riello ups

DATACENTRE E-MEDICAL

Multi Guard

VFI TYPE
ONLINE

Modular

ECO LEVEL 5

3:3 1-8 x 15 kVA

Service
1st start

HIGHLIGHTS

- **Power flexibility 15-120 kVA**
- **UPS module with hot-swap function**
- **Modular power and runtime**
- **Intelligent battery charging system**
- **High MTBF and low MTTR**

The Multi Guard modular UPS is a scalable three-phase / three-phase uninterruptible power supply system with double conversion technology. Its power capacity ranges from 15kVA to 120kVA, delivering the best combination of reliability, functionality and flexibility.
The Multi Guard N+X parallel architecture adopts a highly intelligent modular design to achieve maximum power availability and redundancy.
It is specially designed to meet the protection demands of mission critical loads in data centres or other important applications.

Each module has an individual power capacity of 15 kVA, and a standard cabinet can be fitted with up to 8 modules to reach 120 kVA. If the load is within permitted limits, modules can be hot-swapped to enable true power continuity without any interruptions.

System features

- Maximum 120kVA capacity in a 19" rack.
- Input power factor >0,99
  THDi <2% and output voltage distortion equal to 1,5%.
- 15 kVA per module with hot-swap function.

- The LCD display on the front panel displays unit status and important information such as input and output nominal values, capacity, temperature and autonomy.
- Communication port for standard Ethernet and relay contact board.
- DSP technology, IGBT input.
- 36 Ampere battery charge current on a 120 kVA system.

Further advantages

- The Multi Guard UPS power modules use the latest DSP microchip technology. This reduces hardware components, increases UPS reliability and also makes it easier to update and maintain the software.
- The UPS operates with load sharing technology. Should any of the UPS modules fail, the load will be taken over by the rest of the modules without interruption. This increases the real time operation and power availability compared to other standby UPS.
- The Multi Guard UPS is designed to connect to external battery banks in order to ensure the required battery run time.

Advanced Modular Design

The Multi Guard system contains UPS modules, a LCD Display module, the PDU and other accessories. Each UPS module is a fully independent 15kVA UPS. Thanks to the advanced wireless parallel control technology and smart communication, the UPS modules and LCD display modules can be easily replaced at any time without affecting UPS operation. The user friendly "plug & play" design simplifies UPS servicing and maintenance.
The Multi Guard de-centralises the control units in each UPS Module. The LCD Display module is for display and communication purposes only. If the LCD Display module fails, the UPS system still functions and supports the load without any interruption.

High capacity MTBF

System MTBF for two modules in parallel is more than 1.000.000 hours and power availability is above 99,999%.
Each 15-120 kVA redundant configuration guarantees correct operation even in the event of the failure of one of the UPS modules. The module replacement procedure only takes 5 minutes for full system recovery.
This solution allows you to:
• Minimise downtime;
• Reduce the number of stored spare parts;
• Avoid the need for specialised technicians

Intelligent recharging system

The Multi Guard UPS system applies a two-step intelligent charging system. The first stage is a constant charging current that can recharge the battery capacity to 90% very quickly. The system then transfers to a constant voltage mode to guarantee the battery can stay fully charged all the time. This intelligent charging system not only reduces the battery recharging time but also extends battery life, saving on battery replacement costs.

Modular Autonomy

The Multi Guard 30 and 60 versions are designed to build up internal run time using a single battery module for all power and autonomy requirements.
The same battery module is also used to build up the required autonomy in an external cabinet.

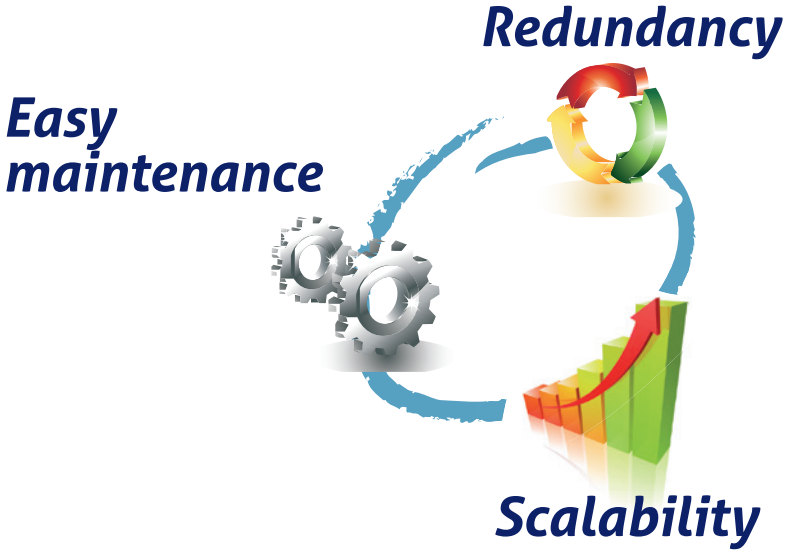
Low total Cost of Ownership (TCO):

– Lower system set-up costs
– Lower energy costs
– Lower cooling costs
– Lower expansion costs
– Lower maintenance costs.

