



DATACENTER



E-MEDICAL



INDUSTRY



TRANSPORT



EMERGENCY



ONLINE

Master MPS

3:1 10-100 kVA

3:3 10-800 kVA



SmartGrid ready



Flywheel compatible



Supercaps UPS



Service 1st start



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 800 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 (provided as standard for MPT 800), 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.

Power continuity

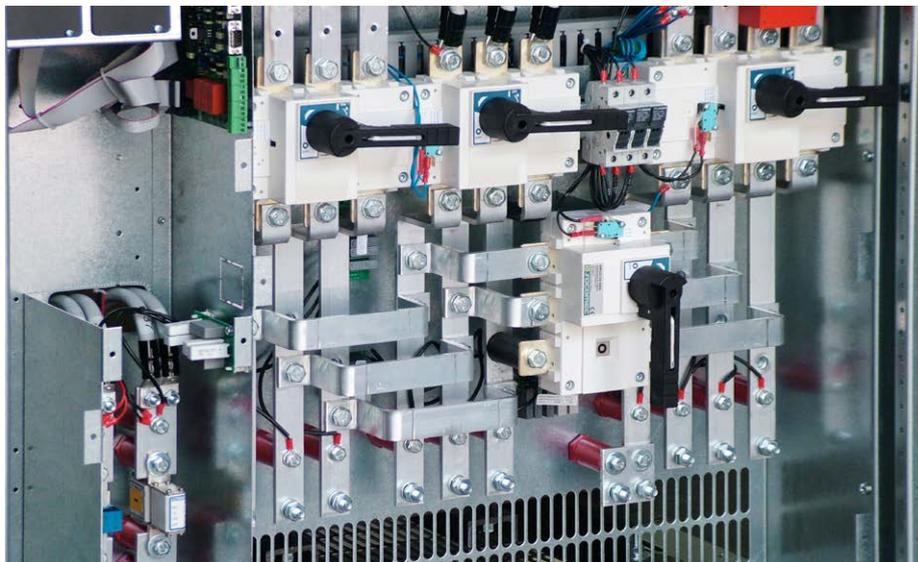
For years, Riello UPS has developed and supplied solutions for dealing with the different requirements and the problems that inevitably arise in critical applications. Riello UPS offers flexible, high-availability, solutions that are able to adapt to different system structures and critical levels. Riello UPS creates UPS systems that can tolerate a number of component or subsystem failures, while continuing to operate normally, providing power without interruption. This is achieved by careful design, installing redundant elements, eliminating common failure points, scheduling maintenance activities and controlling and supervising the system operating parameters and environment. The TEC service team is ready to provide guidance and advice on projects.

Flexibility

Master MPS is suitable for a wide range of applications including IT and the most demanding industrial environments and processes. With several operational configurations including On-Line, Eco, Smart Active, Stand By, Frequency Converter and Voltage Stabiliser. 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 users. Using the Riello UPS Group Synchroniser (UGS) and Parallel Systems Joiner (PSJ), sophisticated inter group parallel and redundant systems can be achieved to provide the highest possible levels of resilience and availability.

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



Detail of connection area

functions designed to optimise battery management and achieve the best performance and operating life possible:

- Dual level charging regime to optimise recharge currents and reduce charge times
- Temperature compensation and deep discharge protection to reduce battery ageing and improve battery life
- Charge blocking system to reduce electrolyte consumption and lengthen the life of VRLA batteries
- Battery tests to diagnose, in advance, any reduction in performance or problems with the batteries.

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

Easy installation

Master MPS requires a very small space for installation (only 0.64 m² for a 200kVA system); in addition, front access allows for the servicing of all major components from the front panel, making side access unnecessary. In addition, front access allows servicing of all major components from the front panel, making side access unnecessary. Master MPS requires minimal space for access, utilising top-cabinet ventilation and front panel access.

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 TeleNetGuard for remote monitoring.

