EN

General Catalogue
2009-2010

UPS

The MetaSystem Group

MetaSystem Group S.p.A. is a Group of Italian companies specialising in the electronics sector, with a particular focus on automotive, telematics, energy, photovoltaic, telecommunications and broadcasting.

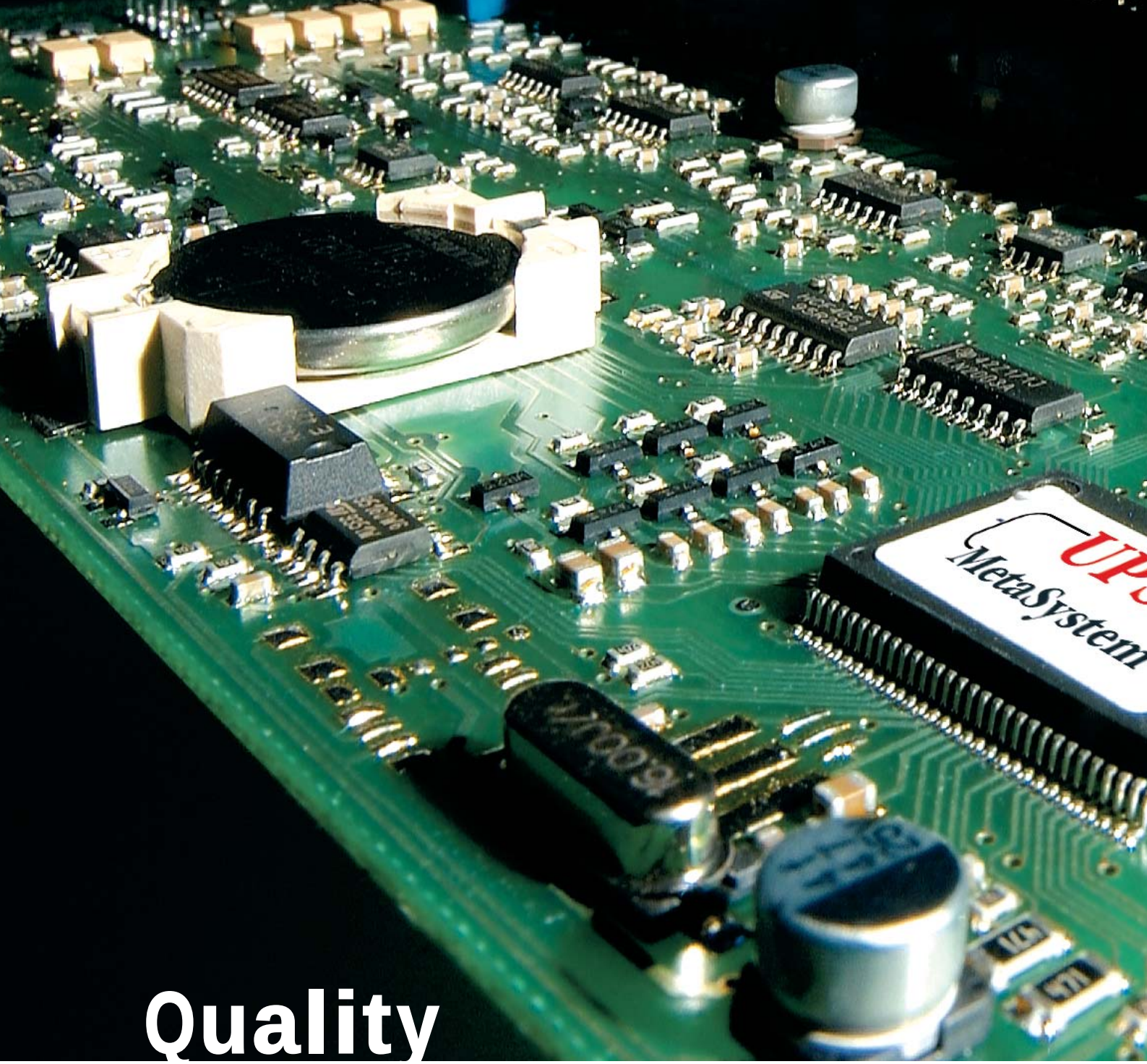
The Group that, from its very beginnings, has made considerable investments in Research and Development for the conception, design and production of innovative fine-tech products and value added services, boasts a high technical competence: from analogical to digital signals, from firmware to integrated software and a specialization in the sectors of high frequency and power. With its consolidated know-how and extensive portfolio of intellectual properties, MetaSystem Group has become a veritable centre of excellence within the electronics industry scene, and has more than 160 active patents at national and international level.

MetaSystem Group creates and chairs each stage of the production chain: from idea to project, right up to the complete processing of the end product; from qualification and homologation to endurance and life testing; from the development of dedicated testing systems to the design and implementation of production and logistic structures.

The Group stands out for the quality of its products and production process and it successfully operates

within standards UNI EN ISO 9001:2000 and ISO/TS 16949:2002. The upgrade to ISO 14001:2004 certification is a guarantee that the Group can combine innovation and high-level production standards with total respect for the environment.

Thanks to the important contribution of its 1.300 employees, 20% of whom is in Research & Development, MetaSystem Group now is a cutting-edge industrial company, with headquarters in Reggio Emilia and subsidiaries and production units in Italy. MetaSystem Group has branches in the main European countries (United Kingdom, France, Spain, Austria and Germany), a new subsidiary in China and a network of distributors and partners operating worldwide.



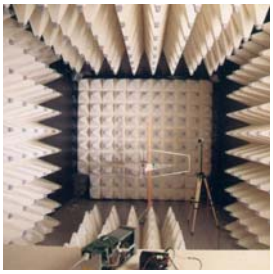
Quality Technology

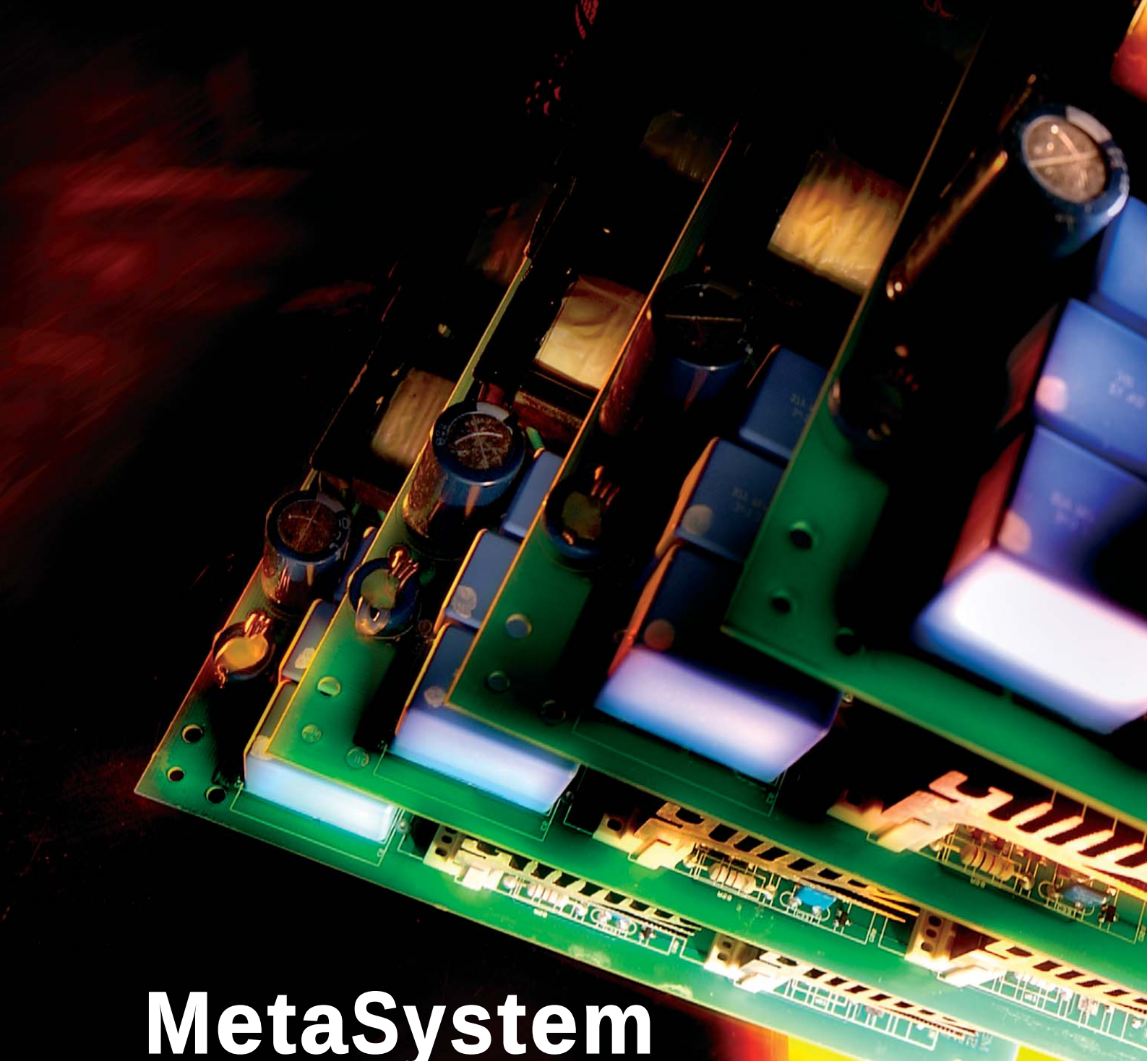
Meta System Spa, founded in 1973 in Reggio Emilia, is the company of MetaSystem Group that specializes in research, development and production of advanced electronic security system for the automotive, motorcycle and energy markets.

Innovation-oriented, the company has constantly invested in Research & Development and has consolidated high technical competences in many electronic sectors, from hardware to software. The Meta System's Research & Development Centre is one of the showpieces of the company's facilities, boasting more than 100 professional technicians and draftsmen and the most advanced instrumentations in Europe, such as its Metrology Lab and the anechoic chamber up to 18 GHZ. The Meta System's Centre guarantees a top level product quality and full commitment to evolving market needs.

The company designs and produces in-house fine-tech, reliable and competitive electronic products and in the energy sector, Meta System leads in the segment of modular and redundant Uninterruptible Power Supplies. In particular, Meta System develops large-scale complete sets of UPS, available in a wide range of powers to

protect equipment of all sizes, from a single PC to an entire Data Centre and able to guarantee value added services for safe installation and maintenance, easily manageable both on-site and remotely. Through the new three phase, modular and redundant product range designed to lower operating costs and reduce environmental footprint while saving energy, Meta System has obtained the recognition for reliability, high performance and technological innovation from the global market.





MetaSystem UPS

Today, the problem of having an uninterrupted supply of reliable electric power is important for any industrial or commercial business.

The widespread use of computerised equipment, telecom and networking systems, as well as the use of increasingly sophisticated automated systems and processes require to prevent any interruption of service.

Even if the distribution of electric power is taken care of by power utility companies employing the very latest technology available, the service is still exposed to interruptions for various lengths of time, in addition to various types of disturbances which, even when not causing the discontinuity of the power supply, still put severe strain on the electronic equipment, reducing their overall reliability and useful life.

Uninterruptible Power Supplies (UPS) are the solution to these issues: placed between the AC mains and the load they are able to safeguard a continuous supply of high quality electric power.

The best technology to guarantee these benefits is known as "Online Double Conversion" or "Voltage Frequency Independent (VFI)", that is used by Meta System even on its low-power products.

The best UPS use this technology to ensure the load is always protected (whether it is operating on AC mains or if there is a power blackout), guaranteeing a perfectly stable and filtered supply of power.

This eliminates any form of stress on the electronic loads, effectively extending their useful life. What's more, MetaSystem UPS employs the very latest technology in power electronics, so they are highly efficient, with the advantage of cutting electricity consumption, and improve performances.
Meta System has a comprehensive range of UPS offering the utmost reliability and quality, meeting any demands and protecting any equipment, ranging from home applications, small businesses and self-employed professionals, up to full-scale industrial applications.

CHOOSING THE RIGHT UPS

In order to select the right UPS according to the customer's needs, it is mandatory to carefully evaluate the application to be protected. Each kind of UPS definitely has specific features , depending on the application it has been designed for.

Knowing the power absorbed by the load is not all.

Even though the UPS has enough power to support the effective load it doesn't mean that's the best choice.

Standard EN 62040-3 defines UPS classification according to the performances.

CLASSIFICATION		
XXX	YY	ZZZ
Output dependence on the Input line	Output wave shape	Dynamic performance on the Output

The first part of the classification defines the type of UPS:

- **VFI (Voltage and Frequency Independent):**

Output Voltage and Frequency are independent from the input ones (from mains). Frequency variations are controlled accordingly with standard IEC EN 61000-2-2.

- **VFD (Voltage and Frequency Dependent):**

The output Voltage and Frequency are the same as the input ones with no corrections.

- **VI (Voltage Independent):**

The output Frequency is the same as the input ones; input Voltage variation are reduced and stabilized by electronic/passive regulating devices.

The second part of the classification code defines the output wave form during normal and battery powered operation:

- **S:** sinewave (THDu < 8%)
- **X:** sinewave with a linear load; no-sinewave with a distorting load (THDu > 8%)
- **Y:** no-sinewave

The third part of the classification code defines the dynamic performance of the output voltage during load variations, in three different conditions:

- variation of the operating modes (normal and battery-powered),
- linear load connection by steps in the normal and battery-powered modes,
- non-linear load connection by steps in the normal and battery-powered modes.

EXAMPLE		
VFI	SS	111
VI	XX	112
VFD	YY	113

DISTRIBUTED ARCHITECTURE

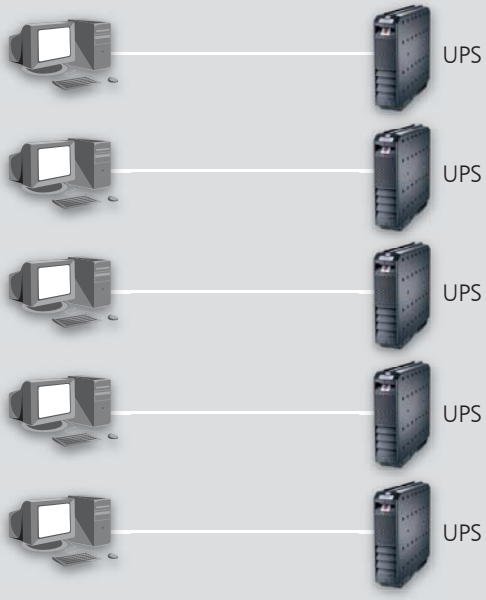
Distributed architecture is used when the application to protect is not particularly critical and when there are logistic problems (e.g.: several rooms, already existing system, etc.).

ADVANTAGES:

- Easy scalability
- Easy installation
- Each individual sub-system is independent

DRAWBACKS:

- Management
- Maintenance
- Electricity consumption



CENTRALIZED ARCHITECTURE

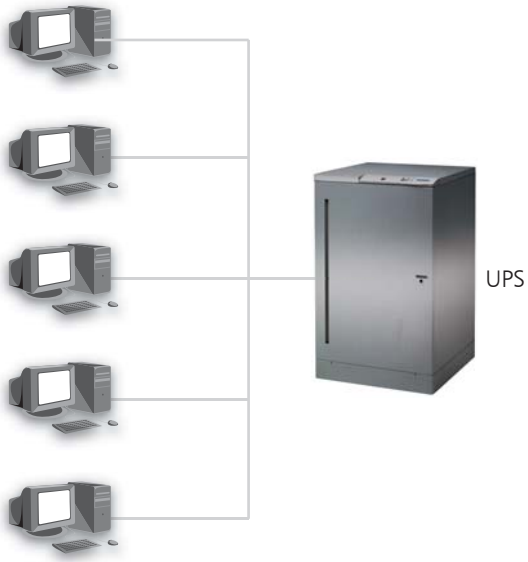
Centralized architecture is preferable to protect the entire structure:

ADVANTAGES:

- The powered devices are monitored by a single system
- Easy maintenance

DRAWBACKS:

- Single system (no redundancy)
- High cost and large fooprint in case of expandability



MODULAR REDUNDANT ARCHITECTURE

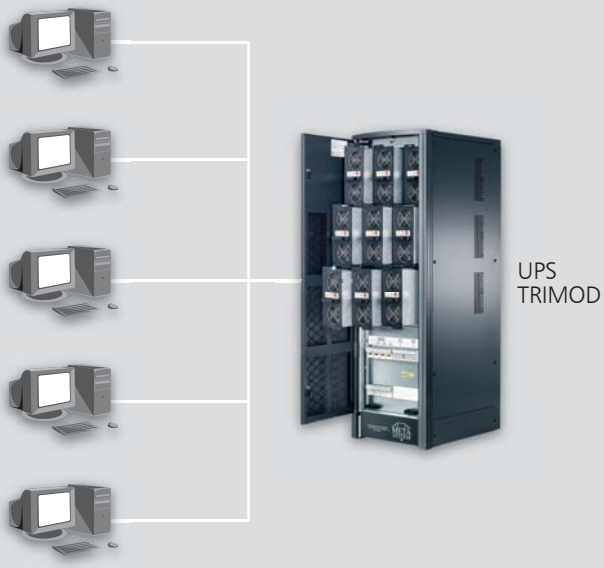
Modular-redundant architecture is the best solution for protecting the critical points of an enterprise:

ADVANTAGES:

- The powered devices are monitored by a single system
- Modular expandability
- Redundant modules
- Easy maintenance
- Low running cost and small footprint

DRAWBACKS:

- The initial cost can be higher than that of a conventional UPS



OPERATING COSTS

The purchase price of a conventional UPS is generally 10-15 percent less than that of an advanced modular system. However, the purchase price is not the only decisive factor if the overall costs are considered. A conventional UPS involves higher operating costs than a system based on modular technology, which is also able to reduce the cost for wasted energy. In the long-term, cost comparison tips the scales in favour of modular technology because, even though the purchase price is higher, it is already paid back during the first years of use.

