HPM 2 Series

DATACENTER · E-MEDICAL · EMERGENCY · INDUSTRY · TRANSPORT

VFI TYPE
ONLINE

Modular

Li+
Lithium
compatible

3:3 400-1200 kVA
(3-Level PF: 1.0)
UPS 100 kVA/kW PM

HIGHLIGHTS

- **High Efficiency**
- **High Reliability**
- **HECO Mode**
- **LBS Function**
- **Parallel Redundancy Function**
- **Strong Load Capability***
- **Intelligent Management**

** At partial load*

The HPM2 is the ultimate modular UPS for data centers, industrial applications, healthcare and varios application for CRITICAL LOADs. The HPM2 is designed to protect any critical high- density load, whilst achieving maximum availability.
The HPM2 grows along with the demands of the business without over- sizing the UPS - optimizing both the initial investment and the Total Cost of Ownership. As soon as demand increases, the HPM2 modular solution can expand its power capability, maintaining the highest levels of power protection, availability, redundancy and investment savings.
The HPM2 modular UPS provides the most compact footprint with best reliability and high performance, HPM2 is considered to be the best power protection solution for various applications.

HIGH EFFICIENCY
- Online efficiency up to 97%;
- High input power factor upto 0.99
- When the load is very small UPS will work in sleeping mode.

HIGH RELIABILITY
- Wide input voltage range, line voltage range is 138-485V*;
- UPS adopts multiple digital bus and redundancy parallel control systems, making sure the whole system keep online if any single circuit fail If any module fail, the UPS will keep on single or parallel working.

HECO MODE
High performance mode, system efficiency up to 99% Inverter is in working state and has reactive power compensation and

active power filter functions, improving input power factor and quality Automatic adjustment of inverter control mode to power the load when bypass is abnormal.

LBS FUNCTION

LBS function can realize 2 independent UPS system work in synchronization, and it enhances the reliability of the system.

PARALLEL REDUNDANCY FUNCTION

- Support parallel expanded operation: 6 units max*;
- Support sharing batteries for the UPS in parallel.

STRONG LOAD CAPABILITY*

- Output power factor is 1.0, UPS can supply power to 100% unbalanced load;
- High adaptability for load, it can connect full inductive load or capacitive load, more than 0.7 PF without derating.

INTELLIGENT MANAGEMENT

- 10 inches colorful touch LCD screen;
- Support recording and exporting history logs and fault logs Support SNMP, RS232, RS485, BMS, Dry contact interface;
- Support upgrading FW&SW on line (In bypass mode) EPO & REPO function Support wave recording when fault occurs;
- Support key components lifecycle management.

COMPATIBILITY

- Compatible with VRLA & Lithium Battery
- Compatible with Generator

COMMUNICATIONS

Support multiple operating systems (Windows, Mac & Linux).

ADVANCED POWER MODULE TECHNOLOGY

Power Module has been designed based on three level IGBT Inverter technology with DSP Control. All components design in one module, less fault points & integrated inner thermal sensor, for better protection mechanism gives higher reliability & Power density. The dedicated and redundant hot- swappable power modules take the most unique structure design. The PCB boards and heat sinks are in two completely different layers, which allow the UPS run in dusty environments, significantly improving its stability and environmental adaptability. Cooling air flows in the lower layer, keeping the upper PCB free of dust. One air flow channel ensures fans redundancy, even one fan fails, power module can run normally. Each power modules have its own intelligent battery charger for long battery life.

COMPREHENSIVE MONITORING MANAGEMENT & FRIENDLY INTERFACE

Provide graphical and text-based information of alarms, status data, instructions that users can have more friendly and safer operation. In each power module, information of critical components is monitored and displayed in real time, giving customers a view of inner status of the systemand providing reminderinformation for maintenance. Maintenance reminder, running time of capacitors and fans displayed and recorded. Comprehensive temperature monitoring for thermal abnormal detection. UPS can record and save the data of the main parameters automatically when faults happen for further analysis. It Can record data information and present as waveform for further analysis can easily spot the causes of the failures, avoid future similar faults.

