



# ELROND

08-449 80 80 [www.elrond.se](http://www.elrond.se)

## Multi Power2

3:3 300-500-600 kW



ONLINE



Modular



Lithium compatible



SmartGrid ready



USB plug



### HIGHLIGHTS

- **Ultra-high efficiency**
- **Ultimate availability**
- **Risk-free scalability**
- **Smart Modular Architecture (SMA)**
- **Truly sustainable**

Riello UPS's Multi Power modular range has been efficiently protecting the supply of critical applications around the world for almost a decade. With thousands of power modules deployed across the globe, it is recognised as a high performing and ultra-reliable system.

Riello Multi Power2 is the evolution of our modular UPS, which aims to offer higher power density, simpler integration to both existing and new installations and last but not least enhanced operating efficiency and global flexibility to reduce both the upfront investment and the day-to-day operational costs.

It is the result of our efforts to provide a more sustainable, compact and reliable power supply suitable for the most demanding applications, not only in

high-density critical IT environments, but wherever energy continuity is a must and has to be ensured without any compromise in terms of performance. Its modular design adapts to varying load demands, providing the best performance in every working condition.

With new extremely high-density power modules, our solution reaches up to 600 kW in a single cabinet and up to 3600 kW with 6 systems in parallel.

#### EFFICIENT AND SUSTAINABLE

- New best-in-class power modules based on the latest silicon carbide technology (SiC), which allows for more compact, more reliable and more 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.

**FLEXIBLE AND SCALABLE**

- 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.
- Easy scalability to optimise both the initial investment and the TCO (total cost of ownership).  
The range consists of:
  - MP2 300 up to 300 kW;
  - MP2 500 up to 500 kW;
  - MP2 600 up to 600 kW.
- 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.

**SMART & SAFE**

- Intelligence is distributed to ensure the protection of the equipment even on the off chance of a fault on a power module.
- Automatic health-checks are performed during the plug-in of each module to verify its status and avoid defective components.
- Automatic alignment of the firmware when a module with different firmware is inserted.
- Comprehensive upgrade of the firmware can be performed while the unit is working in ON LINE double conversion.
- Continuous monitoring through several sensors embedded in each module, ensuring the best operating performance and bespoke predictive maintenance services based on the actual working conditions.

- Embedded interleaving technology grants a significant reduction of the ripple current values and extends the lifespan of the batteries and DC capacitors.

**RELIABLE AND RESILIENT**

- Innovative internal communication structure made by two separate and fully redundant high-speed buses.
- Each component of the system, from the modules to the cabinet, is designed and manufactured in Italy.
- All components are carefully selected through a strict approval process.
- All modules and complete units undergo specific tests to verify that each component operates correctly.
- All collected measurements and data is analysed to keep improving our products and provide our customers with the most up to date technologies.
- Enhanced lifespan of the UPS: thanks to embedded status counters, as well as temperature and humidity sensors, providing real-time analytics for operators.

**ADAPTABLE TO YOUR NEEDS**

- Any increase in power can be done while the unit is working in ON LINE double conversion without any disruption to the load.
- The MP2 is available in many configurations and frames:
- **PCM:** with integrated manual bypass and top-rear ventilation.
  - **PCO:** unit supplied without switches to simplify the integration with the existing electrical infrastructure and to meet any space constraints, available also with top ventilation.
  - **PCS:** fully integrated, for a complete, simple and very reliable installation, with main input, bypass, manual bypass, output switches and top ventilation.
- The units have been designed with several standard features:
- Air filter (optional for MP2 300 PCM);
  - Fan monitoring;



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



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

- Backfeed detection circuit and protection;
  - EFFICIENCY CONTROL Mode;
  - ACTIVE ECO Mode;
  - Power walk-in;
  - Separate or common batteries;
  - Compatibility with several storage technologies: 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;
  - Internal backfeed protection device;
  - Bottom cable entry for MP2 500 PCM and MP2 600 PCO;
  - Top Cable entry w/ or w/o switches for MP2 300 PCM;
  - Synchronisation device (UGS).