- Advanced multi-platform communications for all operating systems and network environments: PowerShield³ monitoring and shutdown software included, with SNMP agent, for Windows operating systems 8, 7, 2008, Vista, 2003, XP, Linux, Mac OS X, Sun Solaris, Linux, Novell and other Unix operating systems
- The UPS is provided with a cable for direct connection to a PC (Plug and Play)
- Double RS232 serial port
- Communications slot for network adapter installation; ESD contact (Emergency Switching Device) for switching off the UPS by remote emergency button
- Remote display panel with graphic display.

Maximum reliability and availability

- Distributed or centralised parallel configuration of up to 8 units per 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.

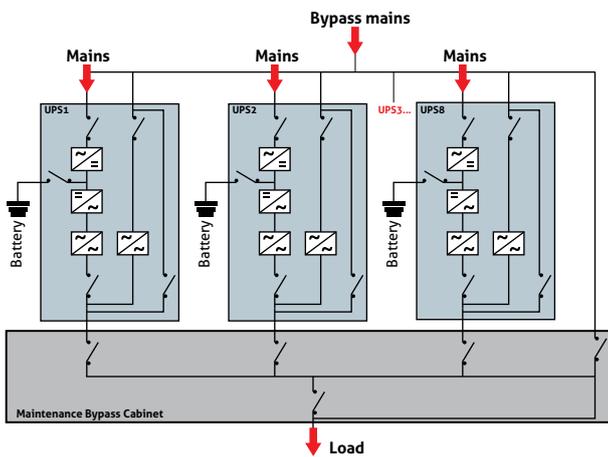
Should one of the UPS in one of the parallel groups fail, it is automatically excluded.

The PSJ connects the remaining UPS, to

the other parallel group via an external bypass, in order to continue to guarantee load redundancy.

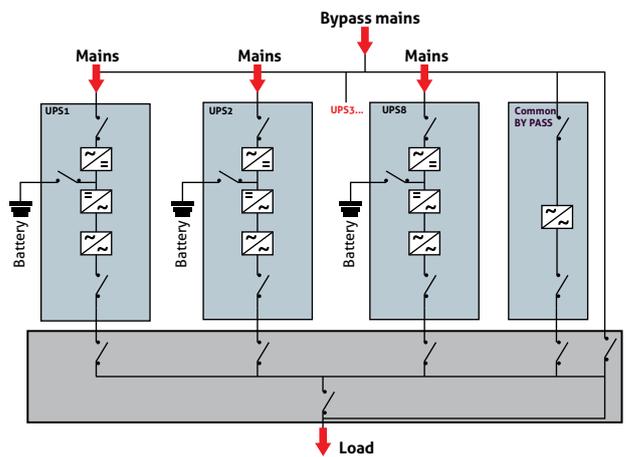
PARALLEL CONFIGURATION OF UP TO 8 UPS UNITS WITH DISTRIBUTED BYPASS

Parallel architecture to ensure redundancy of the power source.
+ Flexibility and modularity and no single point of failure.



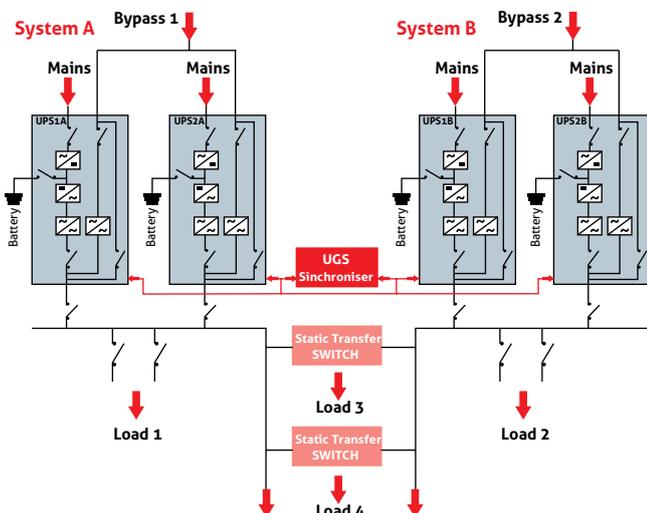
PARALLEL CONFIGURATION OF UP TO 8 UPS UNITS WITH COMMON BYPASS

