KEHUA TECH

Sangchai Group

UPS Catalog

Sustainable Value Creator

ISO 9001
ISO 14001
ISO 45001
Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Sangchai Group

Founded
1984
ก่อตั้ง พ.ศ. 2527

Over
40 Years of experience
ประสบการณ์มากกว่า 40 ปี

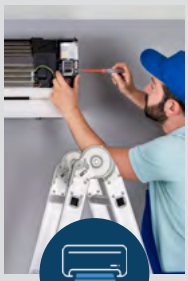
แสงชัยกรุ๊ป คือ ผู้นำเข้า ผลิต และ จัดจำหน่ายอุปกรณ์ในระบบวิศวกรรม ได้แก่ ระบบปรับอากาศ ระบบทำความเย็น ระบบควบคุมอาคารสูง ระบบส่งจ่ายไฟฟ้า ดาต้าเซ็นเตอร์ รวมไปถึงเครื่องมือช่างและเครื่องใช้ไฟฟ้าในครัวเรือนคุณภาพสูง พร้อมทั้งให้การบริการด้านวิศวกรรมแบบครบวงจร

Sangchai Group is an importer, manufacturer and distributor of various components in M&E systems, ranging from HVAC/R, Power Distribution, Data Center Infrastructure and Building Controls etc. We also provides high quality tools and home appliances products for industrial and residential markets.

From Over
50 Leading Brands around the world
มากกว่า 50 แบรนด์ชั้นนำจากทั่วโลก

More than
10,000 items
สินค้ามากกว่า 10,000 รายการ

Over
600 Employees
พนักงานกว่า 600 คน


HVAC
ระบบปรับอากาศ

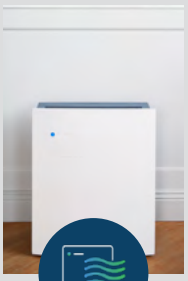

Refrigeration
ระบบทำความเย็น


Building Controls
ระบบควบคุมอาคาร


Power Distribution
ระบบส่งจ่ายไฟฟ้า


Tools
เครื่องมือช่าง


Data Center Infrastructure
ระบบเซิร์ฟเวอร์


Home Appliances
เครื่องใช้ไฟฟ้า

4 Warehouse Locations
คลังสินค้า
Salaya, Kingkaew,
Pinklao, Talingchan

3 Manufacturing Plants
โรงงานผลิตสินค้า
Refrigeration System
Low Voltage Switchboard
Water Dispensers

2 Office Locations
สำนักงาน
Bangkok, Taling Chan
Ubon Ratchathani

About KEHUA

As a leading power solution provider, KEHUA was established in 1988 and went public in 2010 (002335.SZ). KEHUA adheres to the mission of providing safe, green and smart power for everyone, and carries the vision of becoming a world-leading supplier of integrated solutions for power protection and energy conservation.

KEHUA is committed to establish an Intelligent and Comprehensive Energy Management System, with the core technology of power electronics and cutting edge technologies of AI and IoT. KEHUA provides full range of UPS from 1kVA~1600kVA. It also supports the upgrade of various sectors including Finance, Industries, Telecom, Government, Transportation, Medical etc. With superior R&D capabilities and excellent services, KEHUA is widely recognized by users in over 100 countries and regions.

เราเป็นผู้ให้บริการโซลูชันด้านพลังงานชั้นนำ KEHUA ถูกก่อตั้งขึ้นในปี 1988 และเปิดตัวตลาดหลักทรัพย์ในปี 2010 (002335.SZ) KEHUA ยึดมั่นในพันธกิจในการให้พลังงานที่ปลอดภัย เป็นมิตรต่อสิ่งแวดล้อม และอัจฉริยะสำหรับทุกคน และมีวิสัยทัศน์ที่จะกลายเป็นผู้ผลิตและผู้จัดจำหน่ายโซลูชันที่ใช้ร่วมกันสำหรับการปกป้องพลังงานและการอนุรักษ์พลังงานระดับโลก

KEHUA มุ่งมั่นที่จะสร้างระบบการจัดการพลังงานอัจฉริยะและที่ครอบคลุมได้อย่างครบถ้วน ด้วยเทคโนโลยีหลักในด้านอิเล็กทรอนิกส์พลังงานและเทคโนโลยีที่ก้าวหน้าในด้าน AI และ IoT KEHUA ให้บริการ UPS ทั้งหมดตั้งแต่ 1kVA ถึง 1600kVA และเรายังให้บริการสนับสนุนด้านการป้องกันและพลังงานสะอาดในหลายธุรกิจ เช่น การเงิน อุตสาหกรรม โทรคมนาคม ภาครัฐ การขนส่ง และสาธารณสุข ด้วยความสามารถในการวิจัยและพัฒนาที่เหนือชั้นและบริการที่ยอดเยี่ยม KEHUA ได้รับการยอมรับจากผู้ใช้ในกว่า 100 ประเทศและภูมิภาคทั่วโลก

Global UPS — Competitive Strategy Innovation and Leadership Award (Frost & Sullivan)

No.4 — World largest supplier of modular UPS (Omdia 2022)

No.1 — Chinese UPS market in the field of transportation (CCID 2022)

No.1 — UPS supplier in China (CCW Research 2021)

Project Reference

30+ Years Power Conversion Expert

KEHUA TECH

ENERGY & CHEMICAL INDUSTRY

Brunei Hengyi PMB project

China National Offshore Oil Corporation

Pemex Mexico

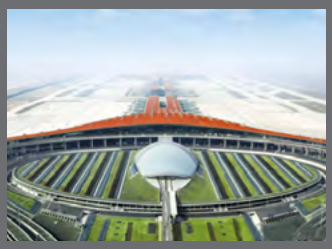
Gazprom Neft Russia

TRANSPORTATION INDUSTRY

Ethiopia railway.

Hong Kong-Zhuhai-Macao Bridge.

Faleolo International Airport



Beijing Capital Airport Terminal 3

PUBLIC SERVICE

2010 Shanghai World Expo

2010 Angola Africa Cup

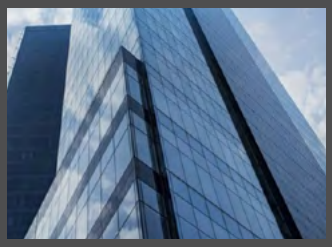
2008 Beijing Olympic Games

FINANCE INDUSTRY

Sberbank Russia
in Moscow.

Guangfa Securities

People's Bank of China
since 1990s.



Telecom operators
in Bangladesh.

MANUFACTURING INDUSTRY

The Assembly plant of
Ford Motor Company
in Johannesburg, South Africa.

Royole, the world first production
line of the 6th generation screens
with flexible display

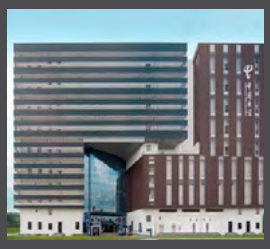
Factory of Levi's Jeans
in Sri Lanka

SELF-BUILT DATA CENTERS

Guangzhou Keyun
Cloud Computing
Center

Shanghai Cloud
Computing Center

Beijing Yizhuang
Cloud Computing
Center



Guangdong
Dongyong Cloud
Computing Center

Guangdong Mingmei
Cloud Computing
Center

MICRO-MODULES

43 sets micro-modules for
China Telecom (Jishan)
Data Center Phase I.

45 sets micro-modules for
BaoCloud IDC Project Phase IV.

232 sets micro-modules for
China Mobile (Nanjing)
Data Center Phase I.

KEHUA TECH

Sangchai Group

Content

KR11 Plus Series 08
(1kVA/1kW - 10kVA/10kW)

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(1kVA/1kW - 10kVA/10kW)

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(1kVA/900W - 3kVA/2.7kW)

KR11T Series 14
(6kVA/5.4kW - 10kVA/9kW)

KR-RM Series 16
(10kVA/10kW - 40kVA/40kW)

Myria Series 18
(10kVA/10kW - 40kVA/40kW)

Myria Series 20
(60kVA/60kW - 200kVA/200kW)

FR-UK33 GEL Series 22
(10kVA-200kVA)

KR33 Series 24
(300kVA/270kW - 1200kVA/1080kW)

MR33 Series Modular UPS 26
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S^3 Smart Backup Lithium-ion 29
Battery System Solution

UPS + S^3 Smart Backup Lithium-ion 32
All - in - One Solution

WiseRow Modular 34
Data Center Solution

WiseAisle Modular 36
Data Center Solution

CE

ISO 9001
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Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

True on-line double conversion design

KR11 Plus Series

(1kVA/1kW - 10kVA/10kW)

KR1000+

KR2000+/KR3000+

KR6000+/KR1110S+

Green Power

- Input power factor up to 0.996, low THDi (< 5%), decrease pollution to city power
- AC/AC efficiency up to 95%, energy saving and low carbon emission
- Compliance with RoHS standard, innocuous and environmental friendly
- Design in accordance to International EMC and Safety standard
- IGBT technology for higher efficiency and less interference to grid
- Digital Signal Processor (DSP)

