

MTR-SM

Online Modular UPS

5 – 20kVA (220V/230V/240V)

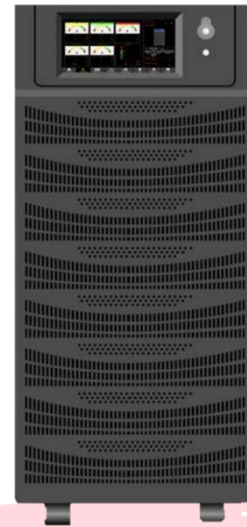
In-built Hot Swappable Battery

1:1

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Product

RM20/5E series are modular online UPS with hot-swappable battery. The single cabinet power rating from 5kVA to 20kVA, with its flexible configuration of 3/1 and 1/1, compact structure, is the ideal choice for small data center, as well as for sensitive electronics, convenient to be integrated with server. With its high power factor and excellent overload capability, RM3120/05D improving the efficiency of power utilization and ensure system operating steady.

The function of the product is the same as that of the general UPS, that is, the mains power is converted twice and then output pure sine wave power supply to the load. When the utility power is abnormal, the UPS ensures the uninterrupted power supply of the load by transferring the power supply to the battery. The whole product is a complete tower-type modular UPS system, which supports parallel connection of multiple units and improves the reliability of power supply. This modular UPS product is mainly aimed at small and medium-sized server rooms.

Power Modules

Hot swappable power module 5kVA in 2U height make it easier to maintenance, installation, and power expansion. The single cabinet contains 1 to 6 power modules, it has 2 redundant module when plug in 6 modules. The system has high scalability. 3 units in parallel which can be configured from 20kVA to 60kVA.



Power Module

Battery Modules

The cabinet of RM20/05D contains 10 battery modules which can provide longer backup time. With new technology, common battery pack is available for single phase in and single phase out modular UPS, improving the reliability of power supply.

5. Parallel up to 2 extra battery cabinet, each has 9 groups battery modules.
6. Real-time data display, the voltage, current, temperature, etc. of each module will be displayed on LCD screen, giving customers a view of inner status.
7. Comprehensive monitoring for thermal abnormal detection, each module is equipped with temperature, operation status and fuse status detection function.
8. Each battery module has 6 cells in series with a battery voltage of 72V, two battery modules in series with a voltage of 144V, the battery module has no N wire, only BAT+ and BAT-.



6pcs 12V 9Ah batteries

Charger Modules

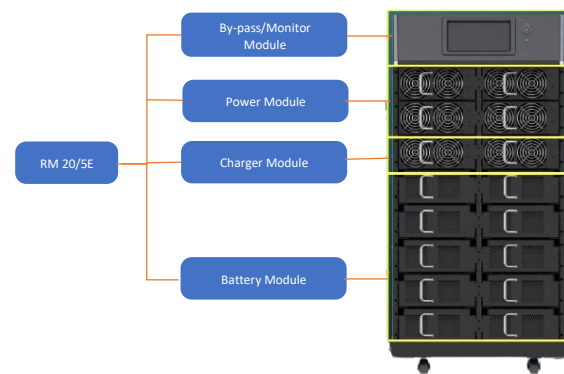
This series can be compatible with the smart charging module which is designed for large current charging application where long backup time is required. It can

provide additional current for batteries to form a systematic solution of power supply.

9. Parallel Appearance consistency, charging module is consistent with the appearance and size of power module.

10. Each charging module can provide a maximum of 10A charging current, while each power module can offer up to 1.8A, both of them are adjustable flexibility, to meet various requirements of customer.

11. Compatible with the RM20/05E series, easy for the UPS to expand charging capacity.



Charger Module

Fake three-phase PFC rectifier—3/1

The “Fake Three-Phase PFC Rectifier” differs from the “True Three-Phase PFC Rectifier”, it has only one IGBT three phase input AC voltage pass through DIODE/SCR rectifier. It is then boosted by PFC to a DC bus voltage. The power factor of each phase is only up to 0.95. In comparison, the “fake three-phase PFC rectifier” uses fewer components and is less expensive, but it also results in THDI and input PF values not being very high.

Features

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

Battery module temperature detection

- The battery module detection function of temperature, fuse and current which can monitor the status of battery more comprehensively.
- Temperature detection: The ADC will sample the temperature information and sent to the monitoring processor, and the monitor processes the information and displays the temperature information on the LCD screen
- Battery fuse detection:
- The information detected by the battery fuse is also sent to the monitoring processor, if the fuse is damaged, UPS will alarm. If it is normal, it will display “Battery is normal”
- The monitor will determine the battery status based on temperature, fuse and voltage data.

Model		RM20/05E	
Sytem Capacity		20kVA/20kW	
Power Module		PM5 (5kVA/5kW)	
Input			
Phase	3Phase+Neutral+Ground, 380V/400V/415V (line to line) 220V/230V /240V (line to neutral)		
Input Voltage Range	277~478Vac (line-line),full load; 147~277Vac (line-line), load decreases linearly from 100%~50%		
Rate Frequency	50/60Hz		
Input Frequency Range	40~70Hz		
Input PF	> 0.99		
Input THDi	< 5% (100%Linear load)		
Bypass			
Rate Voltage	380V/400V/415V, line to line		
Rate Frequency	50/60Hz		
Input Voltage Range	settable, default -20%~+15% upper limit: +25%; lower limit: -40%		
Bypass Frequency Range	settable,±1Hz, ±3Hz, ±5Hz		
Bypass Overload Capabiltiy	125%, long time operation, 125%< load <130%, last for 5 minutes 130%<load<150%, last for 1 minute, >150%, last for 200ms		
Output			
Rate Voltage	220V/230V/240V, line to neutral		
Voltage Precision	±2%		
Rate Frequency	50/60Hz±0.01%		
Output PF	1		
Output THDu	<1% linear load, <5% non-linear load (IEC/EN62040-3)		
Inverter Overload	Normal	<110% for 1 hour; 110%~130% for 10 minutes; 130%~150% for 1 minutes; >150% for 200ms	
	Battery	<110% for 10 minutes; 110%~125% for 1 minute; 125%~130% for 10s; >130% for 200ms	
Synchronization Range	settable,±0.5Hz/s~±5Hz/s, default ±3Hz/s		
Synchronization Rate	settable,0.5Hz/s~3Hz/s, default 0.5Hz/s		
Output Dynamic Response	<5% (20%-80%-20% step load)		
Dynamic Recovery Time	<20ms (0%-100%-0% step load)		
Battery			
Voltage	144VDC(12pcs)		
Charge Power	0~1.8A settable(each module)		
Charger Voltage Precision	1%		
System			
Efficiency	AC Mode: >94.5%; ECO Mode: >98%; Battery Mode: >90%		
Display	LCD+LED, 7" touch color screen and keyboard		
IP Class	IP 20		
Interface	Standard: RS232,RS485,USB, Dry contacts		
Option	SNMP card, AS400 card, parallel kits, SPD, dust filter,LBS		
Temperature	Operation: 0-40℃ Storge: -40~70℃		
Relative Humidity	0-95% Non-condensing		
Altitude	<1000m, Load derated 1% per 100m From 1000~2000m		
Noise(dB)	55dB @100% load		
Applicable Standard	Safety: IEC/EN 62040-1 EMC: IEC/EN 62040-2 PERFORMANCE: IEC/EN 62040-3		
Physical			
		RM3120	Battery
Weight (Kg)	Cabinet :	66.5	67.3
	Module :	7.5	17.8
Dimension(W*D*H)(mm)	Cabinet :	443*695*928	
	Module :	200*431*84.5	200*516*84.5