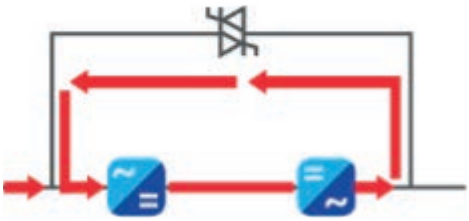
SMART SLEEP FUNCTION

Smart Sleep function can intelligently make some power modules go to sleep when load is relatively low, improving the efficiency of the remaining power modules and saving customers on power and cooling costs.

- Improving efficiency, reducing power and cooling costs;
- Easy setting with just two steps. Customers can select sleep mode and rotation period;
- Power modules working in rotation, prolong the life time.

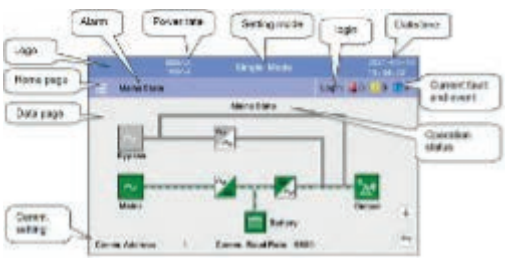
SELF-LOADING

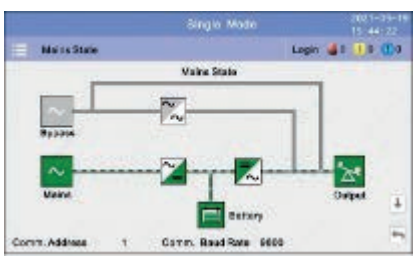
Self-aging is an advanced function and it can test UPS under different load situation without real load, saving more than 90% of energy. Its Simulate different load conditions without connecting to any real load, saving 90% of energy. On Site setting supported, easy for factory testing.

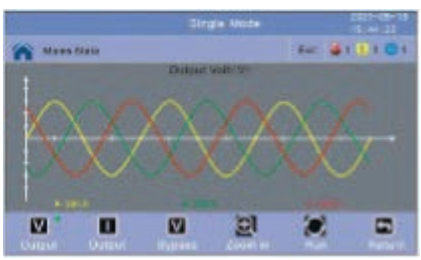


FLEXIBLE MODULARITY & SCALABILITY

Flexible capacity expansion and redundancy from 100 kVA to 4.8 MW, max 48 power modules 4 cabinets in parallel. Six cabinets to select: 4/5/6/8/10/12 slots. HPM-2 provides a comprehensive, easy-to- integrate power protection solution for data centers and any critical IT application matching the evolving demands of a networked environment. The end user can easily increase power,redundancy level and battery autonomy by simply adding additional UPS Power Modules and Battery Units. Two different cabinet frames are available to build the system: The Power Cabinet and the Battery Cabinet. Power cabinet system designed in various system ratings which provided flexibility to design







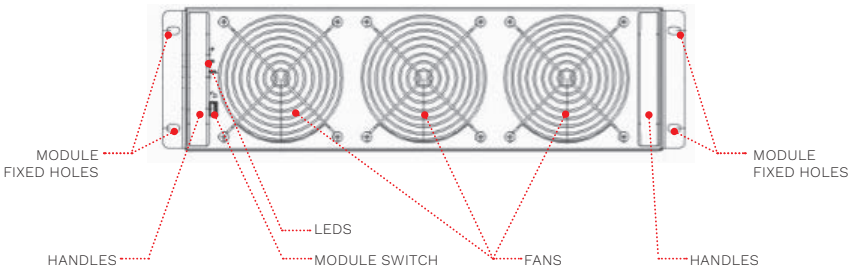
** At partial load*

solutions as per business need and can serve small scale to large scale business applications. Ultra-large 10.1 inch color touch LCD display for IoT application and intelligent monitoring. Furthermore, all power modules and critical components are easily accessible from the front of the unit as standard.

BYPASS MONITORING MODULE

This series are equipped with the bypass and monitoring module full of intelligent slots, communication interface, battery cold start buttons and adequate dry contacts. With these various ports, it can satisfy users a convenient data transfer service, provide comprehensive monitoring. Diverse communication interface and multiple standard part such as RS485, USB, CAN and programmable dry contacts. Convenient SD card slot, easy for software burning and version upgrade after transferring to maintenance mode. Isolation between LCD and monitoring board, connect them by network cable, significantly improve the reliability and prevent the damage of the DSP. The system is equipped with a Manual bypass change over switch and Back feed control with a mechanical interlock contactor inbuilt, eliminating any maintenance-related downtime.