TRANSPORTATION COSTS

A conventional UPS generally includes an output transformer, which makes the device two or three times heavier than a new generation UPS. This means that transport costs over 50 percent more. A UPS formed by modules can be easily transported and installed without requiring any special vehicles.

System (30 kVA, n+1)	Weight (Kg)	Volume (m^3)	Transport costs (%)
Conventional UPS	Approx. 900	W x D x H = 2 x (90 x 80 x 190) cm **= 2,75 m^3**	**150%**
TRIMOD	Approx. 465	W x D x H = 2 x (41 x 62 x 134) cm **= 0,68 m^3**	**100%**

INSTALLATION AND POWER (IN kVA) COSTS PER FOOTPRINT

The conventional UPS needs an area (calculated in m^2) that's two or three times larger than an advanced modular system like TRIMOD.

System (30 kVA, n+1)	Footprint	kVA / m^2	Installation costs (%)
Conventional UPS	W x D: 2 x (90 x 80) cm 1,44 m^2	60 kVA / 1,44 m^2 **= 41,6**	**150%**
TRIMOD	W x D: 2 x (41 x 62) cm 0,52 m^2	30 kVA / 0,52 m^2 **= 57**	**100%**

RELIABILITY (REDUNDANCY, AVAILABILITY)

The reliability of a system depends on the mean time between failures (MTBF) and the mean time required to repair (MTTR).

MTBF represents the reliability rate of the system and its components and is expressed in mean operating hours between two faults.

MTTR represents the restoring rate of the system and its components and is expressed in mean operating hours required to restore the system.

Power module redundancy increases the MTBF.

A UPS with modular-redundant architecture can be configured as a power redundant N+X system so that zero downtime is guaranteed even if a module fails.

Complete diagnostics and modular architecture reduce the MTTR.

Precise indications and a large displais allow faults to be immediately identified.

Modular architecture allows the device to be repaired very quickly by simply replacing the faulty module without a downtime and with a very high restoring rate at the very first intervention.

ENERGY COSTS

One 30 kVA Trimod UPS unit	
Load powered	16 kW
Trimod 1 UPS type	24 kW Tot. 24 kW
Redundancy level	N+1
Efficiency of the System	= 0,93
In Power	17,20 kW
Out power	16 kW
Efficiency delta	1,20 kW

	kVA	kWatt
UPS	30	24
Load used	67%	16
	0,93	
UPS Losses kW	1,20	
Total Losses in one year (kWh)	10,550	
UPS Running Cost 1 year €	1,266	
UPS Running Cost 5 year €	6,330	
UPS Running Cost 8 year €	10,128	

Two 20 kVA conventional UPS units	
Load powered	16 kW
UPS 2 UPS type	16 kW Tot. 32 kW
Redundancy level	N+1
Efficiency of the System	= 0,87
In Power	18,39 kW
Out power	16 kW
Efficiency delta	2,39 kW

	kVA	kWatt
UPS	40	32
Load used	50%	16
	0,87	
UPS Losses kW	2,39	
Total Losses in one year (kWh)	20,943	
UPS Running Cost 1 year €	2,513	
UPS Running Cost 5 year €	12,566	
UPS Running Cost 8 year €	20,106	

Savings relating to the in efficiency delta:
1 year = € 1.247
5 years = € 6.236
8 years = € 9.978

Particular attention has been paid with the latest generation static UPS, to both the energy absorbed from mains and the power supplied to the user.
This is because energy waste is mainly caused by the overall efficiency of the system.
Firstly, increasing the efficiency means reducing that part of the power absorbed by the UPS not supplied to the load, but transmitted to the surrounding environment in the form of heat. The choice of a UPS system with over 93% AC/AC efficiency therefore allows energy consumptions to be immediately reduced in a significant way since, besides improving the quality of the environment for both the machines and the people who work there, the lower amount of heat dissipation in the installation site means that there is less need for using ventilation and air conditioning systems.
The majority of the UPS systems available on the market are not modular and cannot be expanded. This means that the system must be oversized at the start so as to allow for future expansions (which may not even be required). It also means that much of the investment in the UPS could go to waste.
Conventional UPS installations in the redundant parallel configuration supply not over then 50% of their power. This means less efficiency than in full load conditions. With TRIMOD modular systems, several power modules are configured in parallel, for instance, three small modules instead of two large stand-alone systems. This configuration is equally redundant, but with the advantage of being more efficient and able to save more energy.

MAINTENANCE COSTS

It is much more expensive and not so fast to mantain a conventional UPS system, with its larger size and higher number of spare parts than a modular one.
The maintenance costs of a modular system can even be as much as 30% less than those of a conventional system since the modules are standardized (one spare module will cover all needs), small and easily replaceable. This speeds up all repairs since the faulty module can just be replaced during the first intervention without even having to interrupt the service.

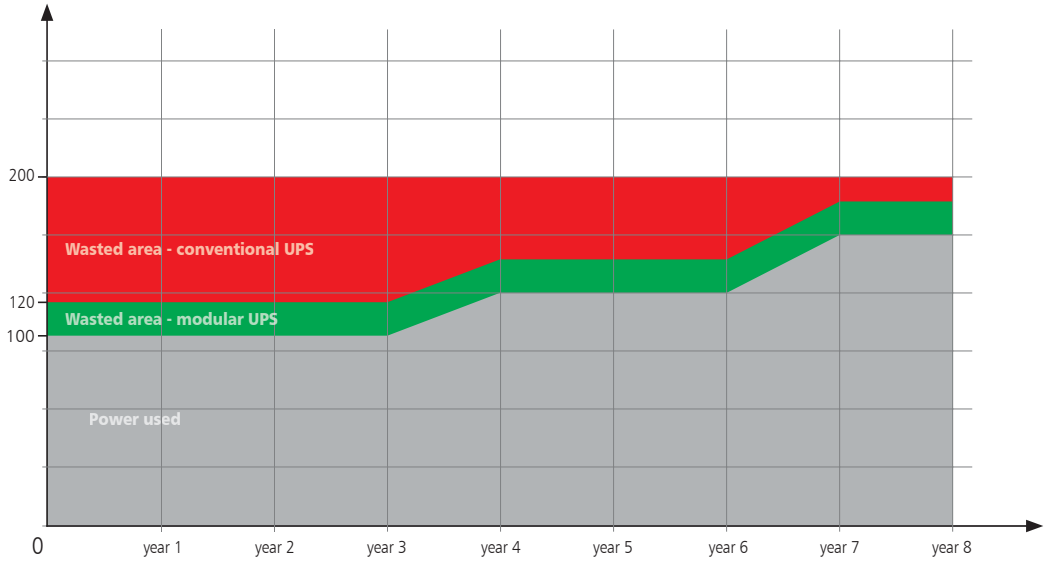
BATTERY MANAGEMENT

The cost of battery management is an important part of the total operating costs. The batteries must always be kept in an efficient condition and must suit the load that's being protected, so as to guarantee the performance of the UPS. TRIMOD UPS are equipped with a Smart Battery Management System improving considerably the life of the batteries, thus reducing the operating costs as well as the disposal of exhaust batteries.

	year 1	year2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	Total
CONVENTIONAL UPS				1,00			1,00			2,00
UPS TRIMOD					1,00					1,00
SAVING										-50%

COST OF SCALABILITY

If a conventional system needs to be expanded, an identical UPS must be installed alongside the existing one. This needs a lot of space as well as modifications to the electrical system and wiring. Moreover, to carry out all this, the old UPS must be turned off. TRIMOD modular systems are scalabled by installing an additional power module without disconnecting the load, with no extra space required and with no further installation costs. This flexible method makes the new generation UPS very simple to upgrade, with only 5-10 percent additional costs.



Example of an oversized static UPS

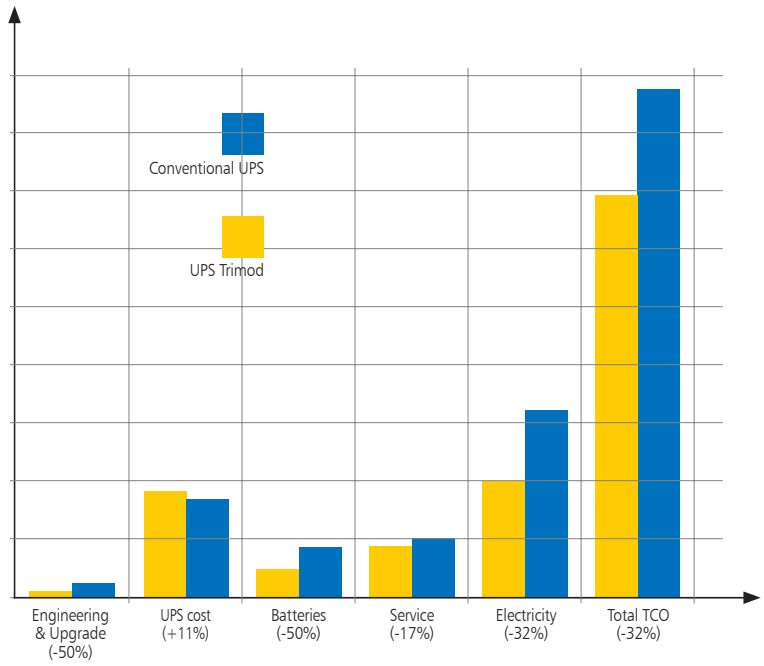
CONCLUSIONS

The primary purpose of a UPS is to protect equipment and sensitive data, often of even greater importance for an enterprise.

A static UPS has a remarkable impact on electricity consumptions. So much so, these can weight heavily on the overall operating costs, up to 33% during the average 8-years life of the UPS itself. This means that it is important to consider the energy quality and energy efficiency when choosing a new UPS so as to achieve a reduction in electricity consumptions, thus the price of the UPS impacts less than 30% of the overall operating costs.

Besides providing top-level performance, the latest generation of static UPS also guarantee lower energy consumption, in order to reduce energy costs and environmental impact.

Modular solutions with "on-demand" architecture such as those produced by Meta System are the ideal choice for business continuity.



Expense and TCO comparison between a conventional UPS and a latest generation UPS

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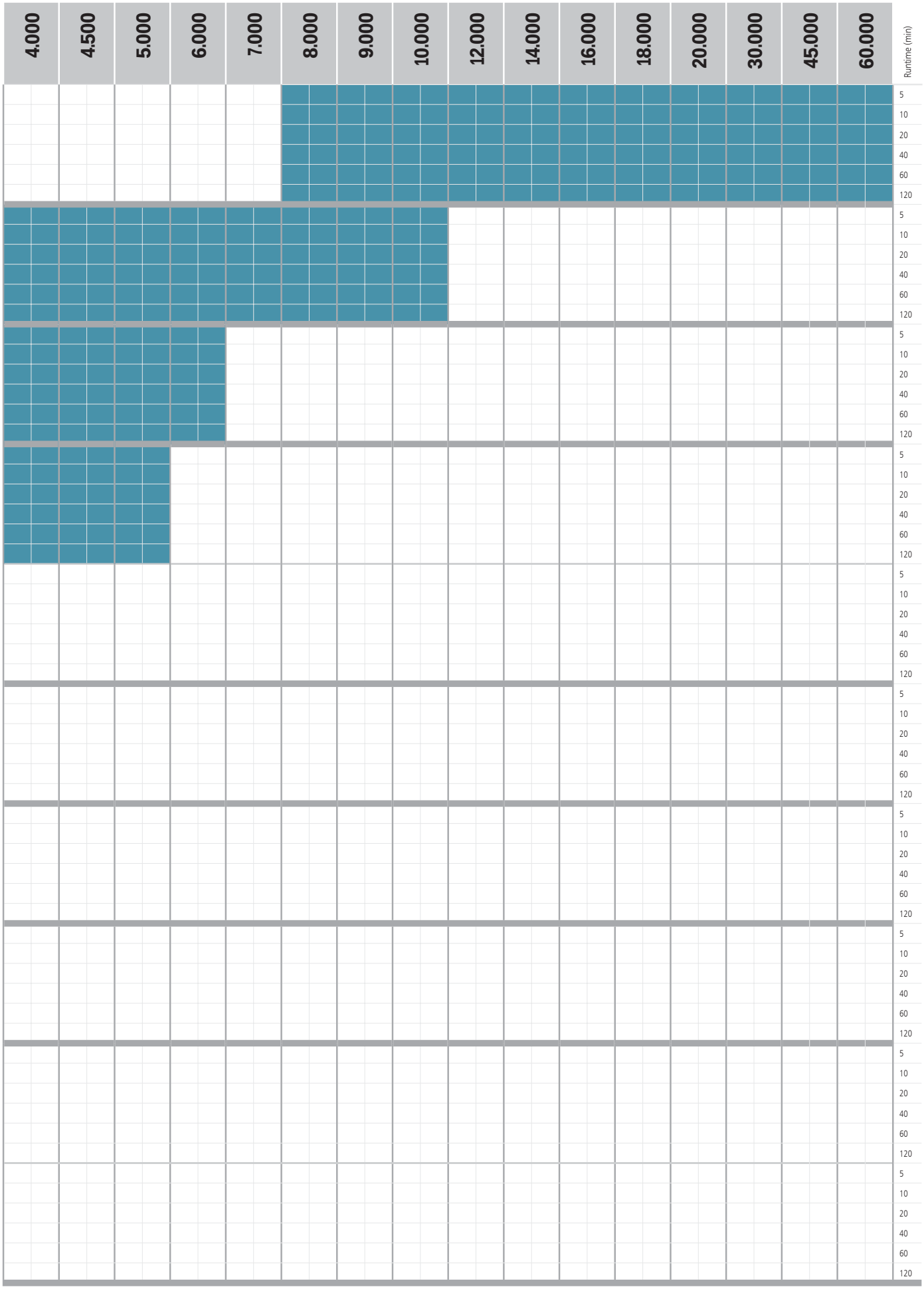
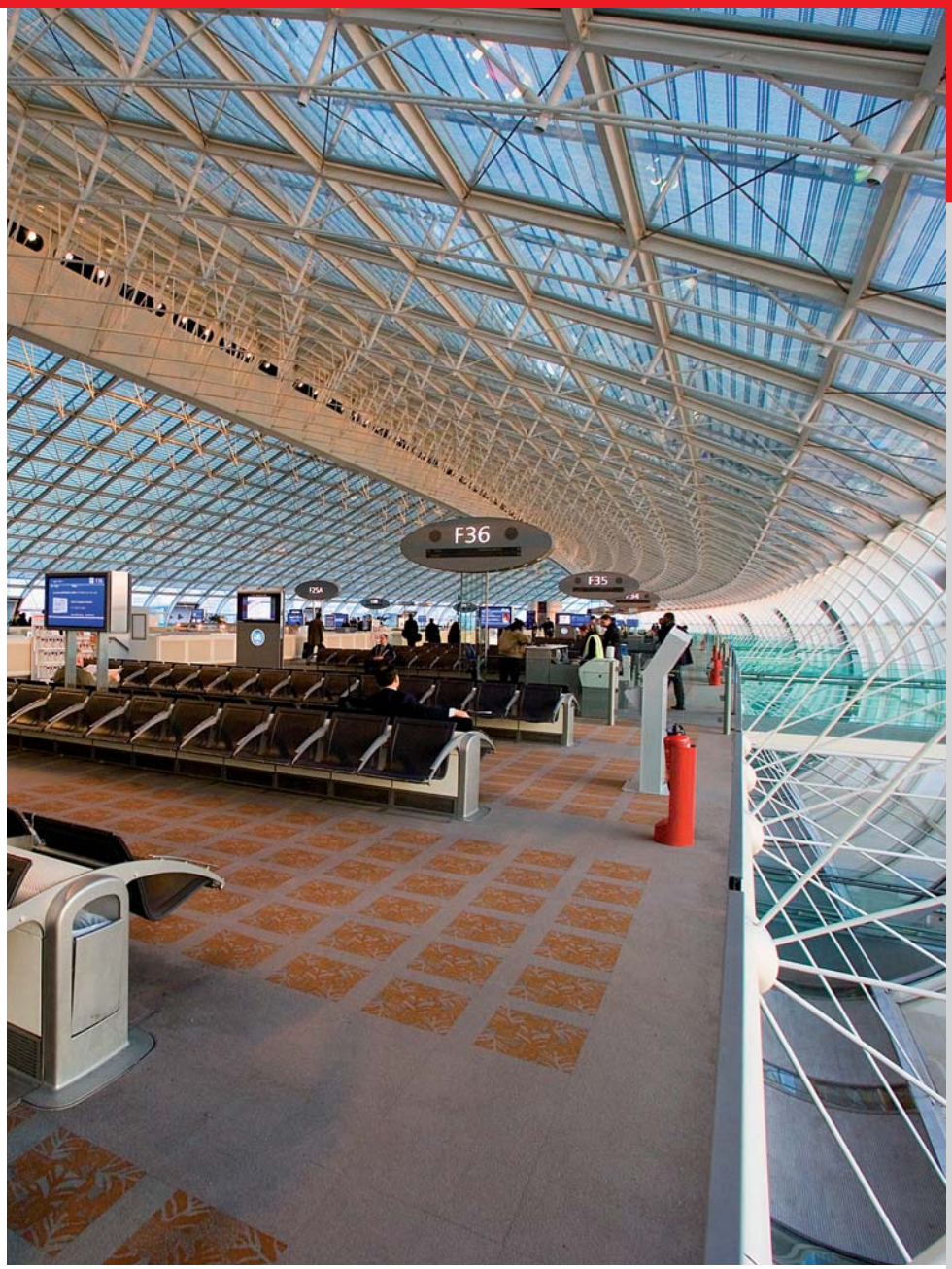
DAKER		LINE INTERACTIVE VI	POWER STATION	RACK LINE VI	RACK LINE VFI		ONLINE VFI	MODULAR ONLINE VFI	MODULAR THREE PHASE VFI	
DK	Niky Plus	Eco Line	DHEA	Power Strip	Whad Rack	MegaLine Rack	Whad	MegaLine	TRIMOD	Power (VA)
										
