250*840*715	250*840*715	350*738*1335	350*738*1335	500*840*1400
			250*660*530	250*660*530	250*680*770	250*680*770	250*836*770



# HT33-TX Series Tower Online UPS 10-40kVA (380V/400V/415V)

HT33-TX series in-built transformer three phase UPS applies advanced technology that increases performance and reliability: two high speed DSPs with completed digital control fully ensure high quality of power supply, high input power factor and low input current distortion. With in-built transformer, the HT33-TX is providing more safety to critical load.



## Application

- IDC(Internet Data center), ISP, IT Room, Service Center
- Precision instruments, Intelligent equipments

## Features

- In-built galvanic isolation transformer
- High input PF > 0.99; Input current THDi < 4%
- Multi-protection, over-temperature protection with 8 sensors, over-load, battery under voltage, fan failures, short-circuit
- Four circuit breakers, providing full protection when fault happens
- Battery cold start
- Battery management: smart charging control, auto maintenance, greatly extend the battery life
- Friendly operation interface, high-resolution LCD screen

## Specification

MODEL			HT33010X-TX	HT33020X-TX	HT33030X-TX	HT33040X-TX
System Capacity			10kVA	20kVA	30kVA	40kVA
Input	Dual Input		Standard			
	Phase		3 Phase+Neutral+Ground, 380V/400V/415V (line-line)			
	Input Voltage Range		304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min. phase voltage			
	Rate Frequency		50/60Hz			
	Input Frequency Range		40Hz ~ 70Hz			
	Input PF		>0.99			
	Input THDi		<4%	<3%		
Bypass	Rate Voltage		380/400/415Vac (line-line)			
	Rate Frequency		50/60Hz			
	Input Voltage Range		Settable, -40% ~ +25%			
	Bypass Frequency Range		Settable, ±1Hz, ±3Hz, ±5Hz			
	Bypass Overload		125% long term operation; 130% for 10 mins; 150% for 1 min			
Output	Rate Voltage		380/400/415Vac (line-line)			
	Voltage Regulation		1% for balance load; 1.5% for unbalance load			
	Rate Frequency		50/60Hz			
	Frequency Precision		0.1%			
	Output PF		0.9			
	Output THDu		<1%, Linear load; <5.5%, Non-linear load			
	Crest Factor		3:1			
	Inverter Overload		110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms			
Battery	Voltage		±240Vdc			
	Battery Number		40pcs (Settable: even number from 32 to 44)			
	Voltage Precision		±1%			
	Charge Power		up to 20% * Output active power			
	Battery Cold Start		Optional			
System	Efficiency	AC Mode	92.0%			
		ECO Mode	95.0%			
		Battery Mode	92.0%			
	Display		LCD + LED + keyboard			
	IP Class		IP 20			
	Interface		RS232, RS485			
	Option		SNMP Card, Parallel kit, USB, Programmable Dry Contact			
	Temperature		Operation: 0 ~ 40 °C    Storge: -40 ~ 70 °C			
	Relative Humidity		0 ~ 95% Non-condensing			
	Altitude		<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise			
	Noise (1 meter)		55dB @ 50% load			
	Applicable Standards		Safety: IEC/EN 62040-1   EMC: IEC/EN 62040-2   Performance: IEC/EN 62040-3			
	Physical	Weight (kg)		200	220	240
Dimension W*D*H (mm)		250*658*955	350*757*1335	350*757*1335	500*840*1400	

HR33 Series Rack Online UPS  
10-40kVA (380V/400V/415V)

The HR33 Series Rack is double conversion online UPS with fully DSP controlled technology. With its flexible configuration of 3/3 and 3/1, compact design, it's the ideal choice for modern data center.



Application

IDC(Internet Data Center), network servers and workstation, control system, communication system, office, PC etc

Features

- Rack Design  
Rack design, compatible with 19" standard rack cabinet, convenient to be integrated with servers
- Friendly Interface  
5.5" touch color LCD with graphic display, more information displayed and easier for customer to operate
- Flexible configuration  
The system of 10kVA and 20kVA can be configured to 3/3 and 3/1
- Intelligent charging management  
The system intelligently control the whole process of the charging and discharging, effectively improving the life time of the battery

Specification

MODEL			HR33010CL	HR33015CL	HR33020CL	HR33025CL	HR33030CL	HR33040CL
System Capacity			10kVA/10kW	15kVA/15kW	20kVA/20kW	25kVA/25kW	30kVA/30kW	40kVA/40kW
Input	Dual Input		Standard					
	Phase		3 Phase+Neutral+Ground, 380V/400V/415V(line-line)					
	Input Voltage Range		304~478Vac (line-line), full load; 228V~304Vac (line-line), load decreases linearly according to the min. phase voltage					
	Rate Frequency		50/60Hz					
	Input Frequency Range		40Hz ~ 70Hz					
	Input PF		>0.99					
	Input THDi		<4% (100% Linear load)	<3% (100% Linear load)				
Bypass	Rate Voltage		380/400/415Vac (line-line)					
	Rate Frequency		50/60Hz					
	Input Voltage Range		Settable, -40% ~ +25%					
	Bypass Frequency Range		Settable, ±1Hz, ±3Hz, ±5Hz					
	Bypass Overload		125% long term operation; 130% for 10 mins; 150% for 1 min, >150% for 1s					
Output	Rate Voltage		380/400/415Vac (line-line)					
	Voltage Regulation		1% for balance load; 1.5% for unbalance load					
	Rate Frequency		50/60Hz					
	Frequency Precision		0.1%					
	Output PF		1					
	Output THDu		<1%, Linear load; <5.5%, Non-linear load	<1.5%, Linear load; <6%, Non-linear load				
	Crest Factor		3:1					
	Inverter Overload		110% for 1 hour; 125% for 10 mins; 150% for 1 min; >150% for 200 ms					
Battery	Voltage		±240Vdc					
	Battery Number		40pcs (Settable: even number from 32 to 44)					
	Voltage Precision		±1%					
	Charge Power		up to 20% * Output active power					
	Battery Cold Start		Standard					
System	Efficiency	AC Mode	95%		95.5%		96%	
		ECO Mode	98%					
		Battery Mode	94.5%		95%		95.5%	
	Display		LCD + LED + keyboard					
	IP Class		IP 20					
	Interface		RS232 for 10-25kVA, USB for 30-40kVA, RS485, Programmable Dry Contact					
	Option		LBS for HR33020CL and HR33025CL, SNMP Card, Parallel kit					
	Temperature		Operation: 0 ~ 40 °C    Storge: -40 ~ 70 °C					
	Relative Humidity		0 ~ 95% Non-condensing					
	Altitude		<1000m. Within 1000m to 2000m, 1% power derating for every 100m rise					
	Noise (1 meter)		65dB @ 100% load, 62dB @ 45% load					
	Applicable Standards		Safety: IEC/EN 62040-1   EMC: IEC/EN 62040-2   Performance: IEC/EN 62040-3					
Physical	Weight (kg)		25		30		41	
	Dimension W*D*H (mm)		438*780*130		438*780*130		438*700*174	

HT31 Series Tower Online UPS

10-40kVA (220V/230V/240V)

HT31 series is online double-conversion UPS with full DSP control technology. With high input and output power factor, self-adjusting output frequency and network management, HT31 is a perfect choice for computers, telecommunication equipments and other sensitive devices.



Application

IDC(Internet Data Center), network,servers and workstations, office etc

Features

Common features for 10-40kVA

- Full protection of overvoltage, circuit short and over temperature
- Auto fan speed adjustment
- Abundant interface: RS232, USB, SNMP, Intelligent Card
- Parallel up to 2 units

Unique features for 10-20kVA

- Output PF=1
- Small size with higher power density
- Digital Charger, adjustable from 1A to 5A
- 12A charger for option, charging for large capacity batteries

Specification

MODEL	HT3110XL	HT3115XL	HT3120XL	HT3140L
Capacity	10kVA	15kVA	20kVA	40kVA
Phase	Three phase in, Single phase out			
Input voltage range	190Vac~499Vac			228Vac~478Vac
	100% load@ >305Vac, 90% load@ >266Vac 75% load@ >228Vac, 50% load@ >190Vac			100% load@ >305Vac 90% load@ >266Vac 75% load@ >228Vac
Input PF	≥0.99			
Input THDi	≤4% (100% Linear load)			≤3% (100% Linear load)
Input frequency range	40Hz-70Hz			
Output PF	1			0.9
Output voltage	220V/230V/240V			
Voltage regulation	1%			
THDu	≤1% (full linear load ) ≤3% (full non-linear load )			≤1% (full linear load ) ≤5% (full non-linear load )
Battery voltage	192Vdc			±240Vdc
Battery type/number	External			
System efficiency	Normal: 94.5%;	Normal: 95%		
	ECO :98%;			
Noise(1 meter away)	<50dB@<70%load; <58dB@>70%load			65dB @ 100%load 62dB @ 45%load
Overload capability (Inverter mode)	110%: for 10 min ;130%:for 1 min; 150%: for 30 sec (shut down the bypass after 1 min)			
Overload capability (Battery mode)	110%: shut down after 1 min; 130%: shut down after 10 sec; >130%: shut down after 200 ms			110%: shut down after 10 min; 125%:shut down after 10 sec; >125%: shut down after 1 sec
Crest factor	3:1			
Display	LED+LCD			10.4" color touch screen LCD+LED
Interface	Standard:RS232, EPO Optional: RS485, USB, SNMP, Dry contacts			Standard: RS232, RS485 USB, Dry contacts Optional: SNMP, parallel kit Battery cold start
W*D*H(mm)	190*485*336	190*485*480	190*485*480	600*980*950
Weight(kg)	22	33	33	170

HR31 Series Rack Online UPS  
15-20kVA (220V/230V/240V)

HR31 series is online double-conversion UPS with full DSP control technology. With high input and output power factor, self-adjusting output frequency and network management, HR31 is a perfect choice for computers, telecommunication equipments and other sensitive devices.



Application

IDC(Internet Data Center), network, servers and workstations, office etc

Features

- Full protection of overvoltage, circuit short and over temperature
  - Auto fan speed adjustment
  - High efficiency, up to 96%
  - Parallel up to 2 units
- Output PF=1
  - Digital Charger, adjustable from 1A to 5A
  - 12A charger for option, charging for large capacity batteries
  - Self-aging mode, system can simulate full load test without connecting real load, saving more than 90% energy

Specification

MODEL	HR3115XL	HR3120XL
Capacity	15kVA	20kVA
Phase	Three phase in, Single phase out	
Input voltage range	190Vac~499Vac	
	100% load@ >305Vac, 90% load@ >266Vac 75% load@ >228Vac, 50% load@ >190Vac	
Input PF	≥0.99	
Input THDi	≤4% (100% Linear load)	
Input frequency range	40Hz-70Hz	
Output PF	1	
Output voltage	220V/230V/240V	
Voltage regulation	1%	
THDu	≤1% (full linear load ) ≤3% (full non-linear load )	
Battery voltage	192Vdc	
Battery type/number	External	
System efficiency	Normal: 95%	
	ECO: 98%;	
Noise(1 meter away)	<62dB	
Overload capability (Inverter mode)	110%: for 10 min; 125%: for 1 min; 150%: for 30 sec (shut down the bypass after 1 min)	
Overload capability (Bypass mode)	<125%: long term operation; 130%:shut down after 5 min; 150%: shut down after 1min; >150%: shut down after 200 ms	
Crest factor	3:1	
Display	LED+LCD	
Interface	Standard: RS232, EPO Optional: RS485, USB, SNMP, Dry contacts	
W*D*H(mm)	438*744*173	
Weight(kg)	33	

HT11 Series Tower Online UPS

6-20kVA (220V/230V/240V)

HT11 series, ranging from 6kVA to 20kVA, is double conversion online UPS with fully DSP controlled technology. The single phase UPS applies the advanced 3-level technology, achieving efficiency up to 95%. With its compact design of high power density (kW=kVA), HT11 series makes it an ideal choice for computers, telecommunication equipment and sensitive devices.



Application

IDC(Internet Data Center), network, servers and workstations, office etc

Features

- High efficiency, up to 95%
  - kVA=kW, Output PF=1
  - 3 level of technology, compatible with complicated load
  - Battery number can be set on LCD
- Intelligent charging management, effectively improving the life time of battery
  - Smaller size with higher power density
  - Parallel up to 2 units
  - 12A charger for option, charging for large capacity batteries

Specification

MODEL	HT1106XS	HT1106XL	HT1110XS	HT1110XL	HT1115XL	HT1120XL
Capacity	6kVA/6kW	6kVA/6kW	10kVA/10kW	10kVA/10kW	15kVA/15kW	20kVA/20kW
Phase	Single phase in , Single phase out					
Input voltage range	110Vac~288Vac					
	100% load@ > 176Vac; 90% load@ > 160Vac 80% load@ > 140Vac; 60% load@ > 110Vac					
Input THDi	≤4%@100% load; ≤6%@50% load (linear load)					
Input PF	≥0.99					
Input frequency range	40Hz-70Hz					
Output PF	1					
Output voltage	220V/230V/240V					
Voltage regulation	±1%					
THDu	≤1%(linear); ≤5% (non-linear)				≤1%(linear); ≤3% (non-linear)	
Battery voltage	192Vdc					
Battery type/number	12V, 7Ah*16	External	12V, 9Ah*16	External	External	
System efficiency	Normal mode: 95%					
Noise(1 meter away)	<48dB@<70%load; <58dB@>70%load				<50dB@<70%load; <58dB@>70%load	
Overload capability (Inverter mode)	110%: for 10 min;125%: for 1 min; 150%: for 30 second					
Overload capability (Battery mode)	110%: shut down after 1 min; 130%:shut down after 10 second; >130%: shut down after 200 ms					
Crest factor	3:1					
Display	LED+LCD					
Interface	Standard:RS232 Optional: SNMP, USB, RS485, Dry Contacts, Parallel Kit					
W*D*H (mm)	190*426*705	190*426*336	190*485*705	190*485*336	190*485*480	
Package Weight (kg)	56	14	60	16	33	



HT11 Series Tower Online UPS

1-3kVA (220V/230V/240V)

HT11 series is online double-conversion UPS with full DSP control technology. With high input and output power factor, self-adjusting output frequency and network management, HT11 is a perfect choice for computers, telecommunication equipments and other sensitive devices.



Application

IDC(Internet Data Center), network, servers and workstations, control system, communication system, office, PC etc

Features

- Wide range of input voltage while input PF>97%
  - Output PF is 0.9, more powerful load capability
  - Full protection of overvoltage, circuit short and over temperature
- LCD/LED display, monitoring all the operation status
  - Auto fan speed adjustment
  - Reliable and stable pure sine wave output

Specification

MODEL	I	HT1101S	HT1101L	HT1102S	HT1102L	HT1103S	HT1103L
	II	HT1101S-II	HT1101L-II	HT1102S-II	HT1102L-II	HT1103S-II	HT1103L-II
Capacity		1kVA		2kVA		3kVA	
Phase		Single Phase in, Single Phase out					
Input voltage		110Vac-288Vac					
		100% load@>176Vac; 80% load@>154Vac; 70% load@>132Vac; 50% load@>110Vac					
Input PF		≥0.97					
Input frequency		40Hz ~ 70Hz					
Output PF	I	0.9					
	II	0.8					
Output voltage		220V/230V/240V					
Voltage regulation		± 1 %					
THDu		≤2%(linear)					
		≤5.5%(non-linear)		≤5%(non-linear)		≤5%(non-linear)	
Crest factor		3:1					
Efficiency		87.0%		91.0%		90.0%	
Noise		<43dB@<70%Load, <47dB@>70%Load		<45dB@<70%Load, <50dB@>70%Load		<45dB@<70%Load, <50dB@>70%Load	
Overload capability		Inverter	105% ~ 130%: to bypass after 1 min; 150%: to bypass after 30 sec				
		Battery	105% ~ 130%: shut down after 10 sec; 150%: shut down after 5 sec				
Battery voltage	I	36Vdc		72Vdc		96Vdc	
	II	24Vdc		48Vdc		72Vdc	
Battery type/numbe	I	12V, 7Ah*3	External	12V, 7Ah*6	External	12V, 7Ah*8	External
	II	12V, 7Ah*2	External	12V, 7Ah*4	External	12V, 7Ah*6	External
Max charging current		1A	8A	1A	8A	1A	8A
Interface		RS232, EPO					
Optional		USB(B Type), SNMP, Dry contact					
W*D*H(mm)	I	144*353*222		190*375*336		190*427*336	
	II	144*353*222		190*374*336		190*374*336	
Weight(kg)	I	10.5	5	21	8.5	24.5	9.5
	II	10	6	17	11	22	12

# HTC11 Series Tower Online UPS 1-3kVA (220V/230V/240V)

HTC series is an online double-conversion UPS with fully digital control technology. This upgraded new generation of UPS not only has an ultra-high input and output power factor, but also increases the efficiency on the basis of the original 5%. HTC11 with adjustable 12A charger is a perfect choice for PC and other sensitive devices that request longer backup time.