ONLINE UPS MODULES REPLACEMENT



For the UPS, modules must be inserted to make a complete UPS system.
The replacement of UPS module is very simple and can be operated online. The control system of the UPS can detect the insert ed or remove d module (s) automatically.
The user may operate easily by following the steps mentioned below.

NOTE: The UPS module is rather heavy, please move it by two people!

INSERT MODULE

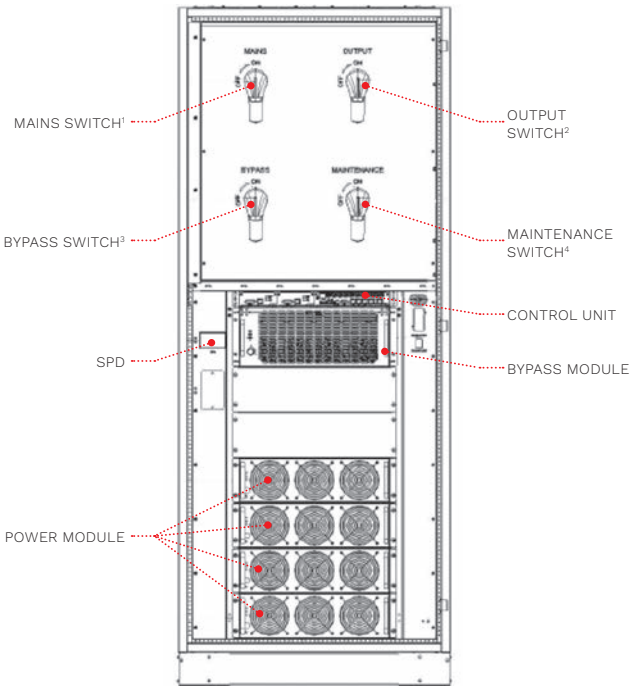
1) Remove decorated panel;
2) Put the UPS module in the cabinet module slot. Make sure the module switch at off status then push the module along the slot into the cabinet until the module is inserted properly, then the indicator will flash and the red indicator will light.
3) Fix the module with screws (1) at the positioning screw
4) Switch on the module switch (3) at the left of the module panel, then the red indicator (2) will off.
5) After the modules start up, the system will detect the modules inserted automatically and parallel up the modules into whole system.

REMOVE UPS MODULE

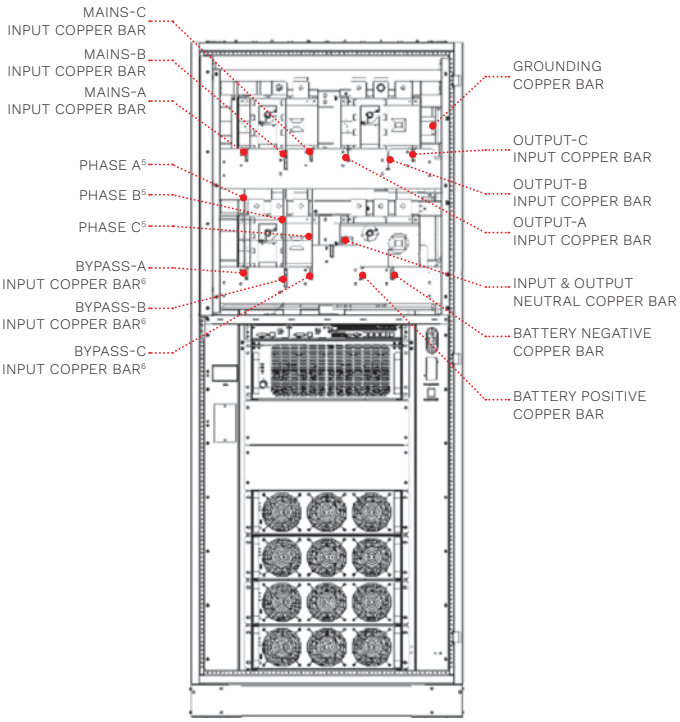
Switch off the module switch (3) at the left of the module panel, then the red indicator (2) will light and green indicator flash.
Remove the screws (1) of the module and remove *the module from the cabinet.*