										600
										700
										800
										1.000
										1.250
										1.500
										1.750
										2.000
										2.250
										2.500
										3.000
										3.500


4.000
4.500
5.000
6.000
7.000
8.000
9.000
10.000
12.000
14.000
16.000
18.000
20.000
30.000
45.000
60.000
Runtime (min)
5
10
20
40
60
120

MODULAR THREE PHASE VFI

The threephase Modular UPS

MetaSystem has developed a ground-breaking and unique project. It's TRIMOD®, the UPS with 8, 10, 16, 20, 30, 45 and 60 kVA power ratings that can adapt to the changing needs of the loads it protects at any time: more power, longer autonomy, redundancy. The concepts on which the TRIMOD® project is based are modularity, expandability, redundancy: concepts which, besides assuring the utmost reliability, also guarantee considerable economic savings. TRIMOD® is a modular UPS whose basic module can be programmed individually so as to obtain the required input/output configuration. This means that three-phase or single-phase voltage system can be handled on the input and output so as to obtain the classic three/three, three/single, single/three and single/single combinations as needed. Moreover TRIMOD® can supply three-phase lines as three independent single-phase lines of even different power ratings (on request) on the output. In TRIMOD®, each configuration can have both complete and partial redundancy; for instance, there can be both a normal (or redundant) threephase line and a redundant (or normal) single-phase line on the output. Each basic module has a microcontroller that supervises the main functions of the individual power unit, monitors the module to ensures its correct run and warns of any faults. The modularity concept has also been applied to the batteries, which are supplied in individual removable racks.



- THDi = 3%
- Power Factor >0.99
- High Efficiency
- Highly Reliable
- Easy to install and service

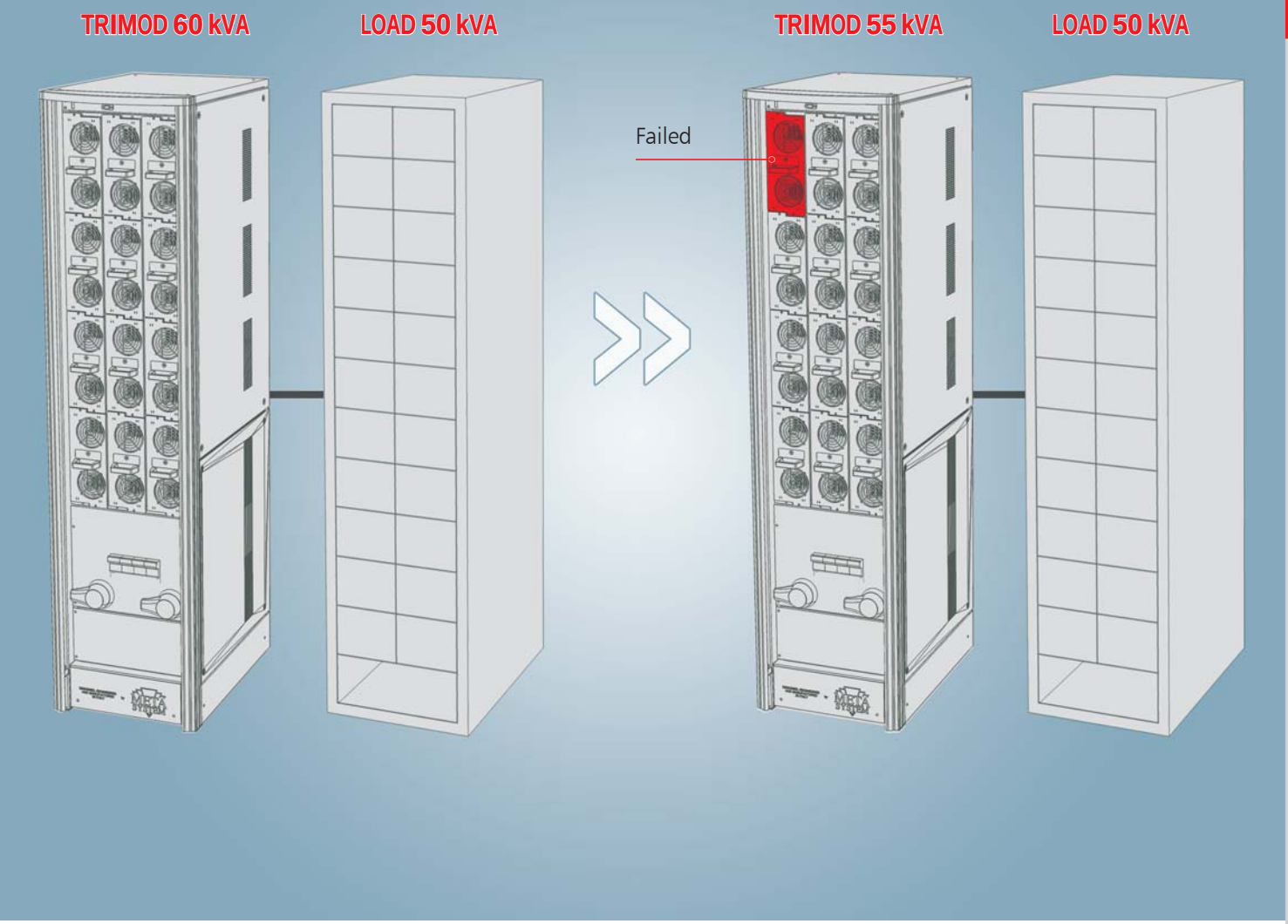
This modular approach achieves two important advantages that make the system even more reliable: A UPS with redundant modular architecture can be configured as a N+X redundant power system. Even if a module breaks down, the device still continues to function and prevents the work to be stopped. If an individual power module fails, it is completely isolated and can then be replaced without interrupting the service. All this takes place very quickly and almost always the problem is solved during the first intervention.

Total Reliability

Thanks to its innovative modular structure, combined with Meta System's excellent engineering and production quality, TRIMOD® guarantees a level of reliability that is practically absolute.

Modularity means the UPS is designed with separate, fully independent power modules that work in parallel and automatically share the output power so that it meets the load requirements.

The control logic coordinates and supervises the performance of the power modules at all times, promptly signalling any anomaly.



Total confidence when planning your investment

A UPS represents a considerable investment for user. Experience has shown that traditional UPS are generally oversized in order of accommodate future increase of the load which has to be planned since from the system is being, demanding decisions to be taken right at the start. Often, the result is higher set-up costs or future complications if you top the capacity you originally envisaged. Moreover, two identical UPS are often put in place, working in parallel to increase reliability by way of the redundancy of the complete uninterruptible power supply. Whatever the reason for this, the result is a more complex and more expensive system.

TRIMOD® addresses all of these issues with its modular concept: given its extremely limited footprint and ease of installation, the UPS can grow in line with the actual needs of the customer by simply adding power modules and battery drawers as and when they are become necessary. Reliability is guaranteed by the redundancy which, with TRIMOD®, is created simply and cost-effectively at the power module level rather than at full system level.

Maximum savings on running costs

Increasing attention has been paid to electricity consumption over the past few years. According to estimates, over one third of the Total Cost of Ownership (TCO) of a UPS system can be ascribed to the cost of wasted electricity caused by insufficiently high conversion efficiency. TRIMOD®'s energy efficiency is one of the highest on the market. This means that it needs less electricity in order to operate. Moreover, it contributes to eliminate all costs created by reactive energy absorption thanks to complete power factor correction of the input. This achieves important energy savings in the installation and running costs.

Maximum savings on operating costs

An important contribution to the TCO of a UPS system is the cost of spare batteries, which are typically replaced every 2-3 years. TRIMOD® only uses high-performance, long-life Panasonic batteries and, thanks to the exclusive "Smart Charger" function, the battery is equalized and equilibrated at every instant. This lengthens the life of the batteries to even more than four years and achieves considerable savings in maintenance costs.

Maximum simplicity for transport and installation

Meta System is always looking into new ways to make the installer's job easier and simpler. The TRIMOD® enjoys the benefits of Meta System's cutting edge electronics technology, making it one of the most compact and manageable products available on the market today.

Just one person is needed to transport it using a normal van, and the same person can easily move it to its final position and install it in full confidence and safety, with the maximum of ease and in a minimum of time. This is because Meta System particularly focused on preventing the presence of potentially dangerous voltages, even when the various power modules or battery drawers are taken out of the system.

TRIMOD 8/10kVA comprises three 2.7/3.4 kVA models and can house up to 12 battery racks. Additional battery cabinets can be connected so as to achieve even longer autonomy.

TRIMOD 16/20kVA comprises six 2.7/3.4 kVA models and can house up to 8 battery racks. Additional battery cabinets can be connected so as to achieve even longer autonomy.

TRIMOD 30kVA consists of a power cabinet with nine 3.4 kVA modules and a battery cabinet. Additional battery cabinets can be connected so as to achieve even longer autonomy.

Modular Scalable Redundant

The TRIMOD® UPS has a modular structure: it is made up of electronic power modules (each one is 2.7 kVA, 3.4 kVA or 5 kVA), which are interchangeable and can be connected in parallel. The power modules are fitted with control and diagnostic circuits making it easier to identify a faulty module should a fault develops. This modular structure makes it extremely easy to set up the TRIMOD® as a redundant N + X system.

The batteries are also housed in interchangeable drawers; once these have been placed inside the unit, they are automatically connected in series/parallel so as to obtain the voltage and backup time needed for it to operate correctly. Each battery drawer holds five batteries, each with the rated voltage of 12 volt, connected so as to produce two series: a 24 volt series (two batteries) and a 36 volt series (three batteries), so that the installer or the end-user is not exposed to dangerous voltages when handling the drawer.

TRIMOD 45kVA consists of a power cabinet , which houses nine 5 kVA power modules, and one battery cabinet.

TRIMOD 60kVA consists of a power cabinet , which houses twelve 5 kVA power modules, and one battery cabinet.

Model	TRIMOD 8	TRIMOD 10	TRIMOD 16	TRIMOD 20
General Specifications				
Nominal Power	8 kVA	10 kVA	16 kVA	20 kVA
Active Power	6,4 kW	8 kW	12,8 kW	16 kW
Technology	Online, Double Conversion (VFI)			
Input/Output Configuration	3/3, 3/1, 1/3, 1/1 (user selectable during inst)			
UPS Architecture	Modular, Scalable, Redundant N+X with 2700, 3400 and 5000 VA power modules, housed in only one cabinet			
Input				
Input Voltage	230 V (Single-phase) / 400 V (Three-phase + N)			
Input Voltage Range	230 V + 15% - 20% / 400 V +15% -20%			
Input Current THD	3%			
Input Power Factor	> 0,99			
Input Frequency	50 Hz / 60 Hz synchronized (Autosensing)			
Output				
Output Voltage	230 V ± 1% / 400 V ± 1%			
Output Frequency				
Wave Form	Sinusoidal			
Crest Factor	3,5 : 1			
Efficiency: • Online Mode • ECO Mode	 Up to 95% Up to 99%			
Overload Capacity	125% for 2 min - 150% for 30 secs. without By-pass intervenction			
Batteries				
Runtime	Refer to extended runtime table			
Runtime Extendibility	Yes, internally or with external battery cabinet			
Special Features				
Bypass	• Static and electromechanical on each module, independent of each other • General automatic • Manual (maintenance)			
Signals and Alarms	Wide backlit 4-line, 20 characters, alphanumeric display with real-time monitoring of UPS status. Multicolour status indicator. Acoustic warning.			
Communication Ports	• N. 2 RS232 ports, N. 1 Logic level port • N. 4 Dry contacts ports (relay contacts, NC / NO selectable) • Slot for SNMP adapter connection (CS121)			
Software	UPS Communicator (free-of-charge download from our website www.metasystem.it)			
Protection	Electronic protection against overloads, short circuits and excessive battery discharge. Operation blocked at end of runtime. Inrush limitation when switching on. EPO contact (emergency power off)			
Input/Output Connectivity	Terminal board on Omega bar			
Isolation Transformer	Optional			
Mechanical Specifications				
Installed Power Modules	3 x 2,7 kVA	3 x 3,4 kVA	6 x 2,7 kVA	6 x 3,4 kVA
Installed Battery Drawers	Subject to selected runtime			
Net Weight	110 Kg	110 Kg	130 Kg	130 Kg
Dimensions (W x H x D)	414 x 1345 x 628 mm			
Environmental Specification				
Working Temperature	0° - 40° C			
Relative Humidity	20% - 80% non condensing			
Acoustic Noise @ m	42 - 46 dBA			
Standards				
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3			

Model	TRIMOD 30	TRIMOD 45	TRIMOD 60
General Specifications			
Nominal Power	30 kVA	45 kVA	60 kVA
Active Power	24 kW	36 kW	48 kW
Tecnology	On-Line, Double Conversion (VFI)		
Input/Output Configuration	3/3		
UPS Architecture	Modular, Scalable, Redundant N+X with 2700, 3400 and 5000 VA power modules, housed in only one cabinet		
Input			
Input Voltage	400 V (Three-phase + N)		
Input Voltage Range	400 V +15% -20%		
Input Current THD	3%		
Input Power Factor	> 0,99		
Input Frequency	50 Hz / 60 Hz synchronized (Autosensing)		
Output			
Output Voltage	400 V ± 1%		
Output Frequency			
Wave Form	Sinusoidal		
Crest Factor	3,5 : 1		
Efficiency: • Online Mode • ECO Mode	 Up to 95% Up to 99%		
Overload Capacity	125% for 2 min. - 150% for 30 secs.		
Batteries			
Runtime	Refer to extended runtime table		
Runtime Extendibility	Yes, internally or with external battery cabinet		
Special Features			
By-pass	• Static and electromechanical on each module, independent of each other • General automatic • Manual (maintenance)		
Signals and Alarms	Wide backlit 4-line, 20 characters, alphanumeric display with real-time monitoring of UPS status. Multicolour status indicator. Acoustic warning.		
Communication Ports	N.2 RS232 ports, N.1 Logic level port, N.4 Dry contacts ports (relay contacts, NC / NO selectable), Slot for SNMP adapter connection (CS121)		
Software	UPS Communicator (free-of-charge download from our website www.metasystem.it)		
Protection	Electronic protection against overloads, short circuits and excessive battery discharge. Operation blocked at end of runtime. Inrush limitation when switching on. EPO contact (emergency power off)		
Input/Output Connectivity	Terminal board on Omega bar		
Isolation Transformer			
Mechanical Specifications			
Installed Power Modules	9x 3,4 kVA	9x 5 kVA	12x 5 kVA
Installed Battery Drawers	Subject to selected runtime.		
Net Weight	154 -70 Kg	165 - 75 Kg	194 - 75 Kg
Dimensions (W x H x D)	2 x (414 x 1345 x 628) mm	2 x (414 x 1645 x 628) mm	
Environmental Specification			
Working Temperature	0° - 40° C		
Relative Humidity	20% - 80% non condensing		
Acoustic Noise @ 1 m	42 - 46 dBA		
Standards			
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3		

Model	Nominal Power kVA	Active Power kW	Runtime @ 80% load (min)	Cabinet total number	Net Weight (Kg)	Item Code
TRIMOD 8	8	6,4	9	1	167	PTH00840
			33	1	279	PTH00850
			43	1	279	PTH00860
			62	2	415	PTH00870
TRIMOD 10	10	8	9	1	167	PTH00880
			15	1	223	PTH00890
			33	1	279	PTH00900
			47	2	471	PTH00910
			59	2	527	PTH00920
TRIMOD 16	16	12,8	9	1	246	PTH00930
			19	2	382	PTH00940
			27	2	438	PTH00950
			44	2	550	PTH00960
			84	2	890*	PTH00970
TRIMOD 20	20	16	9	1	246	PTH00980
			14	2	382	PTH00990
			27	2	494	PTH01000
			61	2	890*	PTH01010
			56	3	718	PTH01020
TRIMOD 30	30	24	7	2	404	PTH01030
			13	2	460	PTH01040
			38	2	910*	PTH01050
			91	3	1670*	PTH01060
TRIMOD 45	45	36	8	2	564	PTH01070
			15	3	732	PTH01080
			20	2	925*	PTH01090
			29	5	1180	PTH01100
			56	3	1690*	PTH01110
			91	4	2450*	PTH01120
TRIMOD 60	60	48	0	1	192	PTH01130
			9	3	760	PTH01140
			14	3	872	PTH01150
			14	2	955*	PTH01160
			28	5	1432	PTH01170
			38	3	1715*	PTH01180
			61	4	2474*	PTH01190
			91	5	3234*	PTH01200

(*) The above configurations are based on standard battery cabinets (20 x 94 Ah), dimensions: lxhxp 600x1635x800 (mm).

