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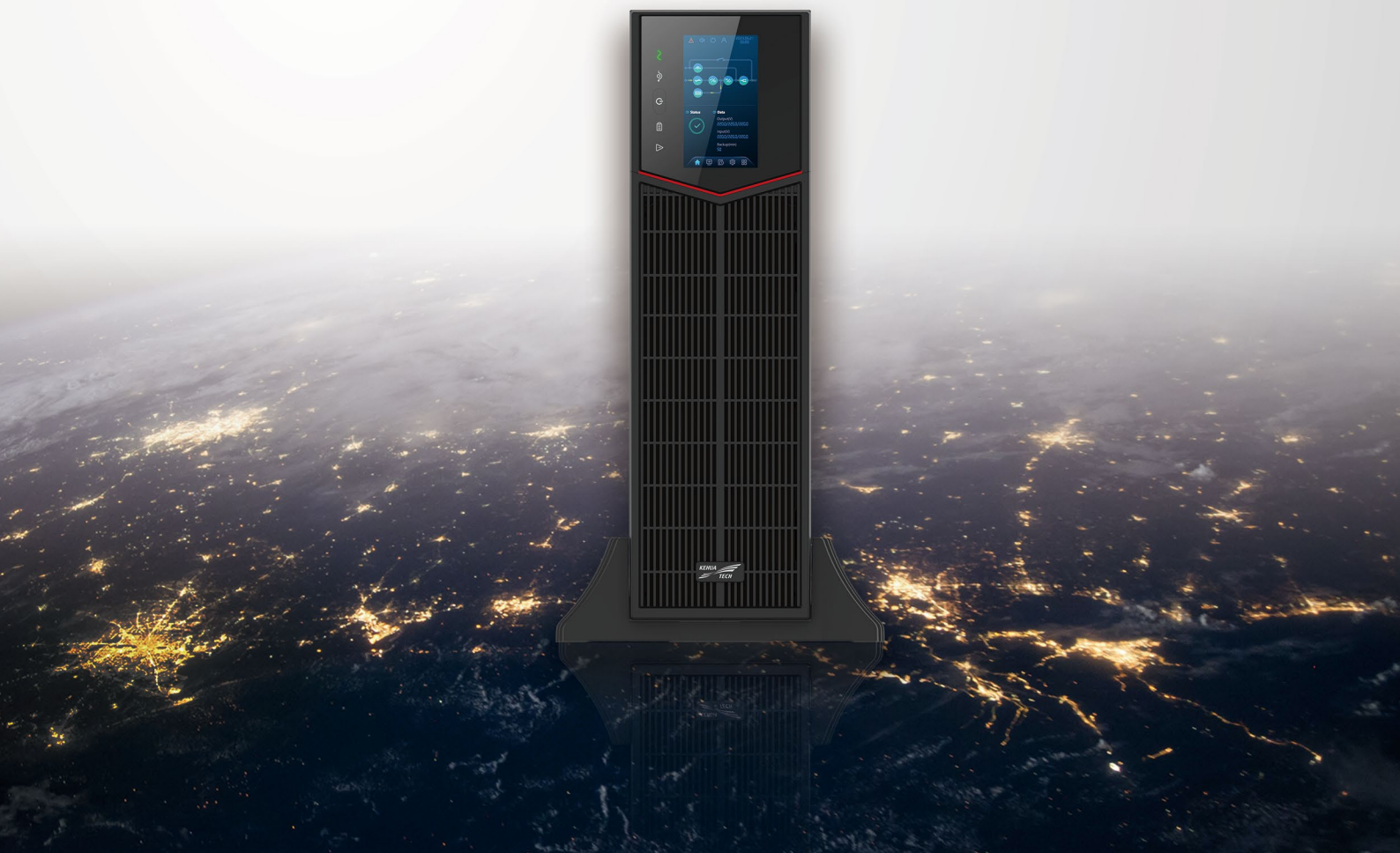
Kehua Data Co., Ltd.