DETAILS

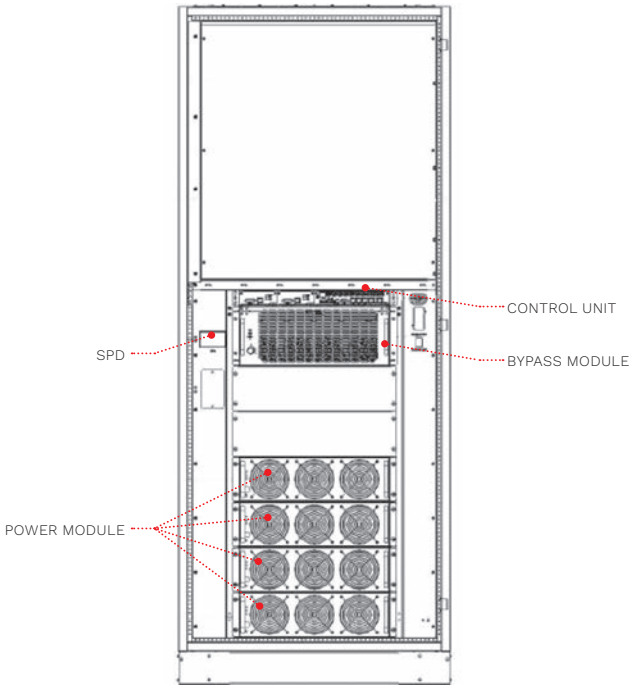
400 kVA
Full configuration - top entry
open the door



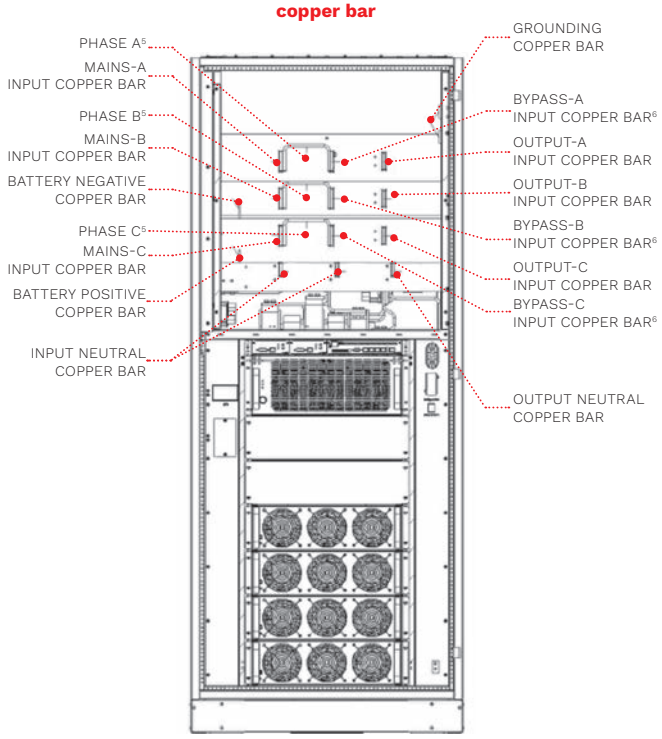
400 kVA
Full configuration - top entry
copper bar



400 kVA
Standard configuration - top entry
open the door



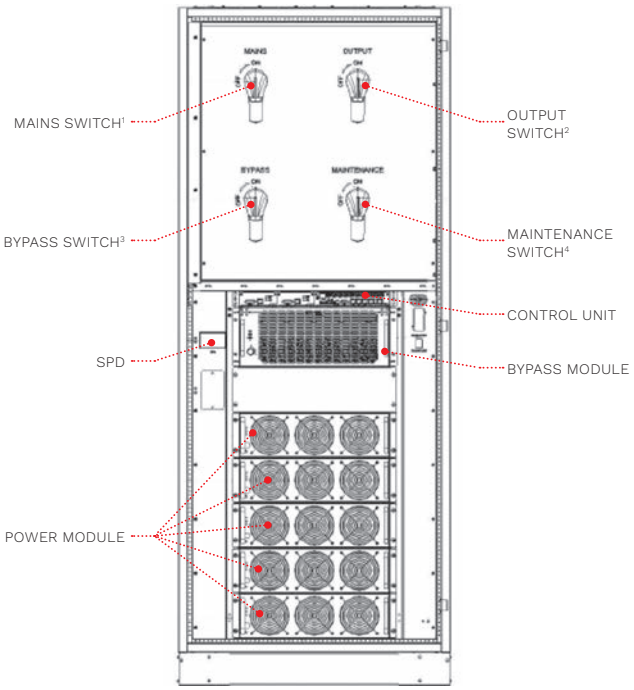
400 kVA
Standard configuration - top entry
copper bar



