KEHUA TECH

stock code
002335.SZ
Kehua Data Co., Ltd.

MR33 Series Modular UPS

200-600kVA/50kW module

High density, hot-swappable and redundant design UPS

200-600kVA

MR33 Series Modular UPS

» All module hot-swappable design

» High efficiency up to 96%

» Full redundant design

» Flexible operation and maintenance

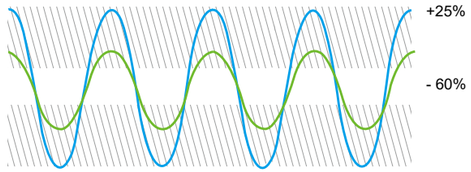
» Intelligent functional experience

Typical Applications:

- Telecom
- Edge Application
- Finance
- Servers
- Local Area Network
- Security
- Medical Equipment

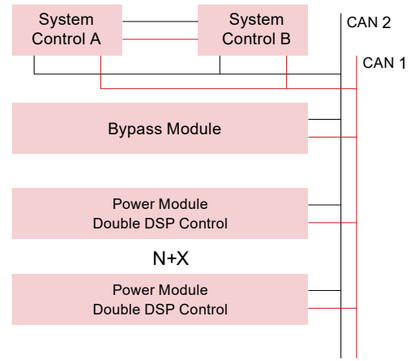
High Reliability

- **Wide input voltage range** - 60%~25% and **wide input frequency range** 40-70Hz with high grid adaptability and prolong battery life.
- **Hot-swappable design** ensures uninterrupted operations during maintenance and easy for module replacement.
- **High overload capacity** on inverter for 105% load long term, 130% load 10 mins and 250% load 200ms.
- Dual system control card and dual DSP control prevents single failure point.
- Intelligent fan control and redundant design for energy saving: 25% load can be driven when 2 fans fail and 50% load when 1 fan fails.
- Integrated with input,output,bypass breaker and manual bypass switch for better protection of system.
- **All-round conformal coating** to all PCB boards, protect electronics from environmental effection and corrosion
- High short circuit capacity with time duration settable from **20~200ms** which provide high protection for system.
- **Standard dust filter** protect UPS placed in dusty environment.
- Cold start function which allow UPS start on battery when grid isn't available.
- **Power walk in function** decrease the inrush to mains or generator.
- Start up delay function to sequentially restart the rectifiers once the mains power supply is restored if there are several UPS within the overall system
- Bus synchronization control function provides reliable high power for dual bus application