You can download the **UPS Configurator** free of charge from our website: **www.metasystem.it.** It will help you determine the right size of UPS based on your needs. The modular structure of MetaSystem UPS gives you the option of a wide choice of different runtimes. We have listed the most common runtimes in our table: for any other runtimes, we suggest using the **UPS Configurator** software.

TRIMOD accessories	Description	Item Code
2.7 kVA Power Module	Power upgrade	**PAT0005**
3.4 kVA Power Module	Power upgrade	**PAT0007**
5 kVA Power Module	Power upgrade	**PAT0009**
TRIMOD Battery 16	Extra battery cabinet, with 16 drawer system (empty)	**PTH0004**
TRIMOD Battery 20	Extra battery cabinet, with 20 drawer system (empty)	**PTH0016**
Battery Cabinet (20x94Ah)	Not modular Battery Cabinet 94Ah (batteries included)	**PAT0054**
7.2Ah Battery Drawer	Runtime extension kit, to be inserted in multiples of four	**PAT0001**
7.2Ah Battery Drawer	Runtime extension kit	**PAT0002**
9Ah Battery Drawer	Runtime extension kit, to be inserted in multiples of four	**PAT0003**
9Ah Battery Drawer	Runtime extension kit	**PAT0004**
TRIMOD Transformer	1-ph/1-ph, 10 kVA Isolation transformer	**P4245A**
TRIMOD Transformer	1-ph/1-ph, 16 kVA Isolation transformer	**P4245B**
TRIMOD Transformer	1-ph/1-ph, 20 kVA Isolation transformer	**P4245C**
TRIMOD Transformer	3-ph/3-ph, 10 kVA Isolation transformer	**PAT0020**
TRIMOD Transformer	3-ph/3-ph, 16 kVA Isolation transformer	**PAT0021**
TRIMOD Transformer	3-ph/3-ph, 20 kVA Isolation transformer	**PAT0022**
TRIMOD Transformer	3-ph/3-ph, 30 kVA Isolation transformer	**P4246D**

For more details on hardware and software accessories, go to pages 76 - 95

MODULAR ONLINE VFI

MEGALINE

Modular and Redundant Single phase UPS

Dedication and great investment in Research and Development have made Meta System a leader in the production of high performance UPS.

The world's first ever range of modular and redundant, online double conversion UPS was unveiled for the first time at the 1993 CEBIT, when Meta System presented its HF series.

The design philosophy of this truly unique range of products was to combine the performance of online double conversion technology with modular and redundant architecture (both in terms of power and runtime).

These specifications offer high levels of reliability. In fact, by installing N+1 power modules inside the UPS for a load that can be protected by N modules, the UPS will continue running even if a fault should develop on one of the modules.

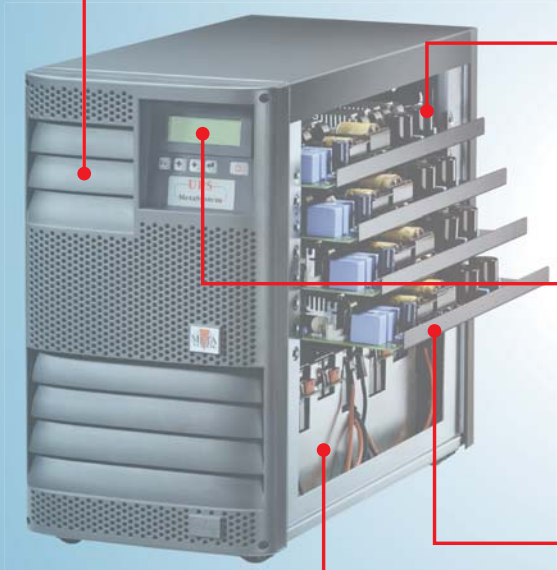
The concept and engineering of this UPS range is so innovative they are still the only UPS offering these features today and are considered the benchmark product by many decision makers.

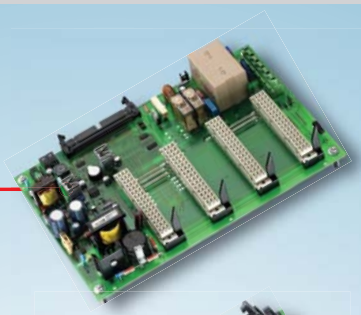
Nowadays, businesses want high-performance tools that are fast and simple to use but are most of all scalable, reliable and always in service.

Scalable so they can soften the effects of the rapid changes in technology and demand.

Reliable because these tools have the task of

keeping a business up and running.
Always in service because nowadays, a quick response is part of the game.
Only modular and redundant UPS with online double conversion technology can guarantee this level of product performance. This range of UPS has always been considered the showpiece product of Meta System's Power Division and has gradually grown and been enhanced as time has gone by, both in appearance and performance, reaching new heights with the production of the MegaLine series.





MODULAR
Modularity and total resource distribution mean the MegaLine UPS give you superior uptime..

Online DOUBLE CONVERSION
Sophisticated control logic gives you the confidence that the MegaLine performance is at the top of their category.

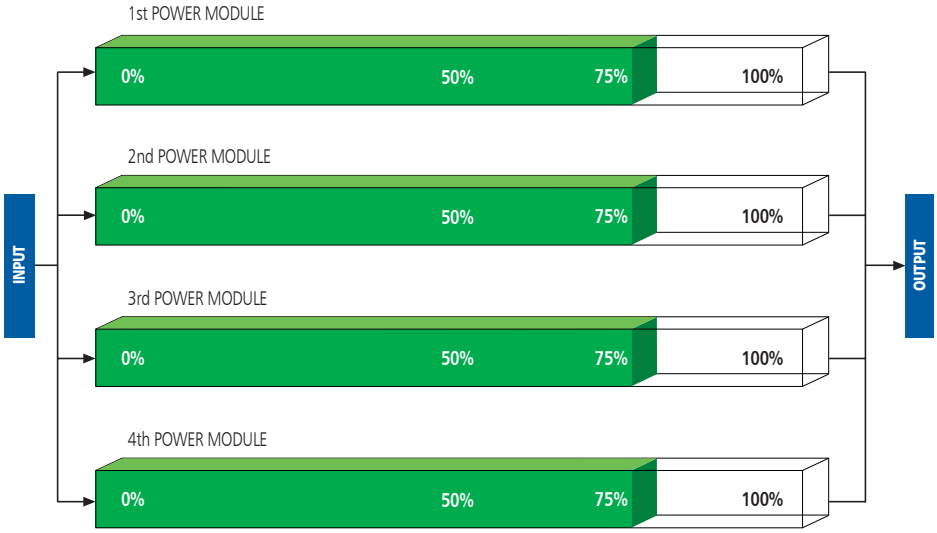
PROGRAMMABLE
The LCD display makes all diagnostics data and programming menus accessible without the need for a PC connection.

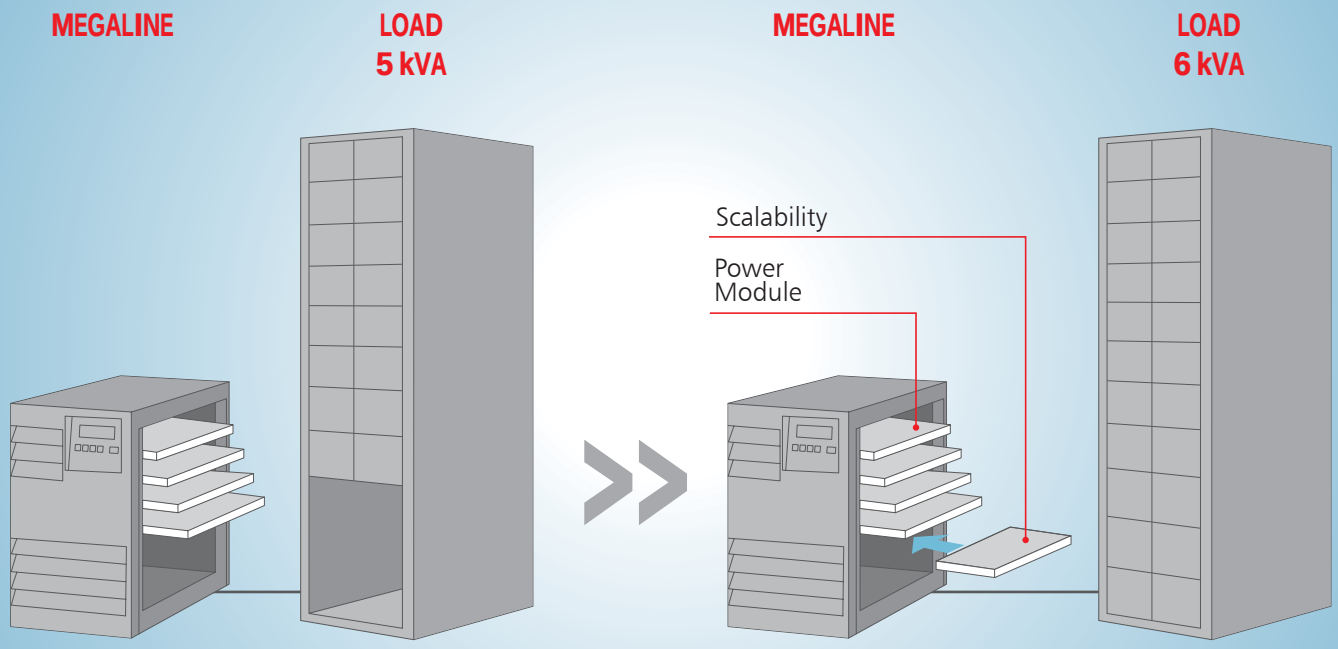
REDUNDANT & SCALABLE
Both power and runtime.
Boards and batteries can be easily added or removed, reducing the average time for repair.

RUNTIME
Runtimes can be rapidly and simply extended by fitting extra KB Battery Kits into the inverter cabinet or in special battery cabinets.

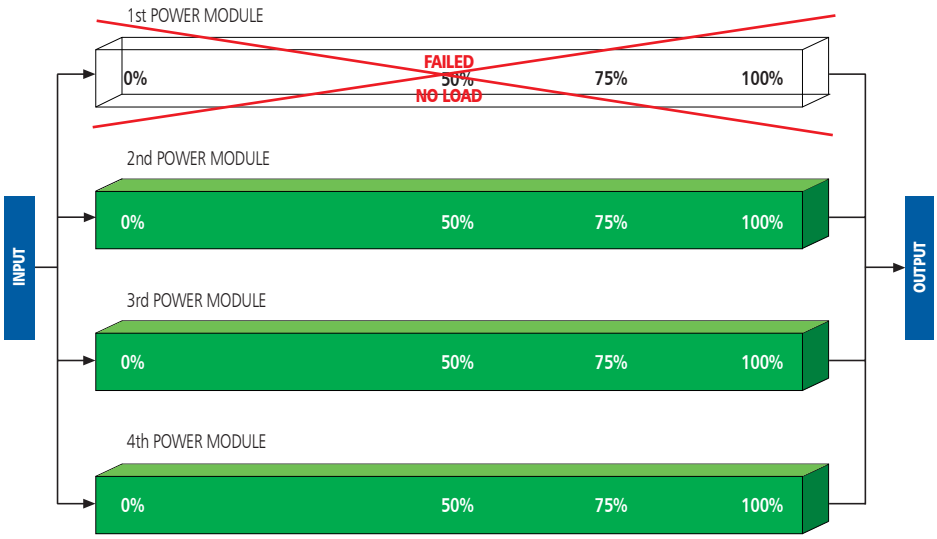
High uptime

Operating continuity is guaranteed, even if one of the modules develops a fault, without any break or switchover time thanks to parallel load sharing (all the modules share in supplying the load). If one of the modules stops working, the others will continue to power the load, redistributing the percentage of load that was previously supplied by the module now out of order.





The level of redundancy can be set via software or using the display so that an alarm signal is given in case the redundancy fails.



Input - Output

The MegaLine's LCD display is able to give you all the information you need to manage your UPS correctly without the need for a PC connection and the relative interface software. What's more, all the settings you may need can be programmed using the display at the time of installation.
The INPUT section and OUTPUT section submenus keep the user informed of all the sensitive data concerning the UPS operation. The active and apparent input and output power, the input and output voltage and current, the frequency, the crest factor and the power factor can be consulted at any time during mains operation by simply navigating in two menus

Batteries

The BATTERIES menu provides important information both concerning the current status of the batteries (charging voltage, residual capacity) and also a battery log. The number of full discharges, the hours of use, the type of calibration in use, any extended runtime kits or extra battery chargers fitted, are all fundamental parameters when assessing the life and usage of the batteries and for scheduling their replacement. It is also possible to make a "Battery Calibration", where the typical discharge parameters for the batteries in use are acquired so this data can be applied to get a very accurate calculation of the remaining runtime and recharge time.

Programming

With the MegaLine's LCD display, it is very simple to schedule the automatic switching on and off of the UPS, without the need to connect up a computer.
Even battery calibration and testing can be scheduled. A total of 16 programming events can be stored in its memory with a Daily, Weekly, Monthly schedule or On command.

Bypass

The BYPASS can also be scheduled to operate in a variety of ways.

- Off-line: energy saving;
- Load waiting: the UPS switches on when the load exceeds the threshold set on the panel;
- Forced bypass: the UPS is excluded from the system.

The delay before intervention can also be adjusted to allow for repeated peaks of consumption by the load by modifying the speed of the dipswitch (e.g. for laser printers or photocopying machines).

Redundancy

N+X redundancy, on the other hand, is a warning function: if the parameter X=1,2 etc is set, the power of one module is reserved exclusively for redundancy and a warning signal is provided should the load exceed the power available. For example: MegaLine 3750 - Redundancy N+1 - load 2100 VA. 1250 VA of the available 3750 VA is redundant, whilst the remaining 2500 VA is for use by the load. Should the load increase in excess of 2500 VA, the UPS will signal that redundancy is no longer available but continue to supply the load correctly.

An acoustic signal and high-visibility flashing on the backlit front panel ensure that any alarm signal is noticed immediately. The signals can be split into various categories based on their severity:

GREEN & NOT FLASHING - Normal Operation

- Normal operation, no anomaly

YELLOW & FLASHING - Battery Mode

- Battery operation, accompanied by a slow, intermittent alarm signal, which can be silenced

RED & FLASHING - Warning (together with an acoustic alarm signal)

- Operation blocked
- Output voltage anomaly

RED & NOT FLASHING - Severe alarm (together with an acoustic alarm signal)

- Failure of one or more power modules
- Incorrect connection of input neutral
- Overload

The events log can be accessed from the front panel and can store up to 192 successive events, complete with the date and time they took place. Self-diagnostics and the record of events speed-up the identification of hardware faults or UPS operating anomalies (overload, high temperature, etc.), optimizing the restore of the equipment. The internal clock is adjusted by default and also manages daylight saving / standard time changes automatically.

A slow intermittent alarm signal, which can be silenced, and high-visibility yellow flashing of the entire front panel informs the user that the UPS is operating on battery power.

During the discharge stage, the MegaLine indicates:

- **the percentage of residual charge;**
- **the actual amount of runtime remaining;**
- **output power and voltage .**

When the MegaLine is recharging batteries, it indicates the percentage of charge available in real time.

Not only do the MegaLine UPS offer all the usual features of the best online double conversion products, they also offer top-of-the class performance and functions. They are available in two families, with either a single or a double cabinet.

The 4 single cabinet models can supply from 1250 to 5000 VA, and can house a maximum of 4 power boards and 4 battery kits. Additional batteries can be housed in bespoke cabinets that are easily connected up thanks to their standard pre-connectivity for extended runtimes.