**98%**

=



**22 tons**  
of CO<sub>2</sub> saved



**14 k€**  
energy bill savings

**Efficiency**  
ON LINE double conversion

Yearly values calculated for MP2 600 kW UPS with BLUE modules compared to 96% efficiency UPS, considering 50% average load, cooling COP=3, 0.3 kg CO<sub>2</sub> & 0.2 € per kWh



### USER FRIENDLY

All MP2 units are equipped with:

- 10" colour touch screen display that simultaneously provides information, measurements and operating states of the entire system and of each individual power module.
  - LED bar which delivers immediate and clear information regarding the current status of the UPS.
  - network card NetMan 208C;
  - embedded configurable In/Out signals 10 inputs and 8 outputs for MP2 500 and MP2 600 (5 inputs and 4 outputs for MP2 300);
  - 2 free slots for the installation of optional communication accessories such as network adaptors and extra volt free contacts;
  - R.E.P.O. Remote Emergency Power Off.
- The units are also compatible with:
- PowerShield<sup>3</sup> monitoring and shutdown software included for Windows operating systems 11, 10, 8, Server 2022, 2019, 2016 and previous versions, Windows Server Virtualization Hyper-V, macOS, Linux, Citrix XenServer and other Unix operating systems;
  - RielloConnect for remote and proactive monitoring services.

### ULTRA SERVICEABILITY

- Each unit has wheels for a fast and easy positioning;
- Connection terminals are easily accessible from the front;
- All power modules and major components are replaceable in just a few minutes;
- All the major components of the UPS are modular and can be easily added and/or replaced by the engineer, minimising the site intervention costs.



### Best in class footprint

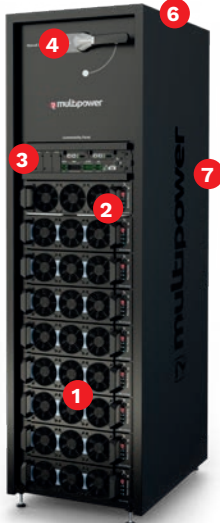
600 kW in just 0.52 m<sup>2</sup>  
1.75 kW / dm<sup>3</sup> for the power module

## OVERVIEW

**Power cabinet  
MP2 300 PCM**



**Power cabinet  
MP2 500 PCM**



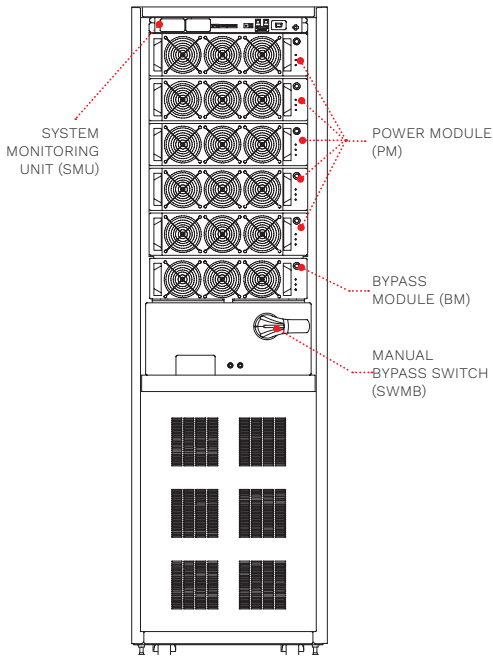
**Power cabinet  
MP2 600 PCS VE**



1. 67 kW - 3U Power Modules.
2. Modular static bypass.
3. System Monitoring Unit (SMU).
4. Manual bypass switch, standard for MP2 500 PCM and MP2 300 PCM.
5. I/O cabinet, complete with main input, bypass, manual bypass and output switches.
6. Cable entry:
  - MP2 300 PCM: Bottom (top optional)
  - MP2 500 PCM & MP2 600 PCO: Top (bottom optional);
  - MP2 600 PCO VE & MP2 600 PCS VE: Top or bottom.
7. Ventilation:
  - MP2 300 PCM: front to back (top ventilation as optional, only with BLUE PM);
  - MP2 500 PCM & MP2 600 PCO: front to back;
  - MP2 600 PCO VE & MP2 600 PCS VE: front to top, only with BLUE PM.

