Multi Power2 Scalable

DATACENTER INDUSTRY TRANSPORT

3:3 1000-1250-1600-2000 kW

ONLINE

Modular

Lithium compatible

AI Ready

USB plug



HIGHLIGHTS

- **Ultra-high efficiency**
- **Ultimate availability**
- **Risk-free scalability**
- **Truly sustainable**
- **Unmatched flexibility**

Multi Power2 Scalable is the ultimate modular UPS. This product range takes the best features of the Multi Power2 family (MP2) and elevates them to new levels of power protection.
M2S is capable of achieving a maximum power output of 2000 kW per unit (8000 kW with 4 units in parallel), making it the optimal choice when uncompromising protection of the most critical applications, such as Data Centers, is required. Furthermore, the unit is specifically designed to efficiently handle rapid load fluctuations, ensuring it is the perfect solution for AI applications and load profiles.
With several configurations available, the unit can adapt to all the different installations requirements without impacting the existing infrastructure.

HIGH POWER SUSTAINABILITY

- A new best-in-class power module, based on the latest silicon carbide (SiC) technology, enables more compact, reliable, and robust solutions.
- Ultra-high efficiency up to 98.1% in ON LINE double conversion, providing the best power supply to critical equipment.
- Minimized total cost of ownership thanks to the lowest operational expenses on the market.
- Reduced demand and consumption of cooling systems.

INCREDIBLE FLEXIBILITY

- Easy scalability to optimise both the initial investment and the TCO (total cost of ownership).
  The range consists of:
  - M2S 1000 up to 1000 kW;

- M2S 1250 up to 1250 kW;
- M2S 1600 up to 1600 kW;
- M2S 2000 up to 2000 kW;

Each unit is available in several configurations to adapt to existing electrical infrastructure and to meet any space constrains:

PC0: unit supplied without switches to simplify the integration with the existing electrical infrastructure.

PCS: fully integrated with main input, bypass, manual bypass and output switches.

CT0: space-efficient solution with embedded backfeed protection device and without other switches.

CT2: unit with backfeed protection device and main input and output switches.

- Two versions of 3U 67 kW Power Modules: the standard PM (IGBT) can reach up to 96.5% efficiency, whereas the BLUE (SiC) PM boasts outstanding efficiency of 98.1% in ON LINE Mode.
- PMs are designed to be fully independent, hot-swappable, mechanically segregated and with embedded selective disconnection at both the input and output stage.
- Bypass is modular and fully rated according to the maximum power of the system.

The units have been designed with several standard features:

- Air filter;
- Fan monitoring;
- Backfeed detection circuit and protection;
- Embedded backfeed Protection device (CT0 & CT2)
- EFFICIENCY CONTROL Mode;
- ACTIVE ECO Mode;
- Power walk-in;
- Separate or common batteries (parallel systems);
- Compatibility with: VRLA, Li-Ion, Supercaps;
- Smart grid ready.

A full set of options is available to fit the requirements of each installation, in both IT and non-IT environments:

- Parallel kit;
- Cold start kit;
- Synchronisation device (UGS);
- Top ventilation (factory option, standard for M2S 2000).

SMART & SAFE

- Intelligence is distributed throughout the system, safeguarding the equipment even in rare cases of power module failure.
- Each module undergoes an automatic health-check upon connection, ensuring its proper status and preventing the integration of defective components.
- Firmware automatically aligns when a module with different firmware is inserted.
- The firmware can be fully upgraded while the unit operates in ON LINE double conversion mode.
- Continuous monitoring via multiple sensors within each module optimizes performance and enables tailored predictive maintenance based on real operating conditions.
- Integrated interleaving technology effectively reduces ripple current, extending the life of batteries and DC capacitors.

RELIABLE AND RESILIENT

- An innovative internal communication structure utilizes two independent, fully redundant high-speed buses, ensuring maximum reliability.
- Every system component, from individual modules to the full cabinet, is meticulously designed and crafted in Italy.
- All parts are rigorously vetted through a stringent approval process to guarantee quality and durability.
- Each module and entire unit are tested intensively to verify the optimal functioning of all components.
- Collected data and measurements are continuously analyzed, driving ongoing product enhancement and delivering the latest technology to our customers.