Effective acoustic and visual signals, even from a considerable distance
High Frequency and high efficiency with a reduced footprint
Static bypass
External maintenance bypass (optional)
Cold battery charging
Real time confirmation of remaining runtime and charge status on the LCD display

INPUT SECTION:

- Input power factor > 0.99
- Input current THD < 3%
- Wide range of input voltage and frequency
- 50 Hz or 60 Hz operating frequency with automatic identification
- 50 Hz input - 60 Hz output frequency conversion or vice versa
- Extension of the input frequency range for operation with gen-sets
- DC start

Class A/B (immunity emission)

All the MegaLine models comply with the most stringent standards in terms of both emission and immunity to electromagnetic interference so they can be used for any application, in either civil or industrial environments

EPO Contact (Emergency Power Off)

Free shutdown software

can be downloaded from our website

Output section:

- Eco mode operation (energy saving)
- Load-waiting mode operation (protection on demand)
- Output voltage can be adjusted in 1-volt steps on the front panel
- Low noise levels
- Measurement of internal and external temperatures
- Ventilation control based on temperature and load
- Contact for remote emergency switch-off

Model	MegaLine 1250	MegaLine 2500	MegaLine 3750	MegaLine 5000
SPECIFICATIONS				
Nominal Power	1250 VA	2500 VA	3750 VA	5000 VA
Active Power	875 W	1750 W	2625 W	3500 W
Max Power Scalability	5000 VA			
Max Power Scalability	3500 W			
Technology	Online double conversion (VFI)			
UPS Architecture	Modular, Scalable, Redundant N+X with 1250 VA power boards, contained in a cabinet			
INPUT				
Input Voltage	230 V			
Input Voltage Range	184 V ÷ 264 V @ 100% load			
Minimum Operating Voltage (on mains power)	100 V @ 50% load			
Input Current THD	< 3%			
Input Power Factor	> 0.99 from 20% load			
Input Frequency	50 Hz / 60 Hz ± 2% autosensing			
OUTPUT				
Output Voltage	230 V ± 1%			
Output Frequency	50 Hz / 60 Hz synchronized			
Output Voltage THD	< 1% with non-linear load			
Wave form	Sinusoidal			
Crest Factor	3.5 : 1			
Efficiency on mains (AC/AC online)	92% @ 100% load			
Overload capacity	300% for 1 s - 200% for 5 s - 150% for 30 s			
BATTERIES				
Runtime @ 50% load	20'			
Runtime @ 80% load	11'			
Runtime Extendibility	Yes			
GENERAL SPECIFICATIONS				
Bypass	Static and electromechanical, internally synchronized, automatic (for overload or anomaly)			
Signals and Alarms	Wide 4-line alphanumeric display, multicolour status indicator, acoustic signalling			
Communication Ports	N.1 RS232 port, N.2 Logic level ports			
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)			
Protection	Electronic protection against overloads, short circuits and excessive battery discharge Operation blocked at end of runtime Sensor for correct neutral connection Inrush limitation when switching on Back-feed protection (electrical insulation for the safety of the input plug when running in battery mode) EPO contact (emergency power off)			
Input/Output Connectivity	Schuko / Screw connector with 4-socket multiple extension cord (Italian/Schuko)			
MECHANICAL SPECIFICATIONS				
Net Weight	23.5 Kg	34 Kg	43 Kg	53 Kg
Dimensions (W x H x D)	270 x 475 x 570 mm			
Power Modules Installed	1	2	3	4
Power Scalability Slots Available	3	2	1	-
Battery Kits Installed	1	2	3	4
Runtime Extension Slots Available	3	2	1	-
ENVIRONMENTAL DATA				
Working Temperature	0 °C ÷ 40 °C			
Relative Humidity	20% ÷ 80% non condensing			
Acoustic Noise @ 1 m	< 40 dBA			
STANDARDS				
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3			
GUARANTEE				
Guarantee	2 years, including batteries			
ITEM CODE	**P4201N**	**P4202N**	**P4203N**	**P4204N**

MEGALINE DOUBLE CABINET

Input power factor > 0.99

Input current harmonic distortion < 3%

High back-up time scalability

Static bypass

Class A/B (immunity/emission)

Automatic sensing (input/output frequency)

Plug & play for gen-sets

Noise level < 40 dBA

Double IBC (intelligent battery charger)

Long life battery control

The 5 double cabinet models can supply from 5000 to 10000 VA. They can house up to 8 power boards 1250 VA each one , and 10 battery kits in their external battery cabinet, which also provides space for 1 extra battery charger. Extra battery cabinets, identical to the standard one supplied, can be added to extend runtime even further.

MetaSystem
TEAM ENERGIZED
Panasonic

UPS CONFIGURATOR
META SYSTEM
www.metasystem.it

MegaLine accessories	Description	Item Code
PW 1250	Power upgrade	PAM0027
KB MegaLine/1	Runtime extension kit for inverter cabinet	PAM0018
KB MegaLine/1	Runtime extension kit for inverter cabinet installed	PAM0019
KB MegaLine/2	Runtime extension kit for battery cabinet	PAM0020
KB MegaLine/2	Runtime extension kit for battery cabinet installed	PAM0021
BATTERY MegaLine	Extra Battery cabinet	PAM0003
MegaLine SPLITTER	Y-cable for the battery cabinet to battery cabinet connection	PAM0031
PL MegaLine	Extended cable for battery/inverter cabinets tower configuration	PAM0048
BP/1	Manual bypass for single cabinet units	PAM0023
BP/2	Manual bypass for double cabinet units	PAM0024
CB 36	Battery charger	PAM0043
CB 36	Battery charger installed	PAM0044
HF1	Remote control on/off	PAM0022
Relay Interface Kit	Relay contacts hardware support	PAM0009

For more details on hardware and software accessories, go to pages 76 - 85

Model	MegaLine 5000/2	MegaLine 6250/2	MegaLine 7500/2	MegaLine 8750/2	MegaLine 10000/2
SPECIFICATIONS					
Nominal Power	5000 VA	6250 VA	7500 VA	8750 VA	10000 VA
Active Power	3500 W	4375 W	5250 W	6125 W	7000 W
Max Power Scalability	10000 VA				
Max Power Scalability	7000 W				
Technology	Online double conversion (VFI)				
UPS Architecture	Modular, Scalable, Redundant N+X with 1250 VA power boards, contained in a cabinet				
INPUT					
Input Voltage	230 V				
Input Voltage Range	184 V ÷ 264 V @ 100% load				
Minimum Operating Voltage (on mains power)	100 V @ 50% load				
Input Current THD	< 3%				
Input Power Factor	> 0.99 from 20% load				
Input Frequency	50 Hz / 60 Hz ± 2% autosensing				
OUTPUT					
Output Voltage	230 V ± 1%				
Output Frequency	50 Hz / 60 Hz synchronized				
Output Voltage THD	< 1% with non-linear load				
Wave form	Sinusoidal				
Crest Factor	3.5 : 1				
Efficiency on mains (AC/AC online)	92% @ 100% load				
Overload capacity	300% for 1 s - 200% for 5 s - 150% for 30 s				
BATTERIES					
Runtime @ 50% load	20'				
Runtime @ 80% load	11'				
Runtime Extendibility	Yes				
GENERAL SPECIFICATIONS					
Bypass	Static and electromechanical, internally synchronized, automatic (for overload or anomaly)				
Signals and Alarms	Wide 4-line alphanumeric display, multicolour status indicator, acoustic signalling				
Communication Ports	N.1 RS232 port, N.2 Logic level ports				
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)				
Protection	Electronic protection against overloads, short circuits and excessive battery discharge Operation blocked at end of runtime Sensor for correct neutral connection Inrush limitation when switching on Back-feed protection (electrical insulation for the safety of the input plug when running in battery mode) EPO contact (emergency power off)				
Input/Output Connectivity	Screw connector				
MECHANICAL SPECIFICATIONS					
Net Weight	24 + 50 Kg	26.5 + 57.5 Kg	29 + 65 Kg	31.5 + 72.5 Kg	34 + 80 Kg
Dimensions (W x H x D)	2 x (270 x 475 x 570) mm				
Power Modules Installed	4	5	6	7	8
Power Scalability Slots Available	4	3	2	1	-
Battery Kits Installed	4	5	6	7	8
Runtime Extension Slots Available	6	5	4	3	2
ENVIRONMENTAL DATA					
Working Temperature	0 °C ÷ 40 °C				
Relative Humidity	20% ÷ 80% non condensing				
Acoustic Noise @ 1 m	< 40 dBA				
STANDARDS					
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3				
GUARANTEE					
Guarantee	2 years, including batteries				
ITEM CODE	**P4205N**	**P4206N**	**P4207N**	**P4208N**	**P4209N**

ONLINE VFI

WHAD

for professional applications

Uninterruptible power supplies with online double conversion technology offer zero intervention time, total continuity of protection, identical sine wave form whether running on mains or on battery power, with high power quality, both in terms of the waveform amplitude or frequency.

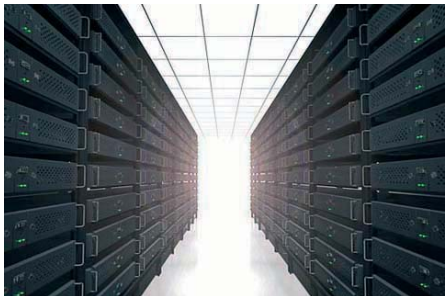
They are, therefore, an ideal way of protecting servers and company networks, storage systems, industrial automation, and security and video surveillance systems.

In over thirty years of experience, Meta System has developed a full range of online double conversion UPS with hybrid technology. Compact design and high performance features, destined to be extended to mid-range applications too.

The back-up time of these UPS can be extended up to several hours, safeguarding the protection of data and real business

continuity.
Product reliability and guaranteed operation are the strengths of this range of high-performance UPS, designed specifically with power ratings to meet the demands of growing businesses.

Thanks to the double online conversion technology, WHAD guarantees total no-break protection, sinusoidal wave form with both mains and battery power, suppression of all powering problems concerning voltage, frequency and wave shape.



UPS WHAD is the evolution of the single-phase online double conversion UPS for small and medium power applications. As Meta System's UPS, WHAD stands out for its advanced technology and also for its attractive and pioneering design. It is available in 800 VA to 6000 VA versions.

But WHAD is much more!

It's a true online double conversion UPS (VFI) that combines the performance of a high-bracket UPS with a compact, innovative design and a very convenient price. The power supplied, which ranges from 800 VA to 6000 VA, provides top-level electrical protection for equipment with moderate consumptions. Thanks to its affordable price, it's also unbeatable with the more economical and/or imported UPS. Meta System's Italian-made technology applied to WHAD allows manufacturing processes to be optimized, reducing costs and time and increasing the product reliability. WHAD is extremely versatile and can be used for protecting small networks, servers, telephone/data systems, office automation, networking as well as industrial automation, security and surveillance systems.

WHAD TOTAL PROTECTION

Nowadays, Italian SME need fast, functional and performing solutions that are simple to use but especially safe, reliable and always available. The situations threats to the availability and integrity of the manufacturing resources are numerous and of varying nature, and the actions undertaken to face them are often costs.
Though, not only "monetary" costs have to be considered, "non-monetary" too as quality, availability and continuity of business.

The cost of downtime

There are different events of an electrical nature that are a constant threat to electronic equipment and their effects on the functionality of computerized systems are also different:

Black Out

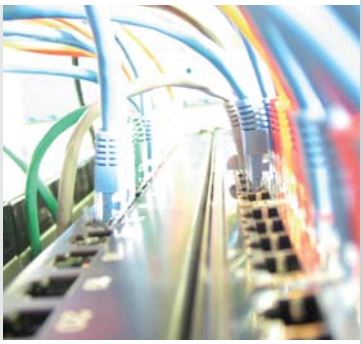
A blackout totally shuts off the power supply. It can be caused by an excessively high peak use of electricity, storms, ice on the lines, road accidents, earthquakes and so forth. Amongst its effects are the loss of data stored in the RAM or in the cache memory, loss of the hard disk's file location table (FAT, NTFS,…) that leads to total loss of the stored data.

Spike

A spike, or voltage transient is a sudden increase in voltage. It may strike electronic equipment via the network, serial links or telephone lines with all the force of a tidal wave, and damage or completely destroy the components. Spikes are generally caused by lightning and may also occur when the mains power returns after a blackout. The components can sustain irreparable damage, amongst which definitive loss of data.

Over-voltage

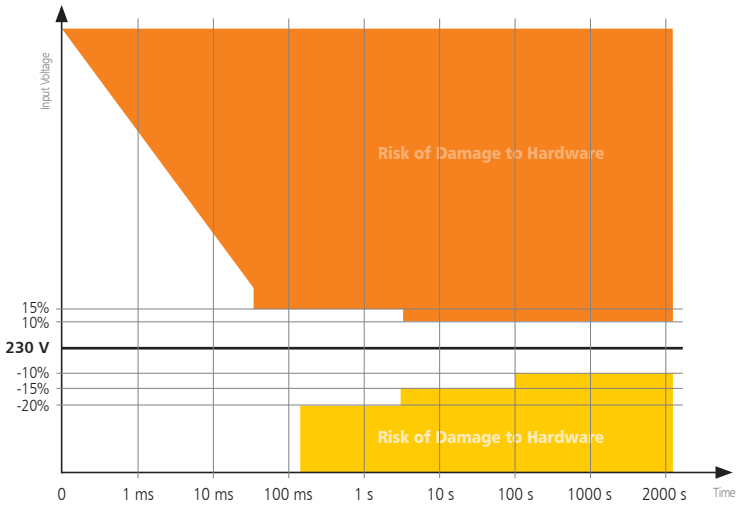
This is a line surge that lasts a very short time, usually around 1/120th of a second. Over-voltage can be caused by high-powered electric motors, such as those used in conditioning systems. When these are turned off, the extra voltage is dissipated along the electric line. Computers and other extremely delicate electrical devices are powered with voltage varying within a certain tolerance margin. Any voltage value that exceeds the peak value or the effective voltage level will stress the delicate components and subject them to early faults.



Noise

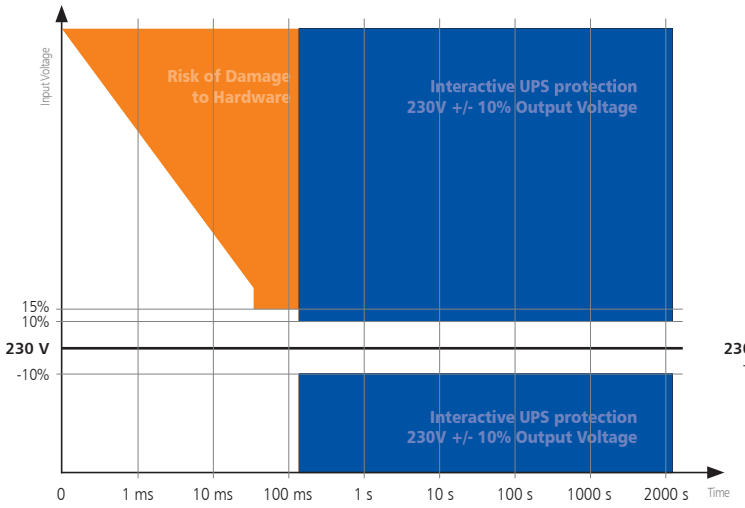
Although it is more technically known as electromagnetic disturbance and radio interference, electrical noise alters the sine curve provided by the mains power supply. It is due to various different factors and generated by different phenomena, such as lightning, load commutation, generators, radio transmitters and industrial equipment. Noise can be either intermittent or continuous and introduces transients and errors into the executable programs and data files.

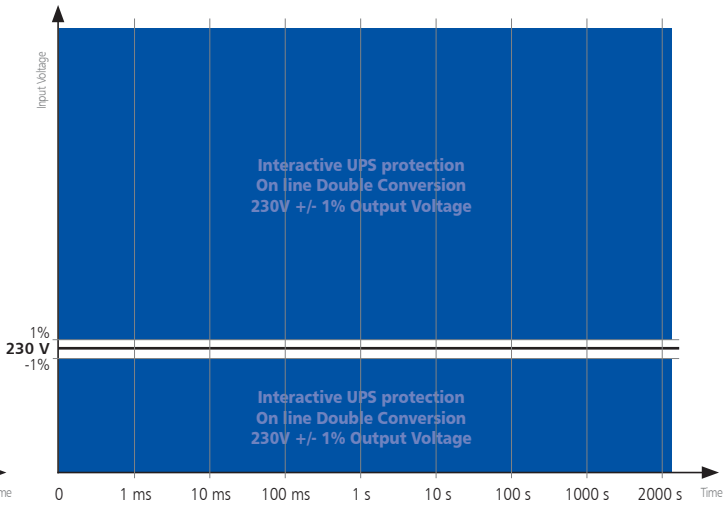
Besides protecting the infrastructure of the computer network, the use of a good quality UPS system now allows to eliminate a whole series of "hidden" costs that heavily weigh upon the productivity of an enterprise.



One of the most clear and internationally recognized application note is the ITIC (Information Technology Industry Council) curve, which represents the updated version of the well-known CBEMA (Computer Business Electronic Manufacturer's Association) curve, also implemented by ANSI/IEEE "Standard 446-1995: "IEEE Recommended practice for emergency and stand-by power for industrial and commercial applications".