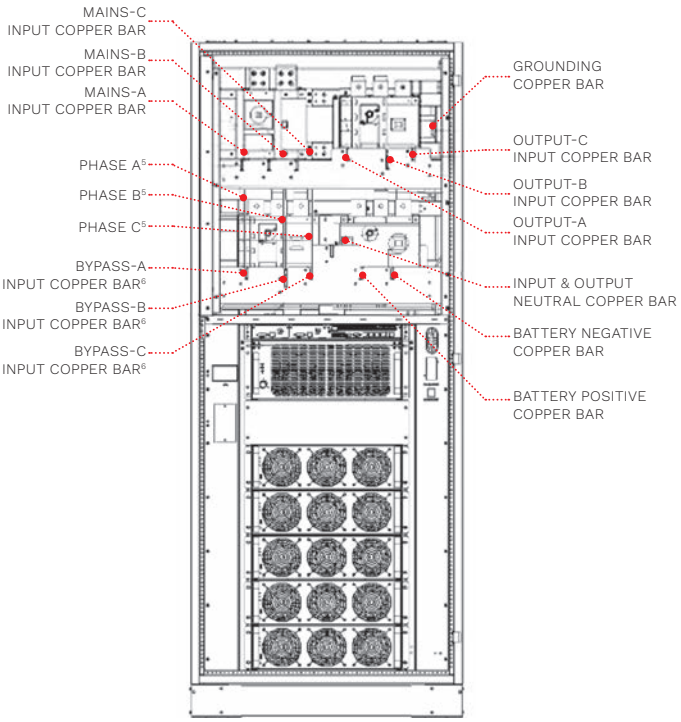
1) Mains switch: the full configuration with mains switch, the standard configuration does not have a mains switch, and the customized version can be without mains switch.
2) Output switch: the full configuration with output switch, the standard configuration does not have a output switch, and the customized version can be without output switch. But it is recommended to add external output switch and auxiliary contacts and connect to the UPS input dry contact.
3) Bypass switch: the full configuration with bypass switch, the standard configuration does not have a bypass switch, and the customized version can be without bypass switch.

DETAILS

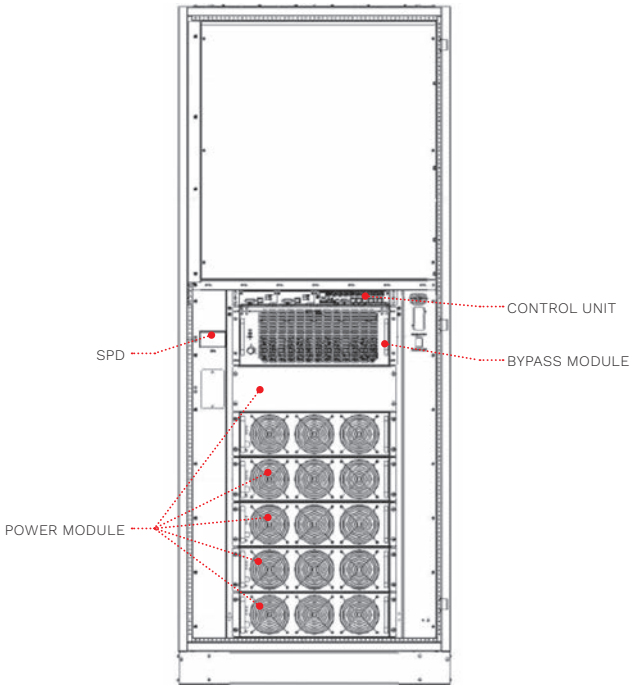
500 kVA
Full configuration - top entry
open the door



