

MR33 Series Modular UPS

| 120kVA/30kW module |



High density, hot-swappable and redundant design UPS

120kVA

MR33 Series Modular UPS



- » All module hot-swappable design
- » High efficiency up to 96%
- » Max 8 units in parallel system
- » Flexible operation and maintenance
- » Intelligent functional experience

Typical Applications:



Telecom



Edge Application



Finance



Servers



Local Area Network



Security

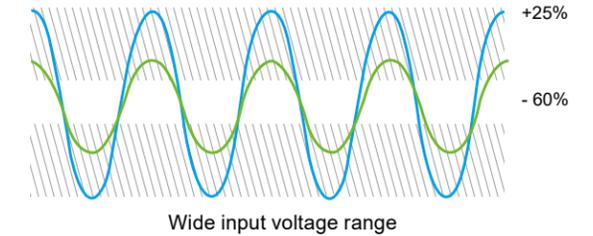


Medical Equipment

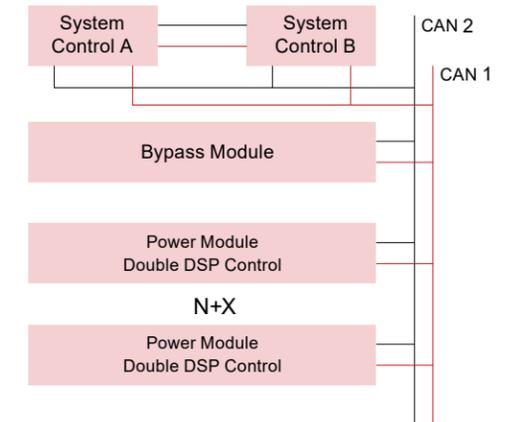


High Reliability

- **Wide input voltage range** - 60%~+25% with high grid adaptability.
- High overload capacity on inverter and bypass.
- **All module hot-swappable design** ensures uninterrupted operations during maintenance and easy for module replacement.
- 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 (120kW Frame).
- **All-round conformal coating** to all PCB boards, protect electronics from environmental affection and corrosion.
- **Standard dust filter** protect UPS placed in dusty environment.
- Local and remote EPO function as standard for immediately remove power from connected load in the event of emergency.
- **Cold start function** which allow UPS start on battery when grid isn't available.
- Start up delay function, to sequentially restart the rectifiers of each power modules and UPS system when several system parallel once the mains power supply is restored.
- Bus synchronization control function provides reliable high power for dual bus application
- Module and system redundancy design to reduce single point of failure.
- By default, the upper cable mode supports the lower cable, which facilitates onsite installation.



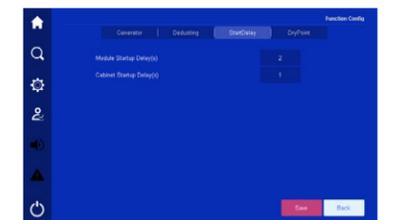
Automatic fans control



System redundancy



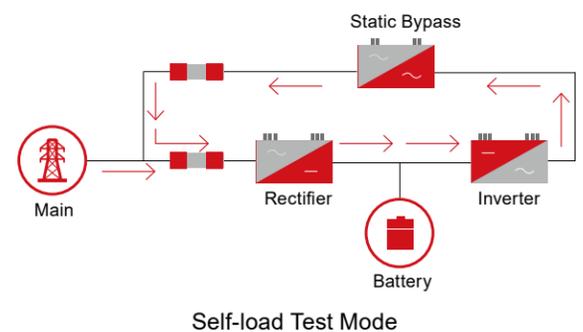
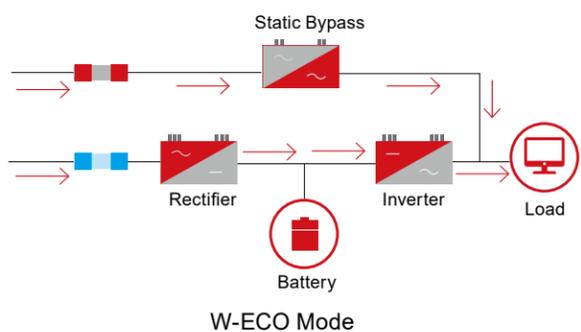
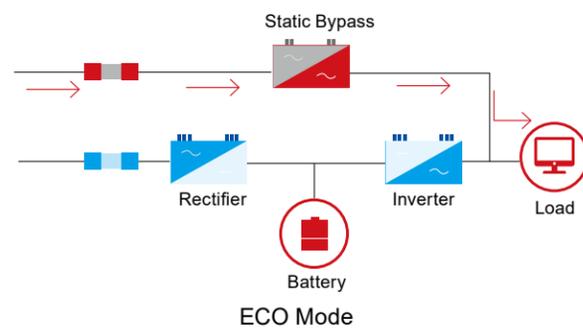
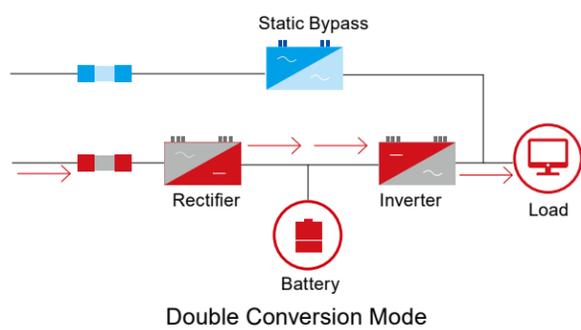
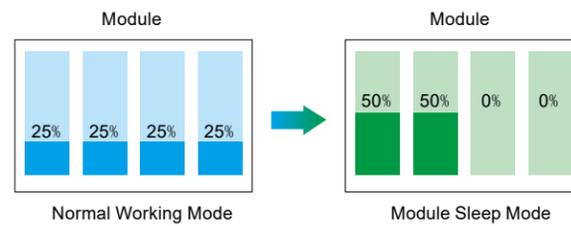
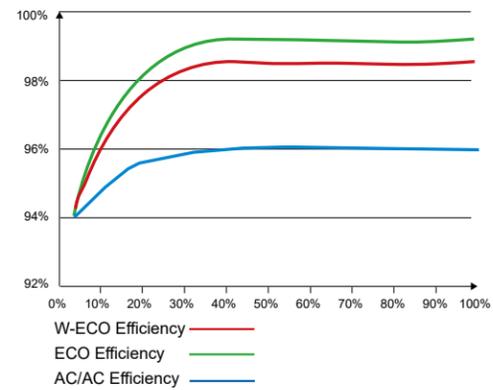
30kW Power Module