Power Module 67 kW (IGBT) - MP2 67 PM.



Power Module 67 kW (SiC)
MP2 67 PM BLUE.

- The UPS's extended lifespan is supported by embedded status counters and advanced sensors for temperature and humidity, providing real-time analytics for proactive monitoring.

USER FRIENDLY

Each M2S unit comes with:

- A 10" colour touchscreen display that clearly shows information, measurements, and operational status of the entire system and each individual power module, all in one place.
- A LED bar provides quick and easy-to-understand updates on the current UPS status.
- NetMan 208C network card.
- Configurable In/Out signals (10 inputs and 8 outputs) for flexible setup.
- Two free slots for optional communication accessories, such as additional network adapters or extra volt-free contacts.
- R.E.P.O. (Remote Emergency Power Off) for immediate emergency shutdown.

98% =

Efficiency
ON LINE double conversion

45 tons
of CO_2 saved

30 k€
energy bill savings

Yearly values calculated for MP2 1250 kW UPS with BLUE modules compared to 96% efficiency UPS, considering 50% average load, cooling COP=3, 0.3 kg CO_2 & 0.2 € per kWh



The units are also compatible with:

- PowerShield[3] monitoring and shutdown software, which supports Windows operating systems (11, 10, 8, Server 2022, 2019, 2016 and older), Windows Server Virtualization Hyper-V, macOS, Linux, Citrix XenServer, and other Unix systems.
- RielloConnect for remote and proactive monitoring, ensuring a smooth experience and extra peace of mind.

ULTRA SERVICEABILITY

- Each unit is designed to simplify positioning, installation, and maintenance tasks.
- Connection terminals are front-accessible, allowing quick and easy access.
- Key UPS components are modular, enabling engineers to easily add or replace parts, significantly reducing on-site intervention costs.
- With built-in intelligence, powerful computing capabilities, and exceptional connectivity, the system allows continuous monitoring of UPS status and offers tailored, proactive services to extend its lifespan.
- The overall design prioritizes simple and efficient maintenance, making upkeep straightforward and cost-effective.

