

ИБП Riello Master HP UL (MHT) - брошюра на продукцию. Юниджет

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# 7 riello ups

## Master Uninterruptible Power Supply











**AUTOMATION** 



**TRANSPORTATION** 









3-Рнаse 65-500 kVA

Uninterrupted **Quality Power** for Mission Critical **Applications** 







SmartGrid







## **HIGHLIGHTS**

- High efficiency
- IGBT-based rectifier technology
- Compact, reliable and
- Galvanic isolation
- High overload capacity

The high levels of quality, reliability and energy savings offered by the Master HP range of UPS, has been extended to include a UL/CSA Listed, 480 Vac 60 Hz version with ratings from 65 kVA to 500 kVA. IT managers, facility managers, and CTOs are under increasing pressure to reduce downtime and assure that their critical loads are supplied with uninterrupted and high quality power. With this increasingly stringent requirement, Riello UPS has invested in power solutions that meet strict demands; a commitment resulting in the launch of the Master HP UL range. More than just an innovative and technologically-advanced UPS, it is a leap

into the future of three-phase technology. With its double conversion on-line technology based entirely on IGBT and digital signal processors (DSP), the Master HP UL range ensures maximum critical load protection, with VFI SS 111 classification (Voltage and Frequency Independent) in accordance with IEC EN 62040-3. This range is designed using a new configuration that includes an IGBT sinusoidal input rectifier. Unique in its design, double conversion technology with galvanic isolated output guarantees a quality power supply that is completely protected from all electrical anomalies at the input.

## Complete galvanic separation

The Master HP UL UPS features an output isolation transformer on the inverter as part of the inverter circuit inside the UPS cabinet, providing galvanic isolation between the load and the battery with improved versatility in system configuration, allowing:

- Complete UPS output galvanic isolation for critical infrastructures from the battery DC power source;
- Two truly separated supply inputs (utility and bypass), which can be taken from two different power sources (with different neutrals); this is particularly well suited for parallel systems in order to ensure selectivity between the two sources, improving the reliability of the entire installation:
- No neutral input connection is required at the UPS rectifier input stage; this method is particularly favorable in order to prevent the transmission of common neutral disturbances via the neutral conductor:
- No effects to the UPS output performance or reduced impact of the inverter power components while supplying specific loads; in addition the inverter transformer minimizes the impact of third harmonic disturbances, prevents the effects of energy back-feed into the inverter when supplying industrial load applications and can supply unbalanced loads.
- High inverter short circuit current to clear faults which occur between phase and neutral on load side (up to three times nominal current).

Output transformer housed within a cabinet which allows for a significant reduction in the footprint and provides space savings.

## Zero impact source

The Master HP UL 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 MHT UL series UPS have zero impact on the power supply source, whether it is a utility 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.

## **Flexibility**

Master HP UL 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 Regulation. 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 site operations.

## Battery care system: maximum battery care

Master HP UL series UPS include a range of features designed to prolong battery life and reduce usage by using different recharging methods; deep discharge protection, current limitation, and voltage compensation based on ambient temperature.

## Main features

- Compact size: e.g.: only 2,330 square inches for the Master HP UL 500 kVA
- Reduced weight for transformer based UPS
- Double load protection, both electronic and galvanic, towards the battery.

The entire Master HP UL range is suitable for use in a wide range of applications. The Master HP can supply any type of load, e.g. servers, controls, lighting, capacitive, switch mode. Power supply reliability and availability are ensured for critical applications by distributed parallel configurations of up to 8 units, for redundant (N+1) or power parallel configurations.

## **Advanced supervision**

The Master HP UPS has a front panel mounted graphic display providing UPS information, measurements, status updates and alarms in multiple languages, with wave form displays including voltage/current and providing a kWh reading that can be used to measure IT loads and calculate a Data Center PUE (power usage effectiveness) ratio.

## **OPTIONS**

## SOFTWARE

PowerShield<sup>3</sup>
PowerNetGuard

## ACCESSORIES

NETMAN 204

Multi I/O (Rely Alarm card and generator Interface)

## PRODUCT ACCESSORIES

Parallel configuration kit (Closed Loop)
Fully configured battery systems with appropriate autonomy

Maintenance Bypass Switchgear for all models

## DIMENSIONS

MHT 65 UL - MHT 80 UL MHT 100 UL - MHT 125 UL

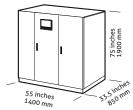
MHT 160 UL - MHT 200 UL MHT 250 UL MHT 160 UL - MHT 200 UL MHT 250 UL