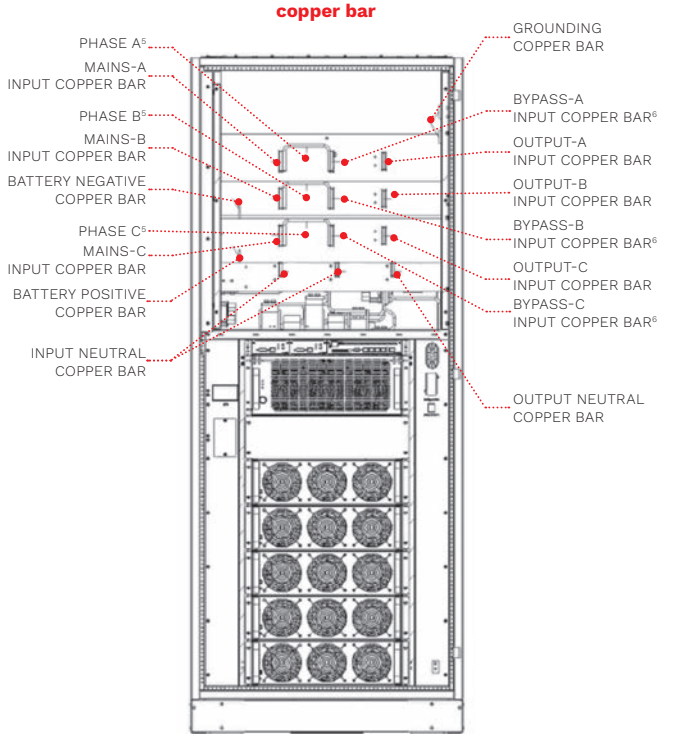
500 kVA
Full configuration - top entry
copper bar



500 kVA
Standard configuration - top entry
open the door



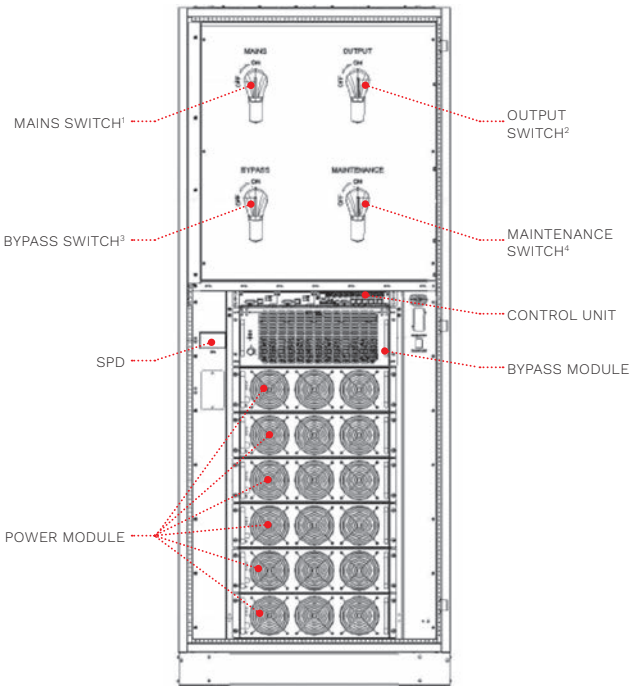
500 kVA
Standard configuration - top entry
copper bar



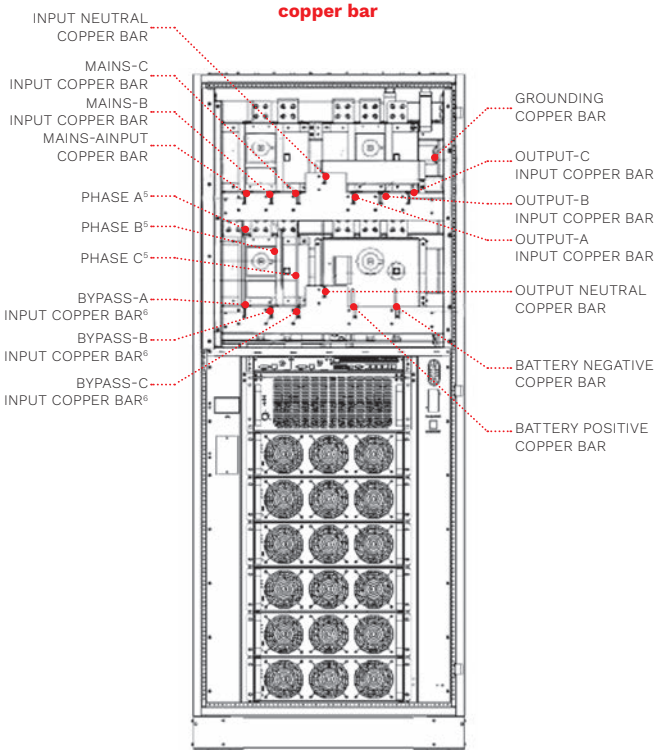
4) Maintenance switch: The full configuration with maintenance switch, the standard configuration does not have a maintenance switch, and the customized version can be without maintenance switch. But it is recommended to add external output switch and auxiliary contacts and connect to the UPS input dry contact.
5) Mains-bypass common input connect copper bar.
6) Wiring must be used when mains-bypass separation.

