OPTI-UPS
Protect and Serve

Green and energy saving product, state of the art design

MD Series

Modular UPS System

30KVA to 200KVA Advanced Modular Design and Redundant Power System

MD series modularized UPS maintains the technical features of traditional tower-type UPS and adopts modularized design to meet the need of modern service room, while ensuring the high reliability of the system. MD series offers various power modules and cabinet systems, and the user can able to flexibly combine them according to load demand.

Modular Structure

Each power module is designed be hot swappable which makes the power expansion and system maintenance easily. Each module is controlled independently, thus avoid single point failure risk. If any module fails or disconnected, the system keeps continuing to operate and supply the power without interruption. It ensures to provide a high level of reliability and protection.

Easy Operation and Installation

This product offers flexibility to install that reduces installation time. Consequently, it is very easy to maintain and control that provides the highest reliability and best protection for supplying power. With the large touch screen LCD panel, the user can easily access to the information of the power module and the system.

Intelligent Battery Management

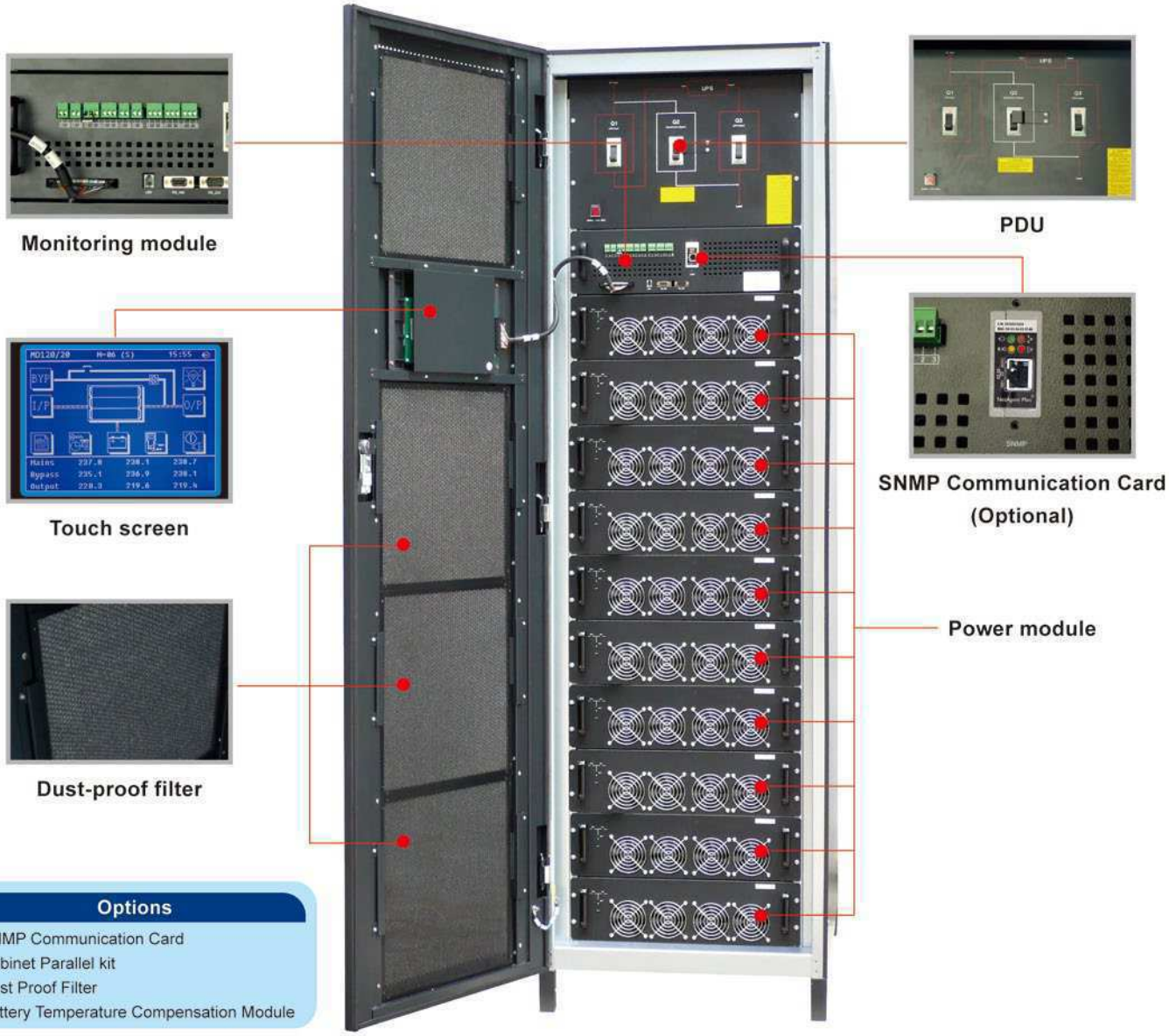
Each UPS module builds in with super charger and the power reaches 3200W. With 10 installed UPS modules, the total charging power rating is up to 32KW. The charger is controlled by DSP with intelligent digital arithmetic thus to prolong the life time of the battery.