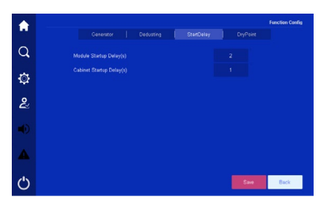
Wide input voltage range

Automatic fans control



System redundancy

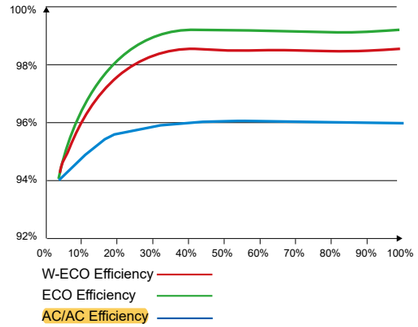
50kW Power Module

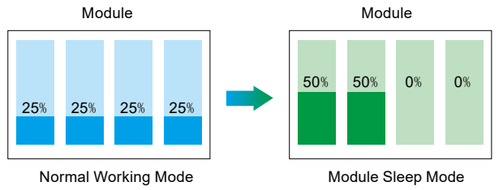


Startup delay

Green Power

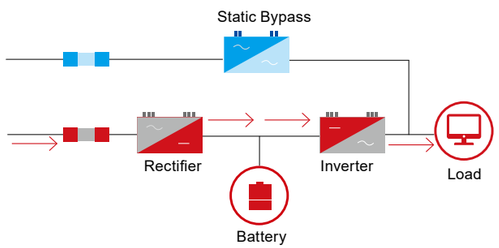
- **Latest generation IGBT and three level technology,** Low harmonic, high efficiency, effectively energy-saving.
- **High efficiency in online mode up to 96%** reduces heat dissipation and limits power consumption costs
- **W-ECO mode** efficiency could reach 98.5% , THDi below 5% and transfer time below 0ms to reduce TCO.
- ECO mode efficiency up to 99% lead to significant cost reduction
- Low THDi≤3% and input power factor 0.99 reduce the pollution to grid and reduce upstream investment costs
- 3U 50kW power module make sure utility output power (kVA=kW) to maximize power availability and high power density.
- **Self-load test function**, easy debugging and easy onsite test during commissioning without using costly temporary loads, cabling and breakers for energy saving.
- **Intelligent sleep mode** which UPS module sleep in random keep maxinum efficiency and energy saving.
- Advanced parallel expansion technology, support 8 units up to 4.8MVA in parallel, single /parallel system compatible.



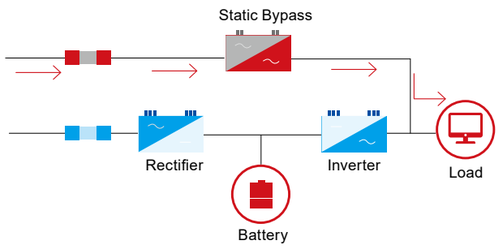


Normal Working Mode

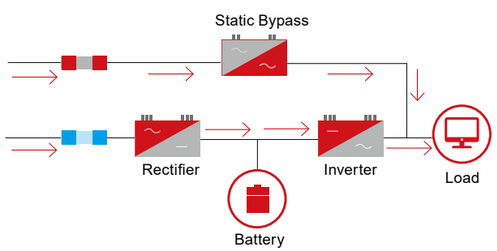
Module Sleep Mode



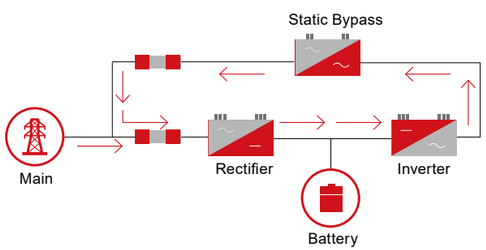
Double Conversion Mode



ECO Mode



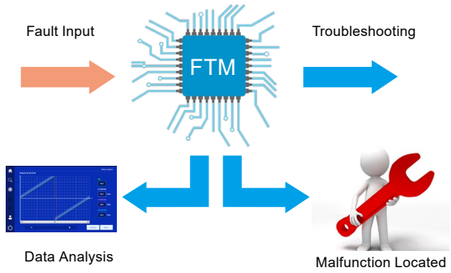
W-ECO Mode



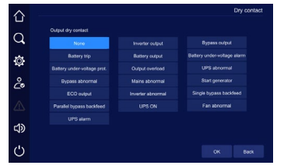
Self-load Test Mode

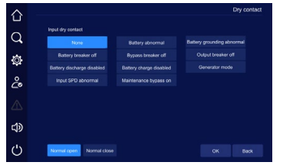
Intelligent Management

- **Fault Trace Management (FTM)** for convenient failure analysis (waveform record before & after of the fault point for 200ms) which easily figure out faulty point.
- Intelligent battery charging prolong the service life of batteries
- Intelligent battery management and multiple setting, 30-46 pcs batteries per string allow customers to get the faulty battery out instead of replacing it
- Full asset management record the spare parts replacement, timeline and service people.
- Cabinet temperature detect and pre-notification which prevent over temperature.
- **Key components pre-alarm function** which precaution the system fault and remind service for key components, like capacitor, fan.
- **Smart programmable dry contact** which have 2 input dry contact and 4 output dry contact, which input dry contact have more than 3 functions and output dry contact have 6 functions allows to settable at site.
- Smart generator mode which allow UPS sent signal to turn on and off generator, also taking part power from battery to compensation generator capacity.
- **Self-dedusting function** which save the preventive service time.
- Common battery bank on parallel mode.
- Frequency converter function (60Hz to 50Hz or 50Hz to 60Hz)
- VRLA and Lithium-ion battery compatible design

