



EMERGENCY



E-MEDICAL



INDUSTRY



DATACENTRE



TRANSPORT

# Master MPS



ONLINE



Tower



Service 1st start



Flywheel compatible



Supercaps UPS



Lithium compatible



SmartGrid ready

**3:1** 10-100 kVA

**3:3** 10-200 kVA

## HIGHLIGHTS

- **Efficiency Control System (ECS)**
- **Robust and reliable**
- **Galvanic isolation**
- **High overload capacity**
- **Extensive parallel configurations**



### TOTAL PROTECTION

Master MPS series UPS provide maximum protection and power quality for mission critical loads, including data centres, industrial processes, telecommunications, security and electro-medical systems. Master MPS is an ON LINE double conversion UPS (VFI SS 111 - IEC EN 62040-3) with a transformer isolated inverter.

The Master MPS range includes three-phase input and single-phase output versions from 10 to 100 kVA, and three-phase input and output versions from 10 to 200 kVA.

All versions are provided with a 6-pulse thyristor-based rectifier, with or without optional harmonic filters. A 12-pulse thyristor-based rectifier is available on

request for the 60 and 80 kVA versions with or without optional harmonic filters.

### EASY SOURCE

Master MPS makes supplying the UPS from generator sets and MT/BT transformers simpler and more efficient, reducing power loss in the system and coils, correcting the power factor and eliminating current harmonics created by the loads supplied by the UPS.

In addition to this, the progressive rectifier start up (power walk-in) and the option to reduce battery charging currents, allow for a reduction in the input current uptake.

This means less demand on the source, which is particularly useful when the source is a generator set.

## FLEXIBILITY

Master MPS is suitable for a wide range of applications including IT and the most demanding industrial environments. The UPS is suitable for power capacitive loads such as blade servers, from 0.9 leading to 0.8 lagging. With a broad range of accessories and options, complex configurations and system architectures can be achieved to guarantee maximum power availability and the option to add new UPS without interruption to existing installation.

## BATTERY CARE SYSTEM: MAXIMUM BATTERY CARE

Normally the batteries are kept charged by the rectifier; when mains power fails, the UPS uses this energy source to power the consumers. Proper battery care is therefore critical to ensuring correct UPS operation under emergency conditions. The Riello UPS battery care system consists of a series of functions designed to optimise battery management and achieve the best performance and operating life possible.

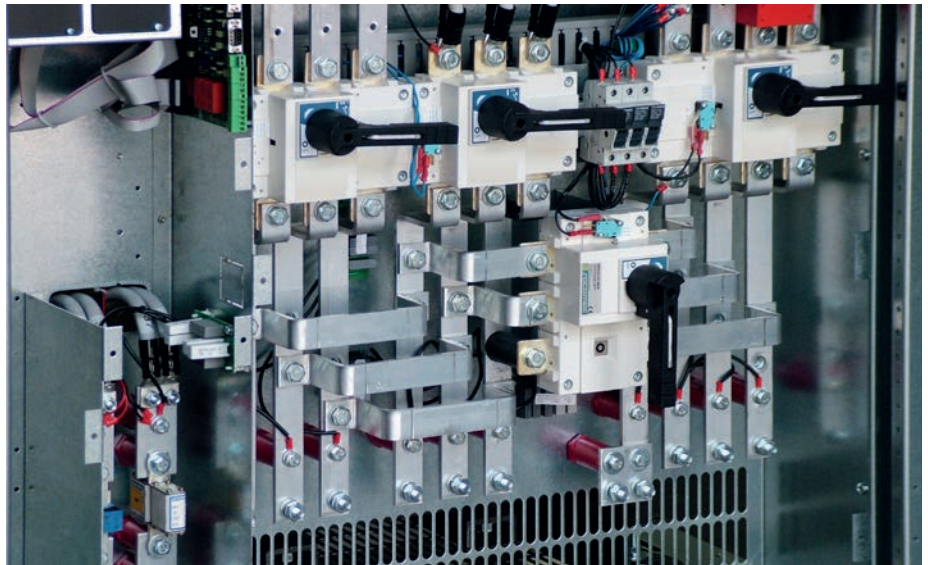
Master MPS is also compatible with different battery technologies: vented open lead acid, VRLA AGM, Gel, NiCd, Flywheels, Supercaps and Lithium.