Excellent Flexibility

- Output voltage and ECO mode are selectable via LCD
- 1~8A charging current settable via software (6-10KVA)
- Batteries quantity are settable (16/17/18/19/20 for 6-10kVA)
- Maintenance bypass for 6-10kVA
- Battery disconnection alarm (option)
- SNMP or RS485+dry contact (option)
- Charging voltage temperature compensation (option)
- Output universal socket for 1-3kVA
- Output IEC320 C13 socket for 1-3kVA (Option)

Outstanding Profitability

- Minimium 0.05m^2 footprint, save delivery cost and easy for installation

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Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Technical Specification

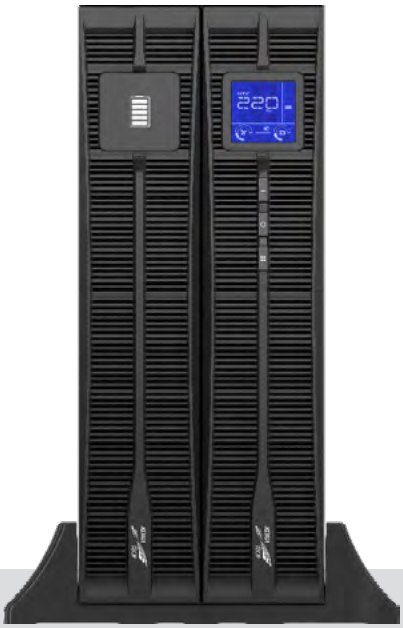
MODEL	KR1000+/ KR1000L+	KR2000+/ KR2000L+	KR3000+/ KR3000L+	KR6000+/ KR6000L+	KR1110S+/ KR1110+
INPUT	1 Phase 3 Wire (L + N + G)				
Voltage (Vac)	120~295			80~275	
Frequency (Hz)	50/60± 10% (50/60Hz auto-sensing)				
Power Factor	≥0.99				
THDi	<5% (non-linear)				
OUTPUT	1 Phase 3 Wire (L + N + G)				
Capacity (VA/W)	1000/1000	2000/2000	3000/3000	6000/6000	10000/10000
Max. AC/AC Efficiency	92%	93%	94%	95%	95%
Power Factor	1.0				
Voltage (Vac)	208/220/230/240±1% (selectable on display panel)				
Frequency (Hz)	50/60±0.2% (battery mode)				
Waveform	Sine wave				
THDv	THD < 2% (linear load); THD < 5% (nonlinear load)			THD < 1% (linear load); THD < 4% (nonlinear load)	
Transfer Time (ms)	0				
BATTERY	Sealed, Maintenance-free lead acid batteries				
Voltage (Vdc)	24	48	72	192	192
Battery Type (Standard)	2×9Ah 12V/External	4×9Ah 12V/External	6×9Ah 12V/External	16×9Ah 12V/External	
Voltage (Long backup)(Vdc)	36	72	96	192~240	192~240
Battery number	External			External (16~20 units settable)	
Charger Current (A) Max.	1/4	1/4	1/4	1~8 adjustable	1~8 adjustable
GENERAL					
Communication Interface	RS232, EPO, USB (slot) (SNMP, RS485+dry contact are optional in slot)				
LCD Display	MIMIC LCD for real-time UPS status display AC input & output voltage, frequency, Load level, battery level, temperature; AC mode, battery mode, bypass mode, and fault				
Alarm	Battery mode,Low battery, abnormal AC input, UPS failure, etc.				
Protection	Low battery, overload, short-circuit and over temperature, etc. Automatic bypass if overload between 101%~115% load for 1min, 116%~133% load for 1s, above 134% load for 200ms				
Noise (dB)	<50	<55			
Working Temperature (°C)	-5~40				
Relative Humidity	0 ~ 95%, no condensation				
Dimension (W×D×H) mm	145×360×225	190×400×330		230×502×553/190×422×337	
Weight (Standard)(kg)	9.2	17.7	22.9	54.5	56.2
Weight (Long backup)(kg)	4.5	8.5	9.2	10.9	12.5

- Specification is subject to change without prior notice.

True on-line double conversion design

KR-RM Rack/Tower Series

(1kVA/1kW - 10kVA/10kW)



KR1000-RM

KR2000~3000-RM

KR6000~10K-RM

Green Power

- AC/AC efficiency up to 95%, less operation cost and more energy saving
- Output power factor 1.0, more powerful to connect more critical loads
- Input PF >0.996 and THDi<5%, less power pollution and lower TCO
- IGBT technology for higher efficiency and less interference to grid
- Digital Signal Processor (DSP)

Flexible Rear Panel Configuration

- Dry contact and SNMP are optional
- Selectable output sockets
- External battery pack port available
- Programmable power management outlet (optional)
- Output universal socket for 1-3kVA
- Output IEC320 C13 socket for 1-3kVA (Option)

Hot-swappable Battery Design

- External battery pack is optional
- Easy for online battery replacement

User-friendly and Easy-shift LCD Display

- The digital display can be easily shifted through LCD setting to suit for vertical/ horizontal installation

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Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Technical Specification

MODEL	KR1000-RM	KR2000-RM	KR3000-RM	KR6000-RM	KR1110-RM
INPUT	1 Phase 3 Wire (L + N + G)				
Voltage (Vac)	120-295			80-275	
Frequency (Hz)	40-70 (50/60Hz auto-sensing)				
Power Factor	≥0.99				
THDi	<4% (full linear load)				
OUTPUT	1 Phase 3 Wire (L + N + G)				
Capacity (VA/W)	1000/1000	2000/2000	3000/3000	6000/6000	10000/10000
AC/AC Efficiency Max.	92.5%	93.5%	93.8%	95.5%	95.5%
Power Factor	1.0				
Voltage (Vac)	208/220/230/240±1% (selectable on display panel)				
Frequency (Hz)	50/60±0.1 (battery mode)				
THDv	THD <2% (linear load), THD < 3% (nonlinear load)			THD <1% (linear load), THD < 4% (nonlinear load)	
Waveform	Sine wave				
Overload*	PF0.9:101~105% load long run,106~110% load 10 mins, 111~130% load 1 min, 131~150% load 1s, above 150% load 200 ms PF1.0:101~105% 1min,106~120% 5s, over 120% 200 ms			101~105% Long run, 106~130% load for 10mins, 131~150% 30s, over 150% 500ms.	
Transfer Time	0				
Current Crest Ratio	3:1				
Battery	Sealed, Maintenance-free lead acid batteries				
Voltage(Vdc)	36	48	72	192-240	
UPS Internal Battery (VRLA)	3×9Ah/12V	4×9Ah/12V	6×9Ah/12V	2*8×9Ah/12V	2*8×9Ah/12V
External Battery Module (EBM) Model	B2U-36-01-2B	B2U-48-02-2B	B2U-72-03-2B	B3U-192-20-2C	B3U-192-20-2C
EBM battery (VRLA)	2*3*9Ah / 12V	2*4*9Ah / 12V	2*6*9Ah / 12V	2*8*9Ah / 12V	2*8*9Ah / 12V
Charging Current (A).	Default 1A, (2~8A when adding charger module)			Default 1A, 1~8A settable	
Other					
Communication Interface	RS232+EPO+USB(slot) (SNMP,RS485+Dry contact are optional in slot)				
Output Outlet	2 × Universal socket	2 × Universal socket + 1×IEC320 C19		Terminal + 2×IEC320 C13	
Display	Blue screen LCD (Software rotate)				
Display Details	AC input & output voltage, frequency, Load level, Battery level, Temperature; AC mode, Battery mode, Bypass mode, and Fault				
Alarm	Battery mode, Abnormal AC input, UPS failure, etc.				
Protection	Low battery, overload, short-circuit and over temperature, etc.				
Noise (dB)	< 50			< 55	
Working Temperature*	-5~ 50°C (40~50°C auto derating)				
Relative Humidity	0 ~ 95%, No condensation				
Altitude(m)	1000, no derate.				
Regulatory Approvals	CE, IEC62040-1, IEC62040-2				
UPS (W×D×H)(mm)	438×420×87(2U)	438×570×87(2U)		438×660×174(4U)	
UPS Weight (kg)	14	20	26	55.6	64
External Battery Module (W×D×H) (mm)	438×420×87(2U)	438×570×87 (2U)	438×570×87 (2U)	438×500×130 (3U)(16*7/9AH)	
Battery Cabinet Weight (kg)	20	29	40	45	48

- Specification is subject to change without prior notice.