KR-RM Series UPS

10-40kW@400V/10-20kW@208V



Empowering Efficiency and Reliability with KR-RM Series UPS

10-40kW@400V/10-20kW@208V

KR-RM Series UPS

- **» High efficiency 96% @PF=1**
- **» 33/31/11 mode**
- **» Compatible with 400Vac and 208Vac**
- **» 4.3 inch touch screen**
- **» Intelligent functions**
- **» Battery hot swappable design**

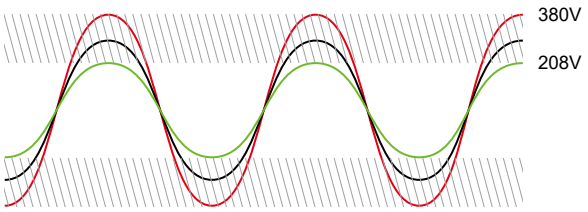
The KR-RM series is a Rack & Tower design UPS power supply. With the phase sequence adaptation and wide voltage input range, it could be used in many commercial applications, such as IT computer rooms, regional office buildings, commercial security systems.

Typical Applications:

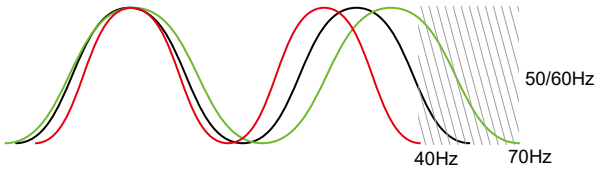
Telecom **Data Center** **Finance** **Government**

High Reliability

- **Wide input voltage** range -60% ~ 25% and Wide input frequency range 40-70Hz with high grid adaptability and prolong battery life.
- **Independent air duct design** which hot air drives directly towards heat sink without distressing the PCBs and other internal temperature-sensitive components, improving the components service life and UPS reliability.
- The most advanced and dual DSP control system prevents single failure point and improve performance.
- **High overload capacity** on inverter for 105% load long run and 130% load 10 mins and bypass 130% load long run.
- Intelligent fan control and redundant design which ensure the reliability of the UPS and maximum fan life time.
- Lightning and surge protection design which help UPS to sustain from high surge peak voltage.
- Battery reverse connection protection to make sure the system reliability.
- High short circuit capacity with time duration settable from 20~200ms which provides high protection for system.
- **Optional dust filter kit** allowing UPS placed in dusty environment.
- **Standard conformal coating** to all PCB boards, protect electronics from environmental influence such as dust, salt spray and corrosion.
- **Backfeed protection** with optional dry contact kit to prevent electric shock on the UPS mains and bypass input AC terminals in the event of a failure of the rectifier or bypass, which activates an external isolating device (optional) upon backfeed detection.*
- Cold start function allows UPS start with battery when grid isn't available.
- Bus synchronization control function provides reliable high power for dual bus application.
- Dual input design which means utility input and bypass input can be connected as a single source or separated source.
- **No derating operate up to 40°C** and continuously running under high ambient temperature up to 50°C with auto-derating

