

Master HP



ONLINE



Tower



3:3

100-600 kVA



DATACENTRE



E-MEDICAL



INDUSTRY



TRANSPORT



EMERGENCY



SmartGrid ready



Flywheel compatible



Supercaps UPS



Service 1st start



HIGHLIGHTS

- **IGBT-based rectifier technology**
- **Compact and reliable**
- **Galvanic isolation**
- **High overload capacity**
- **LCD graphic display**

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 Master HP has 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 also offers high levels of efficiency 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.

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.

Zero impact source

Master HP has a zero impact on connected power sources - grid networks or generators:

- ≤ 3% input current distortion
- Input power factor 0,99
- power walk-in function - to ensure a progressive rectifier start-up
- start-up delay function - to restart the rectifier when the mains power supply is restored.

Battery care system

Master HP series UPS include a range of features designed to prolong battery life and reduce their usage.

Output isolation transformer

- Better load protection from DC/Battery problems
- The UPS can be supplied from 2 independent lines
- Fault on DC bus will not affect the by-pass availability



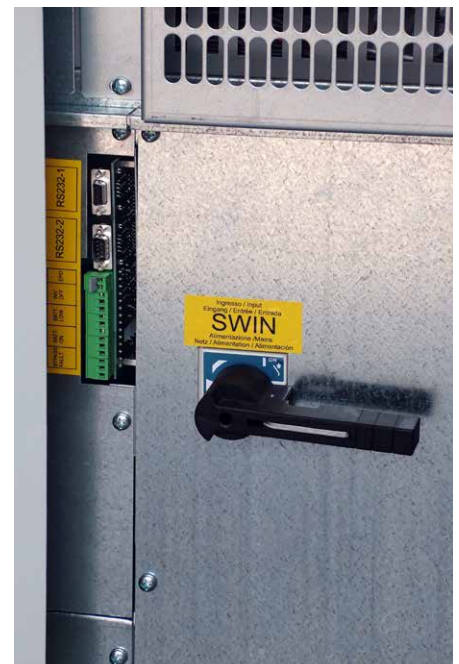
- High Short circuit current
- Higher immunity to harmonics or energy backfeed generated by the load.

Advanced supervision

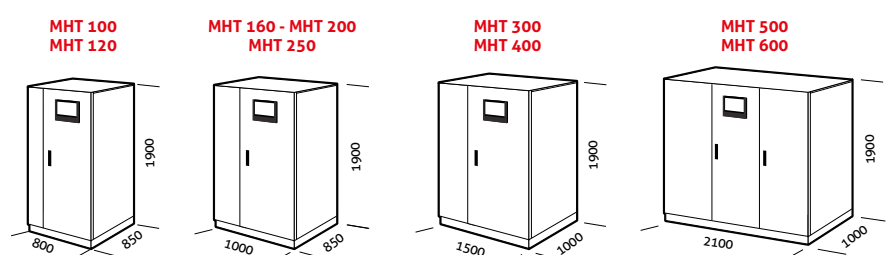
Master HP series UPS have a front panel mounted graphic display providing UPS information, measurements, status updates and alarms in different languages, with wave form displays including voltage/current and providing a kWh reading that can be used to measure IT loads and calculate a datacentre PUE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