True on-line double conversion design

KR-RM Li Series Lithium Battery UPS

(1kVA/900W - 3kVA/2.7kW)

KR1000-RM Li

KR2000~3000-RM Li

Built-in Lithium-ion Battery

- Super-long backup time - 11 minutes backup time by internal battery
- Wide temperature range - tolerant for up to 60°C with no harm to the battery
- Internal lithium-ion battery long service life - up to 8 years of service life
- More circles for charge and recharge - up to than 1000 times
- Environment-friendly - lithium-ion battery

Green Power

- AC/AC efficiency up to 93.0%, less operation cost and more energy saving
- IGBT technology for higher efficiency and less interference to grid
- Digital Signal Processor (DSP)

Compact Dimension

- Space-saving, easy for installation

Rotatable LCD display

- The LCD display easily rotate for horizontal and vertical application

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TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

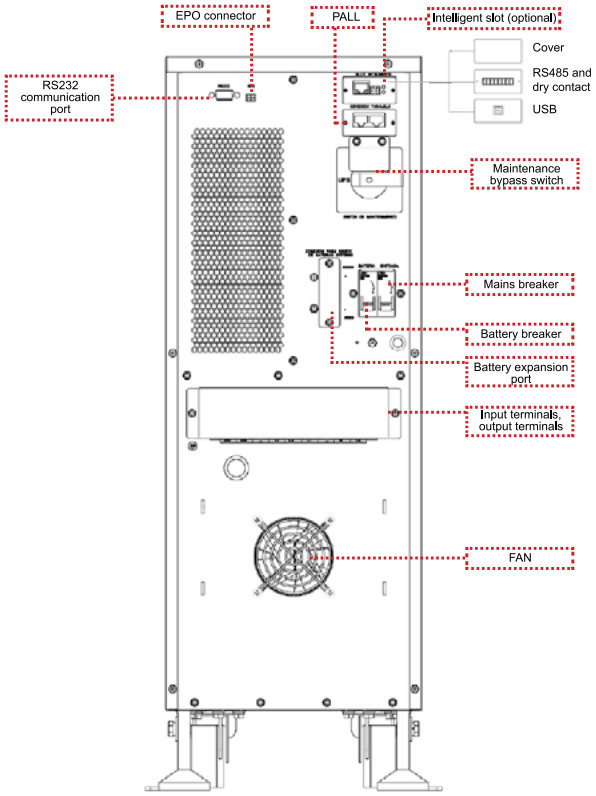
Technical Specification

MODEL	KR1000-RM Li	KR2000-RM Li	KR2200-RM Li	KR3000-RM Li
INPUT	1 Phase 3 Wire (L + N + G)			
Voltage (Vac)	120-295			
Frequency (Hz)	50/60±10% (50/60Hz auto-sensing)			
Power Factor	≥0.99			
THDi	<5% (non-linear)			
OUTPUT	1 Phase 3 Wire (L + N + G)			
Capacity (VA)	1000	2000	2200	3000
AC/AC Efficiency	91.5%	91.5%	91.6%	93%
Power Factor	0.9			
Voltage (Vac)	208/220/230/240±1% (settable)			
Frequency (Hz)	50/60±0.1 (battery mode)			
THDv	<3% (linear load)			
Transfer Time (ms)	0			
ECO Mode	Yes			
Overload	101%~115% load for 1 min, 116%~133% load for 1s, above 134% load for 200ms			
LITHIUM-ION BATTERY				
Voltage (Vdc)	24	48	72	72
Backup Time (mins)	11	11	22	11
Charging Current (A) Max.	4			
GENERAL				
Communication Interface	USB and EPO (SNMP+RS232+dry contact is optional in slot)			
Output Outlet	1× IEC C19 + 6 x IEC C13			
Display	LCD displays the running status of UPS			
Alarm	Battery low-voltage, mains abnormal, UPS fault, output overload			
Protection	Battery under-voltage protection, overload protection, short-circuit protection, over-temperature protection, input over-voltage protection			
Noise (dB)	< 55			
Working Temperature	The operating temperature is 0°C~60°C (Best operating temperature is 0~40°C, output power derated from 40°C~60°C)			
Relative Humidity	0 ~ 95%, No condensation			
Dimension (W×D×H) (mm)	438×420×87	438×570×87	438×615×87	438×570×87
Weight (kg)	8.9	13.6	19.1	16.1

True on-line double conversion design

KR-11T Series

(6kVA/5.4kW - 10kVA/9kW)



High Performance

- Input power factor up to 0.996, low THDi (< 5%), decrease the pollution to utility power
- AC/AC efficiency up to 93.5%, energy saving and low CO2 emission
- Wide input voltage range allows the UPS to work in harsh electrical environments
- Visualized LCD display providing comprehensive information including working status, operation data, etc.
- IGBT technology for higher efficiency and less interference to grid
- Digital Signal Processor (DSP)

Excellent Flexibility

- Output voltage is selectable via LCD
- Batteries total quantity settable (16/17/18/19/20 for 6-10kVA)
- Maintenance bypass
- Battery disconnection alarm (optional)
- SNMP, RS485+dry contact, USB, Protocol transfer kit (optional)
- Charging voltage temperature compensation (optional)
- Parallel Kit (optional)

Outstanding Profitability

- Minimum 0.16m^2 footprint, more units are available for delivery and installation
- Output voltage 120/208/220/230/240V, suitable different application
- Optional external battery pack for the standard model to improve system availability
- Full galvanic isolation for safer operation and stronger load adaptability

CE

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TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

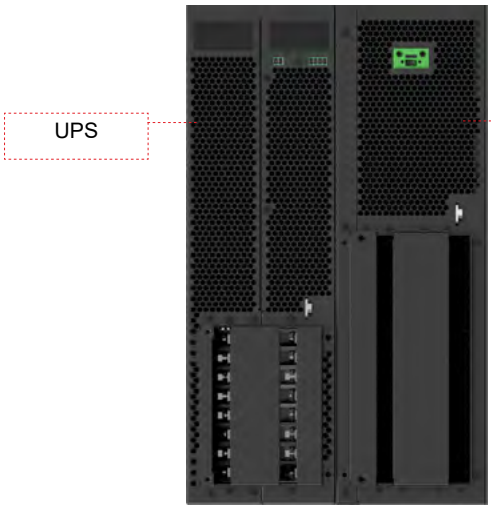
Technical Specification

MODEL	KR6000T(L)	KR1110T(L)
INPUT	1 Phase 3 Wire (L+N+G)	
Voltage (Vac)	80~275	
Frequency (Hz)	50/60±10% (50/60Hz auto-sensing)	
Power Factor	≥0.99	
THDi	<5% (linear load)	
OUTPUT	1 Phase 3 Wire (L+N+G)	
Capacity (kVA)	6	10
AC/AC Efficiency	91.5%	91.5%
Power Factor	0.9 (1 optional)	
Voltage (Vac)	120/208/220/230/240±1% (settable on display panel and output wiring line)	
Frequency (Hz)	50/60±0.2% (battery mode)	
THDv	THD<1% (linear load), THD<4% (nonlinear load)	
Transfer Time (ms)	0	
Max. Efficiency	93.5%	
Crest Factor	3:1	
Overload	105%<Load≤130%:10mins,130%<Load≤150%: 30s,>150%: 0.5s.	
BATTERY	Sealed, Maintenance-free lead acid batteries	
Battery Voltage (Vdc)	192 (192~240V settable)	
Battery No.	16×7Ah12V/External	16×9Ah12V/External
Charging Current (A) Max.	1A (default); 1~8A settable (external battery)	
GENERAL		
Communication Interface	RS232, EPO (SNMP, USB, RS485+dry contact, Protocol transfer kit are optional in slot)	
Display	LCD displays AC input & output voltage, frequency, load level, battery level, temperature; AC mode, battery mode, bypass mode, and fault	
Alarm	Low battery, abnormal AC input, UPS failture, etc.	
Protection	Low battery, overload, short-circuit and over temperature, etc.	
Noise (dB)	50	
Working Temperature	-5~40	
Relative Humidity	0~95%, no condensation	
Dimension (W×D×H) (mm)	250×660×720	
Weight (kg)	96/60	113/73

True on-line double conversion design

KR-RM Series

(10kVA/10kW - 40kVA/40kW)



Model: KR-RM 30-40kVA

Green Power

- Low THDi: 3% at linear load
- High AC/AC efficiency up to 96%
- IGBT technology for higher efficiency and less interference to grid
- Digital Signal Processor (DSP)

Excellent Flexibility

- 3U height tower and rack compatible design
- Adjustable input and output to 33\31\11
- Common battery
- LCD rotate setting by (10-20kVA), gravity auto-rotate by (30-40kVA)
- Adjustable battery pcs and charging current

Advanced Technology

- Super wide input voltage range -60%~+25% for high grid adaptability
- Dual DSP control technology for top perfomance
- Anti-corrosion resistant coating for all PCB boards
- Intelligent fan speed control reduces the noise and prolongs fan service life
- Anti-corrosion resistant coating in all PCB boards
- ECO and EPO

More Options

- External UPS input and output distribution box
- Dry contact kits and SNMP
- Input and output isolation transformer
- 19 inch rail kits

CE

ISO 9001
ISO 14001
ISO 45001
Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Technical Specification