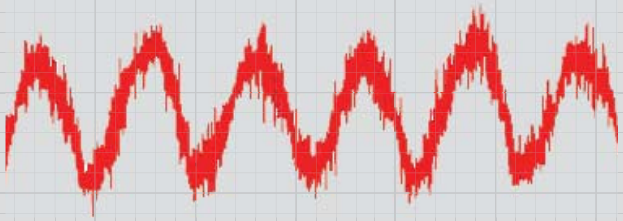
The (formerly CBEMA) ITIC immunity curve (see Fig.) is created with exclusive reference to Information Technology Equipment (ITE), substantially Personal Computers and similar. It is based on a simple assessment of the amplitude (more or less than the rated voltage) and duration of the interference voltage.



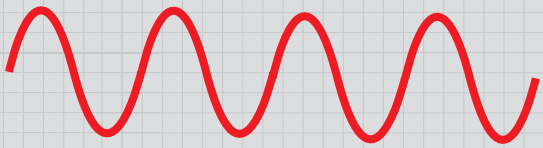


The cost of downtime

Calculating the economic impact caused by such disturbance may seem complicated. Nowaday, the productivity of modern enterprises is strongly bound to that of their computer systems, so much so that work often stops altogether when these systems fails. To get an idea as to the cost of downtime caused by electrical faults, one merely needs to multiply the time the fault lasts by the cost of the salaries of the workers who depend on the system and then add loss of profit to the total (total profit/downtime). The cost of repairing the system (which depends on the frequency and seriousness of the events) must then be added to these costs.



DISTURBED LINEE



STABILIZED LINE

The distinctive features of the main UPS market players are infinite, so the issues to consider before making a decision range from: the commitment towards researching and developing power protection solutions, the attention paid to low energy consumption and respect for the environmental protection rules, as well as the attempts to cut the operating costs, increase the flexibility of the systems and the care taken to produce compact and attractively designed equipment. When it comes to the marketing aspect, the key features that truly make one brand stand out from the other are clearly customer satisfaction, the maintenance processes (which must include schedules technical check-ups) and the rapidity with which assistance is provided. UPS substantially possess three fundamental characteristics: Safety, Reliability, Availability; three characteristics of which Meta System is fully aware and that it pursues with resolution.

The **UPS WHAD** devices with on-line technology (VFI) make a double conversion of the electric current on the input (AC-DC-AC). The output remains absolutely independent of the input both for voltage and frequency value. If the input voltage is no longer suitable, the energy required for the second conversion is drawn from the batteries. All this takes place without actuation time. The double conversion system becomes more flexible and reliable by using an automatic by-pass circuit. The by-pass will cut-out the UPS if overloads or faults occur. In short, the online double conversion UPS guarantees the highest protection against any electrical interference.

This means that it is ideal for protecting servers and company networks, storage systems, industrial automation, security and video surveillance systems.

ALARMS AND SIGNALS

An acoustic signal and high-visibility flashing on the backlit front panel ensure that any alarm signal is noticed immediately. The signals are coded into various categories based on their severity (semaphore code):

GREEN & NOT FLASHING - Normal Operation

- Normal operation, no anomaly.

YELLOW & FLASHING - Battery Mode

- Battery operation, accompanied by a slow, intermittent acoustic alarm signal, which can be silenced.

RED & FLASHING - Warning

(together with an acoustic alarm signal)

- General Fault / Failure
- Incorrect connection of neutral on input
- Overload

RED & NOT FLASHING - Severe alarm

(together with an acoustic alarm signal)

- Operation blocked
- Output voltage anomaly

WHAD 800VA , 1000VA

Meta System has designed these WHAD models specifically for the protection of small computer networks, servers for telephone/ data systems, office and automation equipment. For a very competitive price these models allow a high power quality protection for low power equipment. WHAD utilizes Online Double Conversion (VFI) technology to provide superior performance in a low range where typically Line Interactive (VI) technology is used.
With a small footprint and a slim design, these low power models of the WHAD family are unobtrusive when placed below the operator's desk.
For maximum ease of installation, these UPS have IEC plugs on the back, in addition to the RS232 serial link. A three-socket multiple extension cord is delivered along with the product.

Model	WHAD 800	WHAD 1000
SPECIFICATIONS		
Nominal Power	800 VA	1000 VA
Active Power	560 W	700 W
Technology	Online double conversion (VFI)	
INPUT		
Input Voltage	230 V	
Input Voltage Range	184 V ÷ 264 V @ 100% load	
Minimum Operating Voltage (on mains power)	100 V @ 50% load	
Input Power Factor	> 0.99 from 20% load	
Input Frequency	50 Hz / 60 Hz ± 2% autosensing	
OUTPUT		
Output Voltage	230 V ± 1%	
Output Frequency	50 Hz / 60 Hz synchronized	
Output Voltage THD	< 1%	
Wave form	Sinusoidal	
Crest Factor	3.5 : 1	
Overload capacity	300% for 1 s - 200% for 5 s - 150% for 30 s	
BATTERIES		
Runtime @ 50% load	29'	23'
Runtime @ 80% load	17'	13'
Runtime Extendibility	No	
GENERAL SPECIFICATIONS		
Bypass	Electromechanical, internally synchronized, automatic (for overload or anomaly)	
Signals and Alarms	Multicolour status indicator and acoustic signalling	
Communication Ports	N.1 RS232 port	
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)	
Protection	Electronic protection against overload, short circuit, and excessive battery discharge Operation shutdown at end of runtime Inrush limitation when switching on Correct neutral connection sensor Back-feed protection (electrical insulation for the safety of the input plug when running in battery mode)	
Output Sockets	3-socket multiple extension cord (Italian/Schuko)	
MECHANICAL SPECIFICATIONS		
Net Weight	12 Kg	
Dimensions (W x H x D)	88 x 355 x 390 mm	
ENVIRONMENTAL DATA		
Working Temperature	0 °C ÷ 40 °C	
Relative Humidity	20% ÷ 80% non condensing	
Acoustic Noise @ 1 m	< 40 dBA	
STANDARDS		
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3	
GUARANTEE		
Guarantee	2 years, including batteries	
ITEM CODE	**P43200N**	**P43201N**

These WHAD models come complete with a serial port so you can use UPS Communicator software for local or remote shutdown. There is also a magneto-thermal switch on the back of the cabinet for an easy resetting of the appliance. The various versions are also supplied with a useful, universal Italian/Schuko standard, 3-socket output extension cord.

All in one
Electronic circuit board: control, PFC, booster, inverter, battery charger, input-output filter, bypass.

Dual-standard (Italian/Schuko)

WHAD 800 VA, 1000 VA , 1250 VA, 1500 VA, 2000 VA, 2500 VA WITH BACK-UP TIME EXTENDIBILITY

Powerful and compact, the mid-range members of the WHAD family sponsor a power level of 800VA to 1250VA in a small case, and 1500 to 2500VA in a bigger case. All the models, except Whad 1500VA, have the possiblity to expand the back-up time just adding external battery cabinets. Based on the traditional Online Double Conversion (VFI) technology of Meta System, these models are the ideal solution to provide safe and high quality power to any type of electronic load, from workstations to servers, from industrial equipment to medical and safety equipment.

The WHAD UPS are complete with a serial port for the use of software for local or remote shutdown.
A filtered socket is also provided on the back of 800 - 1000 - 1250 models for the protection of high - consumption loads, such as laser printers or scanners, whilst 1500 - 2000 - 2500 models are fitted with a logic level port.

If extended back-up time is required, additional batteries can be easily housed in the dedicated cabinets. The UPS is designed to maximise the battery use, adapting the thresholds to the amount of load, avoiding deep discharge, lengthening battery life and optimising the management of back-up time.

Model	Nominal Power [VA]	Runtime @ 80% load	Battery Cabinet	Splitter Cable
WHAD 800 EXT	800	1 h 25 min	1	0
		2 h 50 min	2	1
WHAD 1000 EXT	1000	1 h 05 min	1	0
		2 h 10 min	2	1
WHAD 1250 EXT	1250	50 min	1	0
		1 h 40 min	2	1
WHAD 2000 EXT	2000	37 min	1	0
		1 h 05 min	2	1
WHAD 2500 EXT	2500	28 min	1	0
		50 min	2	1

WHAD accessories	Description	Item Code
Battery cabinet	Extra battery cabinet 160 x 319 x 402 [mm]	PAO0009
Splitter cable	Y-cable for the battery cabinet to battery cabinet connection	PAO0015
Relay interface kit	Relay contacts hardware support (only for models from 1500 to 2500 VA)	PAM0009

For more details on hardware and software accessories, go to pages 76 - 95.

You can download the **UPS Configurator** free of charge from our website: **www.metasystem.it.** It will help you determine the right size of UPS based on your needs. The modular structure of MetaSystem UPS gives you the option of a wide choice of different runtimes. We have listed the most common runtimes in our table: for any other runtimes, we suggest using the **UPS Configurator** software.

Model	WHAD 800 EXT	WHAD 1000 EXT	WHAD 1250 EXT	WHAD 1500	WHAD 2000 EXT	WHAD 2500 EXT
SPECIFICATIONS						
Nominal Power	800 VA	1000 VA	1250 VA	1500 VA	2000 VA	2500 VA
Active Power	560 W	700 W	875 W	1050 W	1400 W	1750 W
Technology	Online double conversion (VFI)					
UPS Architecture	-				Redundant N+1 with 2 power boards, contained into a cabinet	
INPUT						
Input Voltage	230 V					
Input Voltage Range	184 V ÷ 265 V @ 100% load					
Minimum Operating Voltage (on mains power)	110 V @ 50% load					
Input Power Factor	> 0.99 from 20% load					
Input Frequencty	50 Hz / 60 Hz ± 2% autosensing					
OUTPUT						
Output Voltage	230 V ± 1%					
Output Frequency	50 Hz / 60 Hz synchronized					
Output Voltage THD	< 1%					
Wave form	Sinusoidal					
Crest Factor	3.5 : 1					
Overload capacity	300% for 1 s - 200% for 5 s - 150% for 30 s					
BATTERIES						
Runtime @ 50% load	27'	22'	16'	27'	22'	16'
Runtime @ 80% load	15'	10'	8'	15'	10'	8'
Runtime Extendibility	Yes			No	Yes	
GENERAL SPECIFICATIONS						
Bypass	Electromechanical, internally synchronized, automatic (for overload or anomaly)					
Signals and Alarms	Led and acoustic signalling					
Communication Ports	N.1 RS232 port			N.1 RS232 port, N.1 Logic level port		
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)					
Protection	Electronic protection against overloads, short circuits and excessive battery discharge Operation blocked at end of runtime Sensor for correct neutral connection Inrush limitation when switching on Back-feed protection (electrical insulation for the safety of the input plug when running in battery mode)					
Output Sockets	3-socket multiple extension cord (Italian/Schuko)			3-socket multiple extension cord (Italian/Schuko), N.1 filtered IEC socket		
MECHANICAL SPECIFICATIONS						
Net Weight	12 Kg			23 Kg		
Dimensions (W x H x D)	160 x 319 x 402 mm			160 x 460 x 425 mm		
ENVIRONMENTAL DATA						
Working Temperature	0 °C ÷ 40 °C					
Relative Humidity	20% ÷ 80% non condensing					
Acoustic Noise @ 1 m	< 42 dBA					
STANDARDS						
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3					
GUARANTEE						
Guarantee	2 years, including batteries					
ITEM CODE	**P43202N**	**P43203N**	**P43204N**	**P43205N**	**P43206N**	**P43207N**

WHAD 3000 VA, 4000 VA , 5000 VA, 6000 VA

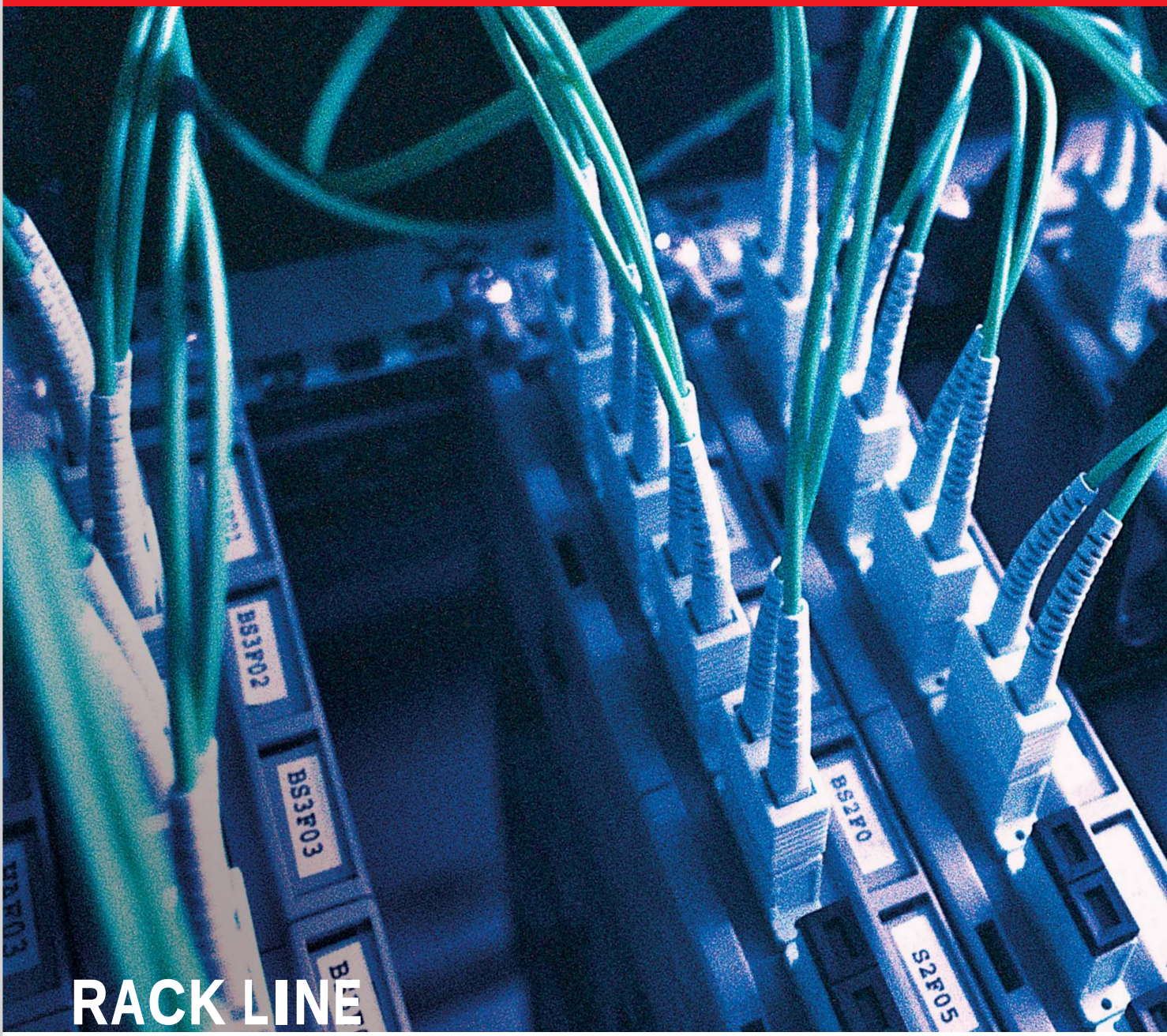
The high-power range models of the WHAD family represent the state of the art of the technology for performance and power density, up to 6000VA in a single compact cabinet.
The power electronics of these models guarantees top reliability as well as perfect quality of the power fed to the load, thanks to the use of Online Double Conversion (VFI) technology. All the models are fitted on the back with a logic level port that can be connected to the Relay Interface Kit.
Moreover, a slot is provided for internal CS121 SK or CS121B SK SNMP communication cards.
These units can be connected to an external maintenance bypass switch which is designed as an add-on to the output connector in the back.

WHAD accessories	Description	Item Code
Relay Interface Kit	Relay contacts hardware support	PAM0009
BP/1	Manual bypass for Whad 3000VA / 4000VA	PAM0023
BPW	Manual Maintenance Bypass for Whad 5000VA / 6000VA	PAO0017

For more details on hardware and software accessories, go to pages 76 - 95.