## Application

IDC (Internet Data Center), network, servers and workstations, control system, communication system, office, PC etc.

## Features

- Wide range of input voltage while input PF>0.99
- LCD/LED display, monitoring all the operation status
- Output PF of 1, upgraded overload capability
- Auto fan speed adjustment
- Full protection of over-voltage and short-circuit
- External environment and battery temperature sensor
- Multiple communication interface: RS232, RS485, AS400, dry contact, USB and SNMP card
- 1-12A adjustable charger with more flexibility
- Support Lithium battery

## Specification

MODEL			HT1101CL	HT1101CS	HT1102CL	HT1102CS	HT1103CL	HT1103CS
System Capacity			1kVA		2kVA		3kVA	
Input	Phase		Single Phase in, Single Phase out					
	Input Volatge Range		110VAC~300VAC					
			176VAC~276VAC for 100% load; 276VAC~300VAC for 50% load; 110VAC~176VAC load decrease linearly from 100%~50%					
	Input Power Factor		≥0.99					
	Input Frequency		50/60±5Hz (Default), ±3Hz/±10Hz (settable)					
	Input Frequency Range		40Hz~70Hz					
	Frequency Adaptable		Settable					
Output	OutputVoltage		200/208/220/230/240VAC					
	Voltage Regulation		± 1 %					
	Rate Frequency		50/60Hz					
	Frequency Range		±0.1%					
	Output THDu		≤2% THD, linear load; ≤ 5% THD, non-linear load					
	Output PF		1 (0.9 for 200VAC/208VAC)					
	Crest Factor		3:1					
	Dynamic Response		≤5% (0% - 100% -0%)					
	Dynamic Recovery		≤40ms (0% - 100% -0%)					
	Overload Capability	Inverter	102%~110% for 30mins; 110%~125% for 10mins; 125%~150% for 30s					
Battery		102%~110% for 1min; 110%~125% for 10s; 125%~150% for 5s						
Bypass		<130%: long term operation; <150% for 10mins; <180% for 5s						
Battery	DC Voltage		36VDC		72VDC		96VDC	
	Number/Type		External	12V, 7Ah*3	External	12V, 7Ah*6	External	12V, 7Ah*8
	Charging Voltage		Settable					
	Max Charging Current		1-12A	1A	1-12A	1A	1-12A	1A
	Battery Cold Start		Standard					
System	Efficiency	Normal Mode	94.5%@100% load		95.5%@100% load		95.5%@100% load	
		ECO Mode	96%		97%		97%	
		Battery Mode	89.5%@100% load		91.5%@100% load		91.5%@100% load	
	Noise (1m away)		<43dB@<60%load <47dB@>60%load		<50dB@<60%load <55dB@>60%load		<50dB@<60%load <55dB@>60%load	
	Display		LED+LCD					
	Interface		RS232, input socket (IEC C14 for 1K, C20 for 2-3K)					
			output socket (2 National standard sockets for 1K, 4 National standard sockets for 2K 3 National standard sockets+1 20A connecting terminal for 3K)					
	Optional		RS485, USB, AS400 Dry Contact, SNMP Card, EPO External Battery Temperature, RJ45 Surge Protection, Dust net					
Physical	W*D*H(mm)		144*354*224	144*354*224	144*410*223	190*405*330	144*410*223	190*405*330
	W*D*H(mm)(Package size)		240*448*320	240*448*320	240*510*320	285*520*406	240*510*320	285*520*406
	Net Weight (KG)		4.3	10.3	5.8	21.1	6.2	25.5
	Gross Weight (kg)		5.6	11.6	7.1	23	7.5	27.5

# HR11 Series Rack Online UPS

## 1-10kVA (220V/230V/240V)

HR11 series, ranging from 1kVA to 10kVA, is double conversion online rack UPS with fully DSP controlled technology. The single phase of 6-10kVA UPS applies the advanced 3-level technology, achieving efficiency up to 95%. With its compact design of high power density (kW=kVA) in 2U height, HR11 series makes it an ideal choice for computers, telecommunication equipment and other sensitive devices.



### Application

IDC(Internet Data Center), network, servers and workstations, control system, communication system, office, PC etc

### Features

#### Common features for 1-10kVA

- Wide range of input voltage while input PF>99%
- 19" standard cabinet and battery cabinet
- Full protection of overvoltage, circuit short and over temperature
- LCD/LED display, monitoring all the operation status
- Automatic fan speed adjustment
- Abundant interface: RS232, USB, SNMP, Intelligent Card

#### Unique features for 6-10kVA

- High efficiency, up to 95%
- kVA=kW, output PF=1
- Intelligent charging management, effectively improving the life time of battery
- 3 level of technology, compatible with complicated load

### Specification

MODEL	HR1101S	HR1102S	HR1103S	HR1106XS	HR1110XS
	HR1101L	HR1102L	HR1103L	HR1106XL	HR1110XL
Capacity	1kVA	2kVA	3kVA	6kVA	10kVA
Input voltage range	110Vac-288Vac				
	100% load@>176Vac; 80% load@>154Vac 70% load@>132Vac; 50% load@>110Vac			100% load@ > 176Vac; 90% load@ > 160Vac 80% load@ > 140Vac; 60% load@ > 110Vac	
Input frequency	40-70Hz				
Input PF	≥0.97			≥0.99	
Voltage regulation	±1 %				
Output frequency	50/60Hz				
Output PF	0.9			1.0	
Overload capability (Inverter mode)	105%-130%: to bypass 1 min; 150%: to bypass after 30 sec			110%:for 10 min;125%:for 1min ; 150%: for 30 sec	
Overload capability (Battery mode)	105%-130%: shutdown after 10 sec; 150%: shutdown after 5 sec			110%: shut down after 1 min; 130%: shut down after 10 sec; >130%: shut down after 200 ms	
Crest factor	3:1				
Efficiency	87%	91%	90%	95%	
Display	LED+LCD				
Battery voltage	36Vdc	72Vdc	96Vdc	192Vdc	
Battery type/number	12V,7Ah*3	12V,7Ah*6	12V,7Ah*8	12V,7Ah*16	12V,9Ah*16
	External				
Interface	RS232, EPO				
Optional	USB, SNMP, Dry contacts			USB, SNMP, Dry contacts	
Operation temperature	0-40℃				
Relative humidity	0-95% (non-condensing)				
W*D*H(mm)	440*430*86	440*480*173	440*480*173	440*660*173	
	440*430*86	440*480*86	440*480*86	440*550*86	
Weight(kg)	11.5	25	31	59	67
	7	8	9.5	17.5	20.5

## Rack battery cabinet

Rack battery cabinet is special designed for IDC solution, compatible with 19" standard rack cabinet, online maintenance and convenient to be integrated into servers system.

Each battery package can install 40pcs 7 or 9Ah batteries, and connecting multiple packages in parallel to get longer backup time.

### Solution



## Smart Remote Monitor

Smart Remote Monitor has been specifically designed to provide detailed information of the running UPS over a long distance, which is suitable to be used in data center, IDC, monitor and control room and other applications. The Smart Remote Monitor displays and monitors the parameters and status of the UPS in real time, ensuring the safe running of the UPS system.

### Solution



# Smart Charging Module

Smart charging module is designed for large current charging application where long back up time is required. There are 2 kinds of charging module, 15Amp and 50Amp. 15Amp current charging module is compatible with 10/15kVA power module based RM series 10-90kVA and can provide additional maximum current of 15Amp\*N; 50Amp current charging module is compatible with 30kVA power module based RM series 25-600kVA and modular-designed HT33 series 60-120kVA and can provide additional maximum current of 50Amp\*N.

## Features

Modular and hot-swappable design

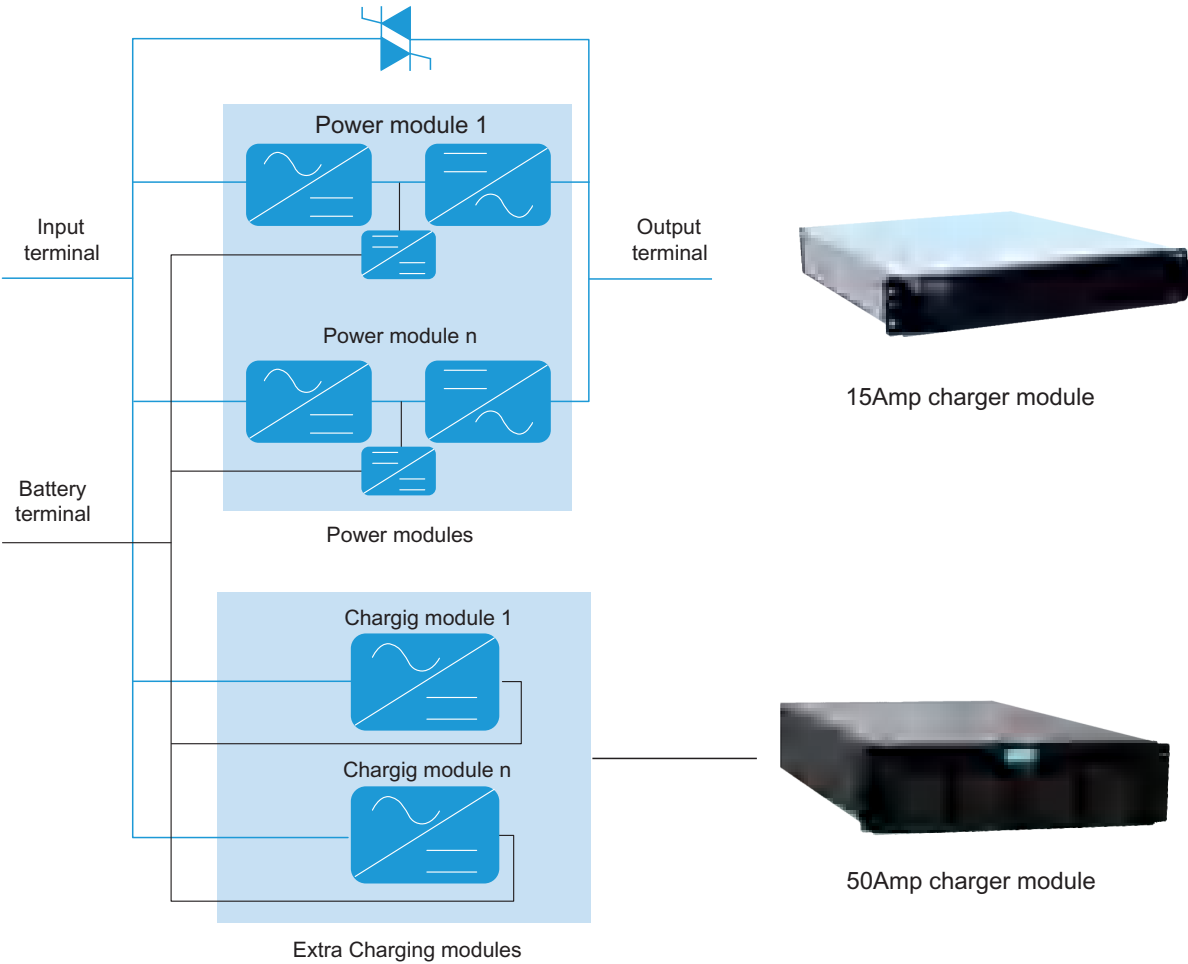
Modular and hot-swappable design, the same size and outlook as power module

Large charging current

Each charging module can provide a maximum current of 15Amp (Or 50Amp) and charging current can be set from 0-15Amp (Or 0-50Amp) on site

Compatibility

Compatible with 15kVA (Or 30kVA) power modules, easy for the UPS to expand charging capacity

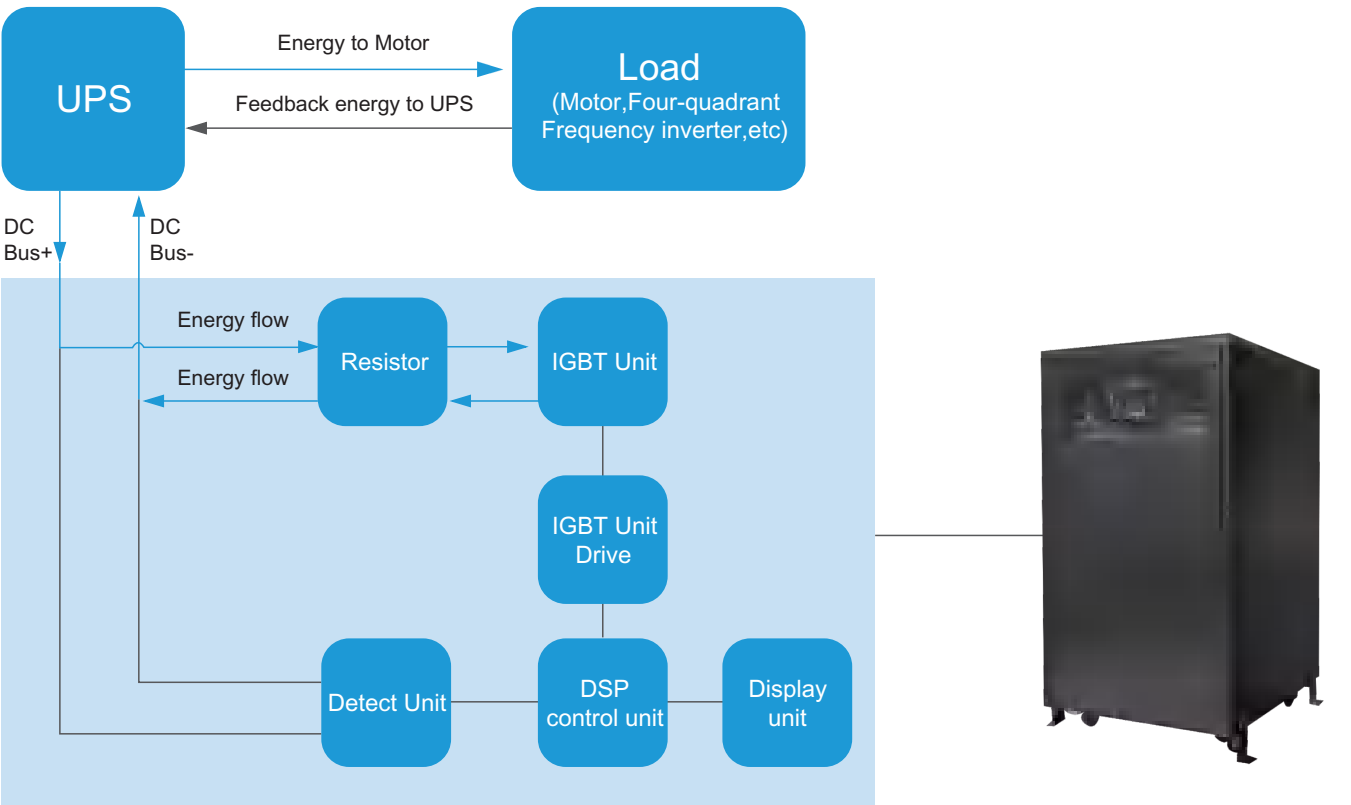


# Energy Absorbing Unit

The intelligent Back-feed Absorbing Unit (BAU) is designed to cooperate with the UPS for industrial applications, where the energy is feeding back to the UPS from load. BAU provides an excellent solution for these cases.