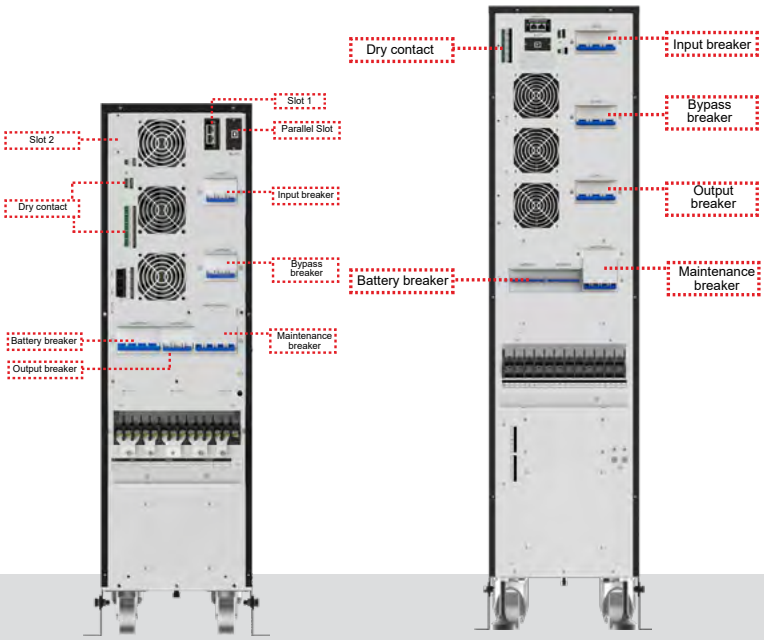
MODEL		KR10KVA-RM	KR15KVA-RM	KR20KVA-RM	KR30KVA-RM	KR40KVA-RM
INPUT		3 Phase 4 Wire (L1,2,3+N+G) (can be set as 1 Phase 3 Wire (L+ N+G))			3 Phase 4 Wire (L1,2,3+N+G)	
Voltage (Vac)[1]		138-485 (L-L), 80 - 280 (L-N)				
Frequency (Hz)		40-70				
Power Factor		≥0.99				
THDi		<3% (linear load)				
Phase (Input : Output)		1:1 / 3:1 / 3:3			3:1 / 3:3	
OUTPUT		3 Phase 4 Wire (L1,2,3+N+G) (can be set as 1 Phase 3 Wire (L+ N+G))				
Capacity (kVA/kW)		10/10	15/15	20/20	30/30	40/40
AC/AC Efficiency (Max.)		96%				
Power Factor		1.0				
Voltage (Vac)[2]		380/400/415±1% (L-L), , 220/230/240 (L-N) ±1%				
Frequency (Hz)		50/60±0.1 (battery mode)				
THDv		THD <2% (linear load), THD < 4% (nonlinear load)			THD <1% (linear load), THD <3% (nonlinear load)	
Transfer Time (ms)		0				
Overload		115%~130% load: 15 min, 130%~150% load: 1 min, >150% load: 200ms				
ECO Mode		Yes				
BATTERY		Sealed, Maintenance-free lead acid batteries				
Voltage (Vdc)		±192 (±144~±240 adjustable)/32 pcs default (28-40 pcs adjustable)				
Charging Current (A)		4 (1-10 settable)			15 (1-20 settable)	
GENERAL						
Communication Interface		RS485+EPO (RS232+Dry contact, SNMP are optional in slot)				
Display		LCD				
Alarm		Low battery, abnormal AC input, UPS failure, etc.				
Protection		Low battery, overload, short-circuit and over temperature, etc.				
Noise (dB)		< 55				
Working Temperature (°C)		-5~40			-5~50	
Relative Humidity		0 ~ 95%, no condensation				
Dimension (W×D×H)(mm)	UPS	438×500×130(3U)			438×680×130 (3U)	
	Distribution Box	438×500×130(3U)			438×680×130 (3U)	
	Batt. Pack	438×500×130(3U)			438×680×130 (3U)	
Weight (kg)	UPS	20			34	
	Distribution Box	8			14	

- Specification is subject to change without prior notice.
- 80-280 (L-N) for single phase input;
- 220/230/240 (L-N) for single phase output.

True on-line double conversion design

Myria Series

(10kVA/10kW - 40kVA/40kW)



Green Power

- AC/AC efficiency up to 96%, less TCO and more energy saving
- Output power factor up to 1.0, more powerful to connect more critical loads
- 3 level IGBT technology for higher efficiency and less interference to grid

Flexible Design

- Adjustable output voltage
- Built-in battery and flexible battery configuration
- Common battery bank
- Easy onsite parallel slot modification
- Wheel design
- Options are displayed in 7 languages: English, Russian, Chinese, Spanish, Polish, Italian and Korean

Advanced Technology

- Super wide input voltage range -65%~+20% for higher grid adaptability
- Dual DSP control for high performance
- Intelligent fan speed control reduce noise and prolong fan life
- Anti-corrosion resistant coating for all PCB boards
- Full protection with input, output, bypass, maintenance bypass and battery breaker
- ECO mode and EPO function

CE

ISO 9001
ISO 14001
ISO 45001
Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Technical Specification

MODEL		MY10	MY20	MY30	MY40
INPUT		3 Phase 4 Wire (L1,2,3+N+G) (can be set as 1 Phase 3 Wire (L+ N+G))		3 Phase 4 Wire (L1,2,3+N+G)	
Phase (Input : Output)		3:3 / 3:1 / 1:1		3:3 / 3:1	
Voltage (Vac)		80-280 (L-N)/138-485 (L-L)		138-485 (L-L)	
Frequency (Hz)		40-70			
Power Factor		≥0.99			
THDi at full Linear load		<3%			
Dual Main Input		Yes			
OUTPUT		3 Phase 4 Wire (L1,2,3+N+G) (can be set as 1 Phase 3 Wire (L+ N+G))		3 Phase 4 Wire (L1,2,3+N+G)	
Capacity (kVA/kW)		10/10	20/20	30/30	40/40
AC/AC Efficiency (Max.)		96%			
Power Factor		1.0			
Voltage (Vac)		220/230/240±1% (L-N) 380/400/415±1%(L-L)			
Frequency (Hz)		50/60±0.1 (battery mode)			
THDv		≤2% (linear load), ≤4% (non-linear load)		≤1% (linear load), ≤4% (non-linear load)	
Crest Factor		3:1			
Overload		110% load for 60 mins, 130% load for 10 mins, 155% load for 1 min, above 155%-200% load for 200ms			
EPO		Remote and Local			
Cold Start		Yes			
BATTERY		Sealed, Maintenance-free lead acid batteries (LITHIUM-ION BATTERY are Optional)			
Voltage (Vdc)		±192 (±96 ~±240 adjustable)	±192 (±144 ~±240 adjustable)*		
Internal Battery		16~40*9AH/12V	24~40*9AH/12V	48~80*9AH/12V	
Charging Current (A)		1-10 settable		1-20 settable	
GENERAL					
Communication Interface		RS485+EPO+Dry contact (1 input,5 output)(SNMP are optional in slot)			
Display		4.3 Inch Touch Screen+ LED+ Physical buttons			
Alarm		Low battery, abnormal AC input, UPS failure, etc.			
Protection		Low battery, overload, short-circuit and over temperature, etc.			
Noise (dB)		<55			
Working Temperature (°C)		-5~40			
Relative Humidity		0 ~ 95%, no condensation			
Altitude (m)		2000, no derate			
Dimension (W×D×H)(mm)		250×755×880		300×785×1250	
Weight (kg)	**with Battery**	98 (20 ×9AH)	132 (32×9AH)	240 (64×9AH)	240 (64×9AH)
	without Battery	50		85	
	with TX	143		240	

- Specification is subject to change without prior notice.

* Capacity will derate when battery voltage between ±144~±180

True on-line double conversion design

Myria Series

(60kVA/60kW - 200kVA/200kW)

4.3" Touch Screen

7" Touch Screen

Normal Mode

Bypass Mode

Warning Mode

Green Power

- AC/AC efficiency up to 96.5% and 30% load up to 95% efficiency reduces heat dissipation and limits power consumption costs
- High input power factor up to 0.99 and low Input THDi: < 3.0% at full load, much less grid pollution and costs
- Intelligent sleep mode which UPS sleep in random keep maxinum efficiency and energy saving

Flexible Design

- Colorful 4.3" and 7" touch screen with LED Indicators, ensure comprehensive and visualized information display.
- Multicolor LED bar allowing quick and easy detection of the system status and simplified trouble shooting
- Main unit display allow to check the information of each UPS status during parallel mode.

Advanced Technology

- Latest generation IGBT and three level technology, Low harmonic, high efficiency, effectively energy-saving.
- The most advanced and dual DSP control prevents single failure point and increase performance.
- Intelligent fan control and redundant design: 15% load can be driven when 2 fans fail and 40% load when 1 fan fails
- Anti-corrosion resistant coating for all PCB boards
- Separate internal air channel which hot air drives directly towards heat sink without distressing the PCB's and other internal sensitive components

CE

ISO 9001
ISO 14001
ISO 45001
Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Technical Specification