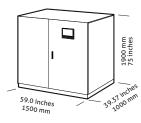


excluding manual bypass

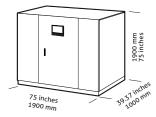


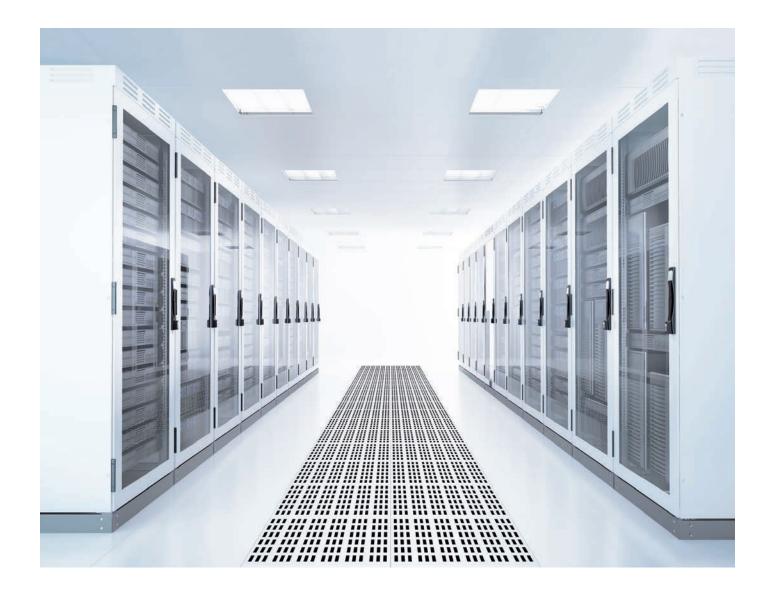
including manual bypass Top Cable Entry cabinets

MHT 300 UL - MHT 400 UL MHT 500 UL



MHT 300 UL TCE MHT 400 UL TCE MHT 500 UL TCE





MODELS	MHT 65 UL	MHT 80 UL	MHT 100 UL	MHT 125 UL	MHT 160 UL				
INPUT									
Nominal voltage			480 Vac three-phase +	N					
Frequency			45 - 65 Hz						
Power factor			> 0.99						
Harmonic current distortion	<3% THDi								
Soft start	0 - 100% in 125" (selectable)								
Frequency tolerance	$\pm$ 2% (selectable from $\pm$ 1% to $\pm$ 5% from front panel)								
Standard equipment provided	Back Feed protection; separable bypass line								
BATTERIES									
Туре	VRLA, Wet Cell, NiCd								
Ripple current	Zero								
Recharge voltage compensation			-0.5 Vx°C						
ОИТРИТ									
Nominal power (kVA)	65	80	100	125	160				
Active power (kW)	58.5	72	90	112.5	144				
Number of phases	3 + N								
Nominal voltage	480 Vac three-phase + N								
Static stability	± 1%								
Dynamic stability	from ± 5% to ± 1% in 20 ms								
Voltage distortion	< 1% with linear load / < 3% with non-linear load								
Crest factor	3:1 lpeack/lrms								
Frequency stability on battery	0.05%								
Frequency	60 Hz								
Overload	110% for 60'; 125% for 10'; 150% for 1'								
INFO FOR INSTALLATION									
Weight (lbs [kg])	1500	[680]	1610 [730]	1742 [790]	1851 [840]				
Weight with TCE and Maintenance bypass (lbs [kg])		-	-	-	2204 [1000]				
Dimensions (WxDxH) (inches [mm])	31.5 x 33.5 x 75 [800 x 850 x 1900] 39 x 33.5 x 75 [1000x850x1900]								
Dimensions with TCE and Maintenance bypass (WxDxH) (inches [mm])	-	-	-	-	55 x 33.5 x 75 [1400x850x1900]				
Remote signals	dry contacts (configurable)								
Remote controls	ESD and bypass (configurable)								
Communications	Double RS232 + dry contacts + 2 slots for communications interface with SNMP, Modbus, and Bacnet Protocols								
Operating temperature	0 °C / +40 °C (32 to 104 °F)								
Relative humidity	<95% non-condensing								
Color	Black								
Noise level at 1 m (ECO Mode)	65 dBA 68 dBA								
IP rating	IP20								
Smart Active efficiency	up to 98.5%								
Standards	UL Standard 1778: 2nd edition from 65 to 125 kVA, 5th edition from 160 to 250 kVA; From 160 to 250 kVA: UL 60950-1 1: Information Technology Equipment - Safety - Part 1: General Requirements National Electrical Code (NFPA-70); FCC Part 15 Subpart J class A – Radio Frequency; IEC 62040-3; UL 924 and OUST category – Emergency Lighting and power equipment								
Classification in accordance with IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111								
	Pallet Jack								