## Application

Motor braking current(A)	60	90	150	300
UPS type	RM120/30X	RM180/30X	RM300/30X	RM600/30X
RM/BAU	RM/BAU200			2xRM/BAU200
Max feedback energy that can be absorbed	80kW	120kW	200kW	2x120kW





## 24A External Charger

24A External Charger is designed for large current charging application where long back up time is required. It applies to HT1106XL, HT1110XL and HTX31 series UPS.

It is the same appearance and size as HT1106XL. The charging current range is from 1A to 24A, and it can be set on LCD.

This Charger includes several communication ports: RS232, EPO, USB.

### Solution

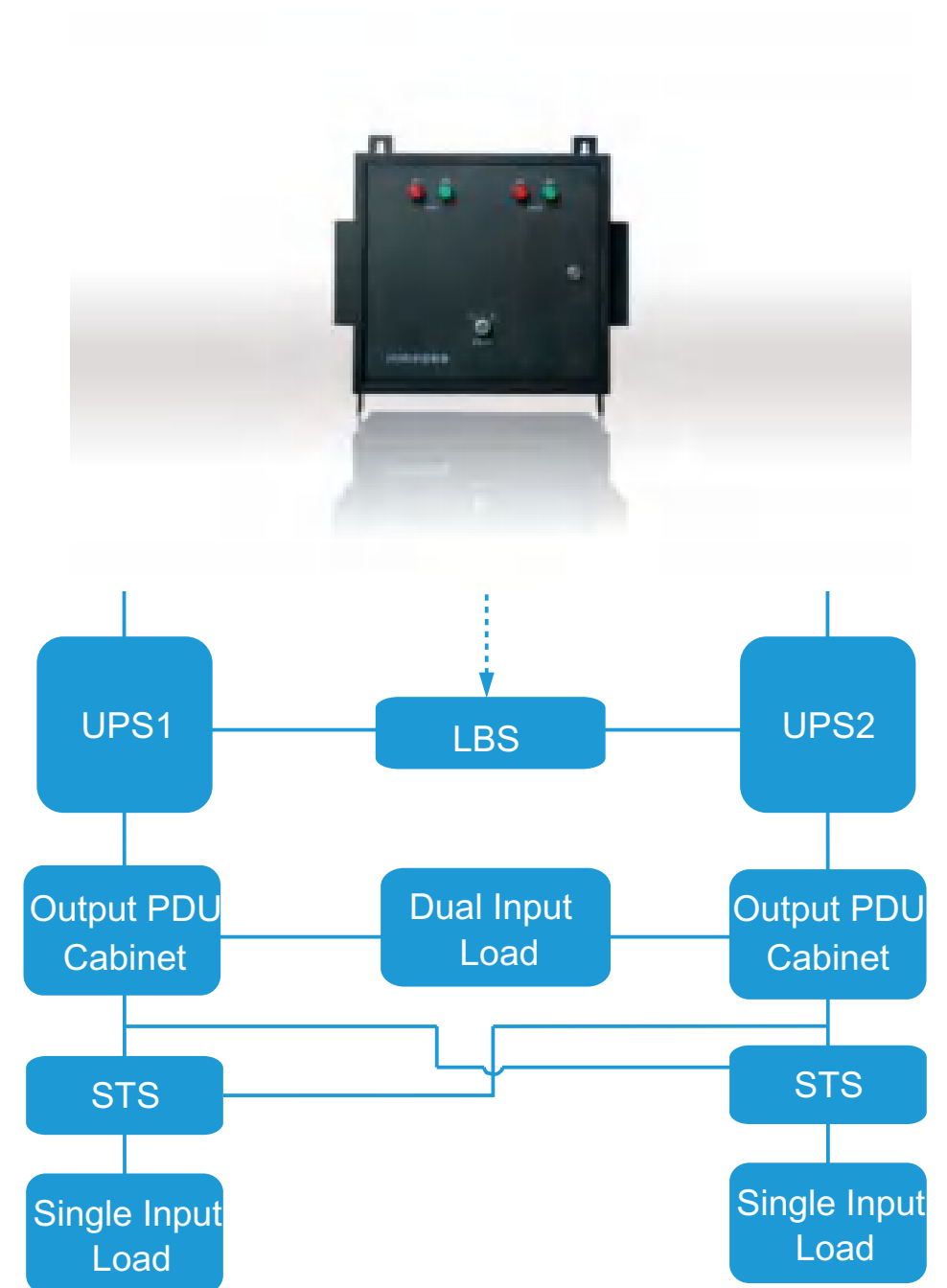


## Load Bus Synchronization

Load Bus Synchronization (LBS) is designed to improve the redundancy and reliability for N+1 redundant system. In normal situation, UPS1 and UPS2 work equally with its own load, when one UPS goes failure, the system transfer to another UPS without interruption. And the LBS is used to synchronize the output phase of two UPS.

LBS is applied in three mode: LBS mode, parallel LBS mode and slave LBS mode.

### Solution



## Battery Cabinet

The battery cabinet is made of cold rolled steel or galvanization plates of high mechanical performance and bearing capacity. The compact structure with electrostatic spraying makes the cabinet more wear-resistant, corrosion-resistant and fireproofing.

The cabinet is designed as assembly type which is convenient for transportation. All these guarantee the reliability and safety for the UPS.



### Specification

Model	Colour	Materials	Weight	Layer	Size(mm)	QTY of Battery
C1A	Computer grey and black	Steel plates or galvanized plates	4.5kg	1	525*210*225	17AH, 6PCS;24AH, 4PCS; 38AH 3PCS;
C3	Computer grey or black	Steel plates or galvanized plates	9kg	1	585*470*335	17AH,14PCS;24AH,6PCS; 38AH ,6PCS; 65AH, 3PCS; 100AH 3PCS;
C6	Computer grey or black	Steel plates or galvanized plates	16kg	2	585*470*615	17AH ,28PCS;24AH, 12PCS; 38AH, 12PCS; 65AH, 6PCS; 100AH 6PCS;
C8	Computer grey or black	Steel plates or galvanized plates	21kg	2	780*470*615	17AH 36PCS;24AH, 16PCS; 38AH, 16PCS;65AH ,8PCS; 100AH, 8PCS;
C12	Computer grey or black	Battery terminal	32kg	4	780*470*910	24AH,24PCS;38AH,24PCS 65AH,12PCS;100AH,12PCS;
C16	Computer grey or black	Steel plates or galvanized plates	44kg	4	780*470*1190	24AH,32PCS;38AH,32PCS; 65AH,16PCS;100AH,16PCS;
C20	Computer grey or black	Steel plates or galvanized plates	50kg	4	950*470*1190	24AH,40PCS;38AH,40PCS; 65AH,20PCS;100AH,20PCS;
C40-100	Computer grey or black	Steel plates or galvanized plates	95kg	4*2	950*880*1190	65AH,40PCS; 100AH,40PCS;
C40-120	Computer grey or black	Steel plates or galvanized plates	120kg	4*2	1000*880*1475	120AH,40PCS;
G40-150	Computer grey or black	Steel plates or galvanized plates	150kg	4*2	1100*1170*1480	150AH,40PCS;
G40-200	Computer grey or black	Steel plates or galvanized plates	200kg	3*2	1900*1270*1260	200AH,40PCS;

## MF Series Sealed Lead Acid Battery

2V/6V/12V (4AH-3000AH)

- Long life expectancy
- Maintenance free
- Low self discharging
- High reliability



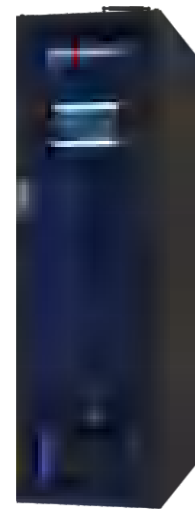
### Specification

Model	RatedVoltage(V)	Capacity(Ah)	Dimension(±1mm)				Weight±5%
			Length	Width	Height	Total Height	kg
			mm	mm	mm	mm	
MF4-12	12	4	91	71	102	108	1.4
MF7-12	12	7	151	65	94	100	2.15
MF9-12	12	9	151	65	96	100	2.5
MF12-12	12	12	151	98	95	101	3.4
MF17-12	12	17	181	77	167	171	5.2
MF24-12	12	24	166	175	125	129	7.6
MF38-12	12	38	197	165	170	170	12.4
MF65-12	12	65	350	167	179	179	19.6
MF100-12	12	100	328	171	214	220	30.5
MF120-12	12	120	410	176	227	227	33.5
MF150-12	12	150	482	170	242	242	44.5
MF200-12	12	200	522	238	218	222	60
MF250-12	12	250	520	269	220	224	69.5
MF4-6	6	4	70	47	101	107	0.65
MF7-6	6	7	151	34	94	100	1.08
MF9-6	6	9	98	56	117	117	1.35
MF12-6	6	12	151	50	94	100	1.7
MF100-6	6	100	195	170	207	213	16.5
MF150-6	6	150	260	180	247	251	23.5
MF200-6	6	200	250	125	362	366	31
MF300-6	6	300	295	178	345	350	47
MF100-2	2	100	171	72	206	211	6.3
MF150-2	2	150	172	102	205	227	8.1
MF200-2	2	200	177	88	371	377	13.5
MF300-2	2	300	177	118	371	377	18.5
MF400-2	2	400	177	148	371	377	24
MF500-2	2	500	177	187	371	377	30
MF600-2	2	600	218	178	371	377	36
MF800-2	2	800	290	180	371	378	48
MF1000-2	2	1000	368	180	371	378	59
MF1500-2	2	1500	590	189	380	385	89
MF2000-2	2	2000	361	412	380	385	119
MF3000-2	2	3000	590	361	380	385	179

# iSmart Series Single Cabinet Data Center

## iSmart Product Introduction ▼

The iSmart series single cabinet data center integrates UPS, air conditioner, power distribution module, power and environment monitoring system, temperature and humidity detection, light and access control in a standard 19-inch server cabinet. All equipment is pre-installed and pre-commissioned in the factory. The on-site installation is easy and convenient, which can realize rapid deployment, occupy less area, and come with remote web interface monitoring function, which can realize remote operation and maintenance of a site.



## Product Features ▼



### Safe and reliable

- All components follow domestic and international standardized production standards to ensure product quality.
- Pre-installation, pre-commissioning and other process are controlled at various levels to ensure product installation and operation safe and reliable.
- A single cabinet is a complete system, suitable for various complex scenes (dust, narrow space, no insulation measures, etc.).
- Integrated design, overall delivery, avoid system design problems.
- The door pop-up system can delay the aisle overheating and reserve time for data backup.
- The cabinet integrates an intelligent monitoring system to ensure safe and reliable operation of the computer room.



### Easy installation and rapid deployment

- Modular design of power distribution, easy installation and maintenance.
- Rack-mounted air conditioner indoor unit, pipe thread connection, easy maintenance.
- The computer room does not need special decoration treatment, and the equipment is ready to use. Installation and commissioning cycle only need 3 hours.
- A single cabinet is a complete system, plug and play.



### High efficiency and energy saving

- Proximal refrigeration, high-efficiency power supply, and the overall annual average PUE of single cabinet  $\approx 1.30$ .
- The power distribution, UPS, monitoring, and refrigeration cabinets are integrated to save space.
- Engineering free design, free decoration and wiring, remote operation and maintenance are not on duty, saving TCO.



### Intelligent management

- The monitoring system is extensible and compatible with third-party monitoring systems; friendly HMI.
- Support local and remote WEB interface access, SMS alarm function.

## Structure and Composition ▼



## Applicable Scene ▼

- Computer rooms of medium and small enterprises, large enterprises, government branch offices.
- Financial business offices, communication business halls and base stations.
- Commercial retail institutions, tourist attractions.
- Gas stations, toll stations, smart buildings.
- Grassroots public security agency, government agency.

## Floor area ▼

The overall area of a single cabinet is 0.72m<sup>2</sup>, which is suitable for computer rooms within 10-20 m<sup>2</sup>, such as small archives.

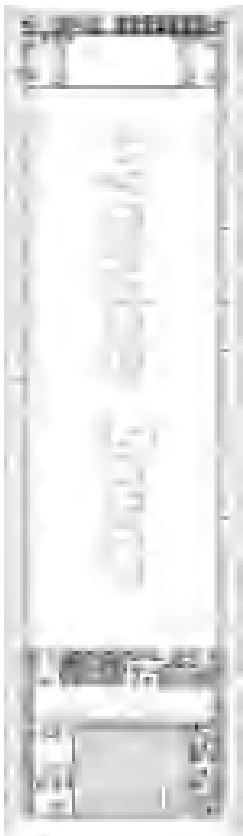
## System Capacity ▼

Capacity of single cabinet  $\approx 3\sim 5\text{kVA}$

Product Layout Diagram ▼

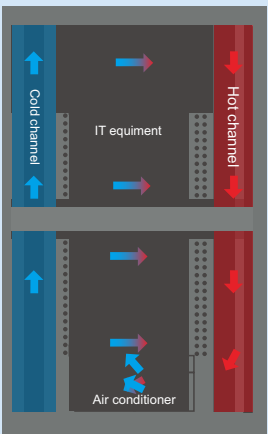


Front View



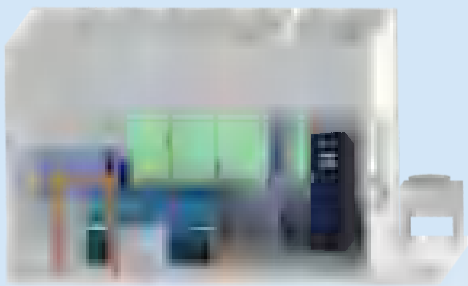
Rear View

Airflow Reference Chart ▼



Note: The layout can be adjusted according to the equipment layout.

Application Scenario ▼



Product Configuration ▼

iSmart Series Integrated Cabinet Solution		
System	IT rated power	3-5kW
	Mains	220Vac,50Hz/60Hz
	Ambient temperature	0-45℃
	Ambient humidity	10-95% (Relative humidity)
	IP Class	IP5X
	Altitude	1000m, dereating for >1000m
Cabinet	Dimension ( W*D*H)	600*1200*2000mm(Without caster)
	Space occupation	≤32U
	Display	10.1'' touch screen LCD
	Lighting	Front and rear LED, front Tri-color LED
	Cable entry	Top and bottom
	Access control system	Fingerprint +IC/ID card + Password
Power Supply and Distribution System	Distribution module	63~80A
	UPS	Rackmounted, 3kVA/6kVA
	Battery	Built-in battery or external battery cabinet
	PDU	2pcs, 16 ports (13*C13+3*C19)
Monitoring System	Supervision system	Intelligent integrated monitoring host
	Single cabinet	Single cabinet control module
	Centralized Monitoring	smoke sensor*1
		Temperature&humidity sensor*1
		Water leakage sensor*1
		Webcam (optional)
		Infrared detector(optional)
		SMS alarm (optional)
	Emergency Ventilation	Emergency pop-up door system
Cooling System	Method	
	Rated cooling capacity	3.7-7.5kW
Mechanical	Rated air volume	700-1350m³/h
	Package dimensions	720*1338*2230mm
	Cabinet color	Black (RAL9004)

Standard Parts and Optional Parts List ▼

Standard Parts	Intelligent Control Screen	Single Cabinet Control Module	Power Distribution Module	PDU*2	Tri-color LED	Lamp
	Outdoor Unit	Indoor Unit	Access Control	Temperature& Humidity Sensor	Water Leakage Sensor	IC Card *1
Optional Parts	UPS	Infrared Detector	Cover Plate	Webcam	SMS Alerter	Audible and Visual Alarm
	Floating Nut	Battery Pack	Battery Cabinet	IC/ID Card	L-Rail	Tray

# iWit Series Single Row Cabinet Data Center

## iWit Product Introduction ▼

The iWit series single row cabinet data center integrates all needed equipment into cabinet with closed hot and cold aisle, kinds of sensors monitored and managed by power and environment system, which standardize the whole data center to smaller space, comes with remote intelligent controlling, provides safe and reliable operation environment. No need for professional engineer maintenance which simplify construction, operating and maintenance.