Model	WHAD 3000	WHAD 4000	WHAD 5000	WHAD 6000
SPECIFICATIONS				
Nominal Power	3000 VA	4000 VA	5000 VA	6000 VA
Active Power	2100 W	2800 W	3500 W	4200 W
Technology	Online double conversion (VFI)			
INPUT				
Input Voltage	230 V			
Input Voltage Range	184 V ÷ 265 V @ 100% load			
Minimum Operating Voltage (on mains power)	100 V @ 50% load			
Input Power Factor	> 0.99 from 20% load			
Input Frequency	50 Hz / 60 Hz ± 2% autosensing			
OUTPUT				
Output Voltage	230 V ± 1%			
Output Frequency	50 Hz / 60 Hz synchronized			
Output Voltage THD	< 1%			
Wave form	Sinusoidal			
Crest Factor	3.5 : 1			
Overload capacity	300% for 1 s - 200% for 5 s - 150% for 30 s			
BATTERIES				
Runtime @ 50% load	22'	20'	18'	16'
Runtime @ 80% load	12'	11'	10'	10'
GENERAL SPECIFICATIONS				
Bypass	Electromechanical, internally synchronized, automatic (for overload or anomaly)			
Signals and Alarms	Multicolour status indicator and acoustic signalling			
Communication Ports	N.1 RS232 port, N.2 Logic level ports, N.1 Slot for SNMP adapter connection (CS121)			
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)			
Protection	Electronic protection against overload, short circuit, and excessive battery discharge Operation shutdown at end of runtime Inrush limitation when switching on Correct neutral connection sensor Back-feed protection (electrical safety insulation of the input plug when running in battery mode)			
Output Sockets	Schuko / Screw connector with 4-socket multiple extension cord (Italian/Schuko)			
MECHANICAL SPECIFICATIONS				
Net Weight	55 Kg	55 Kg	65 Kg	65 Kg
Dimensions (W x H x D)	270 x 475 x 570 mm			
ENVIRONMENTAL DATA				
Working Temperature	0 °C ÷ 40 °C			
Relative Humidity	20% ÷ 80% non condensing			
Acoustic Noise @ 1 m	< 40 dBA			
STANDARDS				
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3			
GUARANTEE				
Guarantee	2 years, including batterie			
ITEM CODE	**P43208N**	**P43209N**	**P43210N**	**P43211N**

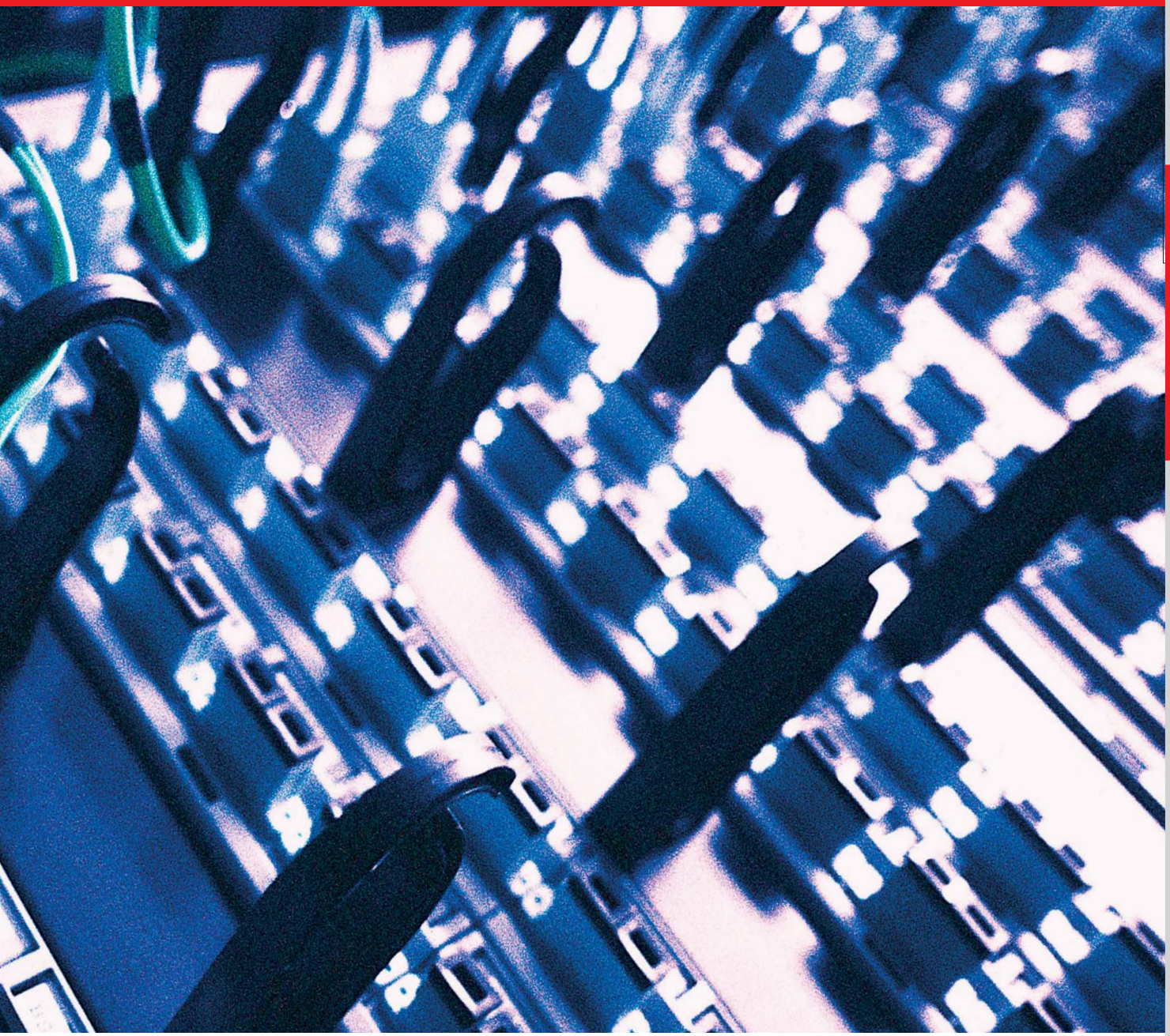
RACK LINE VFI



RACK LINE
for networking applications

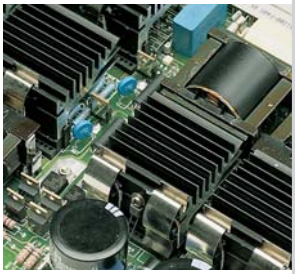
Local networks, LAN, WAN and structured cabling are all terms that are becoming more and more familiar, even for people who aren't in the industry.
In recent years, local networks and distributed data processing systems have become increasingly widespread: this need for total integration has given rise to structured cabling, meaning high costs for businesses; these investments must be carefully targeted to ensure optimum efficiency, reliability, flexibility and the best transmission speed for the overall system.

Meta System's range of 19" rack UPS is an excellent solution for any application, offering considerable benefits thanks to their compact size, linearity and design, so all the equipment can be housed in a single cabinet, limiting the footprint.
Solutions in the standard 19" rack format are very useful for protecting the electronic equipment used in industry, electro-medical field or in Information & Communication Technology, where installing equipment in rack cabinets is increasingly the norm,



as seen with the latest servers, interconnection cabinets, or equipment used for system measurement and control.

Reliability is always an important issue, and becomes even more so in a context where the complexity of interconnection systems is such that a whole company can find itself at a standstill, simply because of a bad contact.



THE BENEFITS OF MODULARITY IN A RACK

Not only do the MegaLine Racks have the same features as the best online double conversion UPS, they also offer the best performance and functions for their category in a 19" rack format.
The MegaLine Rack family includes 4 products, covering a rated power range starting at 1250 VA up to 5000 VA in steps of 1250 VA. The main characteristics of these products put them in a class of their own in the market: Scalability, Modularity and Redundancy.
Scalability means the power of each model can be upgraded at any time (except for the MegaLine Rack 5000), without the need for special settings or calibration: the UPS automatically adjusts to its new configuration as soon as it recognises the extra power board.
Modularity means the UPS is made up of power modules that are identical to one another, each one providing 1250 VA. As they are connected up in a parallel formation, they pool their resources entirely.
All the critical power circuits in the UPS (PFC, inverter, battery charger, booster etc.) are repeated on each board. Redundancy is a direct outcome of modularity: the modules are connected in parallel so failure of one of them will not endanger the correct working of the uninterruptible power supply: the faults will be signalled but the UPS will carry on supplying output power.
The MegaLine Rack has a large, 4-line backlit display, with both letters and numbers, with a semaphore color display panel and an RS232 port and two logic ports on the back of the unit. MegaLine Rack can also provide extended back-up time by adding extra battery kits into the special battery rack cabinet (holds up to a maximum of 4 KB MegaLine/2).

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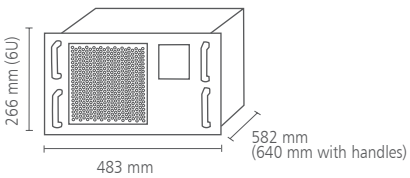
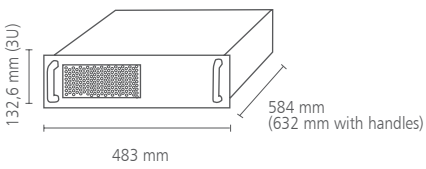
MegaLine Rack



Battery MegaLine Rack



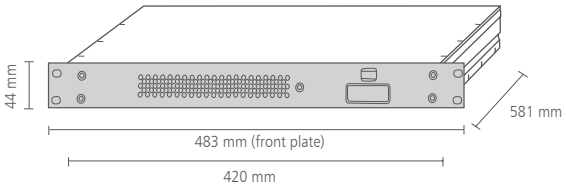
Cables for connecting to the MegaLine Rack are supplied

MegaLine Rack accessories	Description	Item Code
PW 1250	Power upgrade	PAM0027
KB MegaLine/1	Runtime extension kit for inverter cabinet	PAM0018
KB MegaLine/1	Runtime extension kit for inverter cabinet installed	PAM0019
KB MegaLine/2	Runtime extension kit for battery cabinet	PAM0020
KB MegaLine/2	Runtime extension kit for battery cabinet installed	PAM0021
BATTERY MegaLine Rack 36 V	Extra battery cabinet in Rack format	PAR0002
BP/1	Manual bypass for single cabinet units	PAM0023
CB 36	Battery charger	PAM0043
CB 36	Battery charger installed	PAM0044
Kit Rail guides Rack 6U	Telescopic rail guides Rack 6U	PAR0018
Relay Interface Kit	Relay contacts hardware support	PAM0009

For more details on hardware and software accessories, go to pages 76 - 95.

Model	MegaLine Rack 1250	MegaLine Rack 2500	MegaLine Rack 3750	MegaLine Rack 5000
SPECIFICATIONS				
Nominal Power	1250 VA	2500 VA	3750 VA	5000 VA
Active Power	875 W	1750 W	2625 W	3500 W
Max Power Scalability	5000 VA			
Max Power Scalability	3500 W			
Technology	Online double conversion (VFI)			
UPS Architecture	Modular, Scalable, Redundant N+X with 1250 VA power boards, contained in a cabinet			
INPUT				
Input Voltage	230 V			
Input Voltage Range	184 V ÷ 264 V @ 100% load			
Minimum Operating Voltage (on mains power)	100 V @ 50% load			
Input Current THD	< 3%			
Input Power Factor	> 0.99 from 20% load			
Input Frequency	50 Hz / 60 Hz ± 2% autosensing			
OUTPUT				
Output Voltage	230 V ± 1%			
Output Frequency	50 Hz / 60 Hz synchronized			
Output Voltage THD	< 1% with non-linear load			
Wave form	Sinusoidal			
Crest Factor	3.5 : 1			
Efficiency on mains (AC/AC Online)	92% @ 100% load			
Overload capacity	300% for 1 s - 200% for 5 s - 150% for 30 s			
BATTERIES				
Runtime @ 50% load	20'			
Runtime @ 80% load	11'			
Runtime Extendibility	Yes			
GENERAL SPECIFICATIONS				
Bypass	Static and electromechanical, internally synchronized, automatic (for overload or anomaly)			
Signals and Alarms	Wide 4-line alphanumeric display, multicolour status indicator, acoustic signalling			
Communication Ports	N.1 RS232 port, N.2 Logic level ports			
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)			
Protection	Electronic protection against overloads, short circuits and excessive battery discharge Operation blocked at end of runtime Sensor for correct neutral connection Inrush limitation when switching on Back-feed protection (electrical insulation for the safety of the input plug when running in battery mode) EPO contact (emergency power off)			
Input/Output Connectivity	Schuko / Screw connector with 4-socket multiple extension cord (Italian/Schuko)			
MECHANICAL SPECIFICATIONS				
Net Weight	23.5 Kg	34 Kg	43 Kg	53 Kg
Dimensions (W x H x D)	483 x 266(6U) x 582 mm			
Power Modules Installed	1	2	3	4
Power Scalability Slots Available	3	2	1	-
Battery Kits Installed	1	2	3	4
Runtime Extension Slots Available	3	2	1	-
ENVIRONMENTAL DATA				
Working Temperature	0 °C ÷ 40 °C			
Relative Humidity	20% ÷ 80% non condensing			
Acoustic Noise @ 1 m	< 40 dBA			
STANDARDS				
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3			
GUARANTEE				
Guarantee	2 years, including batteries			
Item Code	**P4482N**	**P4483N**	**P4484N**	**P4485N**

WHAD Rack 800 VA 1000 VA 1U Rack format



The WHAD Rack 800 VA and 1000 VA models are built in a 1U rack format: the highest levels of technology and performance in the least possible space currently available on the market.

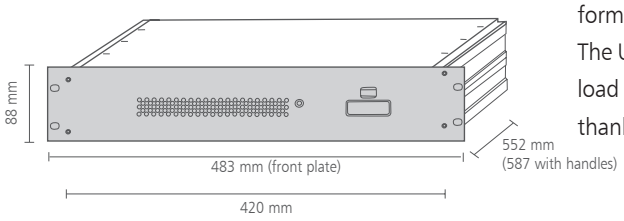
Thanks to the Online Double Conversion (VFI) technology, zero transfer time is guaranteed along with total continuity of protection, identical waveform whether running on mains or on battery power, and the suppressing of any power disturbes, be it in terms of waveform amplitude or frequency.

The technology applied to these UPS has made it possible to optimise production processes, reducing time and costs yet increasing product reliability.

With 800 VA and 1000 VA power ratings, these UPS have just one circuit board with integrated power and control-diagnostics logic.

The back-up time of the WHAD Rack 1U can be extended, making it ideal for networking applications, telecoms and data transmission.

WHAD Rack 1500 VA 2U Rack format



The WHAD Rack family also includes a 2U rack version providing 1500 VA of power, capable of fulfilling the needs of critical loads, requiring the protection offered by online double conversion technology in a rack format.

The UPS can also supply the protected load for lengthy periods of time, thanks to the possibility of connecting extra battery modules.

Considering the reliability and flexibility offered by the uninterruptible power supplies in the WHAD Rack series, these are the best products for safeguarding total electrical protection for servers, networking, telecoms and data transmission systems.

WHAD Rack accessories	Description	Item Code
Battery Rack 48V Rack 1 U	Extra battery cabinet in 19'' Rack format (only for WHAD Rack 800 - 1000 VA models)	**PAR0014**
Battery Rack 72V Rack 2 U	Extra battery cabinet in 19'' Rack format (only for WHAD Rack 1500VA models)	**PAR0015**
Kit rack splitter	Kit splitter cable to connect battery cabinet	**PAR0001**
Kit Rail guides Rack 1U	Telescopic rail guides Rack 1U	**PAR0016**
Kit Rail guides Rack 2U	Telescopic rail guides Rack 2U	**PAR0017**

For more details on hardware and software accessories, go to pages 76 - 95.

Model	WHAD Rack 800	WHAD Rack 1000	WHAD Rack1500
SPECIFICATIONS			
Nominal Power	800 VA	1000 VA	1500 VA
Active Power	560 W	700 W	1050 W
Technology	Online double conversion (VFI)		
INPUT			
Input Voltage	230 V		
Input Voltage Range	184 V ÷ 264 V @ 100% load		
Minimum Operating Voltage (on mains power)	100 V @ 50% load		
Input Power Factor	> 0.99 from 20% load		
Input Frequency	50 Hz / 60 Hz ± 2% autosensing		
OUTPUT			
Output Voltage	230 V ± 1%		
Output Frequency	50 Hz / 60 Hz synchronized		
Output Voltage THD	< 1%		
Wave form	Sinusoidal		
Crest Factor	3.5 : 1		
Overload capacity	300% for 1 s - 200% for 5 s; 150% for 30 s		
BATTERIES			
Runtime @ 50% load	12’	18’	30’
Runtime @ 80% load	7’	11’	15’
Runtime Extendibility	Yes		
GENERAL SPECIFICATIONS			
Bypass	Electromechanical, internally synchronized, automatic (for overload or anomaly)		
Signals and Alarms	Multicolour status indicator and acoustic signalling		
Communication Ports	N.1 RS232 port		
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)		
Protection	Electronic protection against overload, short circuit, and excessive battery discharge Operation shutdown at end of runtime Inrush limitation when switching on Correct neutral connection sensor Back-feed protection (electrical safety insulation of the input plug when running in battery mode)		
Output Sockets	3-sockets multiple extension cord (Italian/Schuko)		
MECHANICAL SPECIFICATIONS			
Net Weight	10 Kg	15.50 Kg	20.56 Kg
Dimensions (W x H x D)	483 x 44 (1U) x 581 mm		483 x 88 (2U) x 552 mm
ENVIRONMENTAL DATA			
Working Temperature	0 °C ÷ 40 °C		
Relative Humidity	20% ÷ 80% non condensing		
Acoustic Noise @ 1 m	< 40 dBA		
STANDARDS			
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3		
GUARANTEE			
Guarantee	2 years, including batteries		
ITEM CODE	**P4486N**	**P4487N**	**P4488N**

DK 1000 / DK 2000 / DK 3000

DK UPS range is available in 1000VA, 2000VA e 3000VA nominal power models based on Online Double Conversion technology and expandable in autonomy by adding external battery cabinets.
DK UPS assures zero transfer time, protection continuity, a perfect sinusoidal output wave form, both on mains and battery operation, for a total protection of any kind of load.
Electronics and batteries are contained only in a 2U rack format.