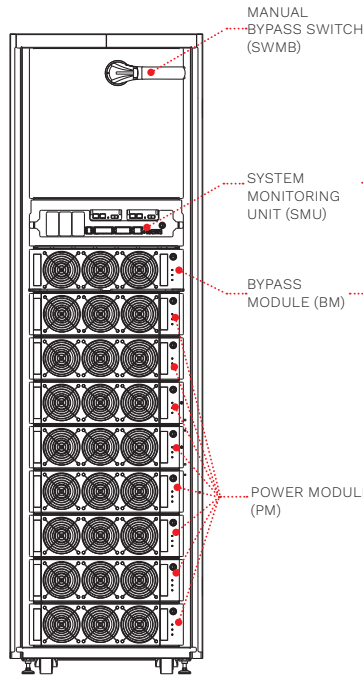
# DETAILS

**MP2 300 PCM  
(front)**



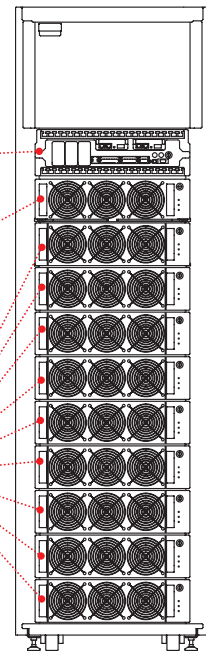
With manual bypass up to 300 kW

**MP2 500 PCM  
(front)**



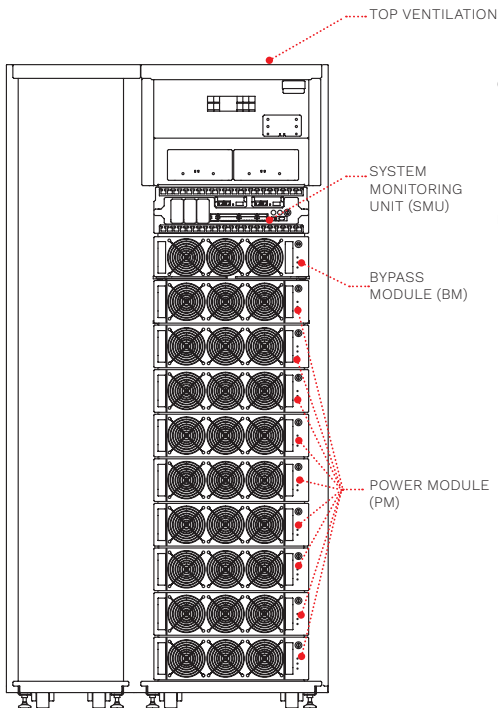
With manual bypass up to 500 kW

**MP2 600 PCO  
(front)**



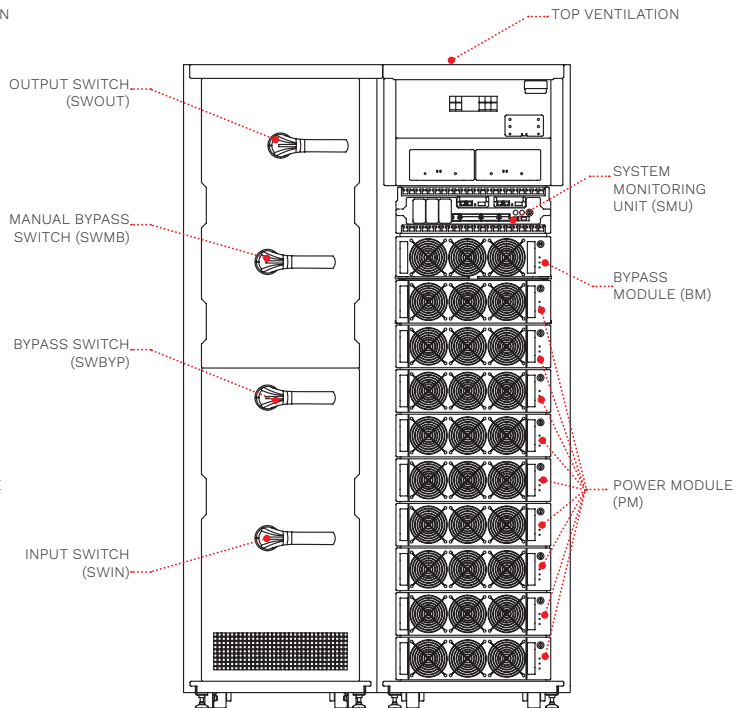
Without switches up to 600 kW

**MP2 600 PCO VE\*  
(front)**



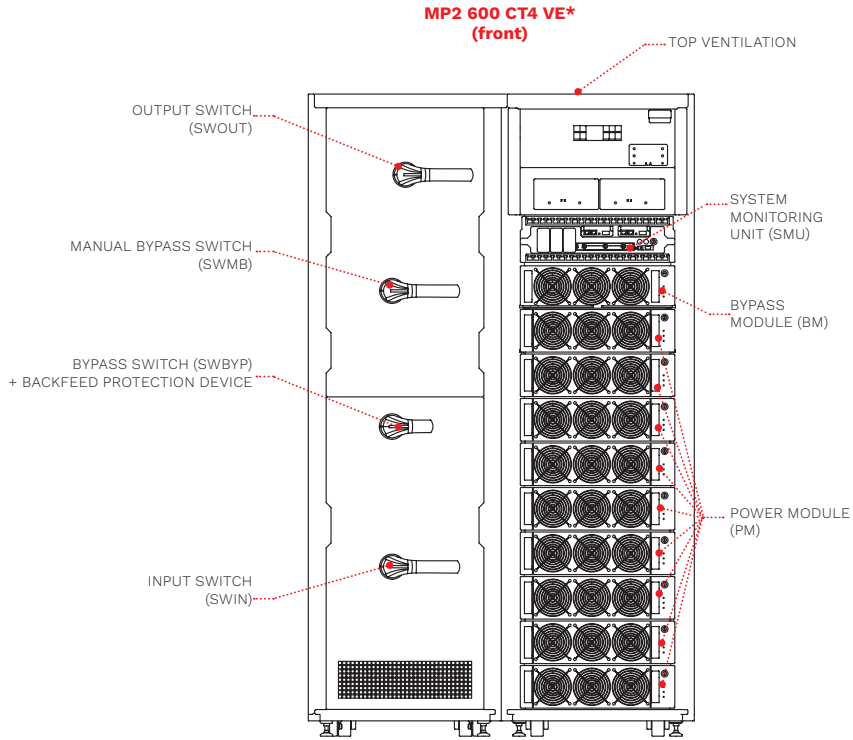
With top ventilation and without switches up to 600 kW