MODEL	MY60	MY80	MY100	MY120	MY160	MY200
INPUT						
Voltage (Vac)	380/400/415 (138~485 L-L)					
Frequency (Hz)	40~70					
Power Factor	≥0.99					
Phase	3 Phase 4 Wire (L1,2,3+N+G)					
THDi at full linear load	<3% (linear load)					
BYPASS						
Bypass Voltage (Vac)	380/400/415					
Voltage Range	-20% (-10%/-15%/-30%selectable)/+15% (10%/20%/25% selectable)					
Overload	≤130%: long run; 130%< load ≤150%: 5min; 150%< load ≤200%: 1s; 200%< load≤300%: 100ms; >300%: immediately.					
OUTPUT						
Capacity (kVA/kW)	60/60	80/80	100/100	120/120	160/160	200/200
Power Factor	1					
Voltage (Vac)	380/400/415±1%					
Frequency (Hz)	50/60±0.1% (Battery mode)					
Phase	3 Phase 4 Wire (L1,2,3+N+G)					
Three Phase Difference	≤1%					
THDv	<1% at linear load, <4% at non-linear load					
Transfer Time (ms)	0					
AC-AC Efficiency	up to 96.5%					
Overload	101-105% Long run, 106-110% load for 60 minutes, 111%-125% load for 10 minutes, 126%-150% load for 1 minute, over 150% load transfer to bypass					
BATTERY	Sealed, Maintenance-free lead acid batteries (LITHIUM-ION BATTERY are Optional)					
Battery Voltage (Vdc)	±192 (±168 ~±288 adjustable)		±240 (±168 ~±288 adjustable)			
Battery Type	External					
Charging Current (A) MAX	30				60	
GENERAL						
Communication Interface	RS232, RS485, MODBUS, dry contact (BMS,SNMP, expend dry contact card are optional in slot)					
Display	4.3" Touch screen+LED+LED bar				7" Touch screen+LED+LED bar	
Alarm	AC input abnormal, low battery, overload, failure					
Protection	Output short-circuit, overload, over-temperature, battery low voltage, output over/low voltage					
Noise (dB)	<65		<70			
Altitude(m)	0-2000 no derate. 2000-3000 m derate power by 1% per each 100 m increase					
IP	IP20					
Working Temperature (°C)	0 ~ 40 no derate,40~50 auto derate.					
Relative Humidity	0 ~ 95%, no condensation					
Dimension (W×D×H)(mm)	400×960×1200				600×1000×1600	
Weight (kg)	145	161			312	

- Specification is subject to change without prior notice.

True on-line double conversion design

FR-UK33 GEL Series

(10kVA-200kVA)

Reliability

- Energy backfeed protection, can carry electrical load
- Wide input voltage range, suitable for different power grid environments
- Anti-corrosion coating for all PCB, waterproof, dustproof and salt spray proof
- Redundancy design, improve system reliability
- 3*2 redundancy design

Intelligent

- Battery test function, battery connect with grid to support light load test
- Self-load test, saving electric energy and electricity bill
- Capacitor and Fan health status detection, manage critical component life
- Energy storage mode, plan your electricity usage to save money

Flexibility

- Programmable dry contact
- Wide battery number
- Compatible with lithium-ion battery

Green Power

- Low total harmonic distortion,THDi <5%, THDv<1%
- AC-AC efficiency >92%, EC mode efficiency: 98.5%
- Noise <65dB, more friendly to the user and environment
- 3 Level IGBT technology for higher efficiency and less interference to grid
- Digital Signal Processor (DSP)

CE

ISO 9001
ISO 14001
ISO 45001
Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Technical Specification

MODEL	FR-UK 3310-GEL	FR-UK 3320-GEL	FR-UK 3330-GEL	FR-UK 3340-GEL	FR-UK 3360-GEL	FR-UK 3380-GEL	FR-UK 33100-GEL	FR-UK 33120-GEL	FR-UK 33200-GEL
Capacity (kVA)	10	20	30	40	60	80	100	120	200
INPUT									
Voltage (Vac)	L-L: 286-476 (305-476 at full load)								
Frequency (Hz)	50/60±10%								
Power Factor	≥0.99								
THDi	≤3% (resistive full load)								
Phase	3W+N+PE								
BYPASS									
Voltage (Vac)	-25%/-20%/-15%/-10% (default -20%) ~ +10%/+15%/+20% (default +15%)								
Frequency (Hz)	±5%/±10% (default ±10%)								
Overload	130%: long term; 170%:10min; 200% 1min; above 200%: 5s								
OUTPUT									
Voltage (Vac)	L-L: 380/400/415±1%								
Frequency (Hz)	50/60±0.2Hz								
Power Factor	0.9 (1 optional)								
THDV	≤1% (resistive full load), ≤5% (non-linear full load)								
AC/AC Efficiency (Max.)	94%								
Overload	105%: long term; 130% 10min; 155% 1min; above 155%: 1s								
Transfer Time (ms)	0 (Mains mode-Battery mode), ≤1 (Mains mode-Bypass mode)								
Crest Factor	3:1								
BATTERY									
Battery Type	Lead-acid/ S3 lithium-ion batteries								
Voltage (Vdc)	384 (348-480 at full load)								
Charging Current (A)	5 (5-10)		10 (5-30)		15 (5-30)		20 (5-40)		
GENERAL									
Communication	RS485/RS232, dry contact Optional: SNMP card								
Display	7" touch screen								
Noise (dB)	<70								
Working Temperature (*C)	-5~40								
Altitude (m)	2000								
Relative Humidity	0 ~ 95%, no condensation								
Protection Grade	IP20 (IP21 optional)								
Agency/Certification/Conformance	EN IEC 62040-1, EN IEC 62040-2								
Dimension (WxDxH)(mm)	600×860×2000						1000×800×2000		
Weight (kg)	288±5%	345±5%	372±5%	405±5%	470±5%	505±5%	720±5%	780±5%	1095±5%

- Specification is subject to change without prior notice.

True on-line double conversion design

KR33 Series

(300kVA/270kW - 1200kVA/1080kW)

Green Power

- High AC/AC efficiency up to 97%
- ECO mode efficiency up to 99%
- High power factor up to 1
- Low THDi <3%
- 3 Level IGBT technology for higher efficiency and less interference to grid
- Digital Signal Processor (DSP)

Flexible Design

- Common battery bank sharing in parallel system
- Multiple communication interface
- 3-stage battery charging mode
- Self-load test function without load enables onsite commission
- Common bypass cabinet
- External input and output isolation transformer

Advanced Technology

- Three level inverter technology
- Support parallel mode up to 9.6MVA
- External input/output transformer connection
- Auxiliary power supply redundancy design

CE

ISO 9001
ISO 14001
ISO 45001
Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Technical Specification

MODEL	KR33300	KR33400	KR33500	KR33600	KR33800	KR331000	KR331200
INPUT							
Rate Voltage (Vac)	380/400/415						
Voltage Range (Vac)	228-477 (-40%~+25%)						
Phase	3 Phase 4 Wire (L1,2,3+N+G)						
Frequency Range (Hz)	50/60±10% (±5% settable)						
Power Factor	≥ 0.99						
THDi	<3% (linear load)						
OUTPUT							
Output Voltage (Vac)	380/400/415±1%						
Frequency (Hz)	50/60±0.5%						
THDv	<1% (linear load), <3% (non-linear load)						
PF	0.9 (1.0 optional)						
Max. Efficiency	97%						
Phase	3 Phase 4 Wire (L1,2,3+N+G)						
Overload	110% load for 60 min, 125% load for 10 min, 150% load for 1 min, above 150% will transfer to bypass after 1s						
BATTERY	Sealed, Maintenance-free lead acid batteries						
Voltage (Vdc)*	480 (12V battery from 32 to 44 cells settable)				528 (12V battery from 32 to 48 cells settable)		
Charging Current (A)	25-100				25-200		
Common Battery	Yes						
GENERAL							
Communication Interface	RS232, RS485, Dry contact, MODBUS, SNMP (optional)						
Display	7-inch touch screen+LED						
Working Temperature (°C)	-5~40						
Alarm	Input abnormal, battery low-voltage, output overload, UPS failure						
Protection	Short-circuit, overload, over-temperature, battery under voltage, input under voltage						
IP	IP20						
Noise (dB)	<75						
Altitude (m)	1500						
Dimension (W×D×H) (mm)	1000×900×1950		1400×900×1950		1900×900×1950	3000×900×1950	
Weight (kg)	750		1100		1450	2400	

- Specification is subject to change without prior notice.

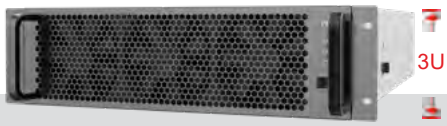
True on-line double conversion design

MR33 Series Modular UPS

(30kW/50kW/100kW Module)

30K Module
Dimension (W×D×H): 440×640×86mm

50K Module
Dimension (W×D×H): 440×640×130mm



100K Module
Dimension (W×D×H): 440×750×130mm

Green Power

- Efficiency up to 97%
- Intelligent fan speed control
- ECO mode and EPO function
- 3 Level IGBT technology for higher efficiency and less interference to grid
- Digital Signal Processor (DSP)

Excellent Flexibility

- Allow 100% three phase unbalance load
- Intelligent battery management
- Parallel expansion up to 8 units
- Fault Trace Management (Black box)
- Programmable dry contacts

Advanced Technology

- Online double conversion
- Battery cold start function
- Advanced power module sleep mode
- Dual system control card
- Self-load test function
- Frequency converter function
- Redundant design
- 30k 2U design

CE

ISO 9001
ISO 14001
ISO 45001
Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Technical Specification