Enhanced Protection System

All the power modules and the system are protected simultaneously by the hardware and the software. All kinds of protection functions are realized, including current and voltage abnormal, thermal abnormal, short circuit, etc.
The reliability of the power module and the system reaches an incredible high level through all of these technologies.

High Reliability

Integrated IGBT modules are used in the power module. Comparing to discrete chips, system reliability and manufacturing consistency are much improved. Low-loss integrated three-level IGBT modules help to increase system efficiency. Meanwhile reliability is increased due to lower temperature rising on IGBTs and heatsink. More chips need to be paralleled to realize high current rating if using discrete IGBT chips. Clamped Diodes should be placed around IGBTs which brings risk for voltage/current stress issues and manufacturing process.



Options

- SNMP Communication Card
- Cabinet Parallel kit
- Dust Proof Filter
- Battery Temperature Compensation Module

Features

- MD system is modular design, N+X redundancy, hot plugging for system or capacity expansion.
- Dual DSP for independent control of power module, no single point of failure.
- Digital control of rectification, inverter, ging and disging via DSP.
- Strong load adaptability and loading capacity, and excellent power grid applicability.
- Green and energy-saving power supply; overall efficiency: >95%; input power factor: > 0.99; input current harmonics: <3%.
- Integrated and packaged IGBT instead of discrete device to greatly enhance the reliability of power module and UPS system.
- Front panel for easy maintenance, inlet wire from top to bottom for easy connection by user.
- Large touch screen of human-machine interface, a great amount of information.
- Independent ging system, strong ging capacity, Perfect battery management scheme.
- Parallel connection technology of digital modules, precision circular current index.
- Easy to install even close to other equipments, space-saving footprint in service room.
- Redundancy and intelligent adjustable-speed fan, low noise, low power consumption.
- Integrated distribution system inside system cabinet, easy to install, low investment by user.
- Good matching performance with motor.
- DC Starting via battery (cold boot) for easy operation.
- Three-proofing treatment of all circuit boards.