Parallel architecture to ensure redundancy of the power source, with autonomous bypass management.
+ Selectivity of downstream faults in bypass mode



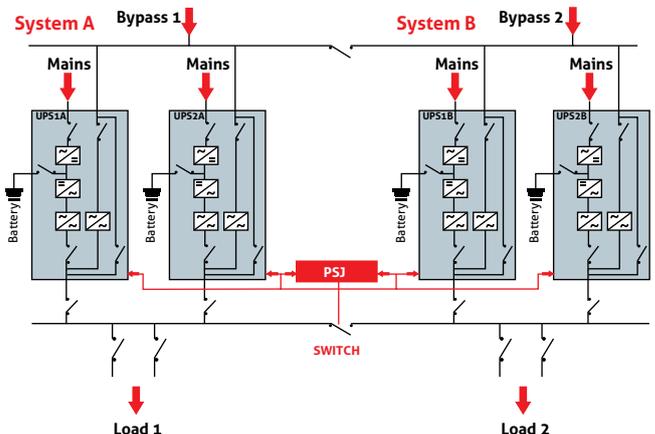
DYNAMIC DUAL BUS CONFIGURATION

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



DUAL BUS SYSTEM CONFIGURATION

Solution to ensure redundancy of the power supply even during maintenance.
+ High availability and redundancy



DIMENSIONS



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

OPTIONS

SOFTWARE

PowerShield³
PowerNetGuard

ACCESSORIES

NETMAN 101 PLUS
NETMAN 102 PLUS
NETMAN 202 PLUS
MULTICOM 301
MULTICOM 302
MULTICOM 351
MULTICOM 352

MULTICOM 401

MULTI I/O
Interface kit AS400
MULTIPANEL
RTG 100
56K Modem
GSM Modem
MBB 100 A

PRODUCT ACCESSORIES

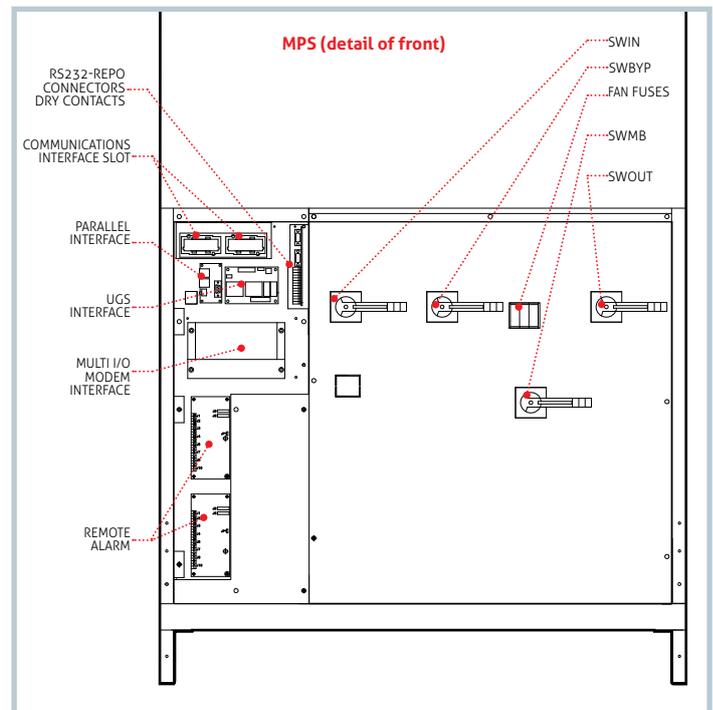
Twelve-phase version (D)
Filtering of 5th and 11th harmonics (HC)

Isolation transformer
Synchronisation device (UGS)
Hot connection device (PSJ)
Generator interface
Parallel configuration kit (Closed Loop)
Battery cabinets empty or for extended runtimes
Top Cable Entry cabinets
IP rating IP31/IP42