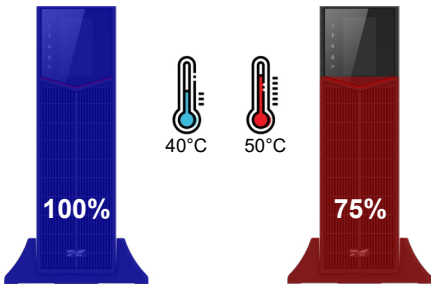


Wide Input Voltage



Wide Input Frequency

Automatic Fans Control

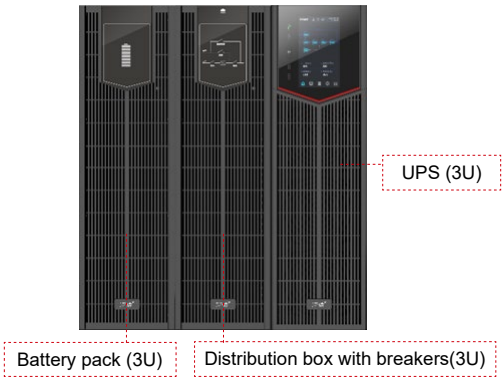


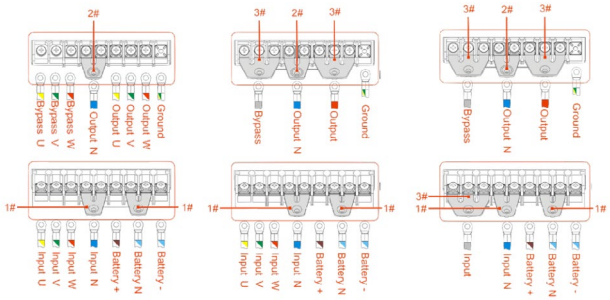
High Ambient Temperature

Conformal Coating

Flexible Design

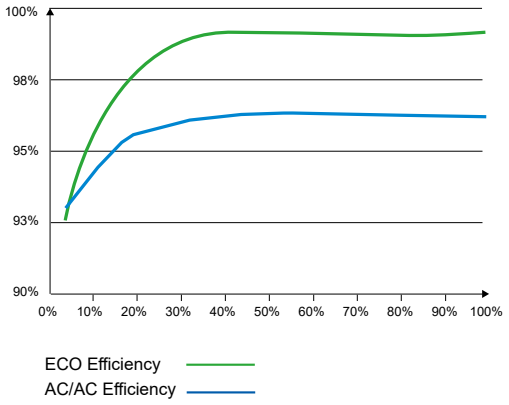
- **High power density design**, up to 40KVA 3U rack and tower compatible design make sure the flexibility for mutiple application scenarios.
- Optimize installation and easy service architecture minimizes the MTTR and optimizes serviceability and up to up to 20KVA only 20kg and 40kVA only 34kg easy for staff move and installation.
- Standard 3U height battery pack with Anderson connector to support hot swap.
- **UPS and power distribution separate**, the distribution box with input/output/bypass and maintenance bypass breaker, it allows manually transfer connected equipment to utility power via a maintenance bypass switch, permitting scheduled service or UPS replacement no need to shut down connected equipment ensures continuous uptime.
- **Adjustable input and output phase configuration** 3:3/3:1/1:1 for 10-20KVA and 3:3/3:1 for 30-40KVA with high flexibility to meet multiple power distribution condition (need jumper connector).
- Parallel slot design which allows up to 4 units parallel at site.

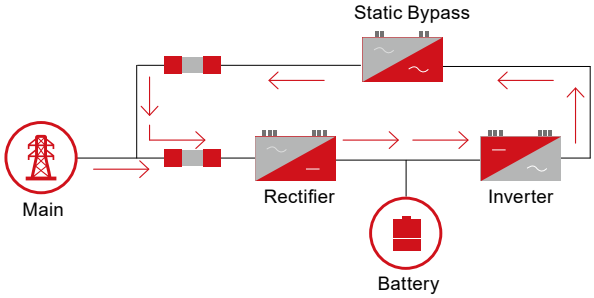




Green Power

- **Latest generation IGBT and three level technology**, Low harmonic, high efficiency, effectively energy-saving.
- High input power factor up to 0.99 and low input THDi: < 3.0% at full load, much less grid pollution and costs.
- **AC/AC efficiency up to 96%** and 25% load up to 94% efficiency reduces heat dissipation and limits power consumption costs, resulting in significant OPEX cost savings.
- **ECO mode efficiency up to 99%** lead to significant cost reduction.
- **Self-load test function**, easy debugging and easy onsite test during commissioning, before it is connected to the real load, without using costly temporary loads, cabling and breakers for energy saving.