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



OPTIONS

SOFTWARE

PowerShield³
PowerNetGuard

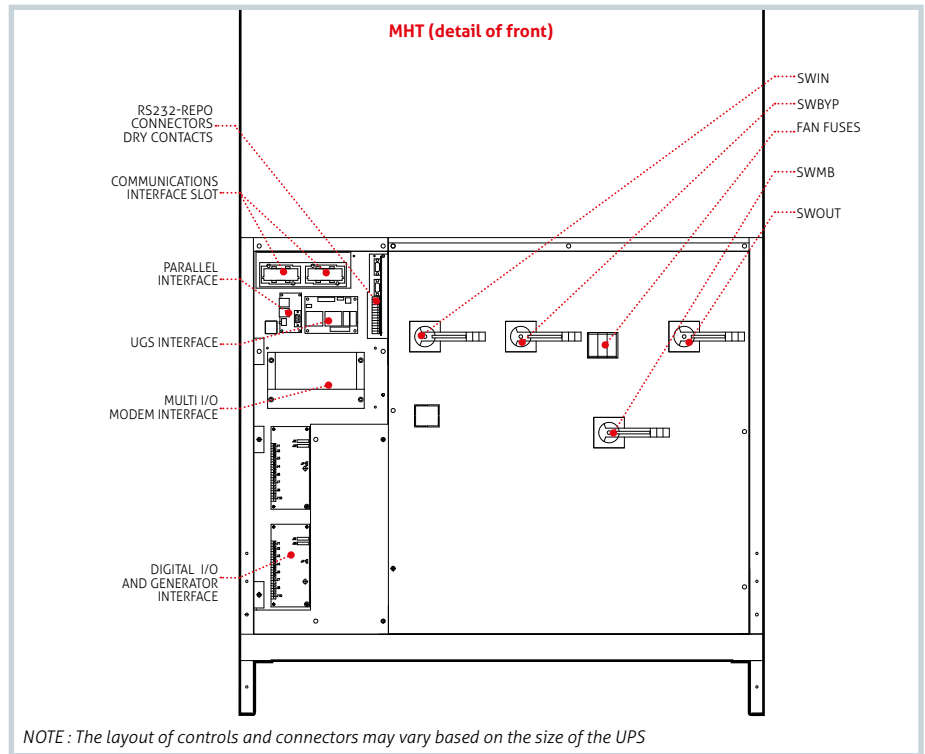
ACCESSORIES

NETMAN 204
MULTICOM 302
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 on page 82
Hot connection device (PSI): *see Master MPS on page 82*
Digital I/O and Generator interface
Parallel configuration kit (Closed Loop)
Battery cabinets empty or for extended runtimes
Top Cable Entry cabinets
IP rating IP31/IP42

DETAILS



BATTERY BOX

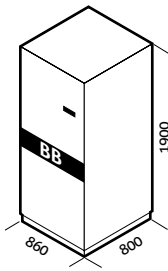
MODELS

BB 1900 480-V6 / BB 1900 480-V7
BB 1900 480-V8 / BB 1900 480-V9

UPS MODELS

MHT 100-600

Dimensions
(mm)



CABINETS WITH TOP ACCESS FOR CABLES

MODELS

TCE MHT 100-250

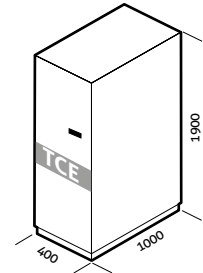
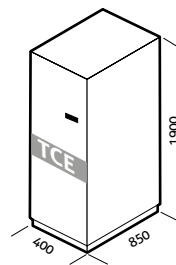
TCE MHT 300-600

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

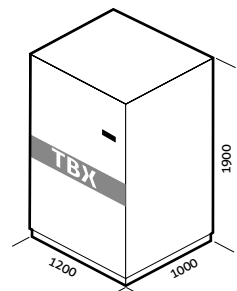
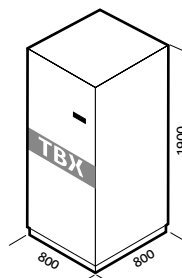
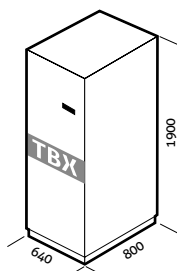
UPS MODELS

MPT 100-160 / MHT 100-160

MPT 200 / MHT 200-250

MHT 300-600

Dimensions
(mm)



| MODELS | 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 | | | | | | | | |
| 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 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 | 250 | 300 | 400 | 500 | 600 |
| Active power (kW) | 90 | 108 | 144 | 180 | 225 | 270 | 360 | 450 | 540 |
| 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 lpeak/lrms | | | | | | | | |
| 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 | | | | | | | | |
| Ripple current | Zero | | | | | | | | |
| Recharge voltage compensation | -0.5 Vx°C | | | | | | | | |
| 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 | <90% non-condensing | | | | | | | | |
| Colour | Dark grey RAL 7016 | | | | | | | | |
| Noise level at 1 m | 63 - 68 dBA | | | | | 70 - 72 dBA | | | |
| 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 | | | | | | | | |