MODEL		MR33120	MR33200	MR33300	MR33400	MR33500	MR33600
Power Module		MR3330-J	MR3350-J				
Capacity (kW)		30	50				
INPUT							
Rated Voltage (Vac)		380/400/415					
Voltage Range (Vac)		L:L 138~485					
Input Frequency (Hz)		40~70					
Bypass Voltage Range (Vac)		-15% (-20%/-30% optional) ~+15%(+10% /+20% optional)					
Power Factor		≥0.99					
THDi		3% (linear load)					
Phase		3 Phase 4 Wire (L1,2,3+N+G)					
Battery Voltage (Vdc)		±192 (±168~±276 settable)	±192 (±180~±276 settable)	±240 (±168~±276 settable)			
Charging Current (A)		N×10 Maximum (N: the number of power modules)					
OUTPUT							
Capacity (kVA)		120	200	300	400	500	600
Power Factor		1					
Phase		3 Phase 4 Wire (L1,2,3+N+G)					
Waveform		sine wave					
Voltage (Vac)		L-L:380, 400, 415±1%					
Frequency (Hz)		50/60± 0.2% (battery mode)					
Three Phase Difference		≤1 degrees					
THDv		≤1% (linear load, full load), ≤4% (nolinear load, full load)					
Static Bypass Transfer Time		0					
Max.Efficiency		96%	97%				
Parallel Mode		Advanced no-master-slave parallel technology, N+1 redundancy					
Overload Capacity		106-110% load for 60mins, 111%-130% load for 10mins, 131%-150% load for 1 min, 151%-200% load for 200ms					
GENERAL							
Working Temperature (°C)		-5~40					
Storage Temperature (°C)		-40~70					
Relative Humidity		0%~95%, no condensing					
Battery Type		Sealed, Maintenance-free lead acid batteries (LITHIUM-ION BATTERY are Optional)					
Communication Interface		RS485, RS232, dry contact (SNMP optional)					
Noise (dB)		< 65	< 70				
Dimension (W×D×H) (mm)		600×860×2000			1200×860×2000		
Weight (kg)	Cabinet	180	224	236	427		
	Bypass Module	17	19	25	25	31	31
	Power Module	27	33				

- Specification is subject to change without prior notice.

Technical Specification

Model	MR33400	MR33500	MR33600	MR33800	MR331000	MR331200
Power Module	**MR33100-J**					
Capacity (kW)	100					
INPUT						
Voltage Range (Vac)	138~485 (324~485 no derating, 138~323 linear derating)					
Frequency Range (Hz)	40~70					
Power Factor	>0.99					
THDi	1.5% (linear load)					
Phase	3 Phase 4 Wire (L1,2,3+N+G)					
Bypass synchronization tracking range (Hz)	50/60±4					
Bypass input voltage range (Vac)	304~438					
Battery Voltage (VDC)	±180~±300					
OUTPUT						
Power Factor	1.0					
Phase	3 Phase 4 Wire (L1,2,3+N+G)					
Voltage (Vac)	380/400/415±1%					
Frequency (Hz)	50/60±0.1%					
THDv	<1% (linear load), <3% (non-linear load)					
Max. Efficiency	97%					
Overload Capacity	106-110% load for 60 minutes, 111%-125% load for 10 minutes, 126%-150% load for 1minute, 151%~200% load change to bypass immediately					
Static Bypass Transfer Time	0					
Cool Start	Yes					
GENERAL						
Working Temperature (°C)	0-40					
Storage Temperature (°C)	-40~70					
Relative Humidity	0~95%, no condensation					
Battery Type	Sealed, Maintenance-free lead acid batteries (LITHIUM-ION BATTERY are Optional)					
Communication Interface	RS232, RS485, Dry contact, MODBUS, SNMP (optional)					
Alarm	Input abnormal, battery low-voltage, output overload, UPS failure					
Protection	Short-circuit, overload, over-temperature, battery under voltage, input under voltage					
Noise (dB)	<70					
Dimension (W×D×H)(mm)	800*1000*2000			1400*1000*2000	1800*1000*2000	
Weight(kg) **Cabinet**	439			580	740	
Weight(kg) **Bypass Module**	32	46		60	120	
Weight(kg) **Power Module**	47					

- There are other optional accessories to choose;
- Specifications are subject to change without notice;
- Because of module redundancy, it is not recommended to configure only one power module.

KEHUA TECH

Kehua S^3 Smart Backup Lithium-ion Battery System Solution

Lithium-ion Battery Solution with High Safety and Reliability

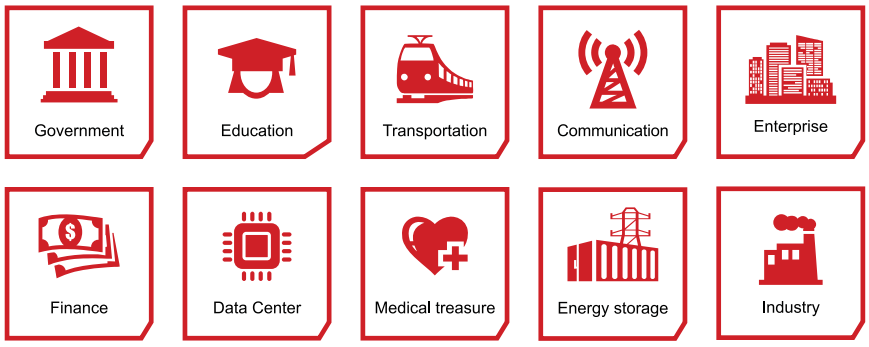
Sangchai Group

S^3 Smart Backup Lithium-ion Battery System Solution

Lithium-ion Battery Solution with High Safety and Reliability

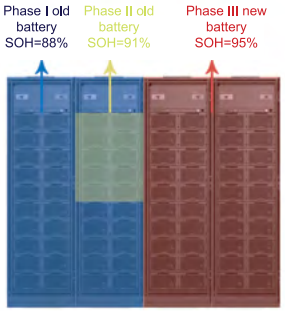
Application

Government, education, transportation, communication, finance, data center, medical treasure, enterprise, industry, etc.



Concerted operation with modular parallels

Module-level expansion with fine granularity



More flexible mixing of old and new batteries

Safe

- **Electrical and physical double isolation**
  -Reduces the fault scope to an effective space without diffusion
  -Terminal zero voltage when shut down the system, no risk of short circuit shock
- **Fire protection**
  -Module fire protection
  -Can quickly, accurately and effectively detect and extinguish the fire source will extinguish the fire in the initial stage
- **Failure module exit automatically**
  -Modular parallel design, failure module exit automatically, will not affect the system. Other modules can work normally. Improve the reliability

Smart

- **Module design, plug and play**
  -5 mins maintenance, reduce the OPEX cost
- **Flexible for expansion**
  -Module design, can expand the capacity by modules or cabinet.
  -Reduce the CAPEX cost
- **Smart battery test**
  -Parallel design, the battery can test the capacity Separately. No need to cut off the power supply, improve the reliability

Simple

- **Intelligent current equalization**
  -Can be used with new and old batteries
  -Can be used with lithium-ion batteries from different suppliers
- **Fault recording, early warning**
  -Fault recording, early warning, accurate and quick fault location, reduce the OPEX cost
- **Adaptive SOC management**
  -Intelligent charge and discharge management, avoid over charge and over discharge
  -Detects the battery internal temperature. Improve the safety and reduce the OPEX cost

Technical Parameters

Battery Cell	40Ah	50Ah	100Ah
Type	LFP		
Dimensions (mm)	27.0×148.5×133.0		50.5×160.3×120.0
Weight (kG)	1.01±0.1	1.11±0.1	1.95±0.1
Rated capacity (Ah)	40	50	100
Discharge rate (C)	6	4	1
Charge rate (C)	1		
Rated voltage (V)	3.2		
Battery Cell	**S3M040-6C-240-X**	**S3M050-4C-240-X**	**S3M100-1C-240-X**
Battery rated voltage (V)	57.6		
Battery capacity (Ah)	40	50	100
Max. energy (kWh)	2.3	2.8	5.7
DC/DC rated output voltage (V)	240*2 (In series or parallel)		
DC/DC rated output power (kW)	10		5
Dimensions (W*D*H) (mm)	223×665×152		440×665×132
Weight (kG)	36±2	38±2	50±2
Battery Cabinet	**S3C040-6C-20-MX**	**S3C050-4C-20-MX**	**S3C100-1C-12-MX**
Battery max energy (kWh)	46	58	69
Rated output voltage (V)	240/±240/480		
System rated output power (kW)	200		60
Number of battery modules	20		12
Current-unbalance	≤3%		
SOC accuracy	≥95%		
Communication	RS485, CAN, TCP/IP and dry contact		
Working temperature (°C)	0~40 (+15~+30 recommended)		
Altitude (m)	≤4000m, above 2000m derate		
Dimensions (W*D*H) (mm)	600×860×2000		
Weight (kG)	960±10	1000±10	860±10
Maximum number of paralleled cabinets	15		
Optional	Distribution cabinet, Fire edge cabinet, IT rear frame		
Self-discharge rate	≤3% (0-30°C/1 month)		

- Specification is subject to change without prior notice.