DETAILS

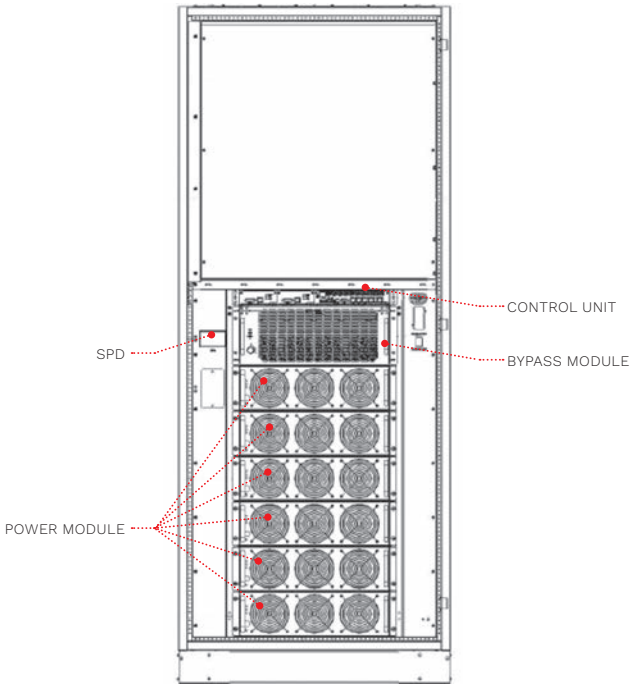
600 kVA
Full configuration - top entry
open the door



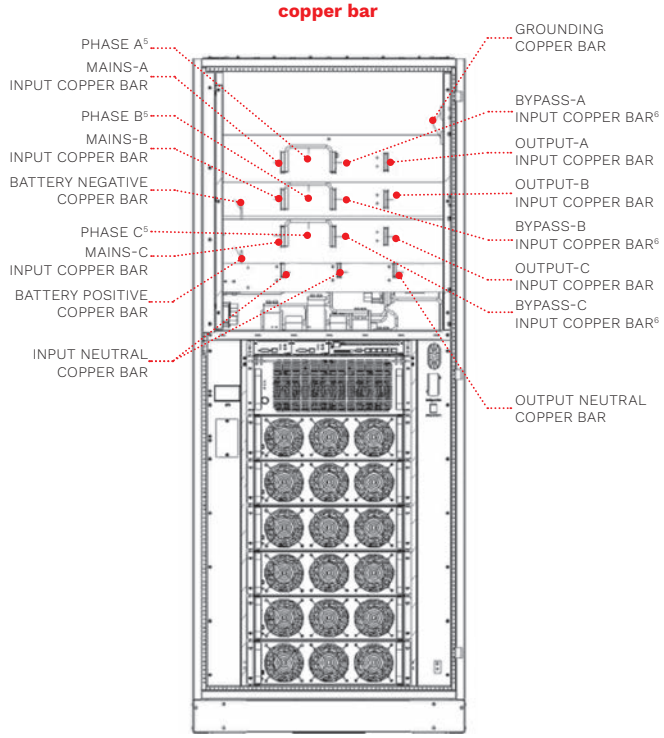
600 kVA
Full configuration - top entry
copper bar