## SPECIFIC SOLUTIONS

The UPS can be adapted to meet the most specific requirements. Contact our TEC team to discuss specific solutions and options not listed in this catalogue.

## ADVANCED COMMUNICATIONS

- Compatible with Riello Connect for remote monitoring;
- Advanced multi-platform communications for all operating systems and network environments: PowerShield<sup>3</sup> monitoring and shutdown software included for Windows operating systems 10, 8, 7, Hyper-V, 2019, 2016, 2012, and previous versions, Mac OS X, Linux, VMWare ESXi, Citrix XenServer and other Unix operating systems;
- Double RS232 serial;
- 2 slots for the installation of optional communications accessories such as network adapters, potential free contacts, etc.;
- REPO Remote Emergency Power Off for switching off the UPS via a remote emergency button;
- Input for the connection of the auxiliary contact of an external manual bypass;
- Input for synchronisation from an external source;



Detail of connection area

- Graphic display panel for remote connection.

## MAXIMUM RELIABILITY AND AVAILABILITY

- Distributed or centralised parallel configuration of up to 8 units redundant (N+1) or power parallel system. Parallel configurations using models with different power ratings are also possible;
- Hot System Expansion (HSE): allows the addition of a further UPS into an existing system, without the need to switch off the existing UPS or transfer them to bypass mode. This guarantees maximum load protection, even during maintenance and system expansion;
- Maximum levels of availability, even in the event of an interruption to the parallel bus cable: the system is "FAULT TOLERANT". It is not affected by connection cable faults and continues powering the load without disruption, signalling an alarm condition;
- Efficiency Control System (ECS): a system to optimise the operating efficiency of parallel systems, according to the power required by the load. N+1 redundancy is guaranteed, with every UPS working in parallel at the best load level possible to achieve higher overall efficiency.

## OPTIONS

### • UPS Group Synchroniser (UGS)

Allows two or more non-parallel UPS devices to remain synchronised even during mains power failure.

The UGS also enables a Riello UPS to be synchronised with another power source that is independent and of a different power rating.

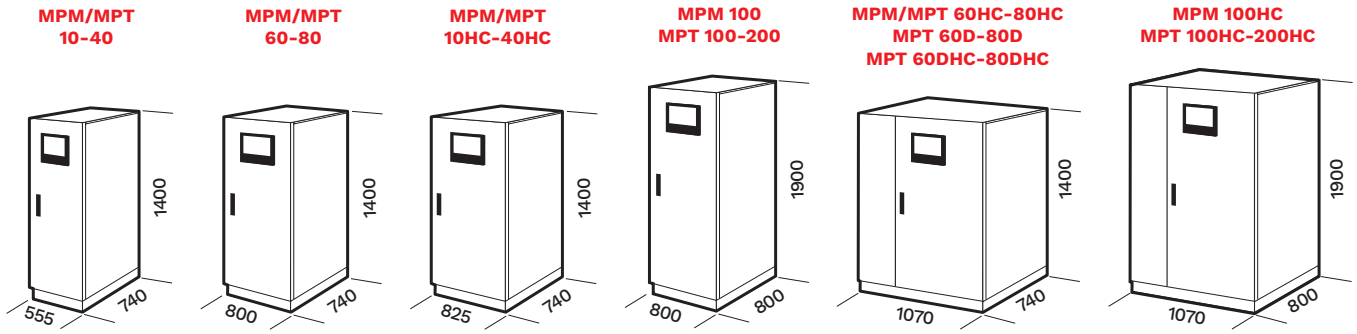
### • Parallel Systems Joiner (PSJ)

Allows two groups of UPS to be connected in parallel whilst operating, in the event of maintenance (with no interruption to the output), using a power coupling switch.