UPS+S³ Lithium-ion Battery
All-in-one Solution

40Ah/50Ah lithium-ion
battery system cabinet

100Ah lithium-ion
battery system cabinet

Compact

- Integrated power distribution module, UPS and lithium battery into one cabinet, saving space
- Modular parallel design,flexible for battery expansion
- 3 Level IGBT technology for higher efficiency and less interference to grid
- Digital Signal Processor (DSP)

Safe

- DC/DC isolated solution, batteries are physically and electrically isolated from the UPS
- Modular class Fire-fighting protection, eliminate battery fire risk
- Full breaker design, including input, output, bypass, battery and maintenance bypass breaker

Convenient

- Centralized monitor, can check the status and information of batteries and UPS
- Battery modular design, minutelevel maintenance
- Tilt design touch screen, easy screen access
- Universal wheel design, easy to move

CE

ISO 9001
ISO 14001
ISO 45001
Factory Certificate

TIS. 1291 Part 1-2553
TIS. 1291 Part 2-2553
TIS. 1291 Part 3-2555

Technical Specification

MODEL		S3C040-1106 S3C050-1106 S3C100-1106	S3C040-1110 S3C050-1110 S3C100-1110	S3C040-3310 S3C050-3310 S3C100-3310	S3C040-3320 S3C050-3320 S3C100-3320	S3C040-3330 S3C050-3330	S3C040-3340 S3C050-3340
Capacity (kW)		6	10	10	20	30	40
INPUT							
Voltage (Vac)		L-N: 80-275 (176-275 at full load)		L-L: 138~485 (305~485 at full load)			
Frequency (Hz)		40 - 70					
Power Factor		≥0.99					
THDi		≤3% (resistive full load), ≤5% (non-linear full load)					
Phase		1 : 1		1 : 1/3 : 1 /3 : 3		3 : 1/3 : 3	
BYPASS							
Voltage (Vac)		±15%/±20% (default ±20%)		±10%/±15%/±20% (default ±20%)			
Frequency (Hz)		±5%/±10% (default ±10%)					
Overload		130%: long term, 200%:10min, above 200% 10s					
OUTPUT							
Voltage (Vac)		L-N: 208/220/230/240±1%		L-L: 380/400/415±1%			
Frequency (Hz)		50/60±0.5Hz		50/60±0.1 (battery mode)			
Power Factor		1.0					
THDV		≤1% (resistive full load), ≤3% (non-linear load)		±10%/±15%/±20% (default ±20%)			
AC/AC Efficiency (Max.)		94%	94.5%	96%			
Overload		105%: long term; 130% 30s; above 130% 500ms		105%: long term; 110%: 60min; 130% load: 10 min; 155%: 1 min; above 155%: 200ms			
Transfer Time (ms)		0 (Mains mode-Battery mode), ≤1 (Mains mode-Bypass mode)					
Crest Factor		0					
BATTERY							
Battery Type		Lead-acid/ S3 lithium-ion batteries					
Voltage (Vdc)		240/480		±240			
Internal Battery		(1~8)*40Ah/51.2V/2.05kWh/10kW or (1~8)*50Ah/57.6V/2.88kWh/10kW or (1~4)*100Ah/57.6V/5.76kWh/5kW					
GENERAL							
Communication		RS485, EPO, RS485+dry contact card Optional: SNMP card					
Display		4.3" touch screen					
Noise (dB)		<65					
Working Temperature (*C)		-5~40					
Altitude (m)		2000					
Relative Humidity		0 ~ 95%, no condensation					
Protection Grade		IP20					
Agency/Certification/Conformance		UN38.3, EN 62040-1, EN 62040-2					
Dimension (WxDxH)(mm)	UPS	438×500×87 (2U)		438×500×130 (3U)		438×680×130 (3U)	
	Cabinet	600×1000×1110					
Weight (kg)	UPS	10.6	12.2	20		34	
	Cabinet	120					

- Specification is subject to change without prior notice.
- 1. Without built-in UPS and batteries.

WiseRow Modular
Data Center Solution

Solution Introduction

In order to meet the demand of edge data center of “low delay, high bandwidth, localization and real-time computing”, Kehua Data launched WiseRow Modular Data Center series. Through flexible module configuration, reliable performance, high efficiency and energy saving as well as operation and maintenance intelligence of data center are displayed. The modular design integrates power supply and distribution, cooling, cabinet, fire control, and monitoring systems into one, saving room space. IT supports IT devices such as servers, KVM, routers, and switches, and supports flexible device expansion and configuration based on application scenarios.

Application Scenarios

Government | Medicine | Education | Enterprise | Finance | IDC | Communication Operator

Technical Specification

MODEL	WiseRow1+2	WiseRow1+4	WiseRow2+6	WiseRow2+8	WiseRow2+10
Capacity (kW)	Sealed cold and hot channel				
Capacity (kW)	2	4	6	8	10
Dimension (WxDxH)(mm)	1200*1400*2000	2400*1400*2000	3600*1400*2000	4800*1400*2000	6600*1400*2000
Power distribution modular					
Capacity (kVA)	10		20		40
Mains input	Single input		Single/dual input optional, ATS optional for double		
Input	1P+N+PE		3P+N+PE		
Air conditioning power distribution	40A/1P*3				40A/3P*3
IT power distribution branch 1 (Mains power supply)	32A/1P*5		32A/1P*8		32A/1P*12
IT power distribution branch 2 (UPS power supply)	32A/1P*5		32A/1P*8		32A/1P*12
Installation height (U)	3		6		9
Lighting protection grade	Class C, in 20kA				
PDU					
Installation	Vertical installation				
Rated input (A)	16/32				
UPS					
Capacity (kVA)	10	10	20	20	40
Rated input voltage (Vac)	220/230/240		380/400/415		
Input voltage range (Vac)	80~275		80~280		
DC input (Vdc)	192 (192~240 optional)		±192 (±144~±240 optional)		
Output PF	0.9				
Output voltage (Vac)	220/230/240		380/400/415		
Output voltage (Vac)	95%		96%		
Efficiency	2		3		
Transfer Time (ms)	0.5/1/2				
Crest Factor	0				
Air conditioner					
Quantity	1	1	2	2	2
Cooling capacity/per AC	3.5	12.5	7.5	12.5	25
Dimension (mm)(W*D*H)	440*760*217(5U)	442*714*440(10U)	440*760*350(8U)	442*714*440(10U)	300*1400*2000
Max airflow rate (m^3/h)	800	2200	1500	2200	5000
Installation	Rack				In-Row
Air supply mode	Frontal air supply in cabinet, rear air return				Frontal air supply, rear air return
Monitor system					
Display / Resolution radio	10.1 inch TFT capacitive multi-touch screen / 1280*800				
Dimension (mm)(W*D*H) / Weight (kg)	286x196x50 / 1.5				
Certification	CE, FCC				
Access method	Support resmote WEB interface access, multiple modules support unified NMS monitoring, mobile phone APP				
Local interface	10 inches touch screen				
Alarm	SMS alarms, audible and visual alarms, email alarms				
Standard configuration	Temperature and humidity sensor, water leakage sensor, smoke sensor				
Optional configuration	Door status sensor, video				

WiseAisle Modular
Data Center Solution

Solution Introduction

WiseAisle Modular data center solution integrates independent units such as IT cabinets, power distribution units (PDB), closed components, refrigeration units, cabling, and integrated operation and maintenance (O&M) into a single module to achieve full IDC data center functions. All components of the module are prefabricated in the factory, which can be flexibly disassembled and transported, and put into use after quick assembly on site.

Application Scenarios

- Government
- Medicine
- Education
- Enterprise
- Finance
- IDC
- Communication Operator

Features

Unique appearance

Three-dimensional prominent front door shape, combined with the T-shaped lintel and LED atmosphere light, highlight the quality of the machine room; The color of the full-color atmosphere lamp is associated with the alarm level, and the operating status is visible; Editable LED, 10-inch HD display screen and automatic card issuing machine are optional, which make the room more scientific and technological.

AI+ Adaptive dehumidification technology

The innovative application of artificial intelligence "adaptive dehumidification" technology enables WiseMDC modular data center to operate stably and have dehumidification capability under 10%-20% low load, and the dehumidification function does not require heating, heating and other additional energy consumption, which further reduces the energy consumption of the air conditioning system.

Save 50% delivery time

WiseAisle Micro Modular Data Center Solution implementation standard modular, easy deployment, only need according to the customer's IT requirements, architectural space, and can provide modular construction scheme, module flexible disassembly, transport, expansion, and site put into use after the rapid a ssembly, from cold channel assembly and debugging process is optimized, reduce the delivery time by 50%.

Installing cabinets in position | Skylight and lighting installation | End door installation | Bridge installation | Type I sealing piece installation

Sunroof narrow frame, explosion-proof glass design

The narrow frame design of the sunroof further expands the visual space experience inside the cold passage, and greatly improves the lighting and permeability. Explosionproof glass is used for cold aisle sunroof to effectively prevent personal injury in emergency situations.

O&M visualization and user-friendly design

Supports 3D centralized management of monitoring, 3D cabinet number customization and 3D rotation, alarm filtering, convergence, and linkage, which facilitates the operation and maintenance of the equipment room and simplifies and facilitates the viewing of customer information. With configuration software interface display can be configured, flexible presentation; Multi-dimensional 3D interface display, such as cabinet temperature cloud picture and three-dimensional simulation cabinet capacity view; Supports storage of historical device data for up to five years, ensuring long-term operation and maintenance of device data, reducing operation and maintenance costs and time, and improving data traceability.