600 kVA
Standard configuration - top entry
open the door



600 kVA
Standard configuration - top entry
copper bar



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MODELS	HPM 2-400	HPM 2-500	HPM 2-600	HPM 2-800	HPM 2- 1000	HPM 2-1200
CAPACITY						
UPS Cabinet [k]	400	500	600	800	1000	1200
Module [k]	100					
Max. Number	4	5	6	8	10	12
Max. Parallel Number	6			4		
INPUT						
Nominal Voltage [Vac]	380 / 400 / 415 (3Ph+N+PE)					
Operating Voltage Range [Vac] / Operating Frequency Range	138 / 324 for 40% Load; 323 / 485 for 100% Load / 40-70 Hz					
Power factor	≥0.99					
Current distortion [THDI]	≤3%[1]					
Bypass Voltage Range [Vac]	Max. voltage: 220: +25% (Optional +10%, +15%, +20%); 230: +20% (Optional +10%, +15%) 240: +15% (Optional +10%) Min. voltage: -45% (Optional -10%, -15% -20%, -30%)					
Bypass Frequency Range [Hz]	50 / 60 ±10%					
OUTPUT						
Nominal Voltage [Vac]	380 / 400 / 415 (3Ph+N+PE)					
Voltage regulation	±1%					
Output Frequency [Hz]	Line mode: ±1% / ±2% / ±4% / ±5% / ±10% of the rated frequency (Optional); Bat. mode: 50/60±0.1%					
Crest factor	3:1					
Current distortion [THDI]	≤%1 with linear load; ≤3%w ith nonl inear load					
Overload Inverter Mode	105%~110% overload for 60 min.; 110%~125% overload for 10 min.; 125%~150% overload for 1 min.					
Overload Bypass Mode	125% overload for long term; >100% overload for 100 ms					
EFFICIENCY[1]						
AC Mode	Up to 97%					
ECO Mode	Up to 99%					
HECO Mode	Up to 99%					
BATTERIES						
Battery Type	VRLA/Li-ion					
Battery Voltage [Vdc]	360-600					
Charging Current (Max.) [A]	100					
MANAGEMENT						
LCD Display	Input.Output, Batterv, Command, Setting, Maintenace					
Alarm	Line Failure, Battery Low, Overload, System Fault					
Communication Ports	RS232, RS485x2 (User commnunication), BAT_T (NTC&RS485), Parallel, LBS, BMS, Dry contact port, Relay card (Optional), SNMP card (Optional), Battery temperature sensor (Optional)					
Dry Contact Ports	Input (12 Vdc): EPO (NO/NC), Battery breaker detection port x3, external maintenance breaker detection port, external output breaker detection port, external bypass breaker detection port, battery grounding detection port, SPD detection port, generator connection detection port and optional port x4. Output: Backfeed (Relay NO/NC) battery breaker trop x3 (24 Vdc). optional port (ralay)x6					
SYSTEM						
Overheat	Line Mode: Switch to Bypass; Backup Mode: Shut down UPS immediately					
Self-diagnostics	Upon Power On and Software Control					
Generator Input	Support					
EPO	Shut down UPS immediately					
ENVIRONMENTAL						
Operating Temperature [°C]	0~40					
Storage Temperature [°C]	-25~55					
Humidity Range	0-95% (Non condensing)					
Altitude [m]	<1000, derating required when >1000					
Noise Level (dB)	<73		<74		<75	

MODELS	HPM 2-400	HPM 2-500	HPM 2-600	HPM 2-800	HPM 2- 1000	HPM 2-1200
PHYSICAL						
Dimensions UPS Cabinet[2] (WxDxH) [mm]	800x1000x2000			800x1000x2000	1400x1000x2000	
Dimensions UPS Cabinet[3] (WxDxH) [mm]	800x1000x2000			1400x1000x2000	1800x1000x2000	
Dimensions Power Module (WxDxH) [mm]	440x755x130 (3U)					
Weight UPS Cabinet[2] [kg]	305	330	350	405	690	760
Weight UPS Cabinet[3] [kg]	350	380	410	780	850	920
Weight Power Module [kg]	52.5					
STANDARDS						
Safety	IEC/EN 62040-1, IEC/EN 62477-1					
EMC	IEC/EN 62040-2 (IEC 61000-2-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11) IEC 62040-3					

1) This efficiency is a typical value measured under standard test conditions and may vary slightly depending on the actual operating environment and conditions.
2) Without or only with one maintenance bypass breaker.
3) With mains, bypass, maintenance bypass and output breakers.
NOTE: Cable entry: Top/ Bottom

DATHPM2G3Y25IIEN

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