**MP2 600 PCS VE\*  
(front)**



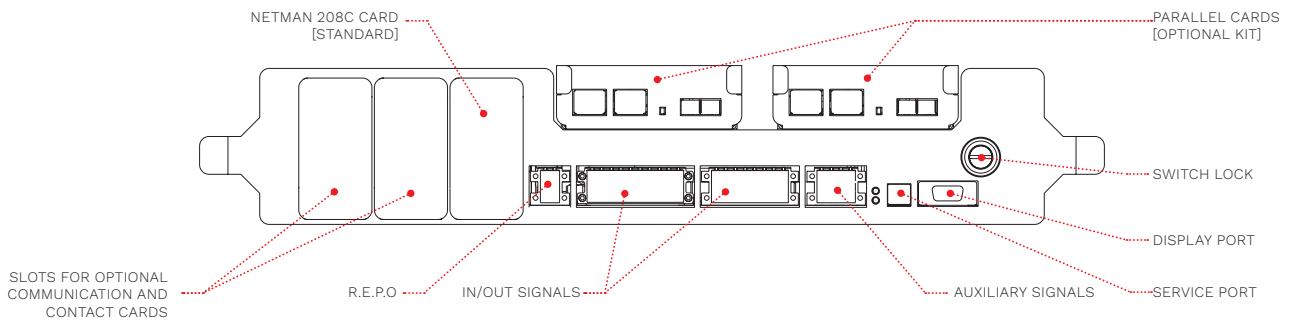
With top ventilation and switches up to 600 kW

\* Only with BLUE Power Modules.

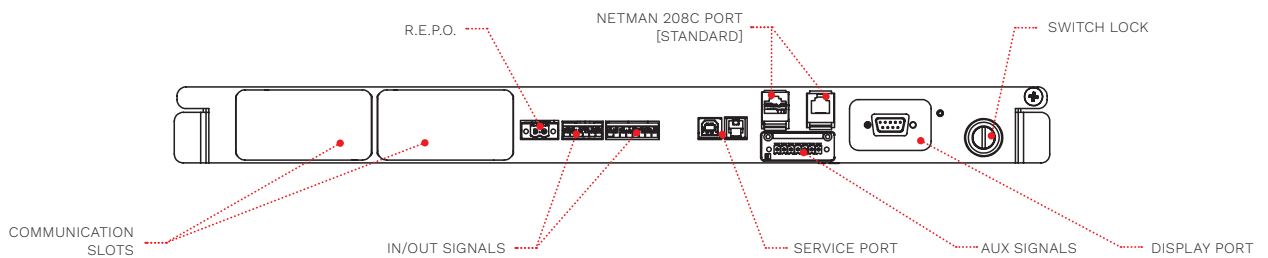


With top ventilation, switches and internal backfeed protection device up to 600 kW

**System Monitoring Unit (SMU) for MP2 500 and MP2 600**



**System Monitoring Unit (SMU) for MP2 300**

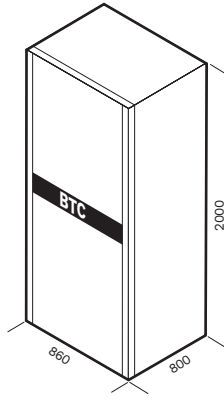


\* only with BLUE Power Modules.