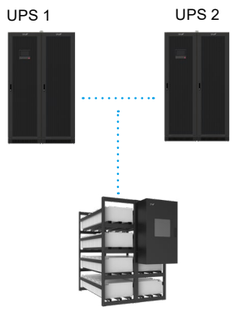


Fault tracing management





Programmable dry contact



Common battery bank

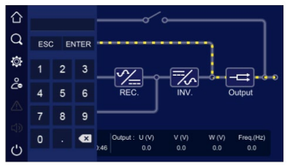
Modular lithium battery

Frequency converter mode

User-friendly Interface

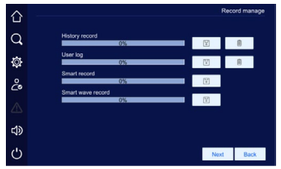
- Double physical ON/OFF button design to avoid false operation.
- User-friendly graphical interface with Single-line mimic diagram showing system status.
- Colorful **7 inch touch screen** with LED Indicators, ensure comprehensive and visualized information display.
- High security access with separate password levels for users, technician and service engineers
- Large data storage capacity,10000pcs events logs.
- Support firmware online update, one time update for touch screen, power unit, bypass unit and extended card.
- Smart integrated display allow to check the information of each UPS status during parallel mode.

7 inch Touch Screen



Different level password

U disk Upgrade



Event logs

More Options

- Network Management: SNMP card
- Li battery communication: BMS expansion card
- Backup: VRLA or Lithium battery
- SPD: Class-C
- Battery temperature compensation kit
- Battery trip control kit KM-BTC
- Dry contact expansion card
- Parallel kit

BMS Kit

Expanded Dry Contact Kit

SPD: Class-C

SNMP kit

Battery tripping kit

Technical Specifications

MODEL		MR33200	MR33300	MR33400	MR33500	MR33600
Power Module (kVA)		50				
Capacity (kVA)		200	300	400	500	600
INPUT						
Voltage (Vac)		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		3W+N+PE				
BYPASS						
Voltage (Vac)		-30% /-20%/-15%/-10% (default -20%) ~ +10%/+15%/+20%/+25% (default +15%)				
Frequency (Hz)		±8%/±10%/±20% (default ±10%)				
Overload		130%: long term; 150%: 10min; 170%: 1min; above 170%: 200ms				
OUTPUT						
Voltage (Vac)		L-L: 380/400/415±1%				
Frequency (Hz)		50/60±0.2% (battery mode)				
Power Factor		1.0				
THDv		≤1% (resistive full load), ≤4% (non-linear full load)				
AC/AC Efficiency (Max.)		96%				
Overload Capacity		105%: long term; 110%: 60min; 130%: 10min; 150%: 1min; 250%: 200ms				
Transfer Time (ms)		0 (Mains mode-Battery mode), 0 (Inverter mode-Bypass mode)				
Crest Factor		3:1				
BATTERY						
Battery Type		Lead-acid/S³ lithium-ion batteries				
Voltage (Vdc)		±192 (±180~±276 settable, ±192~±276 at full load)	±240 (±180~±276 settable, ±192~±276 at full load)			
Charging Current (A)		N×10 Maximum (N: the number of power modules)				
GENERAL						
Communication		RS485, Modbus+RS232, EPO, Dry contact Optional: SNMP card, Dry contact expansion card, BMS expansion card				
Display		7" touch screen+LED display				
Noise (dB)		< 70				
Working Temperature (°C)		0~40				
Altitude (m)		2000				
Relative Humidity		0%~95%, no condensation				
Protection Grade		IP20				
Agency/Certification/Conformance		EN IEC 62040-1, EN IEC 62040-2, EN IEC 62040-3				
Dimension (W×D×H)(mm)		600×860×2000		1200×860×2000		
Weight (kg)	Cabinet	224	236	427		
	Bypass Module	19	25	25	31	31
	Power Module	33				

- Specification is subject to change without prior notice.

Reliable • Flexible • Responsible

Kehua Tech

Add: No. 457, Malong Road, Torch High-Tech Industrial Zone, Xiamen Fujian 361006 China

Tel: +86-592-5160516

Fax: +86-592-5162166

Email: Intertrade@kehua.com

www.kehua.com

General Disclaimer

The information in this document may contain predictive statements including, without limitation, statements regarding the future financial and operating results, future product portfolio, new technology, etc. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in the predictive statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer or an acceptance. Kehua may change the information at any time without notice.

Version NO.: 20240814