riello ups

EMERGENCY

E-MEDICAL

INDUSTRY

DATACENTRE

TRANSPORT

Master MPS

VFI TYPE **ON**LINE

Tower

ECO LEVEL 4

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

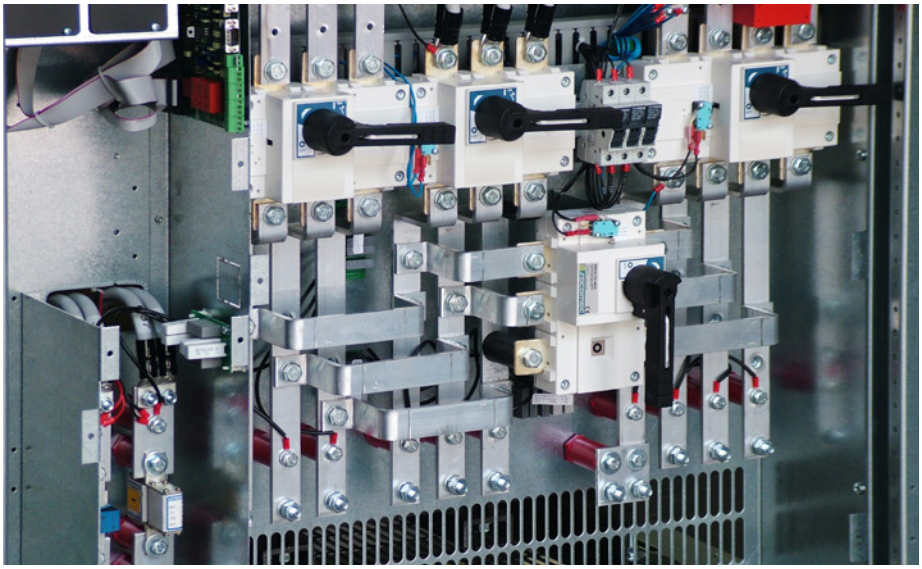
Normally the batteries are kept charged by the rectifier; when mains power fails, the UPS uses this energy source to power the consumers. Proper battery care is therefore critical to ensuring correct UPS operation under emergency conditions. The Riello UPS battery care system consists of a series of 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[3] 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;
- Graphic display panel for remote connection.



Detail of connection area

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.

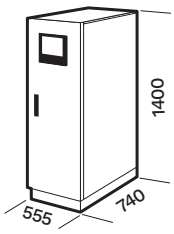
OPTIONS

- **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.

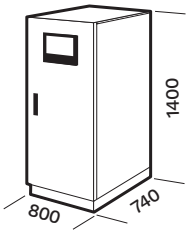
- **Parallel Systems Joiner (PSJ)**
  Allows two groups of UPS to be connected in parallel whilst operating, in the event of maintenance (with no interruption to the output), using a power coupling switch.
  Should one of the UPS in one of the parallel groups fail, it is automatically excluded.
  The PSJ connects the remaining UPS, to the other parallel group via an external bypass, in order to continue to guarantee load redundancy.