Should one of the UPS in one of the parallel groups fail, it is automatically excluded.

The PSJ connects the remaining UPS, to the other parallel group via an external bypass, in order to continue to guarantee load redundancy.

## DIMENSIONS

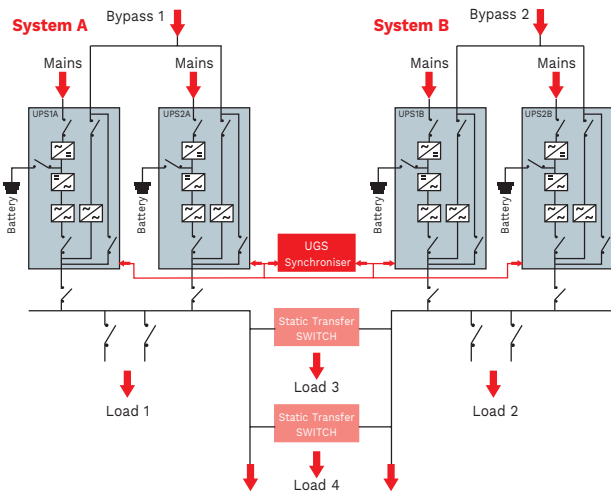


HC= Version with filtering of 5<sup>th</sup> or 11<sup>th</sup> harmonics D= Twelve-phase version

## DUAL BUS CONFIGURATION

Solution to ensure redundancy up to the distribution of the power supply to the loads and improved STS operation.

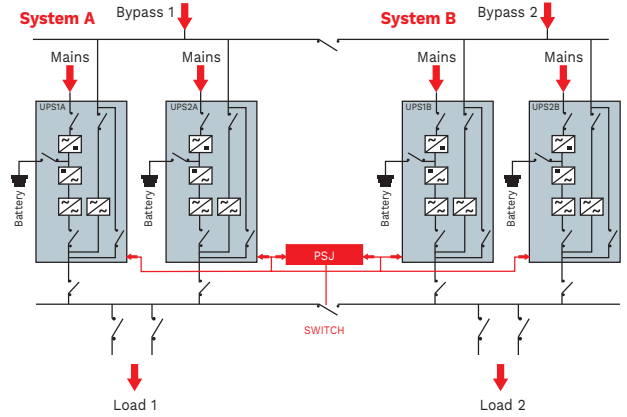
**+ Downstream fault discrimination**



## DYNAMIC BUS CONFIGURATION

Solution to ensure redundancy of the power supply even during maintenance.

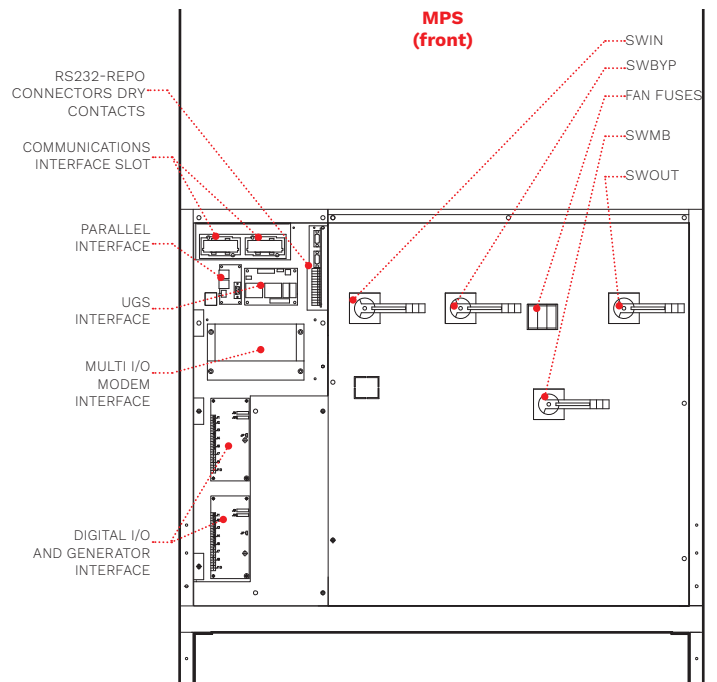
**+ High availability and redundancy**



## DETAILS



MPT 200 open



## OPTIONS

### SOFTWARE

PowerShield<sup>3</sup>  
PowerNetGuard

MULTI I/O  
MULTIPANEL  
MBB 100 A

Hot connection device (PSJ)  
Cold Start: to start the UPS from battery without mains  
Parallel configuration kit (Closed Loop)