UPS power selection

The Multi Guard can be configured from 1 up to 8 modules in its cabinet to form the most suitable N + X configuration for the application.
Multi Guard grows as your needs grow by simply adding further UPS modules and battery modules to the existing frame. The initial investment is recuperated in cost savings. New power supply requirements can be satisfied without complex and costly replacement operations.

GMT 60 kVA



OPTIONS

PRODUCT ACCESSORIES
Modular battery cabinet (9 shelves, 36 battery modules)
Relay alarm board
Battery cabinets for any autonomy requirements

MULTI GUARD 30

Multi Guard 30 is the entry level to the range. It is the ideal solution for supplying medium-power loads that require one level of redundancy.
The solution is very compact and allows the possibility to expand autonomy up to one and a half hours for a 15 kVA model in a N+1 configuration.
The power rating ranges from 15 kVA to 30 kVA with 1 or 2 UPS modules in a 19'' rack cabinet, which is able to house up to 4 battery shelves.

No. OF POWER MODULES	kVA	Typical autonomy (min)(*)
1	15	90
2	30	42

(*) The autonomy refers to the max. number of installed batteries inside the UPS

MULTI GUARD 60

The Multi Guard 60 system allows you to install from one to four UPS modules (15 kVA to 60 kVA) in a 19" rack cabinet, which is able to house up to 5 battery shelves.
If redundancy is required (N+1 modules) the max. output power will be 45 kVA.

No. OF POWER MODULES	kVA	Typical autonomy (min)(*)
1	15	113
2	30	54
3	45	30
4	60	21

(*) The autonomy refers to the max. number of installed batteries inside the UPS

MULTI GUARD 120

The Multi Guard 120 system allows you to install from one to eight UPS modules (15 kVA to 120 kVA) in a 19" rack cabinet, with batteries housed in an external cabinet. This cabinet houses the same battery modules as those used for the GMT 30/60 versions, up to a maximum of 9 battery shelves.

No. OF POWER MODULES	kVA	Typical autonomy (min)(*)
1	15	217
2	30	103
3	45	65
4	60	49
5	75	36
6	90	30
7	105	22
8	120	10

(*) The autonomy refers to the max. number of installed batteries inside the modular battery cabinet (9 shelves).

MODEL	GMT - from 15 kVA to 120 kVA
INPUT	
Voltage	380-400-415 Vac, three-phase + N
Voltage tolerance	from 294 Vac to 520 Vac
Frequency tolerance	between 40 Hz and 70 Hz
Power factor	>0,99
THDI	< 2%
BYPASS	
Voltage	380-400-415 Vac, three-phase + N
Voltage tolerance	from 323 Vac to 437 Vac
Transfer time from on-line to off-line or vice versa	0 sec
OUTPUT	
Voltage	380-400-415 Vac, three-phase + N (selectable)
Voltage stability	≤ 1,5%
Frequency	50 Hz / 60 Hz
UPS MODULE	
Power	15 kVA / 13,5 kW
Output power	15 kVA x number of modules, up to a maximum of 8
SPECIFICATIONS	
Noise level at 1 m (ECO Mode)	from ≤ 60 dBA to ≤ 62 dBA
Operating temperature	0 °C / +40 °C
Humidity	20% - 90% non-condensing
Storage temperature	-15 °C +55 °C
UPS module weight (kg)	35
UPS module dimensions (WxDxH) (mm)	440 x 700 x 131
GMT 30 cabinet dimensions (WxDxH) (mm)	600 x 1000 x 1500
GMT 60 cabinet dimensions (WxDxH) (mm)	600 x 1000 x 2000
GMT 120 cabinet dimensions (WxDxH) (mm)	600 x 1000 x 2000
Modular battery cabinet dimensions (WxDxH) (mm)	9 battery shelves, 36 battery modules 597x1003x2000
Eco Mode efficiency	up to 99%
Standards	Safety: IEC 62040-1 EMC: IEC 62040-2
Moving the UPS	transpallet

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