## Product Features ▼



### Safe and reliable

- All components follow domestic and international standardized production standard to ensure product quality.
- Pre-installation, pre-commissioning and other process are controlled at various levels to ensure product installation and operation safe and reliable.
- Integrated design, improving overall system reliability.
- Intelligent pop-up door system ensure the continuous operation of the system effectively.
- Redundant design, integrated intelligent monitoring system, ensure the safe and reliable operation of the computer room.



### Rapid installation

- Engineering free design, suitable for various scenes, install rapidly.
- Modular design of power distribution, hot-swappable ,easy installation and maintenance.
- The system does not need special decoration treatment, the equipment is ready to use. Installation and commissioning cycle only need 4-6 hours.
- A single cabinet is a complete system, which can be easily and quickly expanded to 16 cabinets side by side.



### High efficiency and energy saving

- Array/rack mount refrigeration, precise cooling, greatly improve cooling efficiency, compared with traditional computer room energy saving 25%.
- The system adapts N+X online high-efficiency modular UPS, equipped with intelligent sleep function making system save more energy.
- Remote operation and maintenance, human-free design, saving TCO.
- Closed hot and cold aisles, and effective cooling, realize air inner circulation to reduce operating costs.

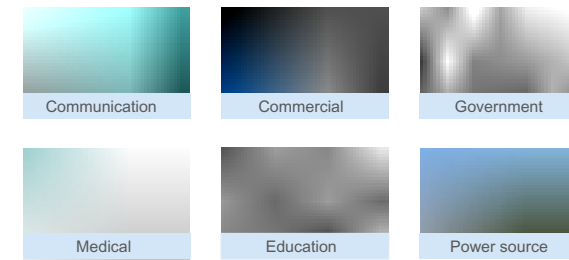


### Intelligent management

- Intelligently monitor power supply and environment status.
- Instant and real-time alarm through various ways(SMS, sound and light, e-mail,phone).
- The monitoring system is compatible with many parts(screen, remote APP, local LCD, remote WEB); friendly HMI.
- Provide kinds of interface(ModbusTCP, MQTT, SNMP), easy to system integration.

## Applicable Scene ▼

Computer rooms of medium and small enterprises, government branch offices, commercial, medical, education, power, communication and other scenes.



## Floor area ▼

The overall area of a single cabinet is 0.9m², which is suitable for computer rooms within 20-60m².

## System Capacity ▼

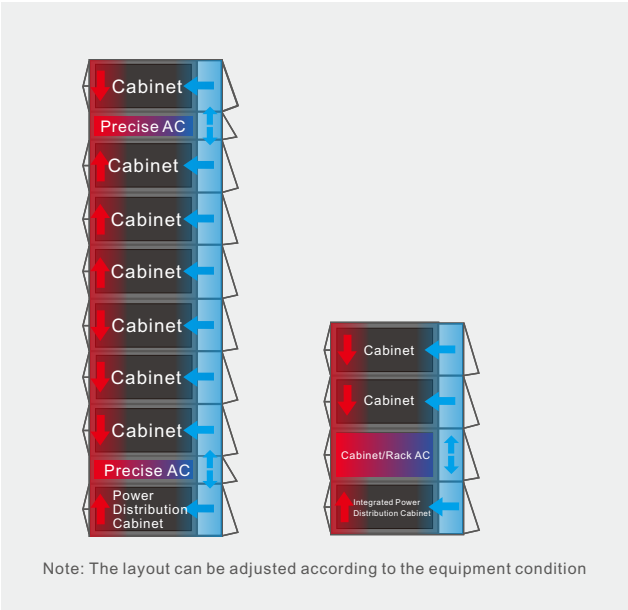
Capacity of single cabinet≈3~7kVA

## Structure and Composition ▼





Airflow Reference Chart ▼



Application Scenario ▼



Parameters ▼

iWit Series small and medium size Integrated Data Center Solution (closed hot and cold aisles)			
Overall plan	IT cabinet number		2-15 cabinets
	Mains		220Vac, 50/60Hz, 1Ph+N+PE; 380Vac, 50/60Hz, 3Ph+N+PE
	Ambient Temperature		0-45°C
	IP Class		IP5X
	Altitude		1000m, derated for>1000m
Cabinet	Dimension(W*D*H)		600*1400*2000mm(Without caster)
	Display		10.1 inch touch screen LCD
	Lighting		Front and rear LED, front Tri-color LED
	Cable entry		Top and bottom
	Door Security		Fingerprint+IC/ID card+Password
Power supply and distribution system	Emergency Method		Pop-up door system
	Distribution system	Total input current	63-200A
		Thunder protection	C Level
	UPS	Capacity	10kVA-90kVA
		Input Voltage	220Vac, 50/60Hz, 1Ph+N+PE; 380Vac, 50/60Hz, 3Ph+N+PE
		Operation Mode	1(phase in)/1(phase out), 3/1, 3/3
		Battery	Battery pack/cabinet
	PDU	Normal	2pcs, 16ports(13*C10A + 3*C16 )
		Intelligent	Intelligent PDU 24 ports (optional)
Refrigeration system	Power Supply		Mains power supply
	Cooling Capacity		3.7-25kW
	Installation Method		Rack-mount/array can be chosen
	Inlet Outlet Method		Air flow out from ahead and circle to back
	Compressor Type		Variable frequency
Monitoring system	Dynamic Environment Monitoring		Intelligent intergrated monitoring host
			Standard power collection
	Environment Monitoring		Smoke sensor*1, can have an addition
			Temperature&humidity sensor(optional)
			Water leakage sensor*1
			Webcam(optional)
			Infrared detector(optional)
	Other Optional Accessories		SMS alarm(optional)
			Audible and visual alarm(optional)

The difference with traditional solution ▼

	iWit series single row data center	Traditional data center
Design	Pre-commissioning in dustry, put into use directly	Different supplier coordinate
Power Distribution	Rack mount, modular, including thunder protection	Isolated design, installation without thunder protection
Installation	Distributed wiring, integrated in dustry, modular	Long construction period, design on site, lack of reliability
Scalability	All components are modular, module number can be adjusted	Lack of expandability
Construction Time	4-6 hours	40 days(including decoration)
Appearance	Unified and harmonious appearance	Hard to unified size/color
Dustproof	Totally enclosed system, IP5X,targeted protection of core equipment	Not avaliable(high cost of dustproof)
Cooling efficiency	Enclosed hot and cold air channel, cooling by the nearest AC, improve cooling efficiency	No isolation of hot and cold air channel, low utilization
Noise	<45dB(A)	>65dB, not suitable for human long-term work
Monitoring System	Local and remote monitoring, human-free	Isolated monitoring equipment, different interface,incompetible
Client interface	Embeded Linux system, long-term operation safe and steady, graphical interface, easy management	Industrial PC, easy to crashing, monitor interface incompetible
Emergency solution	Emergency pop-up door, make good use of room to dissipate heat, maximize the time of emergency operation	Not avaliable
Service	Unified brand and service, full service during the life of product	Different guarantee period service interface and phone number

The above parameters are for reference only, the actual configuration parameters are based on customer needs.

# iTalent Series Dual Row Cabinet Data Center

## Product Introduction ▼

iTalent series dual row cabinet data center adopts modular design, integrating power supply and distribution system, air conditioning system, cabinet system, closed aisle system, monitoring system and cabling system into one, and configuring various environmental data sampling sensors for unified monitoring and management by eSite cloud map monitoring system, realizing automatic control and intelligent operation and maintenance, enhancing data center reliability, availability and maintainability.



## Product Features ▼



### Safe and reliable

- All components are manufactured according to international and domestic standards to ensure product quality;
- Data center productization, productization reliability up to 99.999%. Adopt integrated design to enhance the overall reliability of the system;
- Redundant design of key components to improve system reliability;
- The data center power distribution and cooling system is designed according to the international class A server room (international standard Tier IV level);
- Integrated intelligent monitoring system, early warning of key data to ensure the safety of server room operations reliable.



### Easy installation

- Standardized components, modular architecture, and rapid on-demand deployment to match your business;
- No need for professional machine room, can be installed directly on the concrete floor of the building, reducing the supporting engineering;
- The products are standardized, modular, plug-and-play, and easy to be installed, greatly reducing the installation cycle.



### High efficiency and energy saving

- The average annual PUE can be reduced to 1.30;
- The use of in-row air conditioner cooling, closed cooling space to achieve precise cooling near the server side, greatly improving the efficiency of cooling, comparing with the traditional server room can save energy by more than 35%;
- N+X high efficiency online modular UPS with intelligent sleep function to save more energy;
- High density deployment, single cabinet up to 10kW;
- Integrated power supply and distribution, space saving, 1-2 more equipment cabinets can be deployed;
- Remote O&M is unattended, saving TCO.



### Intelligent management

- Intelligent monitoring of the working status of power and environmental systems;
- Intelligent intel, visual display of key information, easy operation and maintenance;
- Real-time alerts can be made in time by SMS, telephone, email, sound and light, etc;
- Provide a variety of human-machine interaction methods such as operation and maintenance large screen, remote APP, local LCD and remote WEB;
- Provide a variety of northbound interfaces such as ModbusTCP, MQTT, etc. for easy system integration.

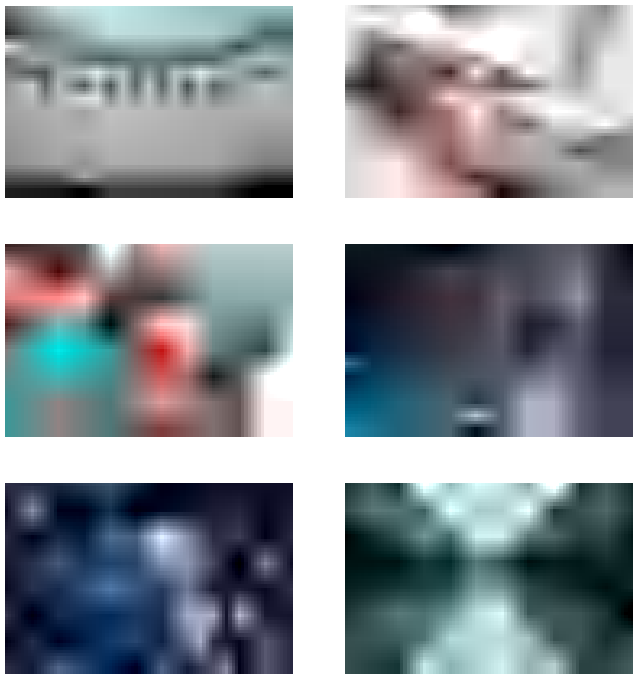
## Parameters ▼

iTalent series dual row cabinet data center			
		Parameters	
System	Size(W*D*H)	3600*L*2600mm ( L≤15000mm )	
	IT rated power/cabinet	3~10kW	
	Door Specifications	Automatic sliding doors/manual sliding doors/pull-out doors	
	Intelligent Lighting	LED white light, intelligent color ambient light, linkage with monitoring system.	
	Access Control System	Support face/fingerprint/password/IC and other methods can be selected	
	Ambient temperature	0-45℃	
	Ambient Humidity	10-95%, Relative Humidity	
	Protection class	IP20	
	Altitude	1000 m, more than 1000 m need to be derated.	
	Installation method	Direct concrete floor installation / Raised floor installation	
	Installation method	Direct concrete floor installation / Raised floor installation	
Cabinet	Size(W*D*H)	600/800*1200*2000mm	
	Available Space	42U	
	Inlet method	Support up/down wire feed	
Power Distribution System	Power Distribution Cabinet	Input method	Single circuit MCCB/Dual circuit ATS
		Grid system	380/400/415Vac, 50/60Hz
		Specification	63~400A
		SPD	B/C class optional
		Type	Integrated UPS distribution cabinet/precision distribution cabinet/intelligent busbar
	UPS	Capacity	Built-in maximum 200kVA, external 200kVA or more
		Input Freq.	40-70Hz
		Output PF	1
		Battery	Built-in cabinet type battery cabinet or external battery cabinet
	PDU	Ordinary Type	[National standard 12-bit 10A + 3-bit 16A]*2
		Smart Type	24-port intelligent PDU (optional)
Cooling System	Air Conditioner Capacity		12.5~60kW
	Cooling method		Air-cooled
	Refrigerant		R410A
Monitoring System	HMI		21.5 inch touch screen
	System Functions		Remote WEB/Centralized monitoring of power, environment, video, access control system/Northbound interface
	Monitoring accessories		Smoke sensor/T&H sensor/water flood sensor/infrared sensor/webcam/access control/fire linkage
	Alarm method		E-mail / SMS, Audible and visual alarm, Telephone Voice, APP(optional)

The above parameters are for reference, the actual configuration parameters are subject to customer requirements.

Applicable Scene ▼

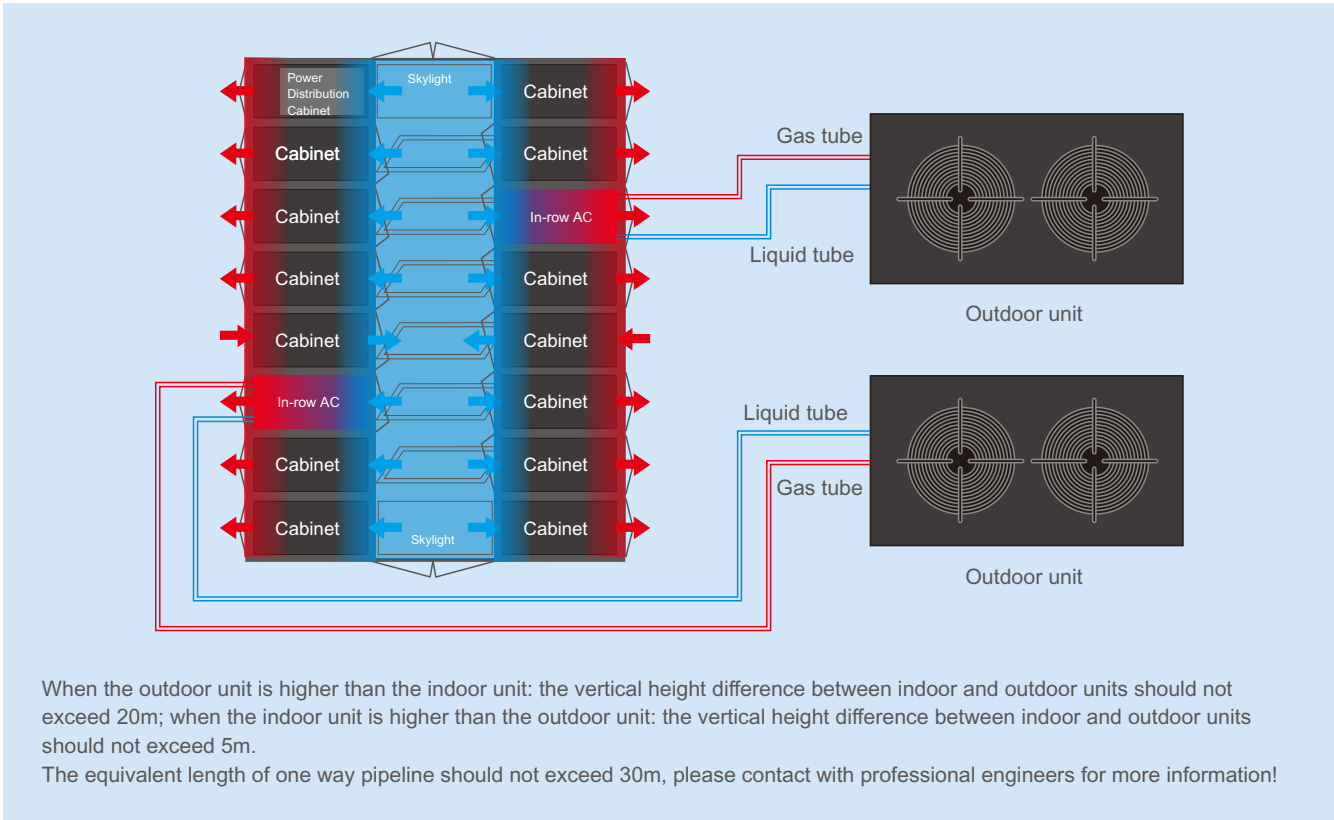
Large-scale data center, campus data center and other core business server room, suitable for Government, medical, education, finance, telecom and other leasing and self-use businesses.



