



Illustrative photo

The Multi Guard Industrial range was specially developed to ensure power continuity in all sectors deemed critical due to the specific environmental conditions or industrial processes requiring protection.

Multi Guard Industrial is available in a 20 kVA stand alone version and in modular versions from 20 to 160 kVA. The two versions are available in both single-phase and three-phase output configurations. This high level of flexibility allows Multi Guard Industrial to accept both single-phase and three-phase inputs with no need for special set ups or operator intervention, ensuring full compatibility with any power supply network.

### High adaptability to input voltage

Multi Guard Industrial is available in two versions: single-phase and three-phase output, whilst the input stage accepts both a triplet of three-phase supplies out-of phase by 120° (three-phase 400 V+N) or a triplet of power supplies in phase (single-phase 230 V+N). Thanks to its power supply recognition function the UPS is able to adapt to the input power supply with no need for additional configuration, ensuring the same performance under both applied voltage conditions.



USB  
plug



SmartGrid  
ready



Service  
1st start

### Zero impact source

Thanks to the technology it employs, Multi Guard Industrial solves all problems connected with insertion into power supply grids with limited power, where the UPS is supplied by a generator and where the same network includes single-phase (e.g. railway voltage) and three-phase (e.g. emergency power supply from a generator) supplies.

Multi Guard Industrial has zero impact on the power supply source, whether it is a mains grid or generator set, single-phase or three-phase:

- power supply voltage recognition (single/three-phase), with no need for setting up or reconfiguring parameters
- input current distortion < 3%
- input power factor 0.99
- power walk-in function that ensures progressive rectifier start up
- start-up delay function, to restart the rectifiers when mains power is restored if there are several UPS in the system.
- 'cold start' function for starting the UPS from the battery.

In addition, Multi Guard Industrial plays a filtering and power factor correction role in the power network upstream of the UPS as it eliminates harmonic components and reactive power generated by utility suppliers.

### Compatible with industrial environments

The mechanical structure of Multi Guard Industrial makes it particularly versatile for use in many different sectors.

The basic building blocks are 20 kVA UPS.

The cabinet is able to house up to four 20 kVA modules and up to two cabinets can be connected in parallel for a total of eight UPS modules and 160 kVA of power.

The module connection clamps are laid out so that the communication signal connections are segregated and separated from the power connections (input, output, bypass line, battery), thus ensuring complete immunity from interference generated by the power supply grid, which is typically disturbed in industrial environments.

Both versions (single-phase and three phase output) are provided with a bypass line separated from the power supply line. This ensures greater availability in that the customer may have a preferential line for the bypass that is not restricted by the potential interference or interruptions that the UPS power supply line may be subject to.

The UPS module has a front to back air flow, allowing the UPS to be installed in any environment

and preventing the types of ingress problems associated with topvented circulations cabinets.

Every UPS module in the Multi Guard Industrial range can be equipped with a parallel board, a relay board with eight programmable outputs and three inputs (one of which is programmable), and two slots for housing communications interface boards from the MultiCOM range, making the UPS compatible with the various types of protocols and supervision systems typical of the industrial environment.

The cabinet is designed to house up to four UPS modules. It has an area that contains all the protection devices and disconnectors for the individual modules (4 input disconnectors, 4 battery disconnectors, 4 bypass line disconnectors and 4 output disconnectors), as well as a manual bypass for isolating the four modules and guaranteeing power continuity in the event of the complete failure of all the UPS units or in the event of scheduled

conditions typical of industrial environments (dust, humidity, suspended chemical particles).

The removal and replacement of a faulty module or the addition into the system of a further UPS module to increase available power or redundancy can be carried out easily by the operator responsible for the system.

### Complete flexibility

Multi Guard Industrial is the ideal solution for industrial environments in which the UPS must adapt to the various requirements typical of this application. Aside from the distinction between single-phase and three phase output voltages, the UPS module can be used as a stand-alone unit or in a parallel configuration; by simply adding the parallel configuration board in the slot on the front of the module, the UPS can grow as requirements demand (from 20 to 160 kVA).

Multi Guard Industrial ensures horizontal scalability



Parallel configuration and programmable relay



Harting connectors

system overhaul.

The cabinet is also equipped with an area that can be used for the insertion of a whole range of accessories for monitoring power that the user can request (surge arresters, energy meters, earth discharge detectors, output distribution, release coils, etc), making the solution compact and optimised for any field of use.

### Modular Plug&Play solution

Multi Guard Industrial can be purchased as a single 20 kVA UPS module and installed in any cabinet or mechanical support provided by the user. The power terminals (input, output, battery) are connected by Harting connectors, ensuring simplicity and operating safety during insertion/removal, protection against electrical contacts and immunity from environmental

that minimises the system footprint, the user can thus have power capabilities from 20 to 80 kVA without increasing the footprint. This is particularly advantageous when the system is installed in environments with space limitations (e.g. containers, historic buildings, sites spread out over a territory).