Self-load Test Mode

Intelligent Management

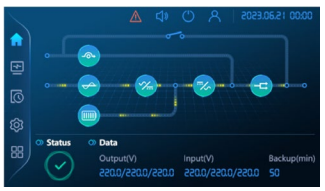
- **Multiple communication ports** like embbeded RS232, input EPO dry contact, Maintainence bypass switch dection dry contact with 2 intelligent slots for optional SNMP slot kit, protocol transfer slot kit, dry contact slot kit together with modbus protocol to compatible with most management system.
- **System power-on diagnostic** provides automatic and manual self-diagnostic UPS system and battery testing.
- **Super wide DC voltage** range and settable from ±96 to ±240 (16~40 pcs).
- Intelligent battery charging with 3-stage scheme and smart battery test which prolong and ensure the service life of batteries.
- **Input phase sequence correction** function allows UPS keep running in inverter mode without shifting to battery.
- **Self-dedusting** function with manual and period settable which allows technician set the time duration for UPS to clean the dust itself for saving the preventive service time.
- Key components and accessories replacement pre-alarm function which pre-alarm the system fault and remind service for key components, like capacitor, fan; accessories like Battery and dust filter.
- **Smart generator** mode allows UPS send signal to turn on and off generator, also taking part power from battery to compensate generator capacity.
- Common or distributed battery bank on parallel mode.
- **Frequency converter function** (60Hz to 50Hz or 50Hz to 60Hz)
- **VRLA and Lithium battery compatible design.**

Common battery bank

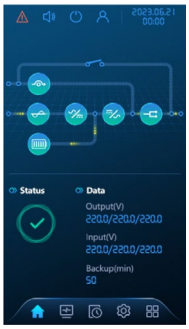
Frequency Converter Mode

User-friendly Interface

- Colorful **4.3 inches touch screen** with LED Indicators, ensuring comprehensive and visualized information display.
- Gravity sense auto-rotate
- User-friendly graphical interface with single-line mimic diagram showing system status such as voltage, current, UPS temperature, working status, load capacity and battery capacity.
- **Multi-language** build-in display with Chinese, English, Spanish, Italian, French, Portuguese, Russian.
- High security access with separate password levels for users, technician and service engineers.
- Large data storage capacity, 1000pcs events logs.
- Easy update for display firmware.



Rack Mode



Tower Mode

More Options

- 19 inch rail kit
- Tower kit
- Parallel kit
- SNMP kit
- Dry contact kit
- Protocol transfer kit for lithium battery
- Jumper connector for phase changing
- Intelligent Battery Monitoring System
- Lithium battery
- Input/output isolation transformer
- Battery Charge Temperature Compensation