OVERVIEW

Power cabinet
M2S 1250 PC0

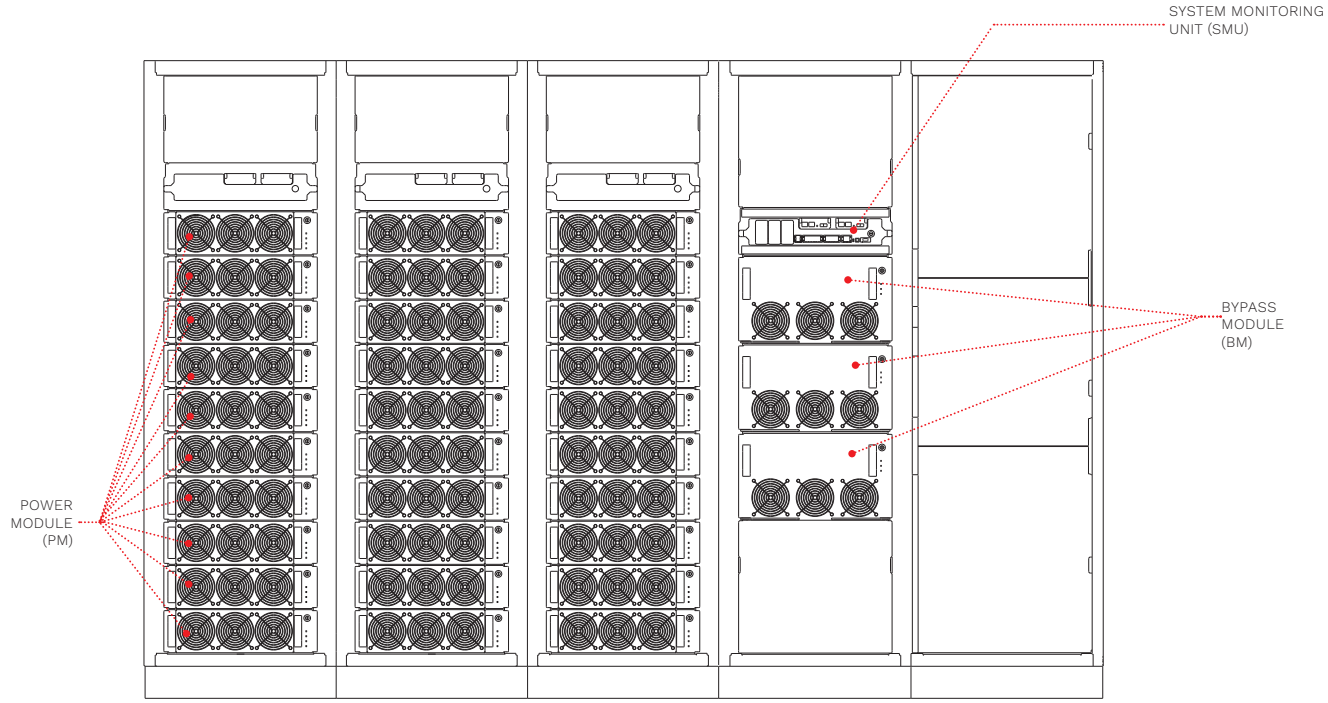
Power cabinet
M2S 1250 PCS



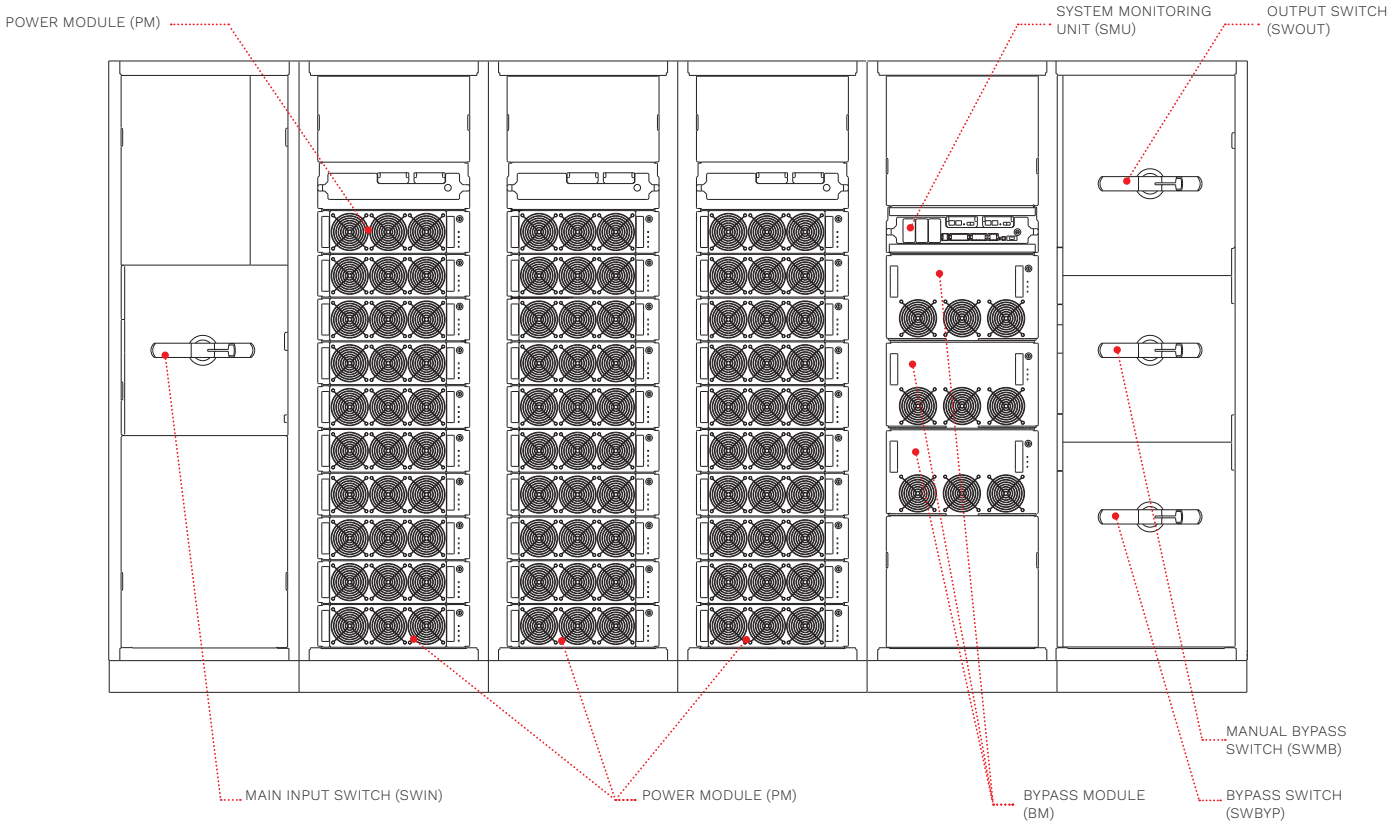
1. 67 kW - 3U Power Modules.
2. Modular static bypass.
3. System Monitoring Unit (SMU) with:
   - In/Out signals (10 input, 8 output);
   - NetMan 208C;
   - 2 extra communication slots;
   - R.E.P.O.
   - Parallel slots.
4. I/O cabinets, the configuration varies according to the model*.
5. Cable entry:
   M2S PC0, PCS, CT2: Top or bottom;
   M2S CT0: Top.
   M2S PC0 F: Top with AC flanges.

