



Personal computers

Small computers network

Local Area Networks (LAN)

Workstations

Servers

EPOS (Electronic Point Of Sales) system

Data Centers

Industrial PLCs

Cash registers

Electro-medical devices

Emergency devices (lights/alarms)

Telecommunication devices

e-Business (Server Farms, ISP/ASP/POP)

Industrial processes

MASTER PLUS Industrial

30 - 80 kVA
three-phase/single-phase

MASTER PLUS Industrial

INDUSTRY Range



INDUSTRIAL ENVIRONMENT

Master Plus Industrial is suitable for severe installation environments where there is vibration, mechanical stresses or dust and, in general, where the operating conditions are not ideal for the products made for the market standard (different IP protection levels on request).

PROTECTION FOR INDUSTRIAL APPLICATION

Master Plus Industrial is an on-line double conversion UPS (VFI SS 111 in accordance with IEC EN 62040-3) with a transformer isolated inverter. Master plus has a compact foot print and high quality output to provide the ultimate power protection for industrial applications: industrial processes, petrochemical, power plant, energy etc.



HIGH Icc

The high short-circuit current ($I_{cc} = 3 I_n$) makes it suitable for loads that require very high current peaks during the switching-on step or during a change of operating arrangements.

220Vdc VOLTAGE

The input transformer and that of the inverter guarantee insulation of the DC side, and therefore of the batteries, which are sized for the 220 Vdc voltage (from 108 to 114 elements), now the widely recognized standard throughout industry.

REDUNDANT VENTILATION

Special care has been given to the 100% redundant ventilation, which guarantees operation at nominal load with half of the fans working; in addition, each fan is controlled in such a way that an alarm signal is emitted in case of a breakdown and/or failure.

MINIMUM IMPACT ON SUPPLIES - EASY SOURCE

Master Plus Industrial technology removes the problems of over sizing upstream power sources, whilst improving load power factors and current harmonics. The UPS features the latest input current absorption techniques including progressive rectifier start-up and the option to reduce battery charging currents. These features make Master Plus Industrial one of the most generator compatible and environmentally friendly UPS available.

BATTERY CARE SYSTEM: MAXIMUM LIFETIME POTENTIAL

Traditionally, when a mains supply is present the UPS charges its batteries. Battery power is used for the inverter should the input supply fail. Efficient battery management and care is therefore essential to the overall performance of the UPS in an emergency. The Master Plus Industrial Battery Care System consists of a range of features designed to provide optimum performance and enhanced operating life:

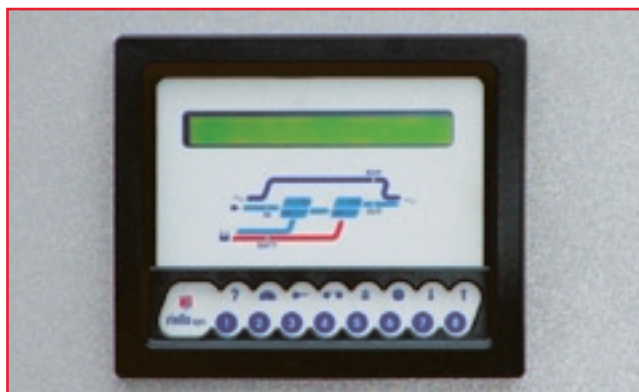
- Dual level charging regime to optimise recharge currents and lower recharge times
- Temperature compensation and deep discharge protection to reduce overall battery aging
- Charge blocking system to reduce electrolyte consumption and lengthen the life of VRLA batteries
- Predictive battery testing to spot potential battery deterioration and failure

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

FLEXIBILITY

Master Plus Industrial is suitable for a wide range of applications including IT and the most demanding industrial environments. With 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 (USG) 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.



Mimic panel

ADVANCED COMMUNICATION

- Compatible with TeleNetGuard for remote maintenance
- Advanced, multi-platform communication, for all operating systems and network environments: **PowerShield²** 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; EPO 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
- Hot connection device
- Interface for generator
- LED remote status panel
- LCD based remote control panel
- Closed Loop parallel kit option (to be ordered with the UPS)
- Different protection IP rating

MODELS	MPI 30	MPI 40	MPI 60	MPI 80
POWER (kVA)	30	40	60	80
INPUT				
Nominal voltage	380 - 400 - 415 Vac three-phase			
Voltage tolerance	400 V ± 20%			
Frequency	45 ÷ 65 Hz			
Power factor	≥0.93			
Current distortion	<5%			
Soft start	0 ÷ 100% in 120" configurable			
Permitted frequency tolerance	± 2% (selectable from ± 1% to ± 5% from the front panel)			
Standard features	Back Feed protection; separable bypass line			
BATTERY				
Number of cells	108 ÷ 114			
Max voltage DC	274 V			
Temperature compensation	-0,5 Vx °C			
OUTPUT				
Rated power (kVA)	30	40	60	80
Active power (kW)	24	32	48	64
Nominal voltage	230Vac			
Static stability	± 1%			
Dynamic stability	± 5%			
Voltage distortion with linear load	<1%			
Voltage distortion with non linear load	<3%			
Frequency	50 or 60 Hz configurable			
Waveform	Sinusoidal			
Peak factor	3:1			
Overload	110% for 60'; 125% for 10'; 150% for 1'			
Short circuit current	3 I nom.			
SYSTEM				
Remote signalling	Voltage-free contacts			
Remote commands	EPO and bypass			
Communication	double RS232 + remote contacts + 2 communication interface slots			
Performance	Up to 94%			
Dimensions (HxLxD) (mm)	1900x800x800		1900x1600x800	
Weight (kg)	850	900	1400	1500
Noise level	63 ÷ 68 dBA a 1 m			
Ventilation	redundant fans			
Operating temperature	0 °C / +40 °C			
Relative humidity	<95% non condensing			
Protection rating	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			