Specification

MODEL		MD60H	MD100H	MD120H	MD200H	MD300H	MD600H
Maximum Capacity		60KVA	100KVA	120KVA	200KVA	300KVA	600KVA
Power Module		10KVA		20KVA		30KVA	
Maximum Number Built-in Power Module		6pcs	10pcs	6pcs	10pcs	10pcs	20pcs
Topology		Modular On-Line / Double Conversion / High Frequency					
On-battery Output Waveform		Pure Sine Wave					
INPUT							
Nominal Voltage		380V / 400V / 4150V 3P4W + G					
Nominal Frequency		50 / 60 Hz					
Power factor		>0.99					
Input Voltage Regulation		-20% ~ +25% Full Load					
Input Frequency Regulation		40 - 70Hz					
OUTPUT							
Nominal Voltage		380V / 400V / 4150V 3P4W + G					
Voltage Precision		1% (Balance Load), 1.5% (Unbalance Load)					
Voltage THDV (Total Harmonic Distortion)		THD<1.5% (Linear Load), THD<5% (Nonlinear Load)					
Power Factor		0.9					
Crest Factor		3 : 1					
Overload Capacity		105%, Trasfer to Bypass after 1hr					
		110%, Trasfer to Bypass after 10mins					
		125%, Trasfer to Bypass after 1min					
		150%, Trasfer to Bypass after 5sec					
		>150%, Trasfer to Bypass after 200ms					
BATTERY							
Battery Voltage		±240VDC					
Charger Power		20% Power					
BYPASS							
Bypass Allowable Voltage Range		-20% ~ +15% Full Load					
Bypass Overload Capacitlity		125%, Long Time Operation					
		125%<Load<130%, Operation Time for 1hr					
		130%<Load<150%, Operation Time for 6mins					
		>1000%, Operation Time for 200ms					
SYSTEM							
Line mode Efficiency	Normal Mode	95%					
	ECO Mode	99%					
Battery mode Efficiency		95%					
Display		LCD+LED, Touch Screen & Keyboard					
IP Class		IP20					
Communication Interface		RS232, RS485, Dry Contact & SNMP Slot					
ENVIRONMENTAL							
Operation Temperature		0 - 40°C					
Storage Tmeperature		-25 - 70°C					
Relative Humidity		0 - 95% (Non-comdensing)					
Noise (dB)		<55dB					
PHYSICAL							
Cabinet	Dimension (W×D×H)	600×900×1600 mm	600×900×2000 mm	600×900×1600 mm	600×900×2000 mm	600×1100×2000 mm	2000×1050×2000 mm
	Weight	151kg	182kg	151kg	182kg	220kg	660kg
Power Module	Dimension (W×D×H)	440×590×134mm				460×790×134mm	
	Weight	20kg	20kg	22kg	22kg	34kg	34kg

Specifications are subject to change without notice.

Specification

MODEL		MD36L	MD60L	MD72L	MD120L	MD200L	MD400L
Maximum Capacity		36KVA	60KVA	72KVA	120KVA	200KVA	400KVA
Power Module		6KVA		12KVA		20KVA	
Maximum Number Built-in Power Module		6pcs	10pcs	6pcs	10pcs	10pcs	20pcs
Topology		Modular On-Line / Double Conversion / High Frequency					
On-battery Output Waveform		Pure Sine Wave					
INPUT							
Nominal Voltage		200V / 208V 3P4W + G					
Nominal Frequency		50 / 60 Hz					
Power factor		>0.99					
Input Voltage Regulation		-20% ~ +25% Full Load					
Input Frequency Regulation		40 - 70Hz					
OUTPUT							
Nominal Voltage		200V / 208V 3P4W + G					
Voltage Precision		1% (Balance Load), 1.5% (Unbalance Load)					
Voltage THDV (Total Harmonic Distortion)		THD<1.5% (Linear Load), THD<5% (Nonlinear Load)					
Power Factor		0.8					
Crest Factor		3 : 1					
Overload Capacity		105%, Trasfer to Bypass after 1hr					
		110%, Trasfer to Bypass after 10mins					
		125%, Trasfer to Bypass after 1min					
		150%, Trasfer to Bypass after 5sec					
		>150%, Trasfer to Bypass after 200ms					
BATTERY							
Battery Voltage		±120VDC					
Charger Power		20% Power					
BYPASS							
Bypass Allowable Voltage Range		-20% ~ +15% Full Load					
Bypass Overload Capacitlity		125%, Long Time Operation					
		125%<Load<130%, Operation Time for 1hr					
		130%<Load<150%, Operation Time for 6mins					
		>1000%, Operation Time for 200ms					
SYSTEM							
Line mode Efficiency	Normal Mode	90%					
	ECO Mode	99%					
Battery mode Efficiency		90%					
Display		LCD+LED, Touch Screen & Keyboard					
IP Class		IP20					
Communication Interface		RS232, RS485, Dry Contact & SNMP Slot					
ENVIRONMENTAL							
Operation Temperature		0 - 40°C					
Storage Tmeperature		-25 - 70°C					
Relative Humidity		0 - 95% (Non-comdensing)					
Noise (dB)		<55dB					
PHYSICAL							
Cabinet	Dimension (W×D×H)	600×900×1600 mm	600×900×2000 mm	600×900×1600 mm	600×900×2000 mm	600×1100×2000 mm	2000×1050×2000 mm
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