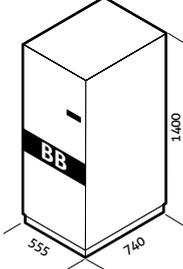
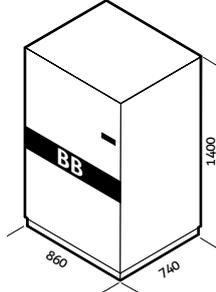
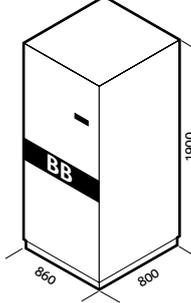
DETAILS



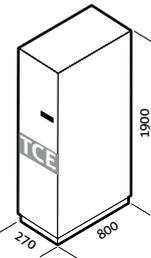
MPT 200 open



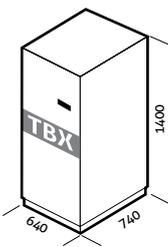
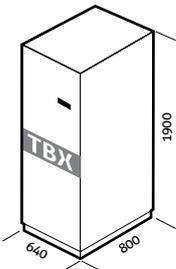
BATTERY BOX

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	BB 1900 480-V6 / BB 1900 480-V7 BB 1900 480-V8 / BB 1900 480-V9
UPS MODELS	MPT 10-60	MPT 10-80	MPT 100-200 / MPM 100	MPT 800
Dimensions (mm)				

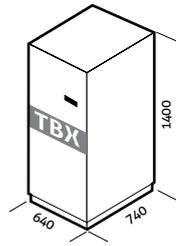
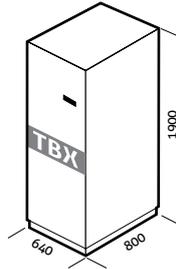
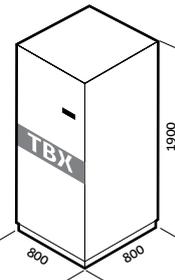
CABINETS WITH TOP ACCESS FOR CABLES

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 - TBX 250 T
UPS MODELS	MPT 10-80	MPT 100-160	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									
Nominal voltage	380 - 400 - 415 Vac three-phase								
Voltage tolerance	400 V + 20% /- 25%								
Frequency	45 - 65 Hz								
Soft start	0 - 100% in 120" (selectable)								
Permitted frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)								
Standard equipment provided	Back Feed protection; separable bypass line								
BYPASS									
Nominal voltage	360-400-420 Vac three-phase + N								
Nominal frequency	50 or 60 Hz (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								
Nominal voltage	220 - 230 - 240 Vac single-phase + N (selectable)								
Static stability	± 1%								
Dynamic stability	± 5% in 10 ms								
Voltage distortion	< 1% with linear load / < 3% with non-linear load								
Crest factor	3:1 Ipeak/Irms								
Frequency stability on battery	0.05%								
Frequency	50 or 60 Hz (selectable)								
Overload	110% for 60'; 125% for 10'; 150% for 1'								
BATTERIES									
Type	VRLA AGM / GEL; NiCd; Supercaps; Li-ion; Flywheels								
Residual ripple voltage	< 1%								
Temperature compensation	-0.5 Vx°C								
Typical charge current	0.2 x C10								
INFO FOR INSTALLATION									
Weight without batteries (kg)	200	220	230	270	302	440	500	580	
Dimensions (WxDxH) (mm)	555 x 740 x 1400					800 x 740 x 1400		800 x 800 x 1900	
Remote signals	dry contacts								
Remote controls	ESD and bypass								
Communications	Double RS232 + dry contacts + 2 slots for communications interface								
Operating temperature	0 °C/ +40 °C								
Relative humidity	<95% non-condensing								
Colour	Dark grey RAL 7016								
Noise level at 1 m	60 dBA				62 dBA				
IP rating	IP20								
Smart Active efficiency	up to 98%								
Standards	Directives LV 2006/95/EC - 2004/108/EC; Safety IEC EN 62040-1; EMC IEC EN 62040-2; Performance IEC EN 62040-3								
Classification in accordance with IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111								
Moving the UPS	transpallet								