### ACCESSORIES

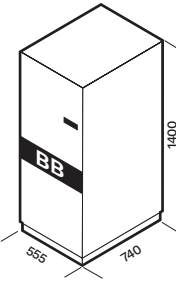
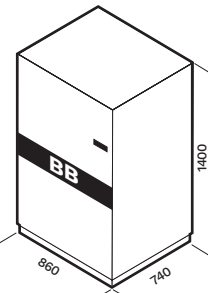
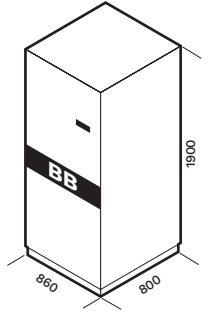
NETMAN 204  
MULTICOM 302  
MULTICOM 352  
MULTICOM 411

### PRODUCT ACCESSORIES

Battery temperature sensor  
Filtering of 5<sup>th</sup> and 11<sup>th</sup> harmonics (HC)  
Isolation transformer  
Synchronisation device (UGS)

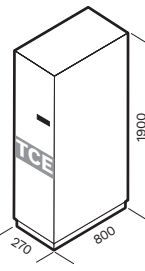
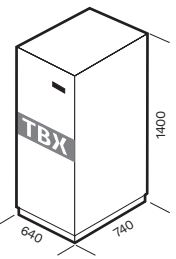
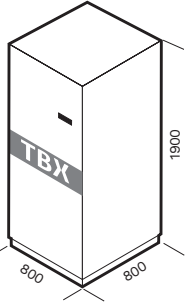
Battery cabinets empty or for extended runtimes  
Battery temperature sensor  
Top Cable Entry cabinets  
IP rating IP31/IP42

## BATTERY CABINET

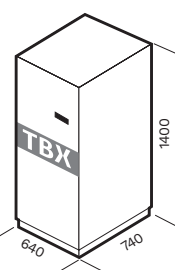
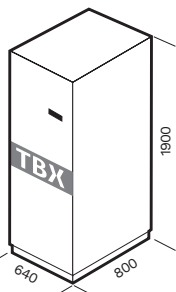
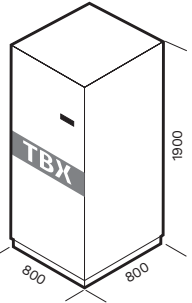
MODELS	BB 1400 384-B1	BB 1400 384-B2 / BB 1400 384-B3 BB 1400 384-B4	BB 1900 396-L6 / BB 1900 396-L7 BB 1900 396-L8 / BB 1900 396-L9
UPS MODELS	MPT 10-60 / MPM 10-60	MPT 10-80 / MPM 10-80	MPT 100-200 / MPM 100
Dimensions [mm]			

## CABINETS WITH TOP ACCESS FOR CABLES

## SINGLE-PHASE ISOLATION TRANSFORMERS

MODELS	TCE MPT 100-200	MODELS	TBX 10 M - TBX 80 M	TBX 100 M
UPS MODELS	MPT 100-200 / MPM 100	UPS MODELS	MPM 10-80	MPM 100
Dimensions [mm]		Dimensions [mm]		

## THREE-PHASE ISOLATION TRANSFORMERS

MODELS	TBX 10 T - TBX 80 T	TBX 100 T - TBX 160 T	TBX 200 T
UPS MODELS	MPT 10-80 / MPM 10-80	MPT 100-160 / MPM 100	MPT 200
Dimensions [mm]			

