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Enhanced Power Services Limited

Data Centres | Electro Medical Devices | Industry | Transport | Emergency | VFI TYPE Online

Master HP

three-phase 100-600kVA

Highlights

- IGBT-based rectifier technology
- Compact and reliable
- High efficiency up to 98.5%
- Galvanic isolation
- High overload capacity
- LCD Display

ECO LEVEL | SmartGrid Ready | Flywheel Compatible | Supercaps UPS | Service 1st Start

The Master HP series from 100 to 600 kVA is the Riello UPS solution for installations requiring high energy efficiency and maximum power availability. Master HP Series provides maximum protection and power quality for data centres and industrial loads. The UPS has an IGBT-based rectifier, DSP (Digital Signal Processors) technology and provides true On-line, double conversion power protection, (VFI SS 11 - Voltage and Frequency Independent in accordance with IEC EN 62040-3).

Maximised cost savings

The build specifications offered by theMaster HP range and the exceptional level of efficiency help to absorb the TCO, from the installation stage to daily operation, reducing power costs for the UPS and air conditioning system and installation area costs thanks to its reduced size and weight.

Thanks to the ability to monitor the mains input quality and to select the best operating mode based on the interference present (Smart Active mode) or circular redundancy (Parallel Energy Saving mode, which allows the UPS to regulate available capacity based

on the immediate demands of the load, automatically switching to standby in the event of excess capacity), the Master HP offers high levels of efficiency also for partial loads, resulting in reduced operating costs.

Power continuity

For years, Riello UPS has developed and supplied solutions for dealing with the different requirements and 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.

Complete galvanic isolation

- Master HP UPS feature an output isolation transformer (on the inverter), inside the UPS cabinet, providing galvanic isolation of the load towards the battery and improved versatility in system configuration, allowing:
- Complete galvanic isolation for medical applications and critical infrastructures
- Two truly separate network inputs (main and emergency), coming from two different power sources (with different neutrals); this is particularly well suited to parallel systems in order to ensure selectivity between the two sources, thus improving the reliability of the entire installation;
- Installation in networks without neutral.

Housing the transformer inside the cabinet allows for a significant reduction in the footprint, providing space savings.

Zero impact source

The Master HP series features the added advantages of the Zero Impact Source formula offered by an IGBT-based rectifier assembly. This eliminates problems connected with installation in networks with limited power capacity, where the UPS is supplied by a generator set or anywhere there are compatibility problems with loads that generate current harmonics. Master HP series UPS have zero impact on the power supply source, whether it is a mains grid or generator set:

- input current distortion < 3%
- input power factor 0.99
- power walk-in function that ensures progressive rectifier start up
- start-up delay function, to restart the rectifiers when mains power is restored if there are several UPS in the system.

This provides savings in installation costs via:

- a smaller electrical infrastructure.
- smaller circuit protection devices
- less wiring.

Master HP also performs the role of a filter and power factor corrector, protecting the upstream power supply from any harmonics and reactive power generated by the consumers.

Flexibility

Master HP 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.

Specific solutions

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

Battery care system: maximum battery care

The Master HP range uses the sophisticated Battery Care System, also available on the Master MPS models, which optimises battery performance in order to extend the battery life for as long as possible.

Main features

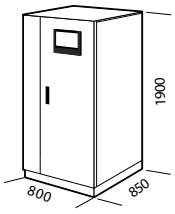
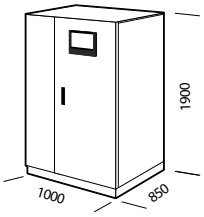
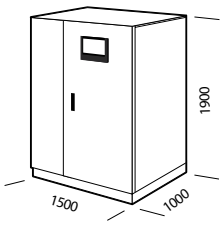
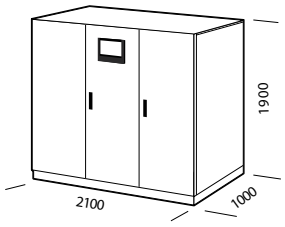
- High efficiency (up to 98.5%)
- Compact size: e.g.: only 0.85 m2 for the Master HP 250 kVA
- Reduced weight
- Double load protection, both electronic and galvanic, towards the battery.

The entire Master HP range is suitable for use in a wide range of applications. Thanks to the flexibility of configuration, available options and accessories, it is suitable for supplying any type of load, e.g. capacitive loads such as blade servers etc. Power supply reliability and availability are ensured for critical applications by distributed or centralised parallel configurations of up to 8 units, for redundant (N+1) or power parallel configurations and all the different configurations offered by the Master MPS range.

Smart Grid Ready

Being smart grid ready, Master HP allows for the implementation of power accumulation solutions, and at the same time ensures extremely high levels of efficiency. It is also able to independently select the most efficient operating method based on the status of the grid. Master HP UPS are also able to electronically interface with the energy manager using the smart grid communication network.