*CT0, CT2 and PC0 F are single input only.

M2S 1600 PC0
without switches, up to 1600 kW
(front)

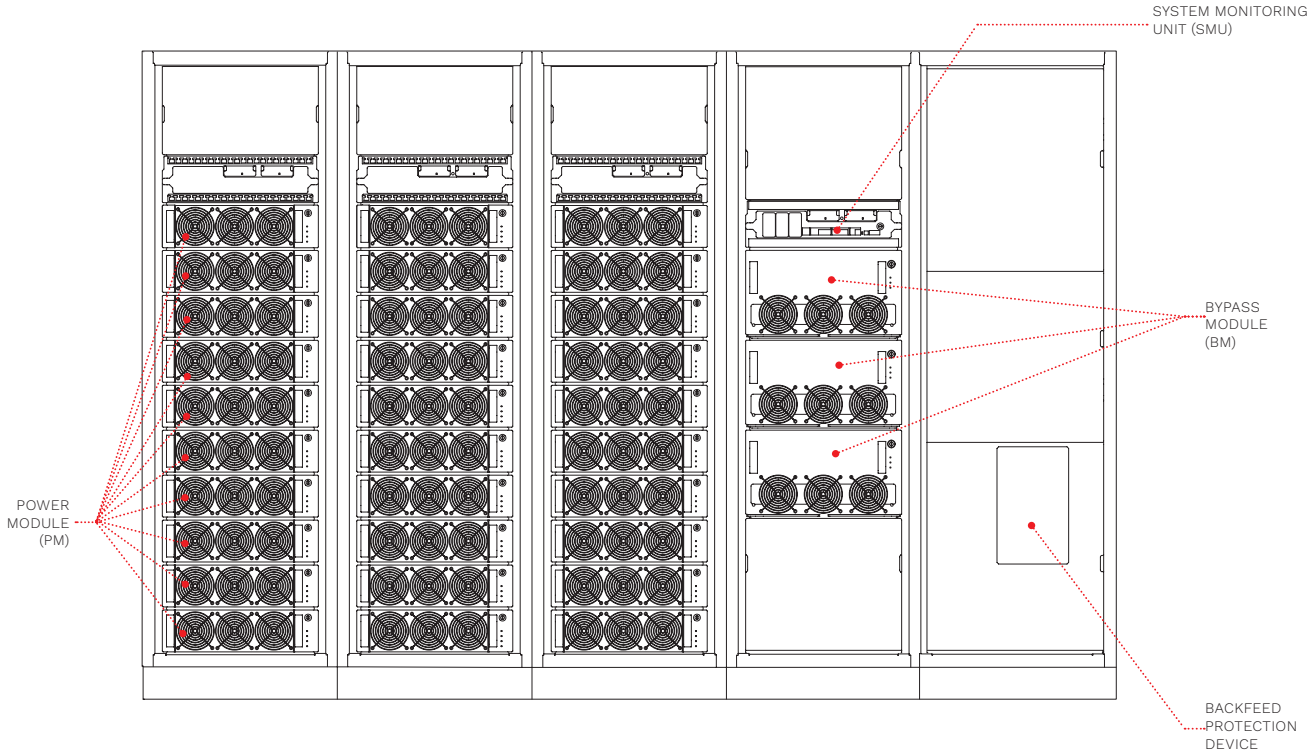


M2S 1600 PCS
with main input, bypass, output and manual bypass switches up to 1600 kW
(front)

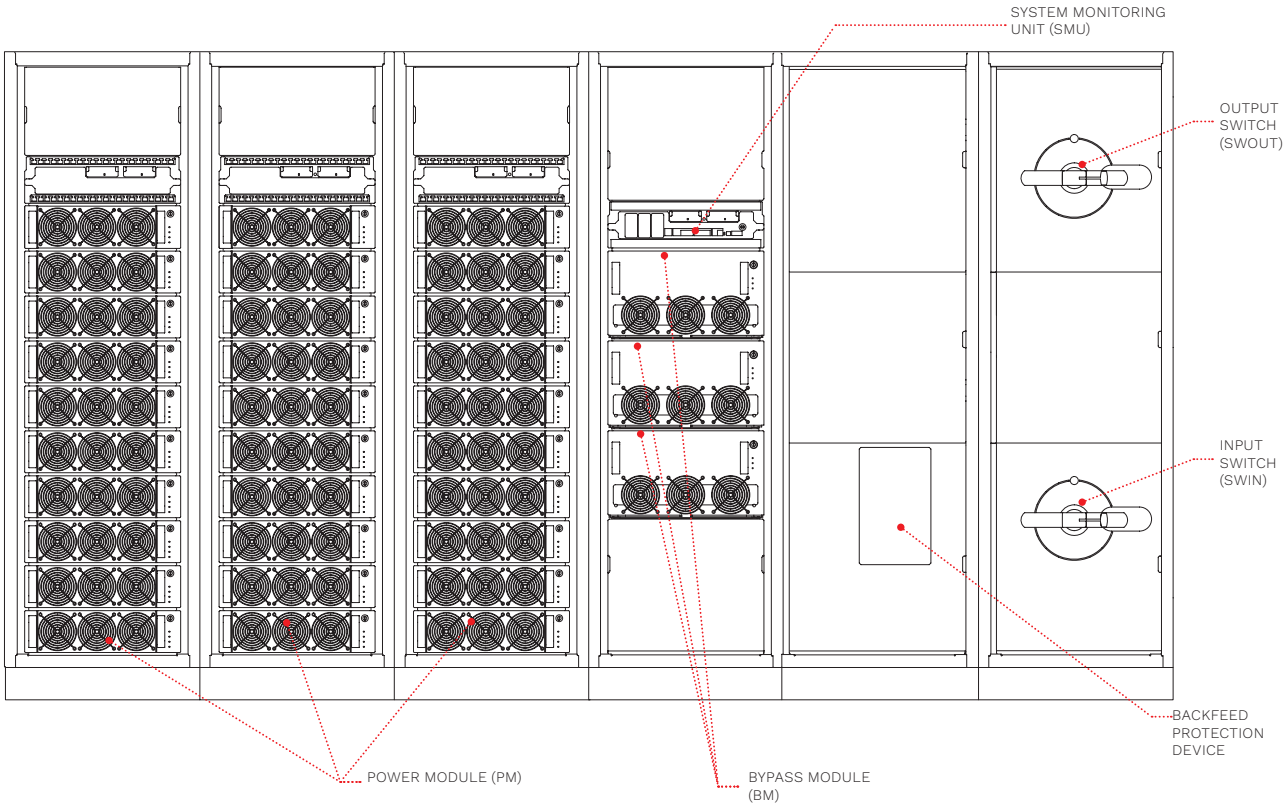


Note: Images regarding system layouts are for illustrative purposes only and referring to the biggest unit. The actual dimensions, configurations and number of modules varies depending on the power and redundancy requested.