DIMENSIONS

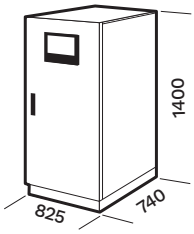
MPM/MPT 10-40



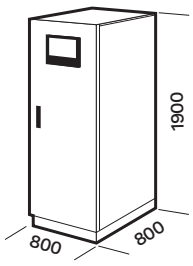
MPM/MPT 60-80



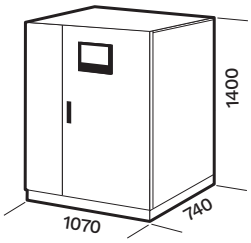
MPM/MPT 10HC-40HC



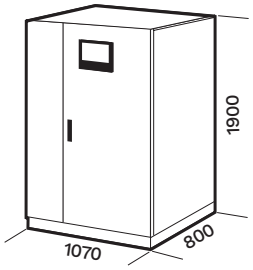
MPM 100 MPT 100-200



MPM/MPT 60HC-80HC MPT 60D-80D MPT 60DHC-80DHC



MPM 100HC MPT 100HC-200HC

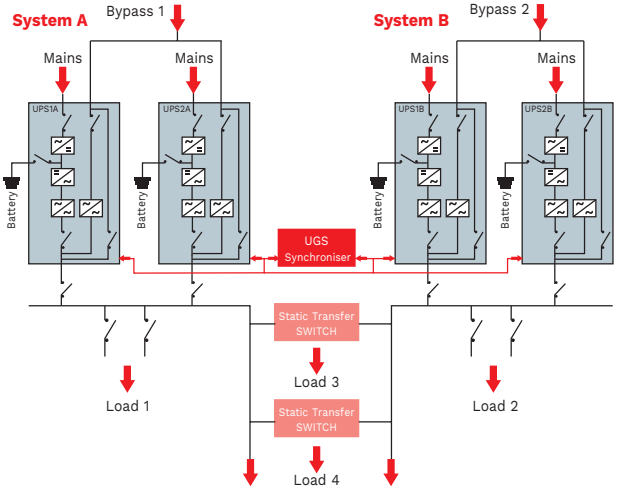


HC= Version with filtering of 5th or 11th harmonics D= Twelve-phase version

DUAL BUS CONFIGURATION

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

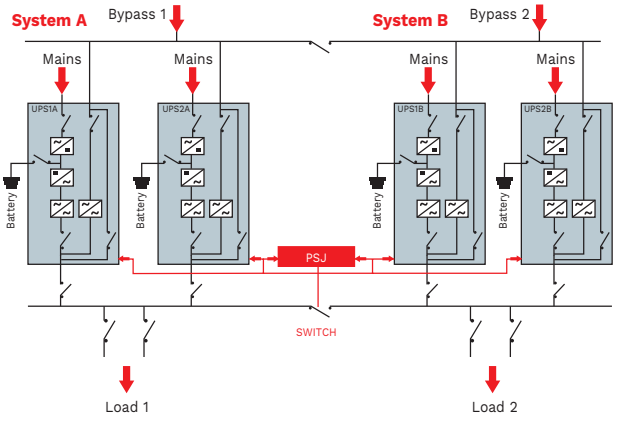
+ Downstream fault discrimination



DYNAMIC BUS CONFIGURATION

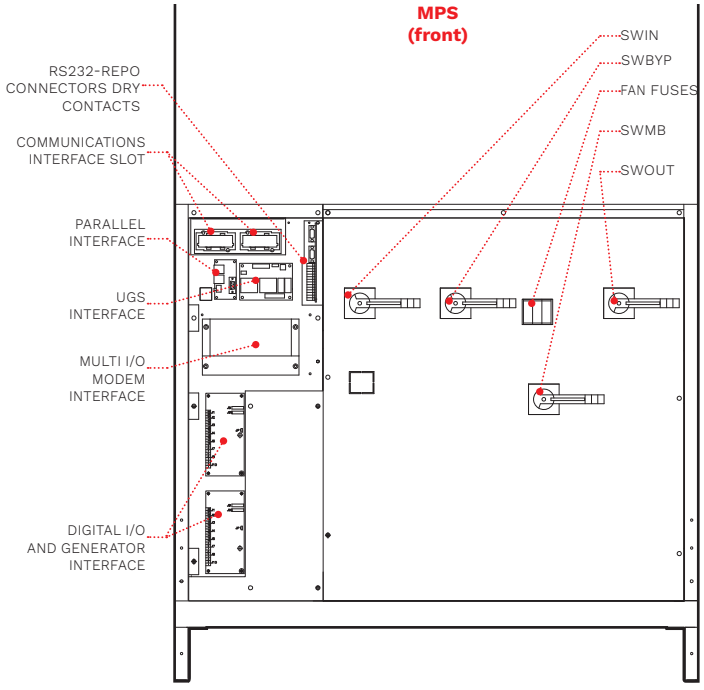
Solution to ensure redundancy of the power supply even during maintenance.

+ High availability and redundancy



MPT 200 open

DETAILS



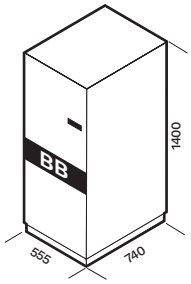
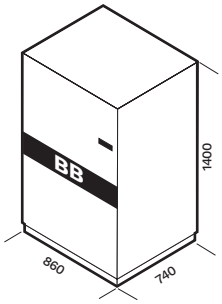
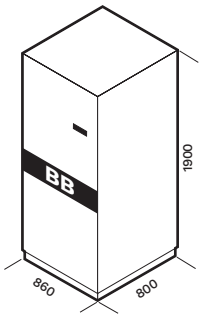
OPTIONS

SOFTWARE
PowerShield[3]
PowerNetGuard

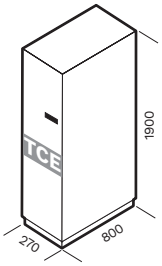
ACCESSORIES
NETMAN 204
MULTICOM 302
MULTICOM 352
MULTICOM 411
MULTI I/O
MULTIPANEL
MBB 100 A