Startup delay

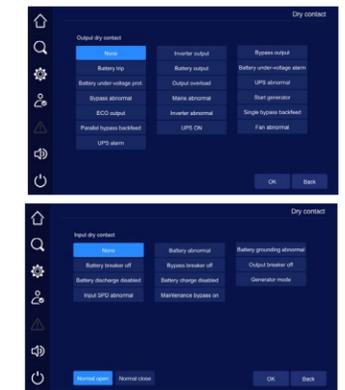
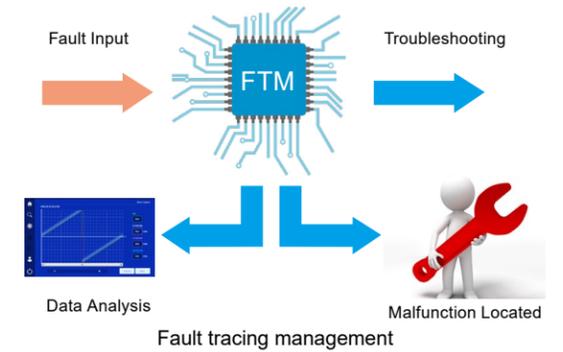
Green Power

- **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** could reach 98.5% efficiency, THDi below 5% and transfer time below 4ms to reduce TCO.
- ECO mode efficiency up to 99.2% lead to significant cost reduction
- THDi \leq 2% and input power factor 0.99 reduce the pollution to grid and reduce upstream investment costs
- 2U 30kW 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 maximum efficiency and energy saving.
- Advanced parallel expansion technology, support 8 units up to 960KW in parallel, single /parallel system compatible.

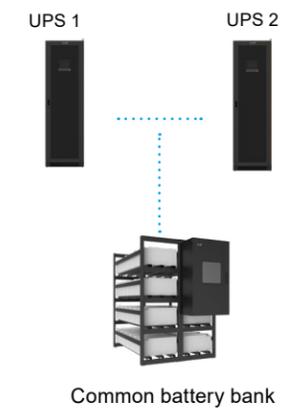


Intelligent Management

- **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, 28-46 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 4 input dry contact and 3 output dry contact, which input dry contact have more than 6 functions and output dry contact have 11 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



Programmable dry contact



Modular lithium battery



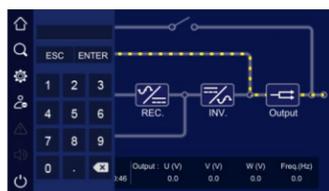
Frequency converter mode

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
- Top wiring Kit



BMS Kit



Expanded Dry Contact Kit



SPD: Class-C



SNMP kit



Battery tripping kit

Technical Specifications

MODEL	MR33120	
Power Module (kVA)	30	
Capacity (kVA)	120	
INPUT		
Voltage (Vac)	L-L: 138-485 (305-485 at full load)	
Frequency (Hz)	40-70	
Power Factor	≥0.99	
THDi	≤2% (resistive full load), ≤3% (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%: 5min; 200%: 1s; 300%: 100ms	
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; above 150%: 200ms	
Transfer Time (ms)	0 (Mains mode-Battery mode), 0 (Inverter mode-Bypass mode)	
Crest Factor	3:1	
BATTERY		
Battery Type	Lead-acid/S ² lithium-ion batteries	
Voltage (Vdc)	±192 (±168~±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)	< 65	
Working Temperature (°C)	-5~40	
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	
Weight (kg)	Cabinet	180
	Bypass Module	17
	Power Module	24

Reliable • Flexible • Responsible

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