M2S 1600 CT0
with backfeed protection device and without switches, up to 1600 kW
(front)



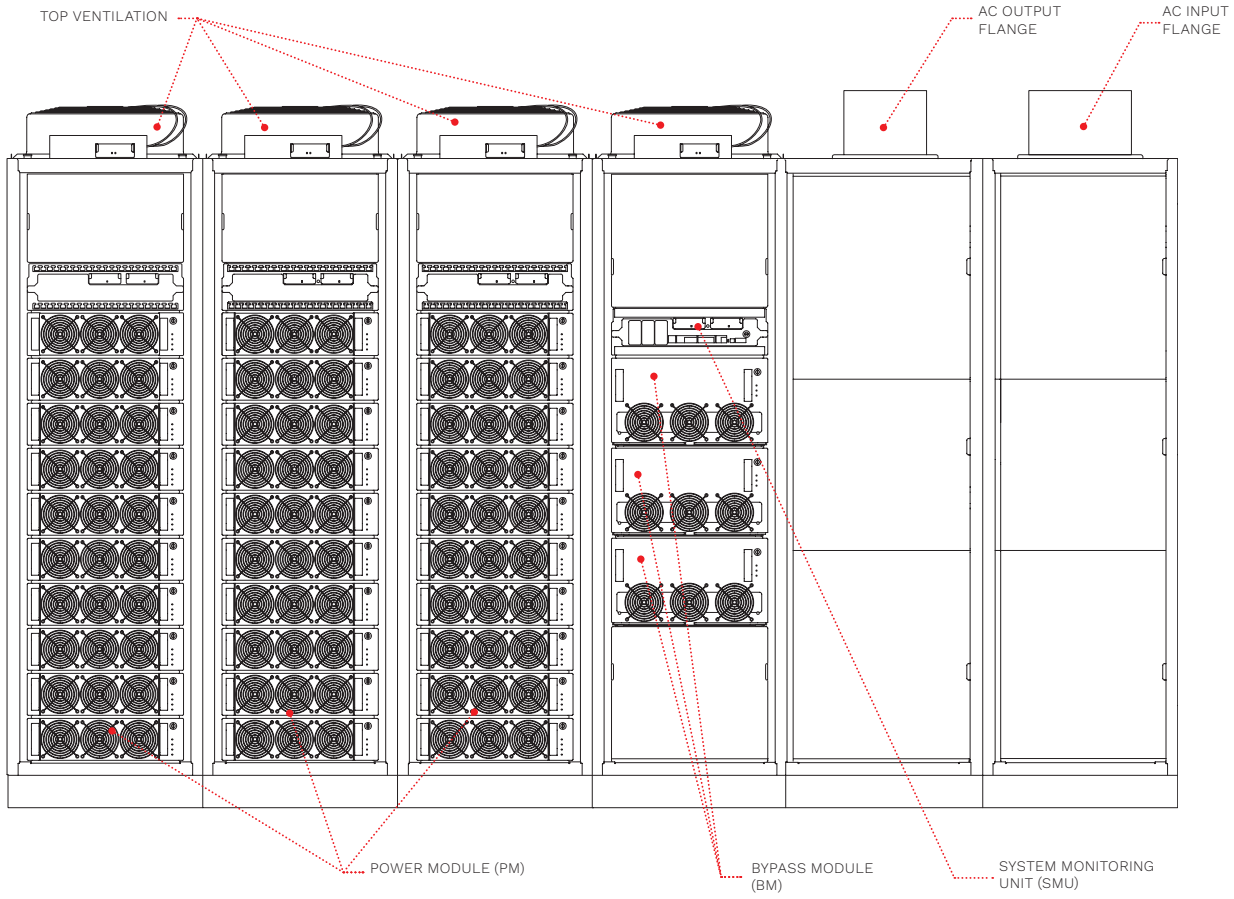
M2S 1600 CT2
with backfeed protection device, input and output switches up to 1600 kW
(front)