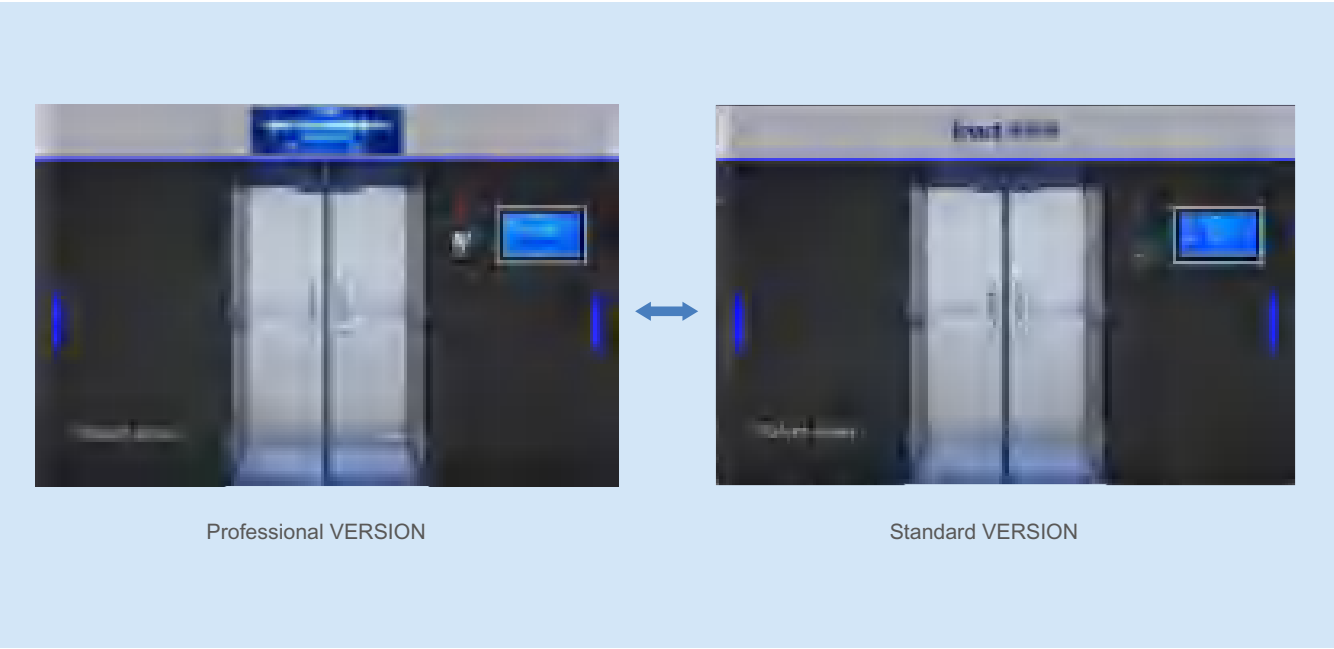
Applicable power ▼

The maximum supported power of a single cabinet is 10kW per cabinet. And it supports up to 50 cabinet which includes air conditioner and power distribution cabinet.

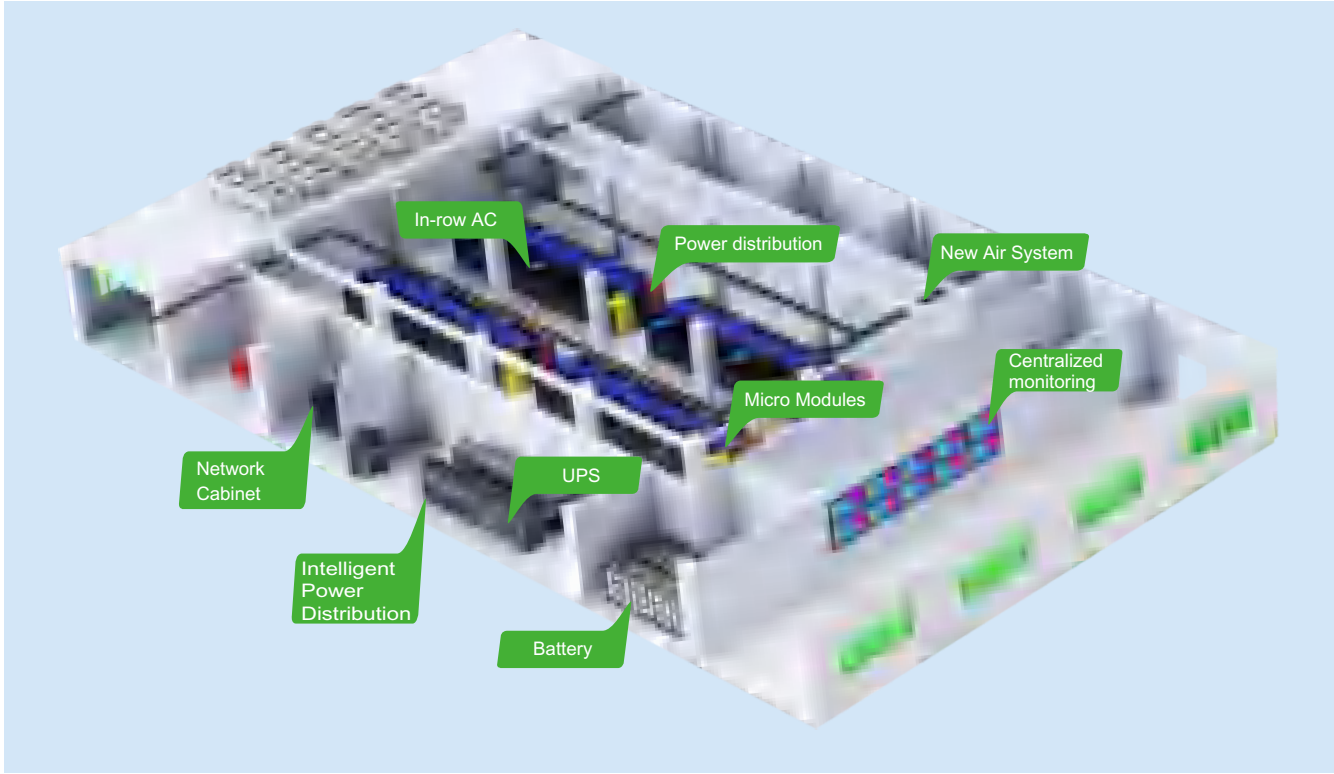
Air flow organization reference chart ▼



Diversified configurations ▼

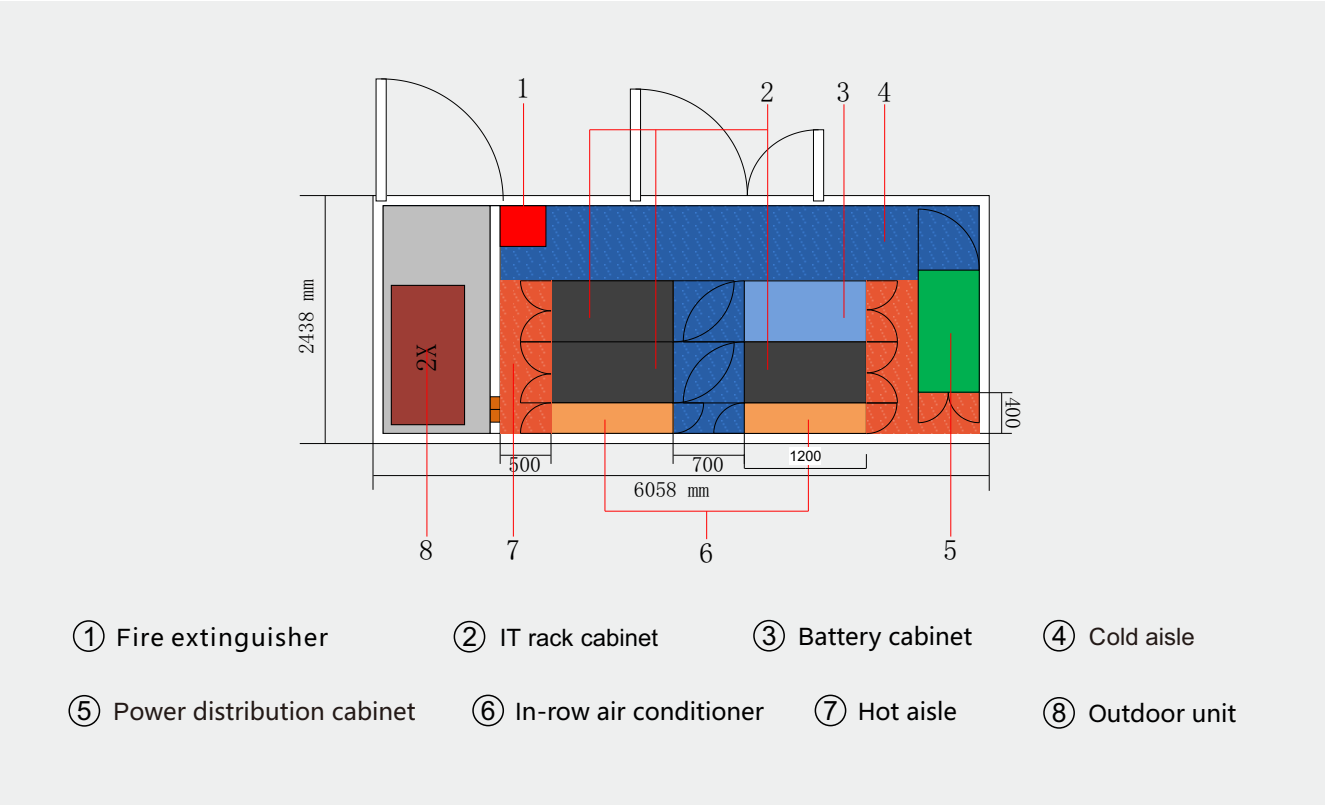


Integrated Data Center Application Scenario Diagram ▼



- ① IT rack cabinet      ② Battery cabinet      ③ Power distribution cabinet      ④ Cold aisle
- ⑤ Fire extinguisher      ⑥ Hot aisle      ⑦ In-row air conditioner      ⑧ Outdoor unit





Product Demo ▼



Parameters ▼

iLegend Container Data Center Product Specification			
		40ft layout All-In-One solution	20ft layout All-In-One solution
Cabinet System	Size of IT cabinet (W×D×H) mm	600×1200×2000	600×1200×2000
	Num. of IT cabinet (pcs)	8	3
	Power of each cabinet (kW)	6/9 (High density)	6/9 (High density)
	Total power (kW)	48/72 (High density)	18/27 (High density)
Power and Distribution System	Power supply system	250A Dual input/ATS optional; 380/400/415V, 50/60Hz, 3Ph+N+PE; input lightning protection 8/20us, In=20kA, Imax=40kA	125A Dual input/ATS optional; 380/400/415V, 50/60Hz, 3Ph+N+PE; input lightning protection 8/20us, In=20kA, Imax=40kA
	UPS	Modular Online UPS 90~150kVA	Modular Online UPS 40~90kVA
	Battery back-up time	In-row battery cabinet, the number of battery and capacity can be selected according to project requirements	
	PDU	16 port IEC PDU (C13*12+C19*4) ,32A	
Cooling System	Cooling method	Default installation of 25kW air-cooled inverter in-row air conditioner (300mm wide)	
Monitoring System	Power and environment system	Monitoring host can realize the centralized monitoring of integrated power distribution cabinet, UPS, air conditioning, access control, video, fire, etc., and support sound and light, telephone, WeChat, SMS, e-mail multiple alarm methods	
	Access control	Support IC card + password + fingerprint three-in-one access control system, optional face recognition	
	Local Display	Support 10.1 inch touch screen, support local touch screen, client, remote Web, mobile app and other display methods	
Fire Prevention System	Fire extinguishing system	Automatic flooding fire extinguishing system, cold/hot aisles are equipped with smoke and temperature sensor, automatic control of fire gas release , support for sound and light, gas release indicator and other warning methods, support for manual emergency opening of the fire extinguishing system (optional Pipe fire extinguishers)	
	Fire extinguishing gas	FM200/HFC-227ea (Novec 1230 optional)	
Container Structure	Container size (H×W×L) mm	40ft:2896×2438×12192	20ft:2896×2438×6058
	Weight of container (T)	8	4
	Container load-bearing (T)	15	7
	Container protection	Waterproof, dustproof, anti-mold, protection grade:IP55	
Operation Environment	Ambient temperature (°C)	-40~50 (-20 °C below require optional low temperature components and water pipes need to do insulation treatment)	
	Altitude (m)	More than 1000m need to be derated	



# eSite Monitoring System

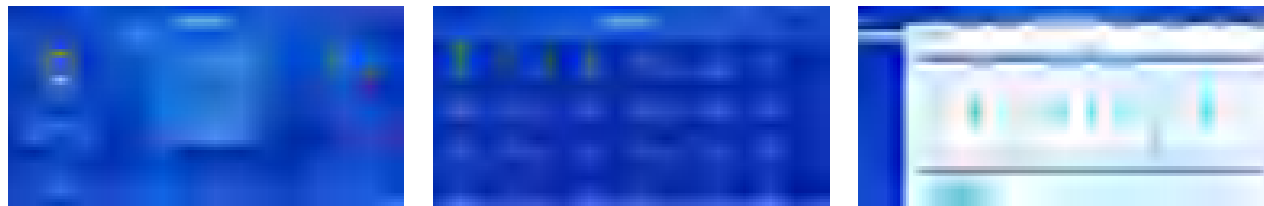
## Product Introduction ▼

The eSite monitoring system adopts the centralized monitoring of IoT, the composition of the local power and environment monitoring host and the expanded control module, providing a set of the computer room monitoring system with complete functions, flexible deployment and high reliability.

- Support the intelligent detection of all equipment such as UPS, air conditioner, power distribution, environmental detection, security, fire protection, etc.;
- Support multiple monitoring methods such as local LCD, local web, cloud web, mobile APP, etc.;
- Support multiple alarm methods such as telephone, SMS, email, audible and visual alarm;
- Support multiple northbound interfaces such as MQTT, ModbusTCP, SNMP, etc.;



## Monitoring Interface ▼



## Performance Characteristics ▼



Complete history record, with event processing record function, and download and export



WEB access setting, no need for B/S structure software Installation



Standardized connection makes implementation easier and faster.



Diversified warning methods, such as SMS, mail files, sound and light.



Modular design, easy to install and maintain.