MODELS	MPM 10 <sup>BAT</sup>	MPM 15 <sup>BAT</sup>	MPM 20 <sup>BAT</sup>	MPM 30	MPM 40	MPM 60	MPM 80	MPM 100	
<b>INPUT</b>									
Rated voltage [V]	380 / 400 / 415 three-phase								
Voltage tolerance [V]	400 +20% -25% @ full load <sup>1</sup>								
Frequency [Hz]	45 - 65								
Soft start	0 - 100% in 120 sec. (selectable)								
Permitted frequency tolerance	±2% (selectable from ±1% to ±5% from front panel)								
Standard equipment provided	Back Feed protection; separable bypass line								
<b>BYPASS</b>									
Rated voltage [V]	220 / 230 / 240 single-phase + N								
Rated frequency [Hz]	50 or 60 (selectable)								
<b>OUTPUT</b>									
Nominal power [kVA]	10	15	20	30	40	60	80	100	
Active power [kW]	9	13.5	18	27	36	54	72	90	
Number of phases	1								
Rated voltage [V]	220 / 230 / 240 single-phase + N (selectable)								
Static stability	±1%								
Dynamic stability	±5% in 10 msec.								
Voltage distortion	<1% with linear load / <3% with non-linear load								
Crest factor [I <sub>peak</sub> /I <sub>rms</sub> ]	3:1								
Frequency stability on battery	0.05%								
Frequency [Hz]	50 or 60 (selectable)								
Overload	110% for 60 min.; 125% for 10 min.; 150% for 1 min.								
<b>BATTERIES</b>									
Type	VRLA AGM / GEL; NiCd; Supercaps; Li-ion; Flywheels								
Residual ripple voltage	<1%								
Recharge voltage compensation	-0.11% x V x °C								
Typical charge current	0.2 x C10								
<b>OVERALL SPECIFICATIONS</b>									
Weight without batteries [kg]	200	220	230	255	302	416	616	665	
Dimensions (WxDxH) [mm]	555x740x1400					800x740x1400		800x800x1900	
Remote signals	dry contacts								
Remote controls	ESD and bypass								
Communications	Double RS232 + dry contacts + 2 slots for communications interface								
Ambient temperature for the UPS	0 °C - +40 °C								
Recommended temperature for battery life	+20 °C - +25 °C								
Range of relative humidity	5-95% non-condensing								
Colour	Dark grey RAL 7016								
Noise level at 1 m (ECO Mode) [dBA]	60				62				
IP rating	IP20								
ECO Mode efficiency	up to 98%								
Standards	European directives: L V 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								
Classification in accordance with IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111								
Moving the UPS	Pallet jack								

<sup>1</sup> For wider tolerance conditions apply.

<sup>BAT</sup> Also available with internal batteries.

