



# MASTER PLUS

**100 - 200 kVA**  
**three-phase/three-phase**

**MASTER PLUS**

**INDUSTRY Range**



## EASY SOURCE

Master Plus makes it more efficient and simple to power UPS from generator sets and MV/LV transformers, reducing losses in the system and in the windings, correcting the power factor and eliminating current harmonics also produced by the loads powered by the UPS itself.

In addition to this, progressive start-up of the rectifier and the possibility of reducing the battery recharge current mean that the current absorbed at the input can be contained, so that there is no need to oversize the source, especially when the source is a generator set.

## ABSOLUTE PROTECTION

The Master Plus range UPS guarantee maximum protection and quality of the power supply for any type of load, and in particular for "mission critical" applications, security and electro-medical systems, industrial processes and telecommunications. Master Plus is an on-line, double conversion UPS of class VFI SS 111 in accordance with IEC EN 62040-3 with an inverter-transformer.



### BATTERY CARE SYSTEM: MAXIMUM CARE FOR THE BATTERIES

Normally the accumulator batteries are kept charging by the rectifier; when the mains power line is down, the UPS uses this source of power to supply its loads. Management of the batteries is therefore of vital importance to ensure that the UPS works under emergency conditions. Battery Care System consists of an array of features and functions with which to manage accumulator batteries in order to obtain best performances and prolong operating life:

- Charging on two voltage levels to optimize the recharge current and lower the times needed to restore capacity.
- Compensation of the recharge voltage depending on the temperature and protection against deep discharges, to lower aging phenomena and prolong battery life.
- Charge blocking system to reduce electrolyte consumption and further lengthen life of VRLA batteries.
- Battery test to diagnose in good time a lessening of performance or possible battery failures.

Master Plus is also compatible with different battery technologies: open-vase lead acid and AGM and Gel VRLA, NiCd.

### FLEXIBILITY

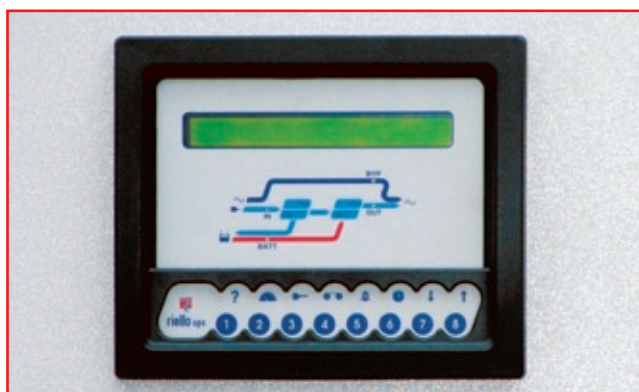
Master Plus is suitable for applications of all types, from IT to the most demanding industrial environments.

Thanks to the broad offer of accessories and options, complex configurations and architectures can be produced, guaranteeing a maximum availability of power supply for the most critical loads: expansions of operating installations in parallel are possible (through redundancy or power), even without having to switch off any already operating UPS and therefore upholding the supply of power to consumers.

UGS and PSJ devices guarantee redundancy including in distribution downstream of the parallel, thus setting up a "selective" system which guarantees that the other loads connected will still be powered even if there are faults on one of the user lines.

### EASE OF INSTALLATION

The space needed for installation of a Master Plus is extremely limited (only 0.64 sq. m. for a 200kVA); in addition to the system's footprint, its real front access means that maintenance can be carried out on all the most important components from the panel front, making the free access presettings on the sides superfluous. In addition, the upward ventilation means that the back of the UPS panel can be put right against the wall, thus cutting down on the space that has to be left free when the ventilation hot air flow exits from the rear.



Mimic panel

### ADVANCED COMMUNICATION

Compatible with TeleGuard for remote maintenance  
Advanced, multi-platform communication, for all operating systems and network environments: **PowerShield<sup>2</sup>** supervision and shut-down software included, with SNMP agent, for Windows 95, 98, NT 4.0, Me, 2000, 2003, XP, Mac OS 9.x, X, Linux, Novell operating systems. The UPS is supplied with a cable for direct connection to the PC (Plug and Play)

RS232 double serial port

Slot for installation of the mains adapter; ESD contact (Emergency Switching Device) for switching off the UPS with a remote emergency switch.

Remote mimic panel (LED or LCD).

### OPTIONS

Isolation transformer module

UPS Group Synchroniser (see UGS page 42)

Hot connection device (see PSJ page 42)

Interface for generator

LED remote status panel

LCD based remote control panel

Closed Loop parallel kit option (to be ordered with the UPS)

Empty battery cabinets for prolonged runtime

MODELS	MP 100	MP 120	MP 160	MP 200
<b>POWER (kVA)</b>	<b>100</b>	<b>120</b>	<b>160</b>	<b>200</b>
<b>INPUT</b>				
Nominal voltage	380 - 400 - 415 Vac three-phase			
Voltage tolerance	400 V ± 20%			
Frequency	45 ÷ 65 Hz			
Power factor	>0.95 in the 12MP HC version			
Current distortion	<3% in the 12MP HC version			
Soft start	0 ÷ 100% in 120" configurable			
Permitted frequency tolerance	± 2% (selectable from ± 1% to ± 5% from the front panel)			
Standard fittings	Back Feed protection; separable bypass line			
<b>BATTERY</b>				
Type	Lead, open vase acid and VRLA AGM / GEL; NiCd			
Residual ripple on voltage	<1%			
Temperature compensation	-0,5 Vx °C			
<b>OUTPUT</b>				
Rated power (kVA)	100	120	160	200
Active power (kW)	80	96	128	160
Number of phases	3 + N			
Nominal voltage	380 - 400 - 415Vac three-phase + N			
Static stability	± 1%			
Dynamic stability	± 5% in 10 msec.			
Voltage distortion with linear load	<1%			
Voltage distortion with distorting load	<3%			
Frequency	50 or 60 Hz configurable			
Waveform	Sinusoidal			
Peak factor	3:1			
Overload	110% for 60'; 125% for 10'; 150% for 1'			
<b>SYSTEM</b>				
Remote reports	Voltage-free contacts			
Remote commands	ESD and bypass			
Communication	double RS232 + remote contacts + 2 communication interface slots			
Performance	Up to 94%			
Dimensions (HxLxD) (mm)	1900x800x800			
Weight (kg)	600	650	750	800
Noise level	63 ÷ 68 dBA a 1 m			
Operating temperature	0 °C / +40 °C			
Relative humidity	<95% non condensing			
Index of protection	IP20			
Colour	RAL 7035			
Standards	Directives EEC 73/23 - 93/68 - 89/336 Safety IEC EN 62040-1; EMC IEC EN 62040-2; Performance IEC EN 62040-3			
Classification as per IEC 62040-3	(Voltage Frequency Independent) VFI - SS - 111			



remote signals safety compliance protection rating	voltage free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)	EN 62040-1	3
<b>OPTIONS</b>			
Double serial port board Multicom 352			yes
JBUS/Modbus communication board Multicom 302			yes
remote control panel communication software			yes
Extended runtime empty battery boxes			yes
runtime empty battery boxes			yes
EPO input (available in the order with the UPS)			yes
CLEAN version			yes
adapter for slot NetMan 102			yes
transformer module			yes
Auxiliary serial connection			yes

OPTIONS