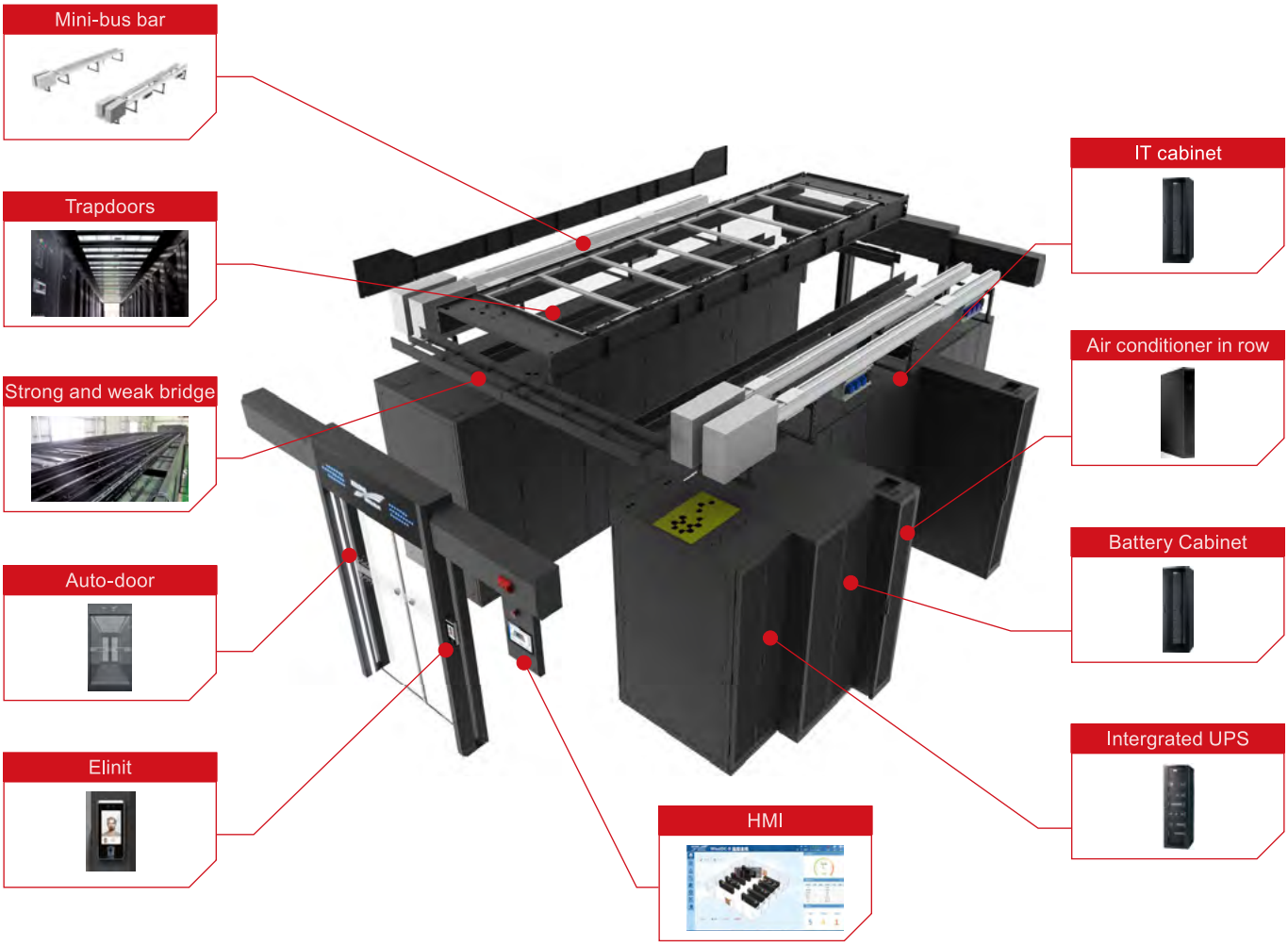
Optional mini-bus bar solution

Bus-bar products standardized design, modular structure, plug and play, fast installation, maintenance free; Flexible increase or decrease of plug boxes, convenient capacity expansion, more flexible load expansion, higher integration degree; The site deployment is convenient and fast, the construction speed is fast, the process is more flexible and beautiful; Flexible implementation of three-phase load distribution to meet the requirements for onsite and for the future.

Optional moving robot

Mobile robot can realize automatic inspection, fixed inspection, scheduled inspection functions, and can automatically complete inspection records; Infrared scanning, mobile temperature and humidity detection, real-time scanning of each device temperature; Can realize the image recognition function equipment switch state; The device can remotely monitor the sound of devices in the cold ch annel, and remotely view the device status in real time through a mobile phone.

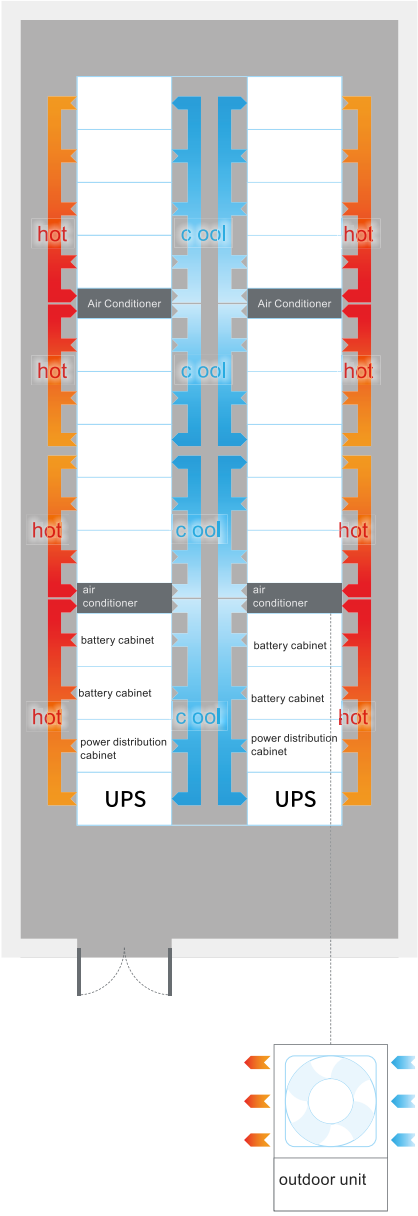
Overall architecture breakdown diagram



Customer Value

- Higher reliability, ensure the stable operation of the overall data center.
- To ensure the safety of personal and equipment.
- According to customer site conditions and construction needs, quickly provide construction plan.
- Productized project, construction cycle can be shortened by more than 20%.
- Improve operation and maintenance efficiency through modular component design.
- Real-time monitoring to improve the protection capacity of the data center.
- Intelligent management, improve the operation efficiency of data center.
- Rich management functions to improve data center availability.
- High efficiency up to 96%, reduce 30% operating cost and 20% Non -IT power consumption.
- Save 50% room space and 50% delivery time.
- Increase 30% expansion capacity

Solution introduction



MODEL	WiseAisle Micro Modular data center solutions
System	
Dimension (LxWxH)	L×3600×2400mm, L≤15m
IT cabinet quantity	≤48
Cabinet power	typical value2.2~4.4kW Single cabinet power>10kW (optional)
Installation	Support leveling or esd floor installation Cold aisle independent frame installation (optional)
Anchor frame	High 250mm, adjustable (optional)
Power distribution system	N+1, 2N
Access control	Automatic sliding glass doors, sliding/rotating sliding glass doors, partition mesh doors Face recognition or fingerprint all-in-one machine, support face/fingerprint/password/IC card and other modes
Flip skylight	Flip glass skylights and support fire control linkage
Smart light	LED lamp, PIR sensor
Smart atmosphere light	Smart atmosphere light, Alarm linkage discoloration
Cabinet	
Dimension (L×W×H)	600/800×2000×1200mm
Standards	IEC 60297-1, GB/T 19520.1
UPS	
Rated capacity	Integrated UPS: max 150kVA; independent UPS: 200kVA
Frequency range	40~70Hz
Input voltage range	80~280Vac
input voltage	380/400/415Vac, 50/60Hz, 3Ph+N+PE
Input PF	≥0.99
Output PF	1
Input THDi	≤3%
Power distribution	
Input distribution	ATS, MCCB
Output distribution	Integrated IT cabinet: max 24*2, supporting air conditioner, the channels can be customized
Detection	Support the detection of voltage, current, air switch state, apparent power, active power, electrical energy; Bus temperature (optional)
Alarm	Supports overvoltage or undervoltage alarms of the main circuit, overcurrent alarms, frequency abnormal alarms, singlepower failure alarms, and three-phase imbalance alarms
Battery cabinet (in line)	
Backup time	15min, 30min optional
Battery quantity	32*12V single cabinet
Intelligent temperature control	20~30°C (optional)
Battery monitor	Monitors the internal resistance, voltage, and temperature of each battery
Air conditioner in row	
System cooling capacity	25kW/40kW/50kW
Sensible heat factor	≥0.99
Dimension of indoor unit	300×2000×1200mm (25kW) / 600×2000×1200mm (40kW) / 600×2000×1200mm (50kW)
Freezing medium	R410A
Monitor	
HMI	10/21 inches touch screen
Monitor system	Temperature, humidity, smoke, temperature, camera, audible and visual alarms, SMS alarms, and water leakage detection

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