MODELS	MPT 10 <sup>BAT</sup>	MPT 15 <sup>BAT</sup>	MPT 20 <sup>BAT</sup>	MPT 30	MPT 40	MPT 60	MPT 80
<b>INPUT</b>							
Rated voltage [V]	380 / 400 / 415 three-phase						
Voltage tolerance [V]	400 +20% -25% @ full load <sup>1</sup>						
Frequency [Hz]	45 - 65						
Soft start	0 - 100% in 120 sec. (selectable)						
Permitted frequency tolerance	±2% (selectable from ±1% to ±5% from front panel)						
Standard equipment provided	Back Feed protection; separable bypass line						
<b>BYPASS</b>							
Rated voltage [V]	380 / 400 / 415 three-phase + N						
Rated frequency [Hz]	50 or 60 (selectable)						
<b>OUTPUT</b>							
Nominal power [kVA]	10	15	20	30	40	60	80
Active power [kW]	9	13.5	18	27	36	54	72
Number of phases	3 + N						
Rated voltage [V]	380 / 400 / 415 three-phase + N (selectable)						
Static stability	±1%						
Dynamic stability	±5% in 10 msec.						
Voltage distortion	<1% with linear load / <3% with non-linear load						
Crest factor [I <sub>peak</sub> /I <sub>rms</sub> ]	3:1						
Frequency stability on battery	0.05%						
Frequency [Hz]	50 or 60 (selectable)						
Overload	110% for 60 min.; 125% for 10 min.; 150% for 1 min.						
<b>BATTERIES</b>							
Type	VRLA AGM / GEL; NiCd; Supercaps; Li-ion; Flywheels						
Residual ripple voltage	<1%						
Recharge voltage compensation	-0.11% x V x °C						
Typical charge current	0.2 x C10						
<b>OVERALL SPECIFICATIONS</b>							
Weight without batteries [kg]	228	241	256	315	335	460	520
Dimensions (WxDxH) [mm]	555x740x1400					800x740x1400	
Remote signals	dry contacts						
Remote controls	ESD and bypass						
Communications	Double RS232 + dry contacts + 2 slots for communications interface						
Ambient temperature for the UPS	0 °C - +40 °C						
Recommended temperature for battery life	+20 °C - +25 °C						
Range of relative humidity	5-95% non-condensing						
Colour	Dark grey RAL 7016						
Noise level at 1 m (ECO Mode) [dBA]	60				62		
IP rating	IP20						
ECO Mode efficiency	up to 98%						
Standards	European directives: L V 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						
Classification in accordance with EN 62040-3	(Voltage Frequency Independent) VFI - SS - 111						
Moving the UPS	Pallet jack						

<sup>1</sup> For wider tolerance conditions apply.

<sup>BAT</sup> Also available with internal batteries.



MODELS	MPT 100	MPT 120	MPT 160	MPT 200
<b>INPUT</b>				
Rated voltage [V]	380 / 400 / 415 three-phase			
Voltage tolerance [V]	400 +20% -25% @ full load <sup>1</sup>			
Frequency [Hz]	45 - 65			
Soft start	0 - 100% in 120 sec. (selectable)			
Permitted frequency tolerance	±2% (selectable from ±1% to ±5% from front panel)			
Standard equipment provided	Back Feed protection; separable bypass line			
<b>BYPASS</b>				
Rated voltage [V]	380 / 400 / 415 three-phase + N			
Rated frequency [Hz]	50 or 60 (selectable)			
<b>OUTPUT</b>				
Nominal power [kVA]	100	120	160	200
Active power [kW]	90	108	144	180
Number of phases	3 + N			
Rated voltage [V]	380 / 400 / 415 three-phase + N (selectable)			
Static stability	±1%			
Dynamic stability	±5% in 10 msec.			
Voltage distortion	<1% with linear load / <3% with non-linear load			
Crest factor [I <sub>peak</sub> /I <sub>rms</sub> ]	3:1			
Frequency stability on battery	0.05%			
Frequency [Hz]	50 or 60 (selectable)			
Overload	110% for 60 min.; 125% for 10 min.; 150% for 1 min.			
<b>BATTERIES</b>				
Type	VRLA AGM / GEL; NiCd; Supercaps; Li-ion; Flywheels			
Residual ripple voltage	<1%			
Recharge voltage compensation	-0.11% x V x °C			
Typical charge current	0.2 x C10			
<b>OVERALL SPECIFICATIONS</b>				
Weight [kg]	620	640	700	800
Dimensions (WxDxH) [mm]	800x800x1900			
Remote signals	dry contacts			
Remote controls	ESD and bypass			
Communications	Double RS232 + dry contacts + 2 slots for communications interface			
Ambient temperature for the UPS	0 °C - +40 °C			
Recommended temperature for battery life	+20 °C - +25 °C			
Range of relative humidity	5-95% non-condensing			
Colour	Dark grey RAL 7016			
Noise level at 1 m (ECO Mode) [dBA]	65		68	
IP rating	IP20			
ECO Mode efficiency	up to 98%			
Standards	European directives: L V 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			
Classification in accordance with EN 62040-3	(Voltage Frequency Independent) VFI - SS - 111			
Moving the UPS	Pallet jack			

<sup>1</sup> For wider tolerance conditions apply.