PRODUCT ACCESSORIES
Battery temperature sensor
Filtering of 5th and 11th harmonics (HC)
Isolation transformer
Synchronisation device (UGS)
Hot connection device (PSJ)
Cold Start: to start the UPS from battery without mains
Parallel configuration kit (Closed Loop)
Battery cabinets empty or for extended runtimes
Battery temperature sensor
Top Cable Entry cabinets
IP rating IP31/IP42

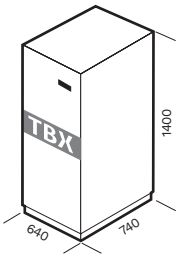
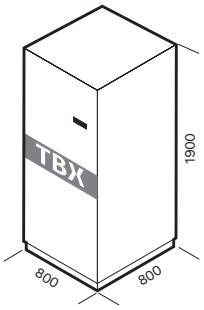
BATTERY CABINET

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]			

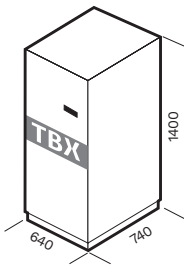
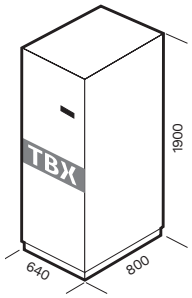
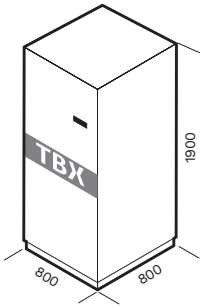
CABINETS WITH TOP ACCESS FOR CABLES

MODELS	TCE MPT 100-200
UPS MODELS	MPT 100-200 / MPM 100
Dimensions [mm]	

SINGLE-PHASE ISOLATION TRANSFORMERS

MODELS	TBX 10 M - TBX 80 M	TBX 100 M
UPS MODELS	MPM 10-80	MPM 100
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 BAT	MPM 15 BAT	MPM 20 BAT	MPM 30	MPM 40	MPM 60	MPM 80	MPM 100
INPUT								
Rated voltage [V]	380 / 400 / 415 three-phase							
Voltage tolerance [V]	400 +20% -25% @ full load[1]							
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							
BYPASS								
Rated voltage [V]	220 / 230 / 240 single-phase + N							
Rated frequency [Hz]	50 or 60 (selectable)							
OUTPUT								
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 [lpeack/lrms]	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.							
BATTERIES								
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							
OVERALL SPECIFICATIONS								
Weight without batteries [kg]	200	220	230	255	302	416	616	665
Dimensions (WxDxH) [mm]	555x740x1400					800x740x1400		800x800 x1900
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 Indioendent) VFI - SS - 111							
Classification in accordance with IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111							
Moving the UPS	Pallet jack							

[1] *For wider tolerance conditions apply.*

BAT *Also available with internal batteries.*

MODELS	MPT 10 [BAT]	MPT 15 [BAT]	MPT 20 [BAT]	MPT 30	MPT 40	MPT 60	MPT 80
INPUT							
Rated voltage [V]	380 / 400 / 415 three-phase						
Voltage tolerance [V]	400 +20% -25% @ full load[1]						
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						
BYPASS							
Rated voltage [V]	380 / 400 / 415 three-phase + N						
Rated frequency [Hz]	50 or 60 (selectable)						
OUTPUT							
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 [lpeack/lrms]	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.						
BATTERIES							
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						
OVERALL SPECIFICATIONS							
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 Indioendent) VFI - SS - 111						
Classification in accordance with EN 62040-3	(Voltage Frequency Independent) VFI - SS - 111						
Moving the UPS	Pallet jack						

[1] *For wider tolerance conditions apply.*

[BAT] *Also available with internal batteries.*

MODELS	MPT 100	MPT 120	MPT 160	MPT 200
INPUT				
Rated voltage [V]	380 / 400 / 415 three-phase			
Voltage tolerance [V]	400 +20% -25% @ full load[1]			
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			
BYPASS				
Rated voltage [V]	380 / 400 / 415 three-phase + N			
Rated frequency [Hz]	50 or 60 (selectable)			
OUTPUT				
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 [lpeack/lrms]	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.			
BATTERIES				
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			
OVERALL SPECIFICATIONS				
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 Indioendent) VFI - SS - 111			
Classification in accordance with EN 62040-3	(Voltage Frequency Independent) VFI - SS - 111			
Moving the UPS	Pallet jack			

[1] *For wider tolerance conditions apply.*

RPS S.p.A.

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