SNMP kit


Parallel kit


19 inch rail kit


Protocol transfer kit


Dry contact kit


Battery Monitoring System


Tower kit


Battery charge temperature compensation

Battery Backup Time Table

MODEL	Battery Pack	Backup Time									
	16*9AH	1.0KW	2.0KW	3.0KW	4.0KW	5.0KW	6.0KW	7.0KW	8.0KW	9.0KW	10.0KW
10KVA	1	62	26	15	10	7.5	5.2	4	/	/	/
	2	136	62	38	26	19.5	15	12.7	10	8.5	7.5
	3	177	80.5	51	36	27	21	14.5	11.5	9.5	8.0
	4	246.5	110.5	71.5	51.5	39.5	31	22	18	15	12.5
	16*9AH	1.5KW	3.0KW	4.5KW	6.0KW	7.5KW	9.0KW	10.5KW	12.0KW	13.5KW	15.0KW
15KVA	2	90	38	23.4	15	11.9	8.5	6.9	5.2	4.1	3.3
	4	180	90	54.5	38	28	23.4	18.6	15	13.2	11.9
	6	272	136	90	62	46.8	38	30.4	26	23.4	19.5
	8	363	180	124	90	66.5	54.5	44.6	38	31.6	28
	16*9AH	2.0KW	4.0KW	6.0KW	8.0KW	10.0KW	12.0KW	14.0KW	16.0KW	18.0KW	20.0KW
20KVA	2	62	26	15	10	7.5	5.2	4	3	/	/
	4	136	62	38	26	19.5	15	12.7	10	8.5	7.5
	6	204	102	62	43.5	34.6	26	20.9	18	15	13.8
	8	272	136	90	62	46.8	38	30.4	26	23.4	19.5
	20*9AH	3.0KW	6.0KW	9.0KW	12.0KW	15.0KW	18.0KW	21.0KW	24.0KW	27.0KW	30.0KW
30KVA	2	51	20	12.2	7.9	5.2	3.9	3	/	/	/
	4	113	51	29	20	15	12.2	9.5	7.9	4.5	4.1
	6	170	85	51	36	26	20	17	14.2	12.2	10
	8	227	113	74	51	30.5	29	25	20	18	15
	20*9AH	4.0KW	8.0KW	12.0KW	16.0KW	20.0KW	24.0KW	28.0KW	32.0KW	36.0KW	40.0KW
40KVA	2	36	14.2	7.9	5	3.1	2	/	/	/	/
	4	85	36	20	14.2	10	7.9	6	5	3.9	3.1
	6	127	58	36	22	18	14.2	10.9	9.2	7.9	6.8
	8	170	85	51	36	24	20	17	14.2	12.2	10

- Note: Run times in this table are approximate. Times are based on new, fully-charged, standard battery modules at a temperature of 25
- °C with 100% resistive UPS loading. Run times listed above can vary by ±5% due to manufacturing variances of the individual batteries.

Technical Specifications

220V MODEL		KR10KVA-RM	KR15KVA-RM	KR20KVA-RM	KR30KVA-RM	KR40KVA-RM
120V MODEL*				KRA10KVA-RM		KRA20KVA-RM
INPUT						
Voltage (Vac)[1]		10~20KVA: 121~268 (155~268) 10~40KVA: 138-485 (305-485)				
Frequency (Hz)		40-70				
Power Factor		≥0.99				
THDi		<3% (linear load)				
Phase		1:1/3:1/3:3			3:1/3:3	
OUTPUT						
AC/AC Efficiency (Max.)		96%				
Power Factor		1.0 (at 40°C, allow derating at low pressure input)				
Voltage (Vac)		L-L: 400V rated, 380/400/415 L-L: 208V rated, 190/200/208				
Frequency (Hz)		50/60±0.1 (battery mode)				
THDv		THD <2% (linear load), THD < 4% (nonlinear load)				
Transfer Time (ms)		0				
Overload		105%~110%: 60min, 110%~130% load: 10 min, 130%~155% load: 1 min, 155%□Load: 200ms				
ECO Mode		Yes				
BATTERY						
Voltage (Vdc)		400V model: ±192 (±96~±240 adjustable) 208V model: ±120 (±96~±120 adjustable)				
Charging Current (A)		4 (1-10 settable)			10 (1-20 settable)	
GENERAL						
Communication Interface		RS232+EPO (RS485+Dry contact, SNMP, Protocol Conversion Kit are optional in slot)				
Display		4.3" touch screen				
Alarm		Low battery, abnormal AC input, UPS failure, etc.				
Protection		Low battery, overload, short-circuit and over temperature, etc.				
Noise (dB)		< 60				
Working Temperature (°C)		-5~40			-5~50	
Relative Humidity		0 ~ 95%, no condensation				
Dimension (W×D×H)(mm)	UPS	438×535×130(3U)			438×720×130 (3U)	
	Distribution Box	438×535×130(3U)			438×720×130 (3U)	
	Batt. Pack	438×535×130(3U)			438×720×130 (3U)	
Weight (kg)	UPS	17.5	19	20	32.5	34
	Distribution Box	8			14	

- Specifications are subject to change without notice;
- The KR20KVA-RM of 220V can be set to KR10KVA-RM of 110V

Reliable • Flexible • Responsible

Kehua Tech

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