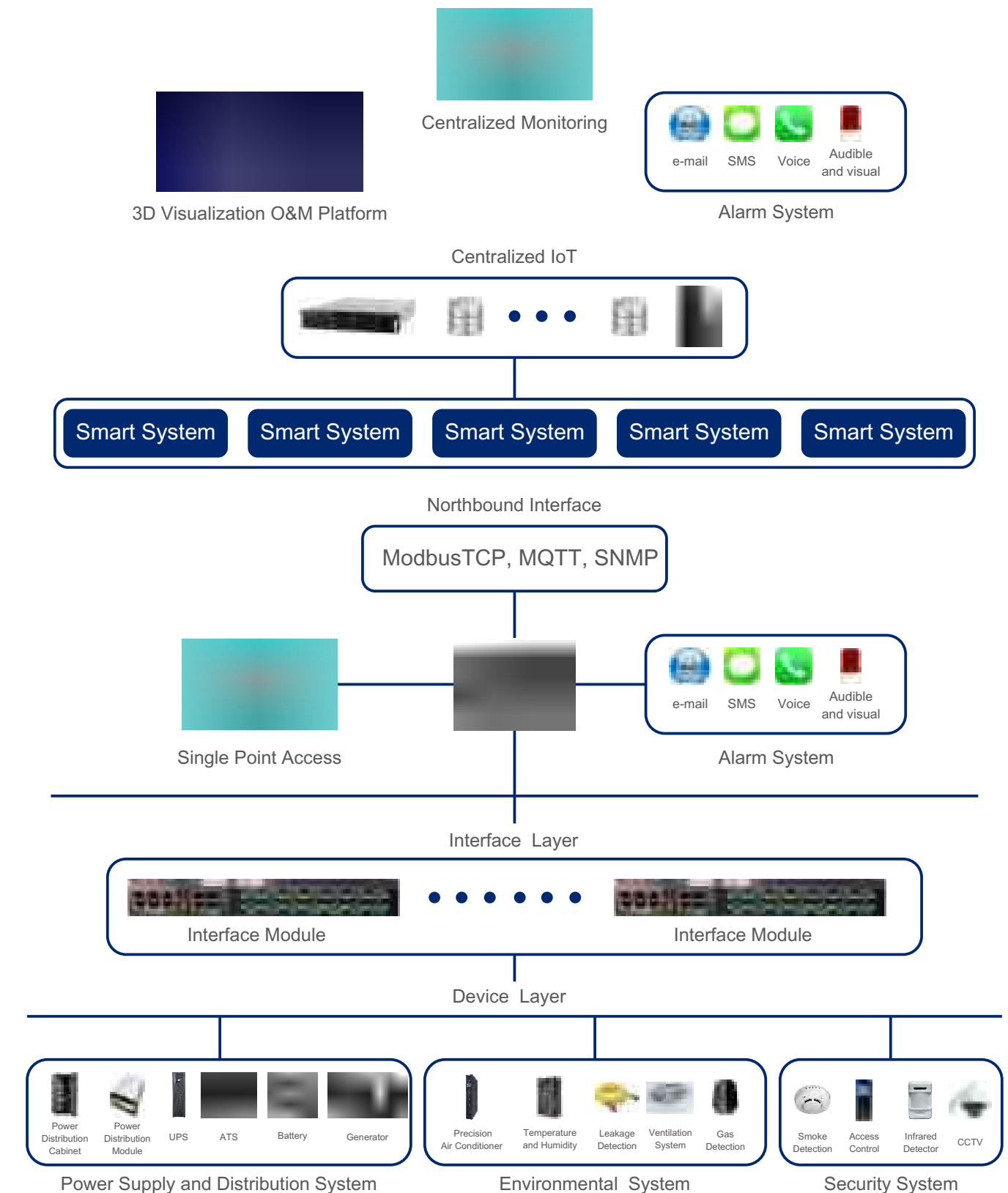


Built-in large-capacity SD card can store long time history events and data records.



LCD monitor  
Mainframe visual management

## Monitoring Network Diagram ▼



## VCS Series Rack Air Conditioner

The VCS series rack air conditioner is a special air conditioner for circulating cooling the internal, air flow of the cabinet, it provides stable and reliable temperature and humidity regulation services, for micro-data centers, and improves the stability and reliability of all kinds of equipment in micro-data.



3.7kW Integrated Type (Fixed frequency)



3.7kW Integrated Type (Variable frequency)



3.7kW Split Type (Variable frequency)

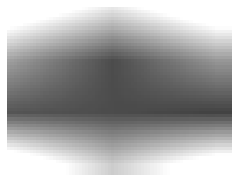


7.5kW Split Type (Variable frequency)

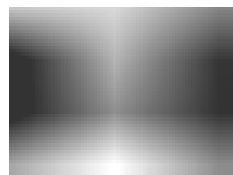


12.5kW Split Type (Variable frequency)

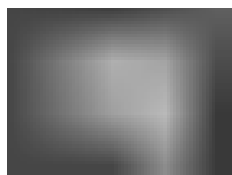
### Applicable ▼



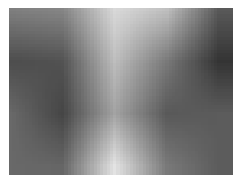
Modular data center



High heat density data machine room

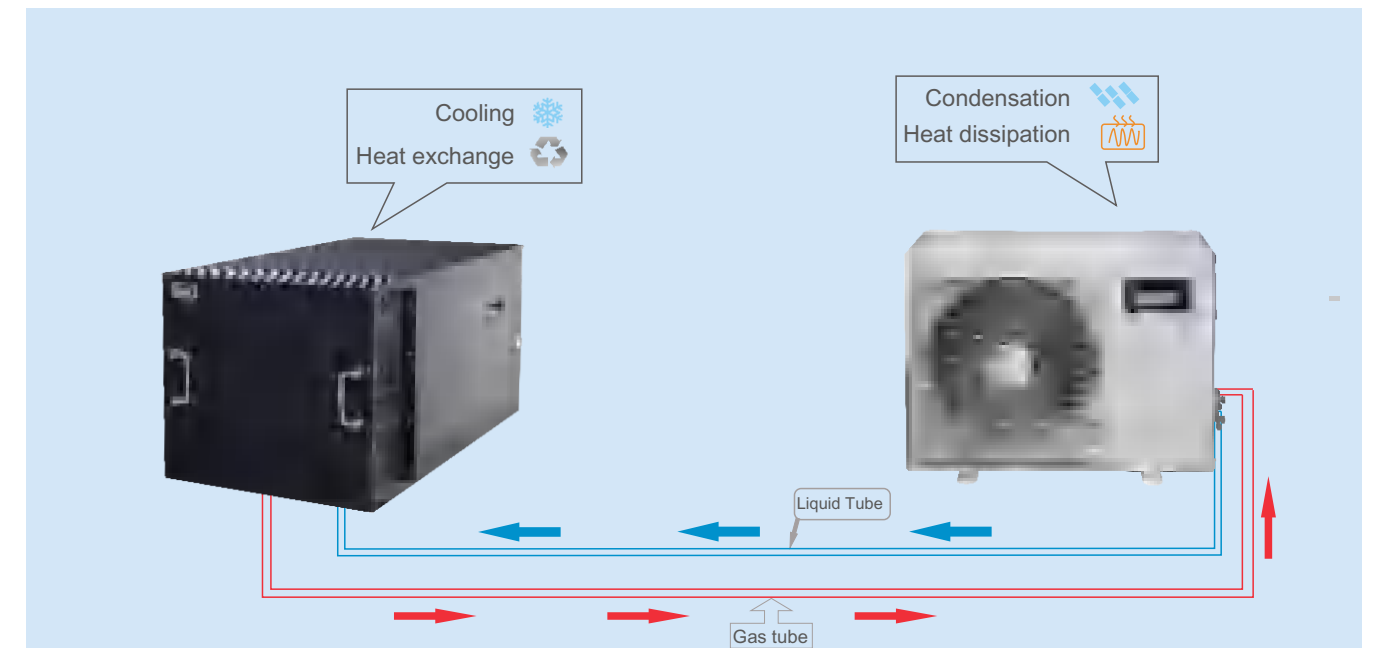


Container data center



Small and medium-sized data center

### Operation Principle ▼



### Product Feature ▼



#### Safe and reliability

- Mainstream brands are used for key components, making operation more stable and reliable.
- Using R410A green refrigerant, in line with international green refrigerant requirements.
- Standard with RS485 interface, support remote centralized control, call self-starting, timed power on and off.
- Advanced microprocessor controller with multi-level password protection to prevent misusing.



#### High efficiency and energy saving

- Standard EC fan, lower noise, better airflow organization, accurate automatic control of airflow output.
- High-efficiency DC inverter compressor, real-time adaptation to changes in heat load in the cabinet, infinitely adjust refrigeration capacity.
- Equipped with electronic expansion valve to quickly and precisely adjust the system refrigerant flow, saving 30% energy comparing with traditional expansion valve.
- Adopt large area "V" shape evaporator design, make heat exchange faster and more efficient.



#### Diversified configuration

- Cover multiple cooling range segments, suitable for different power cabinet applications.
- Standard configuration of the upflow supply and horizontal airflow supply, optional front air supply form.
- A wide variety of options.



#### High adaptability

- Rack-mounted pull-out design for easy handling and maintenance.
- Support single cabinet and multi-cabinet cooling applications, support cabinet online expansion, business without interruption.
- Compact structure, effectively reducing the occupation of valuable U space in the cabinet.
- Working power supply supports 50/60Hz voltage frequency, more flexible configuration.
- Standard models are suitable for outdoor ambient temperature -20~45°C, and optional low temperature components are available to meet outdoor temperature as low as -40°C.



Specification ▼

Indoor unit

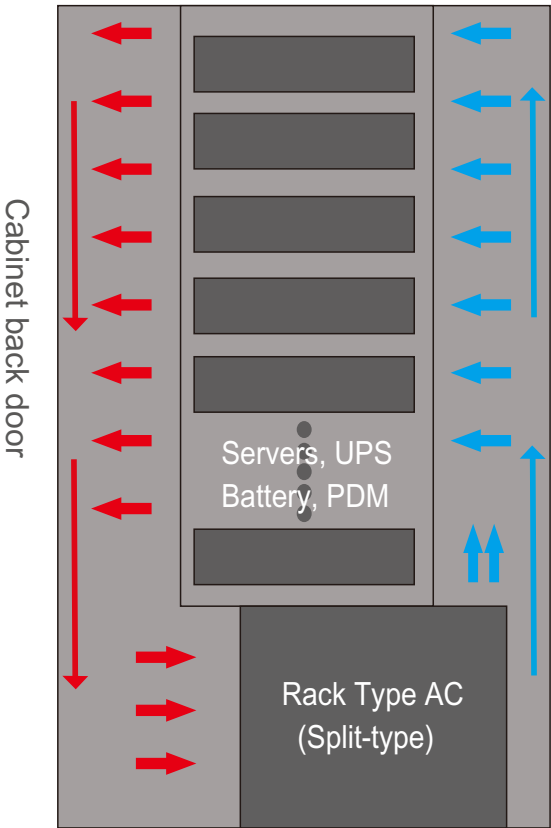
	Unit	VCS003/VCP005		VCS007/VCP010		VCS012/VCP018		VCS003UH	VCS003UH
Unit configuration	-	Constant Temp	Constant Temp&Hum	Constant Temp	Constant Temp&Hum	Constant Temp	Constant Temp&Hum	Constant Temp	Constant Temp
Total cooling capacity	kW	3.7	3.7	7.5	7.5	12.5	12.5	3.7	3.7
Sensible cooling capacity	kW	3.7	3.7	7.5	7.5	12.5	12.5	3.7	3.7
Ton(USA)		1.05		2.13		3.55		3.55	3.55
Air volume	m³/h	700	700	1350	1350	2300	2300	700	700
Sensible heat ratio	%	100	100	100	100	100	100	100	100
Heating capacity	kW	1	1	2	2	3	3	1	1
Humidification capacity	kg/h	-	0.5	-	0.5	-	0.5	-	-
Compressor type	/	DC Frequency Conversion						Variable Frequency	Fixed Frequency
Voltage	V	220	220	220	220	220	220	220	220
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Phase	P	1	1	1	1	1	1	1	1
Full load current	A	12.68	12.68	23.16	23.16	30.69	30.69	12.65	11.35
Unit weight	kg	26	27	35	36	47	49	65	58
Unit width	mm	440	440	440	440	440	440	440	440
Unit depth	mm	800	800	800	800	800	800	980	980
Unit height	mm	219(5U)	219(5U)	310(7U)	310(7U)	440(10U)	440(10U)	400(9U)	352(8U)

Outdoor unit

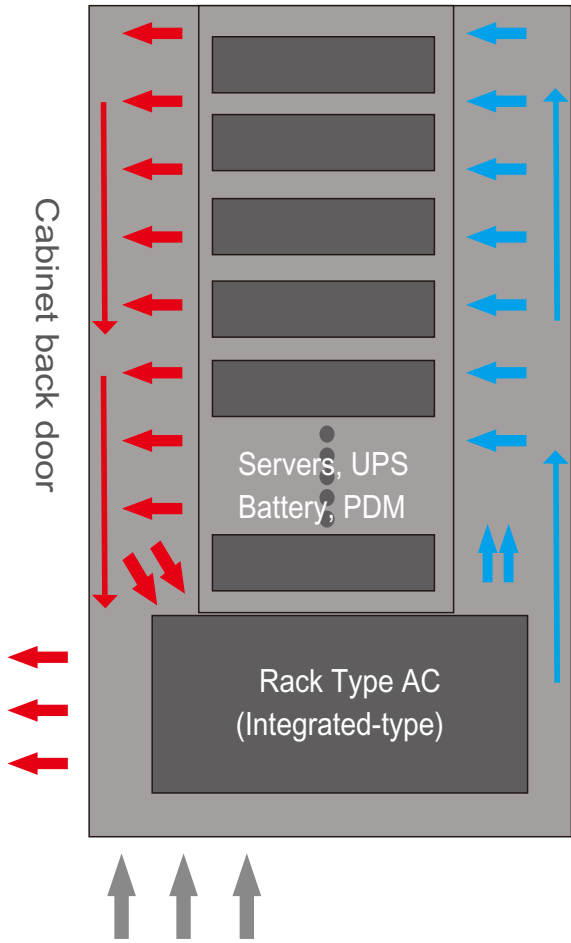
VCP***	Unit	5	10	18	-
Air volume	m³/h	2800	3500	5000	-
Voltage	V	220	220	220	-
Frequency	Hz	50/60	50/60	50/60	-
Phase	P	1	1	1	-
Unit width	mm	886	882	995	-
Unit depth	mm	340	380	440	-
Unit height	mm	605	720	1256	-

Test condition: The indoor dry-bulb temperature is 37°, and the relative humidity is 24%.  
Working temperature: -20~45°C, less than -20°C need to add low temperature components.

Application Scenario ▼



Scenario 1  
Side view of single cabinet



Scenario 2  
Side view of single cabinet

# VCR Series In-row air conditioner

(12.5kW-60kW)

## In-row air conditioner ▼

VcolRow series in-row air conditioner is kind of intelligent temperature control product especially suitable for modular data center. It is usually deployed in the cabinet arrangement, installed side by side with the server cabinet, combined with enclosed hot and cold aisle, close to the heat source and efficient cooling, creating an ideal operating environment for the key infrastructure of the data center.



## Product Features ▼



### High reliability

- Adopting variable frequency scroll compressor , excellent resistance to liquid impact and lower noise.
- Highly reliable full frequency conversion control, starting current less than rated current and lower impact of power grid.
- Adopting two stage evaporator, add water tray in the middle, effectively prevent blowing water.
- Intelligent detection of supply voltage, frequency and three-phase imbalance.
- Adopting high-quality components that are strictly tested and certified.
- High strength structure design could ensure solidification and reliability.



### Diversified configuration

- High refrigeration density, the max refrigeration capacity of the full cabinet is 60kW, max cooling capacity of half cabinet is 35kW.
- Standard electrode humidifier, support optional wet film humidifier.
- Optional delivery style grid to meet left and right air delivery needs.
- Optional fluorine pump natural cooling module to make full use of free natural cooling source.
- Optional dual power input.



### High efficiency and energy saving

- Accurate control of temperature and humidity.
- Adopting variable frequency scroll compressor that has 20%~100% dynamic adjustment of cooling capacity output.
- Adopting EC Backward Centrifugal Fan, adjusts the speed output according to the real-time thermal load change.
- Adopting electronic expansion valve that has fast response speed and precise flow adjustment.
- Full frequency conversion design, intelligent control cooling capacity and air volume output on demand to achieve efficient operation.
- High return air temperature design improves cooling efficiency.



### Intelligent management

- Using 7-inch color capacitive touch screen.
- Support graphic status and temperature and humidity curve display.
- Support 64 units for CAN communication networking.
- 10 temperature sensors can be connected.
- Standard Rs485 interface, support optional SNMP interface.
- Three-level password protection, hierarchical authorization management.
- Multiple intelligent control modes.