^{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							
Nominal voltage	380 - 400 - 415 Vac three-phase						
Voltage tolerance	400 V + 20% / - 25%						
Frequency	45 - 65 Hz						
Soft start	0 - 100% in 120" (selectable)						
Permitted frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)						
Standard equipment provided	Back Feed protection; separable bypass line						
BYPASS							
Nominal voltage	360-400-420 Vac three-phase + N						
Nominal frequency	50 or 60 Hz (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						
Nominal voltage	380 - 400 - 415 Vac three-phase + N (selectable)						
Static stability	± 1%						
Dynamic stability	± 5% in 10 ms						
Voltage distortion	< 1% with linear load / < 3% with non-linear load						
Crest factor	3:1 I _{peak} /I _{rms}						
Frequency stability on battery	0.05%						
Frequency	50 or 60 Hz (selectable)						
Overload	110% for 60'; 125% for 10'; 150% for 1'						
BATTERIES							
Type	VRLA AGM / GEL; NiCd; Supercaps; Li-ion; Flywheels						
Residual ripple voltage	< 1%						
Temperature compensation	-0.5 V/°C						
Typical charge current	0.2 x C10						
INFO FOR INSTALLATION							
Weight without batteries (kg)	228	241	256	315	335	460	540
Dimensions (WxDxH) (mm)	555 x 740 x 1400					800 x 740 x 1400	
Remote signals	dry contacts						
Remote controls	ESD and bypass						
Communications	Double RS232 + dry contacts + 2 slots for communications interface						
Operating temperature	0 °C / +40 °C						
Relative humidity	<95% non-condensing						
Colour	Dark grey RAL 7016						
Noise level at 1 m	60 dBA				62 dBA		
IP rating	IP20						
Smart Active efficiency	up to 98%						
Standards	Directives LV 2006/95/EC - 2004/108/EC; Safety IEC EN 62040-1; EMC IEC EN 62040-2; Performance IEC EN 62040-3						
Classification in accordance with IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111						
Moving the UPS	transpallet						

^{BAT} Also available with internal batteries

MODELS	MPT 100	MPT 120	MPT 160	MPT 200	MPT 800
INPUT					
Nominal voltage	380 - 400 - 415 Vac three-phase				
Voltage tolerance	400 V + 20% / - 25%				
Frequency	45 - 65 Hz				
Soft start	0 - 100% in 120" (selectable)				
Permitted frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)				
Standard equipment provided	Back Feed protection; separable bypass line				
BYPASS					
Nominal voltage	360-400-420 Vac three-phase + N				
Nominal frequency	50 or 60 Hz (selectable)				
OUTPUT					
Nominal power (kVA)	100	120	160	200	800
Active power (kW)	90	108	144	180	640
Number of phases	3 + N				
Nominal voltage	380 - 400 - 415 Vac three-phase + N (selectable)				
Static stability	± 1%				
Dynamic stability	± 5% in 10 ms				
Voltage distortion	< 1% with linear load / < 3% with non-linear load				
Crest factor	3:1 I _{peak} /I _{rms}				
Frequency stability on battery	0.05%				
Frequency	50 or 60 Hz (selectable)				
Overload	110% for 60'; 125% for 10'; 150% for 1'				
BATTERIES					
Type	VRLA AGM / GEL; NiCd; Supercaps; Li-ion; Flywheels				
Residual ripple voltage	< 1%				
Temperature compensation	-0.5 V/°C				
Typical charge current	0.2 x C10				
INFO FOR INSTALLATION					
Weight (kg)	600	610	690	790	5300
Dimensions (WxDxH) (mm)	800 x 800 x 1900				4400 x 1000 x 1900
Remote signals	dry contacts				
Remote controls	ESD and bypass				
Communications	Double RS232 + dry contacts + 2 slots for communications interface				
Operating temperature	0 °C / +40 °C				
Relative humidity	<95% non-condensing				
Colour	Dark grey RAL 7016				
Noise level at 1 m	65 dBA		68 dBA		77 dBA
IP rating	IP20				
Smart Active efficiency	up to 98%				
Standards	Directives LV 2006/95/EC - 2004/108/EC; Safety IEC EN 62040-1; EMC IEC EN 62040-2; Performance IEC EN 62040-3				
Classification in accordance with IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111				
Moving the UPS	transpallet				

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