DIMENSIONS

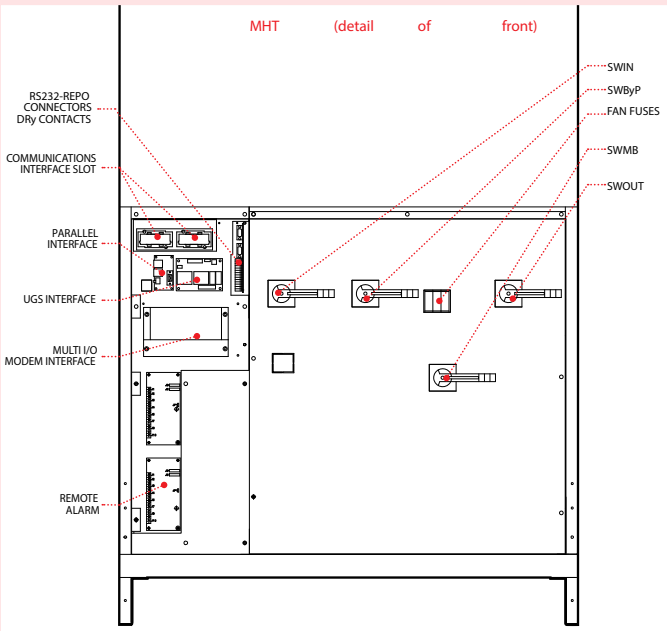
MODELS	MHT 100 MHT 120	MHT 160 MHT 200 MHT 250	MHT 300 MHT 400	MHT 500 MHT 600
Dimensions (mm)				

OPTIONS

SOFTWARE
PowerSheild
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

PRODUCT ACCESSORIES
Isolation transformer
Synchronisation device (UGS); see Master MPS
Hot connection device (PSJ): see Master MPS
Generator interface
Parallel configuration kit (Closed Loop)
Battery cabinets empty for extended runtimes
Top Cable Entry cabinets
IP rating IP31/IP42

DETAILS

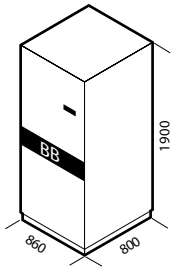


NOTE : The layout of controls and connectors may vary based on the size of the UPS

BATTERY BOX

MODELS	BB 1900 480-V6 / BB 1900 480-V7 BB 1900 480-V8 / BB 1900 480-V9
UPS MODELS	MHT 100-600

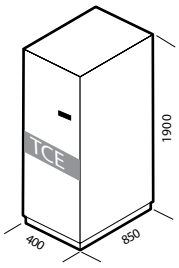
Dimensions (mm)

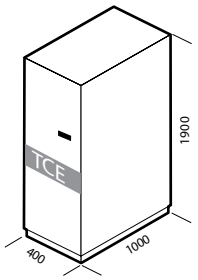


BATTERY BOX

MODELS	TCE MHT 100-250	TCE MHT 300-600
UPS MODELS	MHT 100-250	MHT 300-600

Dimensions (mm)

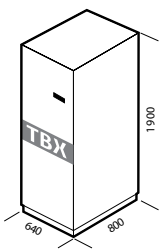


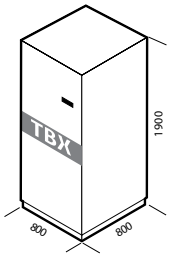


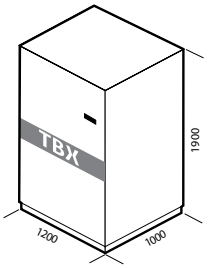
THREE-PHASE ISOLATION TRANSFORMERS

MODELS	TBX 100 T - TBX 160 T	TBX 200 T - TBX 250 T	TBX 300 T - TBX 600 T
UPS MODELS	MPT 100-160 / MHT 100-160	MPT 200 / MHT 200-250	MHT 300-600

Dimensions (mm)







Enhanced Power Services Limited

Master HP UPS

three-phase 100-600kVA

Features

- Complete power range from 10 up to 120 kVA
- Small footprint
- High efficiency up to 96.5%
- Zero impact source
- Advanced communication
- Flexibility of use

UPS Model		MHT 100	MHT 120	MHT 160	MHT 200	MHT 250	MHT 300	MHT 400	MHT 500	MHT 600
Input	Nominal Voltage	380 - 400 - 415 Vac three-phase								
	Nominal Frequency	45 - 65 Hz								
	Power Factor	> 0,99								
	Harmonic Current Distortion	< 3% THDi								
	Soft Start	0 - 100% in 120" (selectable)								
	Frequency Tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)								
	Standard Equipment Provdided	Back Feed protection; seperable bypass line								
Bypass	Nominal voltage	360 - 400 - 420 Vac three-phase + N								
	Nominal frequency	50 or 60 Hz (selectable)								
Output	Nominal voltage (kVA)	100	120	160	200	250	300	400	500	600
	Active power (kW)	90	108	144	180	225	270	360	450	540
	Number of phases	3 + N								
	Nominal voltage (V)	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 Ipeak/Irms								
	Frequency stability on battery	0.05%								
	Frequency	50 or 60Hz (selectable)								
	Overload	110% for 60'; 125% for 10'; 150% for 1'								
Batteries	Type	VRLA AGM / GEL; NiCd; Supercaps; Li-ion; Flywheels								
	Ripple current	Zero								
	Recharge voltage compensation	6 hours								
Info for Installation	Weight (kg)	656	700	800	910	1000	1400	1700	2100	2400
	Dimensions (WxDxH)(mm)	800 x 850 x 1900		1000 x 850 x 1900			1500 x 1000 x 1900		2100 x 1000 x 1900	
	Remote signals	dry contacts (configurable)								
	Remote controls	ESD and bypass (configurable)								
	Communications	Double RS232 _ dry contacts + 2 slots for communications interface								
	Operating temperature	0°C / +40°C								
	Relative humidity	<95% non-condensing								
	Noise level at 1m	63 - 68 dBA				70 - 72 dBA				
	Colour	Dark grey RAL 7016								
	IP rating	IP20 (others on request)								
	Smart Active efficiency	up to 98.5%								
	Standards	Safety: EN 62040-1-1 (Directive 2006/95/EC); EMC: EN 62040-2 (Directive 2004/108/EC)								
	Classification in accordance with IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111								
	Moving the UPS	transpallet								