



LOCAL AREA NETWORKS (LAN)



SERVERS



DATA CENTERS



TELECOMMUNICATION DEVICES



E-BUSINESS (Servers Farms, ISP/ASP/POP)



INDUSTRIAL PROCESSES



INDUSTRIAL PLCS



ELECTRO-MEDICAL DEVICES



EMERGENCY DEVICES (Lights/Alarms)

# Master Plus HIP

100-250 kVA  
three-phase/three-phase



Master Plus HIP 100-250 kVA



The new HIP version available in 100 to 250kVA models has been added to the Master Plus series.

Thanks to the double conversion on-line technology achieved entirely with IGBT and DSP (Digital Signal Processor) control, the **Master Plus HIP** series guarantees maximum protection as well as high quality power for any type of IT and industrial load. It is especially suited for

mission critical applications and is classed VFI SS 111 (Voltage and Frequency Independent) in compliance with IEC EN 62040-3 standards. This series has been designed using a new configuration that includes an **IGBT rectifier** with sinusoidal input current in place of the traditional thyristor rectifier.

**The complete range of power solutions**

Uninterruptible Power Supplies, Central Battery Supply Units, Static Transfer Switches, Generators and Inverters



## ZERO IMPACT SOURCE

Master Plus HIP is a further evolution of the Master Plus series with the added advantages offered by an IGBT-based rectifier assembly. This feature further reduces the impact of the UPS on the local supply and simplifies installation where there is limited power capacity in the form of available electrical supply rating or generator size. Master Plus HIP is classed as a 'Zero Impact Source' and provides:

- low input current distortion – less than 2.5%
- high input power factor 0.99
- power walk-in function that ensures progressive rectifier start up
- delayed start up phased with the return of mains power supply, when several UPS are connected in the system.

Master Plus HIP also performs the role of a high performance filter, protecting its upstream power supply sources from any harmonics and reactive power generated by the loads powered.



## BATTERY CARE SYSTEM

Master Plus HIP uses the Battery Care System, also available on the traditional Master Plus models, which optimises battery performance in order to extend the battery life for as long as possible.

Details of the connection



## FLEXIBILITY

Master Plus models (including the HIP versions) feature an output transformer with galvanic isolation (between the load and the battery supply) to provide greater versatility and installation options. The UPS can be supplied from two separate power sources (mains power and a second emergency standby source) which can help increase the resilience of parallel system configurations.

## MAIN CHARACTERISTICS

- Efficiency up to 98 %
- Compact footprint: only 0.85 m<sup>2</sup> for the 250kVA UPS model
- Reduced weight
- Double electronic and galvanic protection of the load from the battery

The entire Master Plus HIP range is suitable for a wide range of applications thanks to the flexibility of the configurations, accessories and options and choice of performance levels: compatible with capacitive loads, such as blade servers, without any reduction in active power, ranging from 0.9 lead to 0.8 lag and up to 0.8 capacitive power with a low derating equal to 15% of the active power (kW). Efficient and reliable power supply for mission critical applications is guaranteed by operating in redundancy and power parallel mode with up to 8 units (N+1), and by the Dual Bus System and Dynamic Dual Bus system configurations.

## OPTIONS

Isolation transformer
Synchroniser device (see Master Plus UGS)
Parallel Systems Joiner device (see Master Plus PSJ)
Interface for generator set
Closed Loop kit (to be ordered with the UPS)
Empty battery cabinets or cabinets for extended runtime (Battery Box modules BB 480 A0) (Master Plus)

MODELS	MP 100-HIP	MP 120-HIP	MP 160-HIP	MP 200-HIP	MP 250-HIP
POWER (kVA)	100	120	160	200	250
<b>INPUT</b>					
Nominal voltage	380 - 400 - 415 Vac three-phase				
Range acceptable without battery intervention	300÷480 Vac				
Frequency	45÷65 Hz				
Power factor	> 0,99				
Current harmonic distortion	<2.5% THDi				
Soft start	0÷100 in 30" (selectable)				
Frequency tolerance	± 2% (selectable between ± 1% a ± 5% from the front panel)				
Standard fittings	Back Feed protection; separable bypass line				
<b>BATTERIES</b>					
Type	Free lead-acid, and VRLA AGM / GEL; NiCd				
Ripple current	Zero				
Recharge voltage compensation	-0.5 Vx°C				
<b>OUTPUT</b>					
Nominal power (kVA)	100	120	160	200	250
Active power (kW)	80	96	128	160	200
Number of phases	3 + N				
Nominal voltage	380 - 400 - 415 Vac 3-phase + N				
Static stability	± 1%				
Dynamic stability	± 5% in 10 ms				
Voltage distortion	< 1% with linear load / < 3% with distorting load				
Peak factor (I <sub>peak</sub> /I <sub>rms</sub> )	3:1				
Frequency stability on battery	0.05%				
Frequency	50 or 60 Hz (selectable)				
Overload	110% for 60'; 125% for 10'; 150% for 1'				
<b>ENVIRONMENTAL</b>					
Weight (kg)	656	700	800	910	1000
Dimensions (lxdxh) (mm)	1900 x 800 x 850		1900 x 1000 x 850		
Remote reports	Voltage-free contacts (configurable)				
Remote commands	EPO and bypass (configurable)				
Communication	Twin RS232 + remote contacts + 2 slots for communication interface				
Environment temperature	0°C ÷ +40°C				
Relative humidity	< 95% non-condensing				
Colour	RAL 7035 light grey				
Noise level	63 ÷ 68 dBA at 1 m				
Index of protection	IP20 (others on request)				
Efficiency Smart Mode	Up to 98%				
Compliance	Safety: EN 62040-1-1 (directive 2006/95/EC); EMC: EN 62040-2 (directive 2004/108/EC)				
Classification according to IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111				



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