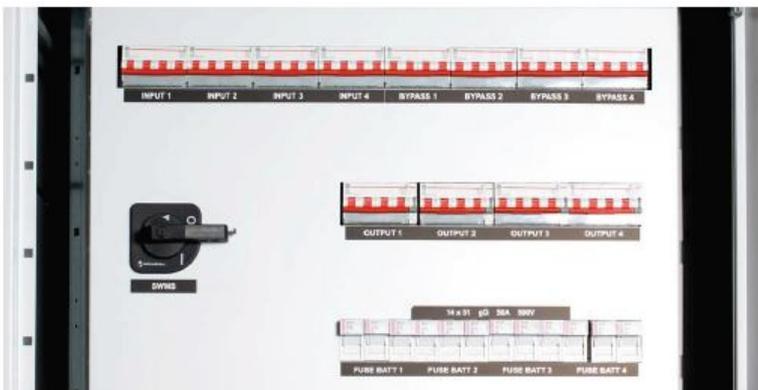
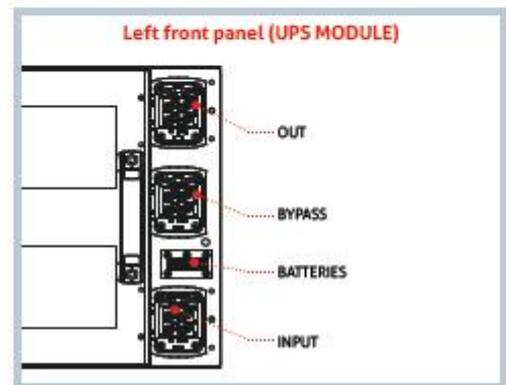
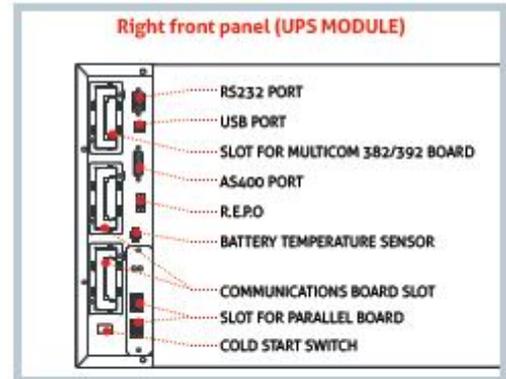
Each UPS is equipped with a graphic display, a programmable relay board slot and two slots for communications interfaces, all situated at the front for quick and organised installation.

Every UPS module in the Multi Guard Industrial range is completely independent with regards to the control and management of the operator interfaces; this facilitates all monitoring, control and fault-detection operations, ensuring increased reliability in that any malfunctions in parts or accessory will not propagate through the entire system. Multi Guard Industrial is a UPS that uses many components also

used in the Multi Sentry range; in particular the display and navigation menus are the same: this allows for rapid and intuitive access to information as well as simplified management of the spare parts in storage.

**Stand-alone version:**

Different from the cabinet version, the stand alone system is supplied with input, bypass line, output and battery connectors with loose cables three metres in length and filter boards that the installation technician must position inside the destination cabinet or near the module.



*Detail of protective devices and disconnectors*



*Illustrative photo*

### Technical specification

Models	GMI single-phase output (GMI M) from 20kVA to 160kVA	GMI three-phase output(GMI T) from 20kVA to 160kVA
<b>Input</b>	GMI single-phase output (GMI M) from 20kVA to 160kVA	GMI three-phase output(GMI T) from 20kVA to 160kVA
Nominal voltage	380-400-415V <sub>AC</sub> 3-ph+N and 220-230-240V <sub>AC</sub> 1-ph+N (input voltage recognition function)	
Voltage tolerance	-40/+20%	
Frequency tolerance	between 40 and 72 Hz	
Power factor	>0,99	
THDI	<3%	
<b>Bypass</b>	GMI single-phase output (GMI M) from 20kVA to 160kVA	GMI three-phase output(GMI T) from 20kVA to 160kVA
Voltage	220-230-240V <sub>AC</sub> 1-ph+N	380-400-415 V <sub>AC</sub> 3-ph+N
Voltage tolerance	180-264V (selectable) referring to neutral phase	
<b>Output</b>	GMI single-phase output (GMI M) from 20kVA to 160kVA	GMI three-phase output(GMI T) from 20kVA to 160kVA
Voltage	220-230-240V <sub>AC</sub> 1-ph+N (selectable)	380-400-415 V <sub>AC</sub> 3-ph+N (selectable)
Voltage stability	≤1%	
Frequency	50/60 Hz	
<b>UPS module</b>	GMI single-phase output (GMI M) from 20kVA to 160kVA	GMI three-phase output(GMI T) from 20kVA to 160kVA
Power	20kVA/18kW	
Output power	20kVA x number of modules, up to a maximum of 8 (max.160kVA)	
<b>Batteries</b>	GMI single-phase output (GMI M) from 20kVA to 160kVA	GMI three-phase output(GMI T) from 20kVA to 160kVA
Layout	independent batteries for each UPS module or shared by the UPS system	
Type	VRLA AGM/GEL	
Recharge time	6 hours	
<b>Other features</b>	GMI single-phase output (GMI M) from 20kVA to 160kVA	GMI three-phase output(GMI T) from 20kVA to 160kVA
Noise level at 1 m	from ≤52dBA to ≤70dBA	
Operating temperature	0°C/+40°C	
Relative humidity	20%-90% non-condensing	
Storage temperature	-15°C+55°C	
UPS module weight	64 kg	
UPS module dimensions (w x d x h)	620 x 745 x 320 mm	
GMI 80 cabinet weight	200 kg (UPS modules excluded)	
GMI 80 dimensions (w x d x h)	850 x 850 x 2060 mm	
Modular battery cabinet dimensions (w x d x h)	9 battery shelves, 36 battery modules 597 x 1003 x 2000 mm	
Eco Mode dimensions	do 99%	
Standards	Safety: IEC EN 62040-1; EMC: IEC 62040-2	
<b>Options</b>		
Software	PowerShield <sup>3</sup> , PowerNetGuard	
Accessories	NETMAN 101 PLUS, NETMAN 102 PLUS, NETMAN 202 PLUS, MULTICOM 301, MULTICOM 302, MULTICOM 351, MULTICOM 352, MULTICOM 382, MULTICOM 401, MULTI I/O, MULTIPANEL, RTG 100, Battery temperature sensor, Powerful battery charger, Programmable relay board MULTICOM 392, IP rating IP31/IP42, Internal batteries, MST range battery cabinets	

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