## Specification ▼

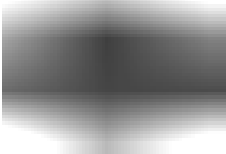
	Unit	VCR012	VCR025	VCR030	VCR040	VCR050	VCR060
Unit Configuration	-	*	Refrigeration type / Constant temperature&humidity type				
Total cooling capacity	kW	12.5	25.5	30.8	42.8	51.5	62.7
Sensible cooling capacity	kW	12.5	25.5	30.8	42.8	51.5	62.7
Ton(USA)		3.55	7.25	8.76	12.17	14.64	17.83
Air volume	m³/h	2800	5000	5200	8500	10500	11500
Heating capacity	kW	3	4.5	4.5	6	6.5	6.5
Humidifying capacity	kg/h	1.5	3	3	3	3	3
EER	/	3.38	3.07	3.09	3.3	3.22	3
Power supply	/	380V 50/60Hz	380V 50/60Hz	380V 50/60Hz	380V 50/60Hz	380V 50/60Hz	380V 50/60Hz
Width	mm	300	300	300	600	600	600
Depth	mm	1100/1200	1100/1200	1100/1200	1100/1200	1100/1200	1100/1200
Height	mm	2000	2000	2000	2000	2000	2000
Weight	kg	200/210	220/230	230/240	300/310	330/340	335/345
Outdoor unit	Unit	VCP018	VCP038	VCP045	VCP056	VCP076	VCP088
Air volume	m³/h	5000	12000	15000	15000	22000	28000
Fan Num.	pcs	2	1	1	1	2	2
Size(W*H*D)	mm	832*1220*310	982*740*1378	1275*750*1578	1275*750*1778	1275*740*2178	1275*750*2378
Weight	kg	64	136	138	152	178	188

Working temperature: -20~45°C, less than -20°C need to add low temperature components.

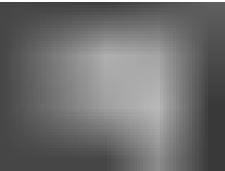
\* : VCR012 has constant temperature type/constant temperature & humidity type.

Test condition: The indoor dry-bulb temperature is 37°, and the relative humidity is 24%.

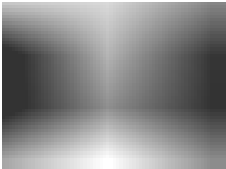
## Applicable Scene ▼



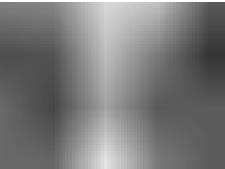
Modular data center



Container data center

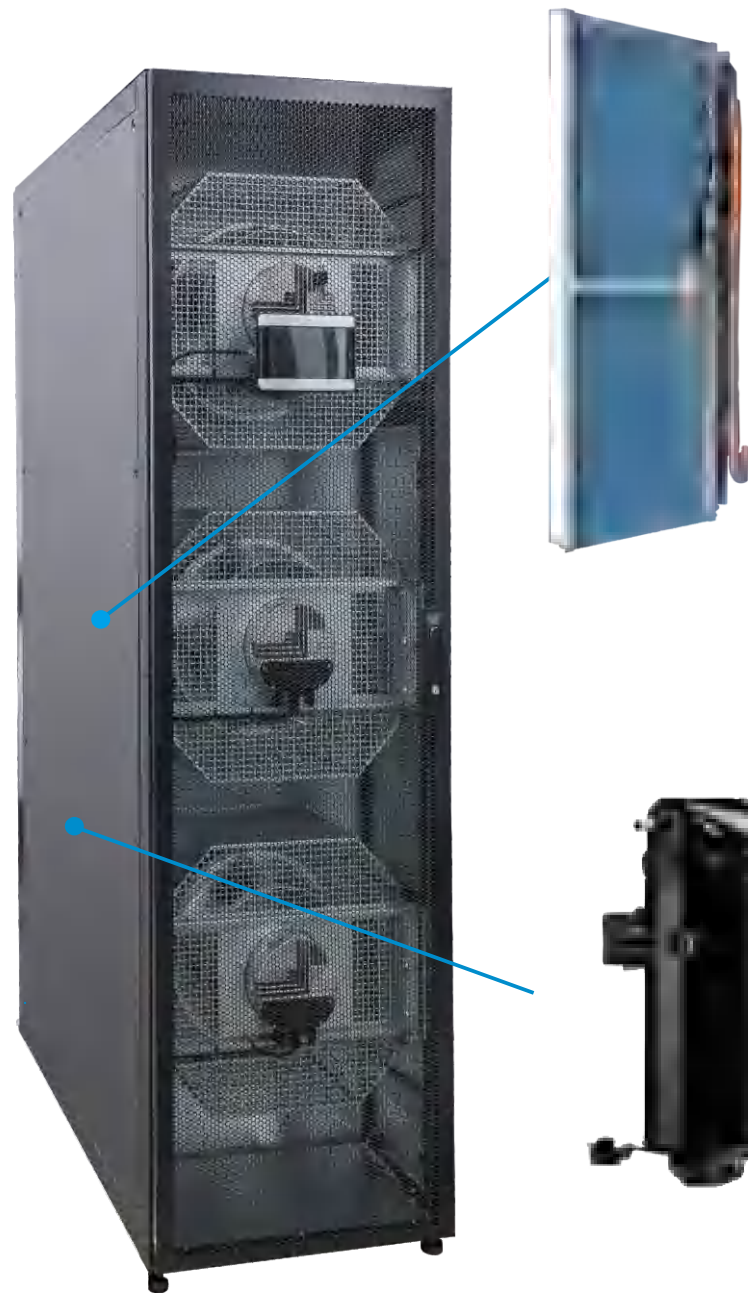


High heat density data machine room



Small and medium-sized data center

## VCR Series In-row air conditioner



### Evaporator ▼

Adopt two-stage evaporator, can increase the refrigeration area, and increase the water tray in the middle, can effectively prevent blowing water.

### Scroll compressor ▼

Adopt variable frequency scroll compressor that has 20%~100% dynamic adjustment of cooling capacity output. It has superior resistance to liquid impact and low noise and vibration level, and has long life.



### EC Fan ▼

High efficiency EC centrifugal fan with low energy consumption, high cooling efficiency, less maintenance, and it can adjust the speed output according to the real time heat load changes to achieve maximum savings in operating energy consumption, more than 40% less than ordinary fans.

### Electronic expansion valve ▼

The use of electronic expansion valve, has fast response speed, which can quickly stabilize the working conditions, as well as accurate control of refrigerant flow with variable frequency compressor to achieve energy saving.





## VCA Series Small Room Air Conditioner

VCA series small room precision air conditioner of INVT is a special precision air conditioner for small and medium-sized server rooms, power distribution rooms, battery rooms, communication base stations and other places, providing indoor environment temperature and humidity and cleanliness control.



### Product Features ▼

#### Energy Efficient

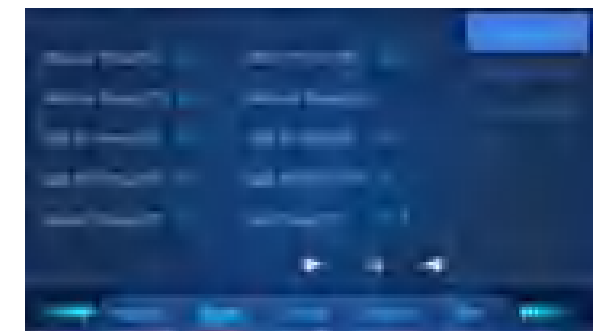
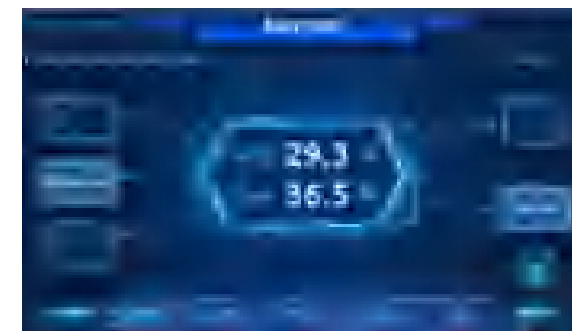
- Large air volume, small enthalpy difference and high sensible heat ratio design, meet the temperature control needs of the server room.
- High energy-efficient compressor with electronic expansion valve as standard for fast response and more accurate flow adjustment.
- High efficiency backward tilting centrifugal fan with low energy consumption and high air volume to ensure uniform temperature and humidity distribution in the server room.
- The use of high-efficiency internally threaded copper tubes and hydrophilic layer-plated open-window aluminum fin evaporators for higher heat transfer efficiency.
- Outdoor fan with infinitely adjustable speed control, matching condensing pressure operation, energy saving and noise reduction.
- Standard with electrode humidifier, higher humidification efficiency and wider application range.

#### Safe and reliable

- Using of rigorously certified and high-quality devices to enhance reliability.
- Products are subjected to rigorous and repeated testing and verification, with high standards required for high quality delivery.
- 365 x 24 hours non-stop operation, long life design and low maintenance costs.
- Ultra-wide grid adaptability to avoid frequent start/stop of air conditioners.
- Highly efficient and environmentally friendly refrigerant R410A as standard.
- Threaded quick coupling design for no welding on site.

#### Intelligent control

- 4.3-inch true color touch screen, multi-level password authority, system self-test diagnostic function, more intelligent;
- Comprehensive monitoring and display of power supply voltage, frequency, phase sequence, cooling capacity, air volume, temperature and humidity curve and other key information, real-time control of the normal state of the system;
- Up to 64 air conditioners can be rotated patrol group control to achieve scheduled rotation, fault rotation, cascading, demand synchronization, anti-competitive operation, etc;
- Support power-on self-start and timer on/off functions, easy to manage air conditioners;
- Local storage of not less than 1000 history records, easy to view and trace;
- Standard RS485 interface, support optional SNMP interface.



#### Customizable

- Standard with electrode humidifier, support optional wet film humidifier;
- 100% full frontal maintenance and more flexible installation;
- Support optional upper pipe / upper drainage to meet the needs of different scenarios;
- Support AC/EC fans optional according to actual needs;
- Optional dual power input;
- A variety of air supply methods to meet a variety of applications;
- Optional phase tolerance function to better protect the power of air conditioners.

Technical parameters ▼

Fixed frequency small room air conditioner

	Unit	VCA005	VCA007	VCA012	VCA017	VCA020
Configuration	—	Refrigeration type / Constant Temp&Humidity type				
Total cooling capacity	kW	5.5	7.5	12.5	17	20.5
Sensible cooling capacity	kW	4.95	6.75	11.25	15.3	18.45
Ton(USA)		1.56	2.13	3.55	4.83	5.83
Refrigerant Type	—	R410A				
Expansion valve Type	—	Electronic expansion valve				
Air volume	m³/h	2000	2300	3200	5000	5500
Heating capacity	kW	3	3	3	6	6
Humidification capacity	kg/h	3	3	3	3	3
Width	mm	520	520	600	700	700
Depth	mm	420	420	520	700	700
Height	mm	1750	1750	1800	1900	1900
Grid type	-	220V/50Hz 1P		380V/50Hz 3P		
Refrigeration type FLA	A	11.3	14.8	10.79	14.28	16.11
Constant T&H type FLA	A	22.66	26.16	22.15	25.65	27.47
Weight	kg	67	70	105	125	135
Outdoor unit						
Model	-	VCP007SF	VCP010SF	VCP018SF	VCP024SF	VCP028SF
Air volume	m³/h	2800	3500	5000	7000	7000
Grid type	-	220V/50Hz 1P				
Width	mm	840	830	832	1050	1050
Depth	mm	285	311	330	400	400
Height	mm	606	720	1246	1560	1560
Weight	kg	33	37	55	95	95

- Remarks:
- 1.The above performance parameters are based on, indoor return air 24℃, relative humidity 50%, outdoor temperature 35℃
  - 2.The small room precision air conditioner is divided into two different air supply methods: top front air supply and downflow air supply
  - 3.Small room precision air conditioner under the fan type is divided into two forms of fan sinking and not sinking
  - 4. Working temperature: -20~45℃, less than -20℃ need to add low temperature components.

Variable frequency small room air conditioner

	Unit	VCA005	VCA007	VCA012	VCA017	VCA020	VCA026	VCA032
Configuration	—	Refrigeration type / Constant Temp&Humidity type						
Total cooling capacity	kW	5.5	7.5	12.5	17	20.5	26	32
Sensible cooling capacity	kW	4.95	6.75	11.25	15.3	18.45	23.4	28.8
Ton(USA)		1.56	2.13	3.55	4.83	5.83	7.38	9.09
Refrigerant Type	—	R410A						
Expansion valve Type	—	Electronic expansion valve						
Air volume	m³/h	2000	2300	3200	5000	5500	7500	9000
Heating capacity	kW	3	3	3	6	6	6	6
Humidification capacity	kg/h	3	3	3	3	3	3	3
Width	mm	520	520	600	700	700	900	900
Depth	mm	420	420	520	700	700	800	800
Height	mm	1750	1750	1800	1900	1900	1975	1975
Grid type	-	220V/50Hz-60Hz 1P			380V/50Hz-60Hz 3P			
Constant T&H type FLA	A	27.77	33.45	26.47	26.32	29.52	36.04	41.61
Refrigeration type FLA	A	16.41	22.09	26.47	14.95	18.16	24.68	30.25
Weight	kg	67	70	105	125	135	165	165
Outdoor unit								
Model	-	VCP007SF	VCP010SF	VCP018SF	VCP024SF	VCP028SF	VCP035SF	VCP040SF
Air volume	m³/h	2800	3500	5000	7000	7000	11000	11000
Grid type	-	220V/50Hz-60Hz 1P						
Width	mm	840	830	832	1050	1050	1200	1200
Depth	mm	285	311	330	400	400	400	400
Height	mm	606	720	1246	1560	1560	1560	1560
Weight	kg	33	37	55	95	95	115	115

- Remarks:
- 1.The above performance parameters are based on, indoor return air 24℃, relative humidity 50%, outdoor temperature 35℃
  - 2.The small room precision air conditioner is divided into two different air supply methods: top front air supply and downflow air supply
  - 3.Small room precision air conditioner under the fan type is divided into two forms of fan sinking and not sinking

# VCA Series Large Room Air Conditioner

## Product Introduction ▼

VCA series large room precision air conditioner is a special precision air conditioner for medium and large IDC rooms, communication rooms, equipment rooms and other places to provide internal environmental temperature and humidity and cleanliness control. It is used to ensure that cabinet equipment, server equipment, etc. have a reasonable temperature and humidity operating environment.



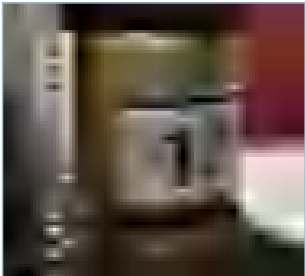
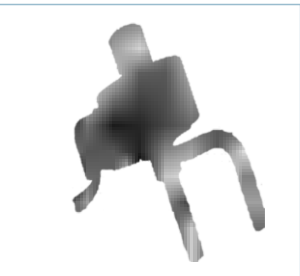
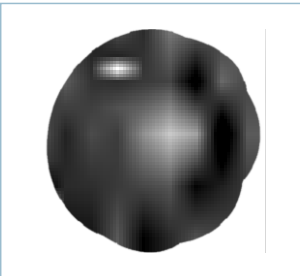
## Product Features ▼

### High efficiency and energy saving

- Adopt the design of large air volume, small enthalpy difference and high sensible heat ratio.
- V or A shape evaporator, high heat exchange efficiency.
- High-precision electronic expansion valve, precise regulation of refrigerant flow.
- EC fan with real-time adjustment of airflow output according to the demand.
- Inverter outdoor fan, adjust speed according to change of system pressure, operating efficiently.
- Use R410A green refrigerant, in line with international green refrigerant requirements.
- Hermetic scroll compressor for higher efficiency and more stable operation.