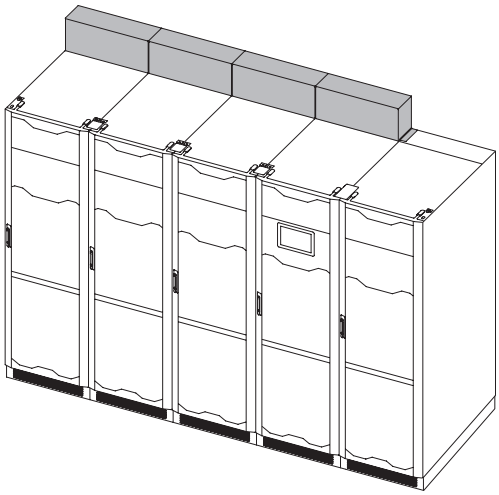
Note: Images regarding system layouts are for illustrative purposes only and referring to the biggest unit. The actual dimensions, configurations and number of modules varies depending on the power and redundancy requested.

DETAILS

M2S 2000 PCO F VE*
without switches, with flange connection and top ventiation up to 2000 kW
(front)



DC COUPLING KIT OPTION



TOP VENTILATION CONFIGURATION*

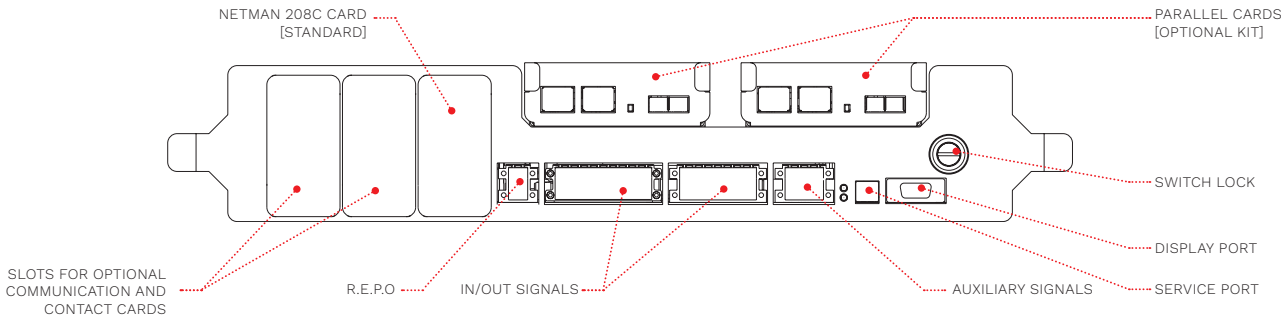


** Only with BLUE Power Modules.*

Note: Images regarding system layouts are for illustrative purposes only and referring to the biggest unit. The actual dimensions, configurations and number of modules varies depending on the power and redundancy requested.

DETAILS

System Monitoring Unit (SMU)



OPTIONS

SOFTWARE
PowerShield[3]
PowerNetGuard

ACCESSORIES
NETMAN 208C
MULTICOM 302
MULTICOM 372
MULTICOM 411
MULTICOM 421
MULTI I/O
MULTIPANEL

PRODUCT ACCESSORIES
Parallel Kit
Top Ventilation (only from factory and with BLUE Power modules)
Battery temperature sensor
Programmable relay board MULTICOM 392
Cold Start
Coating treatment
ENERGYMANAGER
DC coupling kit
Single input kit (only for PC0)
TN-C kit