MODELS	MHT 200 UL	MHT 250 UL	MHT 300 UL	MHT 400 UL	MHT 500 UL			
INPUT								
Nominal voltage		4:	80 Vac three-phase +	N				
Frequency			45 - 65 Hz					
Power factor	> 0.99							
Harmonic current distortion			<3% THDi					
Soft start	0 - 100% in 125" (selectable)							
Frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)							
Standard equipment provided	Back Feed protection; separable bypass line							
BATTERIES								
Туре	VRLA, Wet Cell, NiCd on Racks or Cabinet							
Ripple current	Zero							
Recharge voltage compensation	-0.5 Vx°C							
ОUТРUТ								
Nominal power (kVA)	200	250	300	400	500			
Active power (kW)	180	225	300	400	450			
Number of phases	3 + N							
Nominal voltage	480 Vac three-phase + N							
Static stability	± 1%							
Dynamic stability	from ± 5% to ± 1% in 20 ms							
Voltage distortion	< 1% with linear load / < 3% with non-linear load							
Crest factor	3:1 lpeack/lrms							
Frequency stability on battery	0,05%							
Frequency	60 Hz							
Overload	110% for 60'; 125% for 10'; 150% for 1'							
INFO FOR INSTALLATION								
Weight (lbs [kg])	2138 [970]	2247 [1110]	4190 [1900]	4741 [2150]	4741 [2150]			
Weight with TCE and Maintenance bypass (lbs [kg])	2524[1145]	2799 [1270]	4410 [2000] *	4961 [2250] *	4961 [2250] *			
Dimensions (WxDxH) (inches [mm])	39 x 33.5 x 75 [1000 x 850 x 1900] 59 x 39.5 x 75 [1500 x 1000 x 1900]							
Dimensions with TCE and manual bypass (WxDxH) (inches [mm])	55 x 33.5 x 75 [1400 x 850 x 1900] 75 x 39.5 x 75 [1900 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 (32 to 104 °F)							
Relative humidity	<95% non-condensing							
Color	Black							
Noise level at 1 m (ECO Mode)	68 dBA 72 dBA							
IP rating	IP20							
Smart Active efficiency	up to 98.5%							
Standards	UL Standard 17' UL 60950-1 1: Informatio - Safety - Part 1: General Electrical Code (NFPA-70' class A – Radio Frequency; OUST category – Emerge equip	n Technology Equipment Requirements; National I); FCC Part 15 Subpart J IEC 62040-3; UL 924 and ncy Lighting and power	UL Standard 1778: 5th edition; National Electrical Code (NFPA-70); NEMA; CSA C22.2; ASME; FCC section 15 subsection J class A; IEC 62040-3;					
Classification in accordance with IEC 62040-3		(Voltage Freq	uency Independent)	VFI - SS - 111				
Transport	Fork Lift							

<sup>\*</sup> Maintenance Bypass Switch – on option.

37045 LEGNAGO (Verona) Tel +39 0442 635811 www.riello-ups.com riello@riello-ups.com

**CORMANO (MI)** Sales Office

Via Somalia, 20 20032 CORMANO (Milano) Tel +39 02 663271

PRE-SALES SUPPORT

(TEC) tec@riello-ups.com



**AFTER-SALES SUPPORT** (UPService) service@riello-ups.com

## **Worldwide Subsidiary Companies**

USA

RPS America, Inc. 8808 Beckett Rd West Chester, OH 45069

Tel +1-513-282-3777

## **UNITED KINGDOM**

**RIELLO UPS Ltd.** 

Unit 50 Clywedog Road North Wrexham Industrial Estate Wrexham LL13 9XN Tel +44 800 269 394

## **CONSTANT POWER SERVICES Ltd.**

Riello House, Works Road, Letchworth SG6 1AZ Hertfordshire Tel +44 330 1230125

## **GERMANY**

**RIELLO UPS GmbH** 

Wilhelm-Bergner-Str. 9b 21509 Glinde Tel +49 40 / 527 211-0

## **RIELLO POWER SYSTEMS GmbH**

Neufahrner Str. 12b 85375 Neufahrn/Grüneck Tel +49 8165 / 9458-0

## **FRANCE**

RIELLO ONDULEURS S.a.r.l.

2/4 Rue du Bois Chaland. ZAC du Bois Chaland 91090 Lisses Tel +33 1 60 875454

#### **SPAIN**

RIELLO ENERDATA s.l.u.

C/ Labradores, 13 Parque Empresarial Prado del Espino 28660 Boadilla del Monte Tel +34 916 333 000

RIELLO TDL s.l.

C/Berguedà, 6 bis Pol. Ind. Plà de la Bruguera 08211 Castellar del Vallès, Barcelona Tel +34 902 02 66 54

## **ROMANIA**

RIELLO UPS ROMANIA S.r.l.

Str. Varsovia Nr. 4 307160 Dumbravita Timis County - Romania Tel +40 256 214 681

## **POLAND**

RIELLO DELTA POWER Sp. z o.o.

ul. Krasnowolska 82 R 02-849 Warszawa Tel +48 22 379 17 00

## **AUSTRALIA**

RIELLO UPS AUSTRALIA Pty. Ltd.

Unit 22/80 Box Road Taren Point NSW 2229 Tel +61 2 9531 1999

## **ASIA PACIFIC**

RIELLO UPS SINGAPORE Pte Ltd.

No. 506 Chai Chee Lane, #07-01, Singapore 469026 Tel +65 6441 2005

## **CHINA**

Riello UPS (Asia) Co., Ltd.

Bolg2, No.451 Duhui Road, Minhang District-201108 Shanghai Tel +86 21 50464748

## **INDIA**

RIELLO POWER INDIA Pvt. Ltd.

287-288 Udyog Vihar, Phase II 122015 Gurgaon (HR) Tel +91-124-4111999