### Safe and reliable

- The main components adopt international famous brands  
LS circuit breaker  
Schneider contactors  
Standard G4 filter  
INVT controller & VFD  
standard oil separator
- Real time monitoring of input voltage and frequency
- Intelligent monitoring of air conditioner power supply voltage, frequency and three-phase unbalance
- Double electric control box design, strong and weak electrical isolation to avoid signal disturbance
- Fan & drive integration of indoor unit
- Separate outdoor unit's switch & VFD



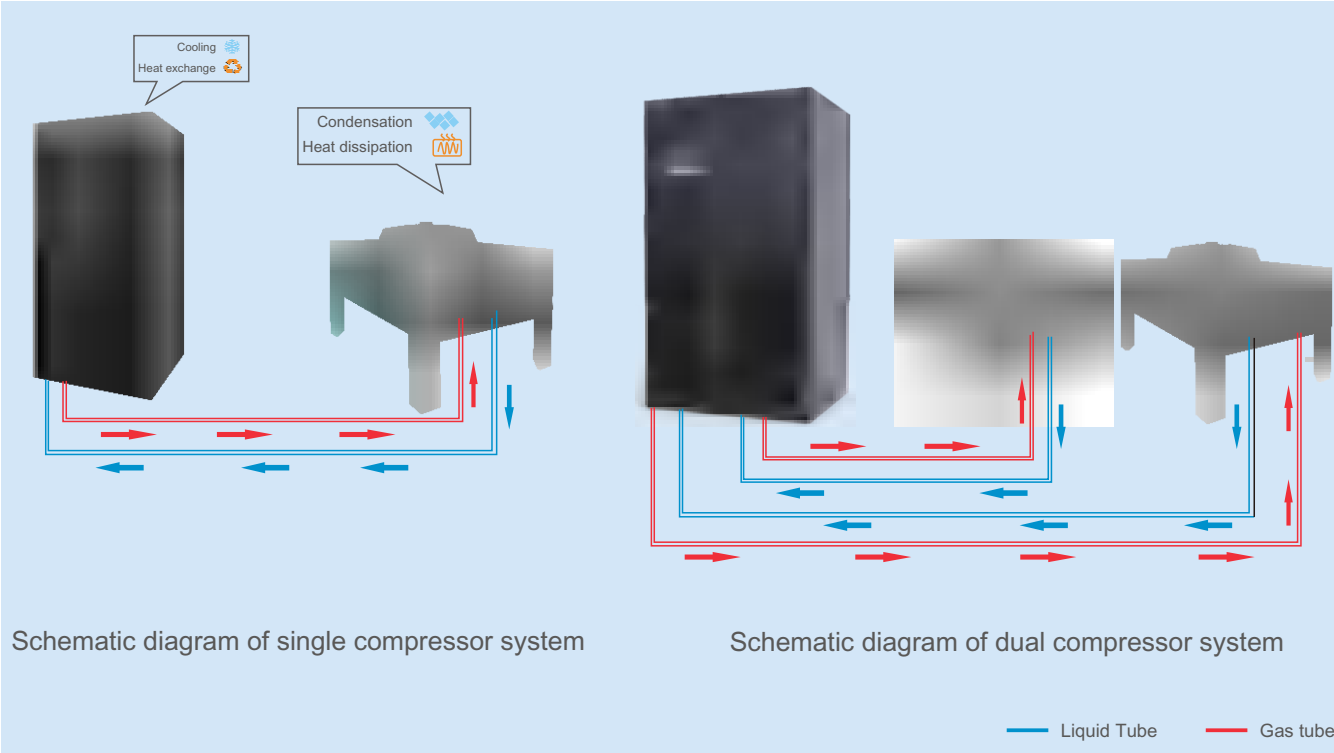
### Intelligent management

- Standard 10-inch color capacitive touch screen.
- Standard RS485 interface and SNMP interface.
- Support temperature and humidity curve display and graphic status display.
- More than 2000 historical alarm information storage.
- Use CAN communication to do network group control.

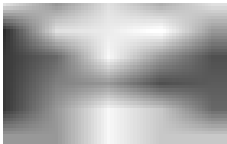
### Customizable

- Optional water leakage detector, front-up flow kit.
- Optional built-in low-temperature component.
- Support upflow supply, top front supply and downflow supply, which can be flexibly selected according to the actual application requirements.

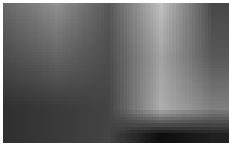
## Operation Principle ▼



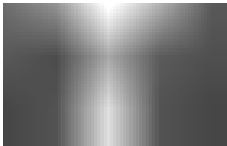
## Applicable Scene ▼



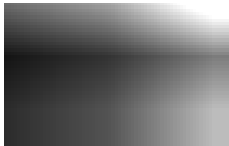
Large-scale server room



Traditional Server Room



Large-scale data centers



High heat density data center

Technical parameters ▼

Model	VCA025	VCA030	VCA035	VCA040	VCA045	VCA050	VCA060
Configuration	Constant Temp&Humidity						
Total cooling capacity (kW)	27	30.5	36.2	41.1	45.3	51.1	60
Sensible cooling capacity(kW)	24.8	27.5	33.3	38	41.1	47	54
Ton(USA)	7.82	8.71	10.8	11.37	12.97	14.22	17.14
Air volume (m³/h)	8500	9500	11000	12000	12500	13000	14000
Heating capacity (kW)	6	6	6	9	9	9	9
Humidification capacity (kg/h)	5	5	5	10	10	10	10
EER(W/W)	2.93	2.81	2.66	2.62	2.7	2.82	2.48
AEER ( W/W )	4	4	4	4	4	4	4
Compressor type	GMCC rotor/ Hitachi Scroll	GMCC rotor/ Hitachi Scroll	Hitachi Scroll	Hitachi Scroll	Hitachi Scroll	Hitachi Scroll	Hitachi Scroll
Fan type	EC Fan						
Refrigerant	R410A						
Power supply	380V/50Hz-60Hz 3P						
Full-load current(A)	34.99	38.52	42.92	45.45	49.98	51.67	60.75
Width (mm)	900	900	900	900	900	1100	1100
Depth (mm)	995	995	995	995	995	995	995
Height (mm)	1975	1975	1975	1975	1975	1975	1975
Weight(kg)	320	320	350	370	370	470	470

NOTE:

1. Test conditions: indoor return air temperature 24°C, relative humidity 50%, outdoor temperature 35°C.
2. AEER test conditions: indoor return air temperature and humidity: 24°C/50%RH, outdoor temperature 35°C/25°C/15°C/5°C/-5°C respectively.
3. The upflow supply fan set supports two different air outlet methods: vertical top air supply (with on-site air duct) and top front supply.
4. Top front supply mode, can add front up flow kit on site (height increase) or standard height top front supply (factory prefabricated).
5. In order to save fan consumption, efficient cooling, downflow supply air conditioner standard products for the fan sink type, electrostatic floor height recommended ≥ 450mm.
6. In case of special circumstances at the site, the downflow supply air conditioner can support the customization of the optional fan unsinking, or other ways of air supply and return, etc.
7. Working temperature: -20~45°C, less than -20°C need to add low temperature components.

Technical parameters ▼

Model	VCA060 (Dual Sys.)	VCA070 (Dual Sys.)	VCA080 (Dual Sys.)	VCA090 (Dual Sys.)	VCA100 (Dual Sys.)	VCA110 (Dual Sys.)	VCA120 (Dual Sys.)
Configuration	Constant Temp&Humidity						
Total cooling capacity (kW)	61	72.4	82.2	90.6	102.2	110.3	120
Sensible cooling capacity(kW)	55	66.6	76	82.2	94	100.3	108
Ton(USA)	17.4	21.61	22.75	25.93	28.5	31.51	34.28
Air volume (m³/h)	19000	22000	24000	25000	26000	27000	28000
Heating capacity (kW)	9	9	12	12	12	12	12
Humidification capacity (kg/h)	10	10	10	10	10	10	10
EER ( W/W )	2.81	2.66	2.62	2.7	2.82	2.74	2.48
AEER ( W/W )	4	4	4	4	4	4	4
Compressor type	GMCC rotor/ Hitachi Scroll	Hitachi Scroll	Hitachi Scroll	Hitachi Scroll	Hitachi Scroll	Hitachi Scroll	Hitachi Scroll
Fan type	EC Fan						
Refrigerant	R410A						
Power supply	380V/50Hz-60Hz 3P						
Full-load current(A)	65.7	74.48	79.54	88.59	92.04	99.09	110.14
Width (mm)	1800	1800	1800	1800	2200	2200	2200
Depth (mm)	995	995	995	995	995	995	995
Height (mm)	1975	1975	1975	1975	1975	1975	1975
Weight(kg)	600	650	690	690	880	880	880

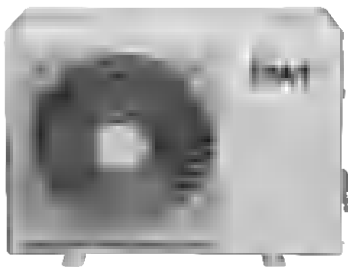
NOTE:

1. Test conditions: indoor return air temperature 24°C, relative humidity 50%, outdoor temperature 35°C.
2. AEER test conditions: indoor return air temperature and humidity: 24°C/50%RH, outdoor temperature 35°C/25°C/15°C/5°C/-5°C respectively.
3. The upflow supply fan set supports two different air outlet methods: vertical top air supply (with on-site air duct) and top front supply.
4. Top front supply mode, can add front up flow kit on site (height increase) or standard height top front supply (factory prefabricated).
5. In order to save fan consumption, efficient cooling, downflow supply air conditioner standard products for the fan sink type, electrostatic floor height recommended ≥ 450mm.
6. In case of special circumstances at the site, the downflow supply air conditioner can support the customization of the optional fan unsinking, or other ways of air supply and return, etc.
7. Working temperature: -20~45°C, less than -20°C need to add low temperature components.

# VCP Series Air Conditioner Outdoor Unit

## Product Introduction ▼

VCP series outdoor unit, a new generation of high-efficiency and energy-saving precision air conditioner outdoor unit designed and developed by our company, is divided into two types: single-system and dual-system. The single system outdoor unit is used to match the single system indoor unit or the single cooling system of the dual system indoor unit. The dual system outdoor unit is used to match the indoor unit of dual system.



For VCS series rack AC



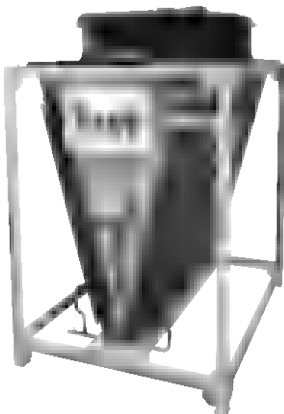
For VCA series small room AC



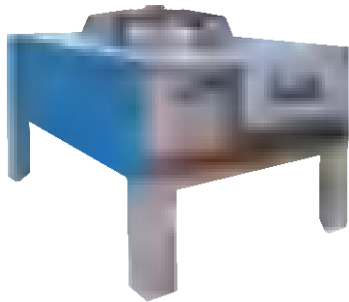
For VCS series rack AC



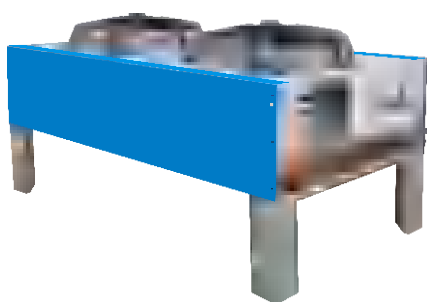
For VCA series small room AC



Centralized outdoor unit



Conventional outdoor unit  
(Single Fan)



Conventional outdoor unit  
(Dual Fans)

## Conventional outdoor unit ▼

Model	System Num.	Heat exchange	Fan Num.	Air volume	Weight	L×W×H
Unit	PCS	kW	PCS	m3/h	kg	mm
VCP026SF	Single-system	26	1	12000	112	1378×982×740
VCP028SF	Single-system	28	1	11000	120	1378×982×740
VCP034SF	Single-system	34	1	12000	128	1378×982×740
VCP038SF	Single-system	38	1	12000	136	1378×982×740
VCP045SF	Single-system	45	1	15000	138	1578×1275×750
VCP050SF	Single-system	50	1	15000	142	1578×1275×750
VCP056SF	Single-system	56	1	15000	152	1778×1275×750
VCP060SF	Single-system	60	2	25000	162	1978×1275×740
VCP066SF	Single-system	66	2	25000	168	1978×1275×740
VCP076SF	Single-system	76	2	26000	178	2178×1275×740
VCP088SF	Single-system	88	2	28000	188	2378×1275×750
VCP096SF	Single-system	96	2	30000	198	2578×1275×750
VCP056DF	Dual-system	56	1	15000	156	1778×1275×750
VCP066DF	Dual-system	66	2	25000	169	1978×1275×740
VCP076DF	Dual-system	76	2	26000	179	2178×1275×740
VCP088DF	Dual-system	88	2	28000	189	2378×1275×750
VCP096DF	Dual-system	96	2	30000	199	2578×1275×750

## Centralized outdoor unit ▼

Model	System Num.	Heat exchange	Fan Num.	Air volume	Weight	L×W×H
Unit	PCS	kW	PCS	m3/h	kg	mm
VCP045SV	Single-system	45	1	15000	140	1100×1100×1685
VCP056SV	Single-system	56	1	15000	152	1100×1100×1685
VCP066SV	Single-system	66	1	20000	168	1100×1100×1775
VCP076SV	Single-system	76	1	20000	178	1100×1100×1775
VCP088SV	Single-system	88	1	22000	188	1300×1100×1775
VCP096SV	Single-system	96	1	24000	198	1300×1100×1775
VCP056DV	Dual-system	56	1	15000	152	1100×1100×1685
VCP066DV	Dual-system	66	1	20000	168	1100×1100×1775
VCP076DV	Dual-system	76	1	20000	178	1100×1100×1775
VCP088DV	Dual-system	88	1	22000	188	1300×1100×1775
VCP096DV	Dual-system	96	1	24000	198	1300×1100×1775
VCP110DV	Dual-system	110	2	30000	230	2210×1100×1685
VCP130DV	Dual-system	130	2	36000	252	2210×1100×1775
VCP150DV	Dual-system	150	2	37200	262	2210×1100×1775
VCP160DV	Dual-system	160	2	39000	272	2500×1100×1775
VCP180DV	Dual-system	180	2	45000	282	2500×1100×1775



# Integrated power distribution cabinet

## Power Range ▼

15 ~ 150kVA

## Working method ▼

Three phase in, three phase out, double conversion online work.

## Applications ▼

Widely used in IDC data centers, network servers and workstations, control systems, communication systems, office environment applications, etc.

## Product Description ▼

It integrates the power supply and distribution system of the server room (ATS/MCCB, air conditioning distribution, lighting distribution, UPS power supply, UPS input and output distribution, IT distribution) into one cabinet, which is highly reliable, easy to use and easy to maintain.



## Performance Features ▼

- High power density: modular design, on-demand configuration, supports up to 150kVA.
- Integrated design: UPS power supply and power distribution are integrated in one cabinet.
- High efficiency and energy saving: the system efficiency is up to 95% or more.
- Intelligent HMI: 7-inch LCD color touch large screen, displaying a rich amount of information parameters.
- Flexible installation method: server cabinet type appearance, can be installed directly inside the micro module.



## Technical parameters ▼

		Integrated power distribution cabinet		
Input	System Capacity	15 ~ 45kVA	45 ~ 90kVA	90 ~ 150kVA
	Rated Voltage	380/400/415VAC (L-L)		
	Rated Frequency	50/60Hz		
	Input PF	> 0.99		
	THDi	THDi < 3%		
	Voltage Range	228~478VAC (L-L)		
	Frequency Range	40 ~ 70Hz		
Output	Rated Voltage	380/400/415VAC (L-L)		
	Rated Frequency	50/60Hz		
	Output PF	1		
	Voltage Precision	±1%		
	THDu	THDu≤1%		
Configuration	Input Method	MCCB/ATS,Support single and dual inputs		
	Input Specification	160A	250A	400A
	Output	AC/Others	4* (63A/3P or 40A/3P)	
		Lighting/weak power/other	3*16A/1P	
		IT	2* (12*32A/1P)	2* (24*32A/1P) 2* (36*32A/1P)
System	Efficiency	> 95%		
	Display	7" LCD color touch screen		
	Lightning Protection	20kA , 8/20μs		
	Communication Interface	RS485		
	Size	600*1200*2000		
	Inlet Method	Up in and up out		
	Color	RAL9004		
	IP Class	IP20		