## BATTERY CABINETS

<b>MODELS</b>	<b>BTC 2000 480V BB V8 3T</b> <b>BTC 2000 480V BB V9 3T</b> <b>BTC 2000 480V AB V9 3T</b>
UPS MODELS	Select the Battery configuration according to UPS rated power

Dimensions [mm]



## OPTIONS

SOFTWARE	PRODUCT ACCESSORIES
PowerShield <sup>3</sup>	MP2 500 - 600 Parallel kit
PowerNetGuard	MP2 300 Parallel kit
	Battery temperature sensor
	Programmable relay board
<b>ACCESSORIES</b>	MULTICOM 392
NETMAN 208C	Cold Start
MULTICOM 302	ENERGYMANAGER
MULTICOM 372	Top ventilation kit (MP2 300) only with BLUE PM
MULTICOM 411	Bottom cable entry (MP2 500 PCM and MP2 600 PC0)
MULTICOM 421	Top cable entry w/ o w/o switches (MP2 300)
MULTI I/O	Seismic kit
MULTIPANEL	Air filter (MP2 300)
	Coating treatment
	TN-C kit

<b>MODEL</b>	<b>Multi Power2 – from 300 to 600 kW</b>			
<b>INPUT</b>				
Rated voltage [V]	380 / 400 / 415 three-phase + neutral			
Rated frequency [Hz]	50 / 60			
Voltage tolerance [V]	240 <sup>1</sup> - 480			
Frequency tolerance [Hz]	40 - 72			
Power factor	0.99			
THDI	<3%			
<b>BYPASS</b>				
Nominal power [kW]	300 - 500 - 600 (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			
<b>BATTERIES</b>				
Battery arrangement (parallel systems)	Separate/Common			
Type	VRLA, Li-Ion, Supercaps			
Recharging method	One level, Two level, Cyclic recharge (selectable)			
<b>OUTPUT</b>				
Rated voltage [V]	380 <sup>2</sup> / 400 / 415 three-phase + neutral			
Rated frequency [Hz]	50 or 60			
Voltage stability	±1%			
Dynamic stability	EN62040-3 class performance 1 non linear load			
<b>OVERALL SPECIFICATIONS</b>				
Cabinet type	<b>MP2 300 Front-rear ventilation</b>	<b>MP2 500 Front-rear ventilation</b>	<b>MP2 600 Front-rear ventilation</b>	<b>MP2 600 Front-top ventilation</b>
UPS Nominal Power <sup>3</sup> [kW]	300	500	600	600
Bypass Power [kW]	300	500	600	600
Power factor [pf]	1			
Module slots available	5	8	9	9
Number of PM to reach full power	5 x MP2 67 PM	8x MP2 67 PM	9x MP2 67 PM	9x MP2 67 PM
Parallelable up to	6 units			
Max power expandability [kW]	1800	3000	3600	3600
Dimensions (WxDxH) [mm] & weight [kg] <b>PCM</b> <sup>4</sup> Type	600x940x1995 429	600x870x1997 640	N.A.	N.A.
Dimensions (WxDxH) [mm] & weight [kg] <b>PCO</b> <sup>5</sup> Type	N.A.	N.A.	600x870x1997 680	1000x990x2000 800
Dimensions (WxDxH) [mm] & weight [kg] <b>PCS</b> <sup>6</sup> Type	N.A.	N.A.	N.A.	1200x990x2000 930
System Noise Level [dBA±2] <sup>1</sup>	<68	<69	<70	<78
Efficiency ON LINE mode	up to 98.1%		up to 98%	
Cabinet IP rating	IP20 (others on request)			
Cable Input	Front access - bottom (top with optional)	Front access - top (bottom with optional)		Front access - top or bottom
Colour	RAL 9005			
Ambient temp. for the UPS	0 °C - +40 °C			
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	Castors (cabinets shipped without PM)			

<sup>1</sup> Conditions apply.

<sup>2</sup> For wider tolerance conditions apply.

<sup>3</sup> Power rating between 300 kW and 600 kW can be settled with a selected number of Power Modules.

<sup>4</sup> With Manual Bypass switch only, weight including Power Modules to reach full power.

<sup>5</sup> Without Switches, weight including Power Modules to reach full power.

<sup>6</sup> With main Input, Bypass, Output, Manual Bypass switches, weight including Power Modules to reach full power.



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