MODEL	Multi Power2 Scalable - from 1000 to 2000 kW			
INPUT				
Rated voltage [V]	380 / 400 / 415 three-phase + neutral			
Rated frequency [Hz]	50 / 60			
Voltage tolerance [V]	240[1] - 480			
Frequency tolerance [Hz]	40 - 72			
Power factor	0.99			
THDI	<3%			
BYPASS				
Nominal power [kW]	1000 - 1250 - 1600 - 2000 (According to system power configuration)			
Rated voltage [V]	380 / 400 / 415 three-phase + neutral			
Voltage tolerance [V]	from 180 (adjustable 180-200) to 264 (adjustable 250-264) referring to neutral			
Rated frequency [Hz]	50 or 60			
Frequency tolerance	±5% (selectable)			
Overload	125% for 10 min; 150% for 1 min			
BATTERIES				
Battery arrangement (parallel systems)	Separate/Common			
Type	VRLA, Li-Ion, Supercaps			
Recharging method	One level, Two level, Cyclic recharge (selectable)			
OUTPUT				
Rated voltage [V]	380[2] / 400 / 415 three-phase + neutral			
Rated frequency [Hz]	50 or 60			
Voltage stability	±1%			
Dynamic stability	EN62040-3 class performance 1 non linear load			
OVERALL SPECIFICATIONS				
Cabinet type	**M2S 1000**	**M2S 1250**	**M2S 1600**	**M2S 2000 PC0 F VE**
UPS Nominal Power[3] [kW]	1000	1250	1600	2000
Bypass Power [kW]	1000	1250	1600	2000
Power factor [pf]	1			
Module slots available	16	20	30	30
Number of PM to reach full power	15x MP2 67 PM/PM BLUE	19x MP2 67 PM/PM BLUE	24x MP2 67 PM/PM BLUE	30x MP2 67 PM BLUE
Parallelable up to	4 units			
Max power expandability [kW]	4000	5000	6400	8000
System Noise Level [dBA±2][1]	<75			
Dimensions (WxDxH) [mm] & weight [kg] **PC0**[4] Type	2400x1025x2000[8] 1949	2400x1025x2000[8] 2147	3000x1025x2000[8] 2634	3600x1025x2250 3164
Dimensions (WxDxH) [mm] & weight [kg] **PCS**[5] Type	3000x1025x2000[8] 2027	3000x1025x2000[8] 2525	3600x1025x2000[8] 3012	N.A.
Dimensions (WxDxH) [mm] & weight [kg] **CT0**[6] Type	2400x1025x2000[8] 1949	2400x1025x2000[8] 2147	3000x1025x2000[8] 2634	N.A.
Dimensions (WxDxH) [mm] & weight [kg] **CT2**[7] Type	3000x1025x2000[8] 2055	3000x1025x2000[8] 2200	3600x1025x2000[8] 2687	N.A.
Efficiency ON LINE mode	up to 98.1%			
Cabinet IP rating	IP20 (others on request)			
Cable Input	Front access - top or bottom (top for CT0)			Top with flanges
Colour	RAL 9005			
Ambient temp. for the UPS	0 °C - +40 °C			
Ventilation	Front to rear (top ventilation optional)			Front to top
Range of relative humidity	5-95% non-condensing			
Standards	European directives: LV 2014/35/EU low voltage Directive EMC 2014/30/EU electromagnetic compatibility Directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2; RoHS compliant Classification in accordance with IEC 62040-3 (Voltage Frequency Independent) VFI - SS - 111			
Moving UPS	Pallet jack			

[1] *Conditions apply.*
[2] *For wider tolerance conditions apply.*
[3] *Power rating between 1000 kW and 2000 kW can be settled with a selected number of Power Modules.*
[4] *Without Switches, weight including Power Modules to reach full power.*
[5] *With Input, Bypass, Output, Manual Bypass switches, weight including Power Modules to reach full power.*
[6] *With backfeed device and without Switches, weight including Power Modules to reach full power.*
[7] *With Input, Output switches and backfeed device, weight including Power Modules to reach full power.*
[8] *2250 mm with top ventilation option (only with BLUE Modules).*

The information in this document is subject to change without notice. Riello UPS assumes no responsibility for any errors that may appear in this document.

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