Box contents:

- UPS
- Multilingual instructions
- Schuko input cable
- Schuko output cable
- USB cable

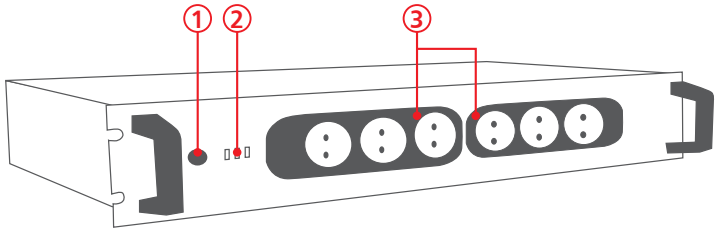
accessories	Description
BBOX 12	Battery Box containing 12 batteries 7,2ah Dimensions 440 x 176(4U) x 420
BBOX 20	Battery Box containing 20 batteries 7,2ah Dimensions 440 x 88(2U) x 650
Rail Kit	Installation Kit for 19" Rack
Bypass	External Bypass Switch

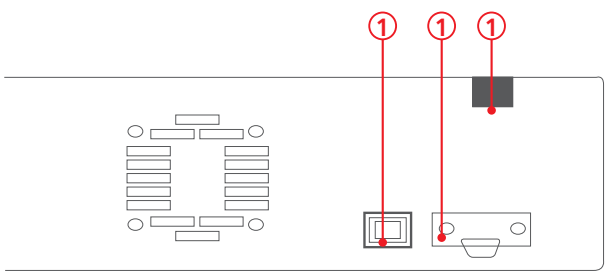
Model	DK 1000	DK 2000	DK 3000
SPECIFICATIONS			
Nominal Power	1000 VA	2000 VA	3000 VA
Active Power	700 W	1400 W	2100 W
Technology	True On-line Double Conversion VFI SS 111		
INPUT			
Input Voltage	230 V		
Input Voltage Range	160V÷288V		
Input Frequency	50Hz / 60 Hz +/- 5% Autosensing		
Input Power Factor	> 0,99 full load		
OUTPUT			
Output Voltage	230 V +/- 1%		
Output Frequency	50 Hz / 60 Hz ± 1Hz		
Wave form	Pure Sinewave THD <3%		
Crest Factor	3:1		
BATTERIES			
Runtime @ 50% load [min]	20'	20'	16'
Runtime @ 80% load [min]	10'	10'	8'
Recharge Time	3 hours to 90%		
GENERAL SPECIFICATIONS			
Signals and Alarms	Led and acoustic signals		
Communication Ports	Standard RS 232 & USB Interfaces		
Communication Slot	for, SNMP Adapters, Dry Contact, Relay Boards, etc etc		
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)		
Protection	Electronic protection against overloads and short circuits. Operation blocked at the end of runtime or overheating Automatic shutdown for protections triggering		
Output Sockets	6 IEC 320		4 IEC 320
MECHANICAL SPECIFICATIONS			
Net Weight	15 Kg	28 Kg	30 Kg
Dimensions (WxHxD)	440x88(2U)x405 mm	440x88(2U)x650 mm	
ENVIRONMENTAL DATA			
Working Temperature	0 °C ÷ 40 °C		
Relative Humidity	0 % ÷ 90 % non condensante		
Acoustic Noise @ 1 m	< 50 dBA		
STANDARDS			
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3		
GUARANTEE			
Guarantee	2 years, including batteries		
ITEM CODE	**PIO0029**	**PIO0030**	**PIO0031**

Power Strip:
The Best solution for space and electrical continuity needs.

Power Strip is the first all in one solution that includes a power bar (rack 19" standard compliant) and an internal 600 VA UPS.
Today is important to give protection to wall mount racks too, to insure protection and energy continuity to the installed devices (hub, router, switch).

Wall mount racks are often chosen for space saving and consequently the interior space is very precious.
Power strip occupies only 2U and is only 27 cm deep and includes 6 universal sockets (Ita / Shucko).

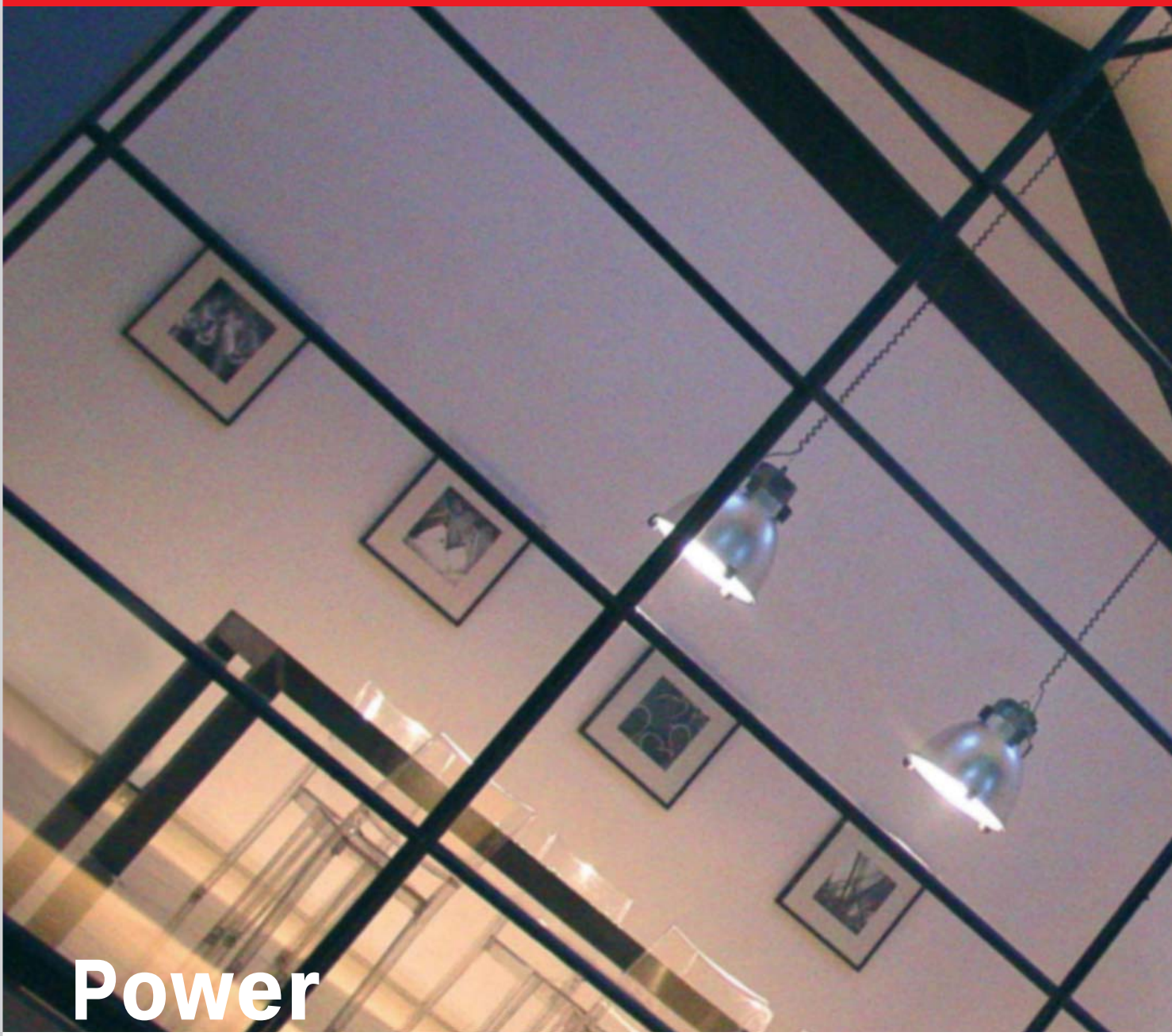




1. On/Off Button
2. Status Led
3. Output Multi-socket
4. Input cable
5. USB interface port
6. RS232 interface port

Model	Power Strip 600
SPECIFICATIONS	
Nominal Power	600 VA
Active Power	360 W
Technology	Line Interactive with AVR (VI)
INPUT	
Input Voltage	230 V
Input Voltage Range	160 V÷260 V
Input Frequency	50 Hz / 60 Hz
OUTPUT	
Output Voltage	230 V
Output Frequency	50 Hz / 60 Hz ± 1 Hz
Wave form on battery	Pseudosinusoidal
BATTERIES	
Runtime @ 50% load	13'
Runtime @ 80% load	7'
GENERAL SPECIFICATIONS	
Signals and Alarms	Multicolour status indicator and acoustic signalling
Communication Ports	RS 232 - USB
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)
Protections	Electronic protection against overloading and short-circuiting Shutdown on reaching operating limit and overheating. Automatic shutdown due to protection triggering
Output Sockets	6-socket multiple extension cord (Italian/Schuko)
MECHANICAL SPECIFICATIONS	
Net Weight	5 Kg
Dimensions (W x H x D)	483 x 88 (2U) x 270 mm
ENVIRONMENTAL DATA	
Working Temperature	0 °C ÷ 40 °C
Relative Humidity	0% ÷ 95% non condensing
Acoustic Noise @ 1 m	< 40 dBA
STANDARDS	
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3
GUARANTEE	
Guarantee	2 years, including batteries
ITEM CODE	**PII0007**

THE POWER STATION



Power and Security

There really are a whole host of possible applications for the DHEA.

Designed to support medium power loads and provided with 3 output lines - which can be programmed separately for back-up time management based on a user-designated hierarchy. These UPS were designed to offer the long runtimes needed by businesses, for homes and in multi-storey buildings, where stairwell lighting, audio and video intercom entry systems and electrically-operated access has to be guaranteed at all times.

Repeated power black outs are a considerable headache for retailers, who are often not able to operate the cash register and complete a sale, or find themselves in the dark when the lights go off, or even locked in because the sliding doors won't work.

All of these events disturb normal business and are detrimental to the services offered; they also have a financial impact and damage the retailer's image.

The DHEA is the perfect solution! The DHEA can provide long autonomies thanks to its streamlined and very attractive, modular battery pack system, meeting the specific demands of the user.

They are also readily used in multi-storey buildings, providing uninterrupted power for the lighting on the stairs, for the audio and video intercom systems and for automated access. Professionals routinely work with appliances that are sensitive to the "quality" of the mains electricity and that may even fail to operate correctly if there is a break in power, or sags or surges in the mains voltage. DHEAs are online double conversion, so they are able to correct mains power problems, offering

protection for all the loads connected up to it.
There are many who think UPS are just for the professionals: actually, domestic applications also need support in order to safeguard their continuity of power, just like professional equipment, especially because homeowners are increasingly adopting electronic appliances in order to automate their home and enhance their comfort.
The DHEA was designed with these demands in mind, guaranteeing long runtimes with a minimum impact on footprint. Automatic gates, lighting, surfing the internet, audio and video systems: DHEA can take care of all of these, discreetly and "continuously".

Shops

Cafés

Homes

Offices / Studios

Dental surgeries

Multi-storey buildings

DHEA THE POWER STATION

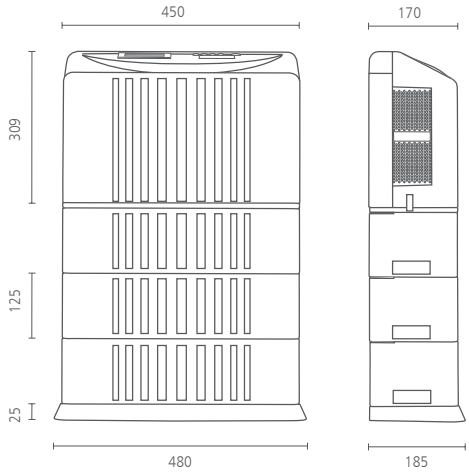
The DHEA has an inverter section and battery modules (battery packs) with a stackable design and plug and play connectivity.

The lead batteries contained inside the battery packs are hermetically sealed so they do not emit any gas whatsoever. As a result, they can be used in the home without any need for maintenance.

They are available in versions supplying 1000 / 1500 VA of power, whereas their runtime configuration can be determined according to requirements, even with very long back up times thanks to the system of stackable battery packs, which also gives them a very small footprint. This system means siting your UPS is not a problem should space be an issue (e.g. behind a door), however their very pleasant design means they are attractive even if in full view).

Designed with online double conversion technology, the DHEA supplies perfectly sinusoidal, stabilised output voltage, protecting devices that are sensitive to any interference or sudden shifts in the mains power supply. They are also fitted with an input power factor corrector (PFC) and therefore act as a phase advancer, offering benefits in terms of consumption for both the consumer and the electricity supplier.

The stackable battery packs offer the option of long runtimes while taking up a minimum of space: with a DHEA UPS, you can beat the growing phenomenon of power black outs, causing problems not just for private homes but also for businesses requiring need longer power back up, rather than high levels of power.



ONLINE

Online double conversion technology solves any issues with the power supply caused by shifts in the input voltage or frequency. The DHEAs have a special input stage that enables them to be used with a wide range of power supply voltages, avoiding frequent switchovers to battery power. They can also be used with gen-sets and as frequency converters.

3 OUTPUT LINES

The 1500 version is complete with 3 output lines, including 2 time programmable ones that turn off after a pre-set time during inverter run. In this way the more important loads gain more back up time.

DISPLAY

The 1500 version also has an user-friendly LCD display fitted into the front panel makes monitoring and programming extremely easy and userfriendly. In the DHEA's setup, it is possible to set operating parameters in order to optimise all operation. It is possible to schedule tunr on/off the UPS on and execute battery tests.

Long Runtimes

Stacking the battery packs is quick and easy, so increasing runtimes is not a problem: forget about limiting tasks to the time needed simply to save data and close down any open applications (typical with computers). Now we can really talk about long runtimes, even in terms of hours, as a DHEA can easily meet the needs of a stable and continuous source of electricity for applications in all areas of life, for use at home, in professional studios and offices, in shops and small businesses.

Battery Packs	Runtime @ 100 load	
	1000 VA	1500 VA
1	20'	15'
2	48'	32'
3	1 h 20'	50'
4	2 h	1 h 15'
5	2 h 40'	1 h 35'
6	3 h 20'	2 h
7	4 h	2 h 30'
8	5 h	3 h
9	6 h	3 h 30'
10	7 h	4 h

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MetaSystem
TEAM ENERGIZED
Panasonic

Use with a gen-set

The DHEA's design also caters for connection of its electronic section to a gen-set in order to considerably increase system autonomy in case of very lengthy power black outs. Gen-sets, especially low power products, typically provide power with considerable voltage fluctuation together with characteristic frequency instability. The DHEA's input stage was also designed to handle this type of power supply and delivers output voltage with perfectly stable amplitude and frequency.

Hot-swappable battery pack connections

The battery pack contains all its batteries and relative connections. Connecting up to the electronic unit is simple and safe, so that even the less expert among us can transport and install all of the various system parts with total confidence and ease.

Thanks to the hot-swappable system, battery packs can be added or replaced at any time, with no need to switch off the inverter unit, guaranteeing total continuity of power to the load.

The inverter's rated voltage is 72V but this is only present when the module has been connected up. During transport, there's only 36V across the battery pack terminals, safeguarding maximum safety and compliance with current standards. An unlimited number of batteries can be connected up to the electronic unit so you can get exactly the runtime you need.

Model	DHEA 1000	DHEA 1500	Battery Pack
SPECIFICATIONS			
Nominal Power	1000 VA	1500 VA	-
Active Power	700 W	1050 W	-
Technology	Online double conversion (VFI)		-
INPUT			
Input Voltage	230 V		-
Input Voltage Range	184 V ÷ 264 V @ 100% load		-
Minimum Operating Voltage (on mains power)	100 V @ 50% load		-
Input Power Factor	> 0.99 from 80% load		-
Input Frequency	50 Hz / 60 Hz ± 2% autosensing		-
OUTPUT			
Output Voltage	230 V ± 2% synchronized		-
Output Frequency	50 Hz / 60 Hz ± 1%		-
Output Voltage THD	< 1% with non-linear load		-
Wave form	Sinusoidal		-
Crest Factor	3.5 : 1		-
Overload capacity	300% for 1 s - 200% for 5 s; 150% for 30 s		-
BATTERIES			
Batteries per Battery Pack	-		2x (3x12V-7,2Ah)
Runtime Extendibility	Refer to extended runtime table		
GENERAL SPECIFICATIONS			
Bypass	Electromechanical, internally synchronized, automatic (for overload or anomaly)		-
Signals and Alarms	Multicolour status indicator and acoustic signalling	Wide 4-line alphanumeric display, multicolour status indicator, acoustic signalling	-
Communication Ports	N.1 RS232 port, N.4 dry contact outputs; n. 1 EPO contact		-
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)		-
Protection	Electronic protection against overloads, short circuits and excessive battery discharge Operation blocked at end of runtime Sensor for correct neutral connection Inrush limitation when switching on EPO contact (emergency power off)		Internal fuses
Output Lines	1 line	3 lines (2 with timer)	-
MECHANICAL SPECIFICATIONS			
Net Weight	4 Kg		16 Kg
Dimensions (W x H x D)	450 x 309 x 170 mm		450 x 125 x 170 mm
ENVIRONMENTAL DATA			
Working Temperature	0 °C ÷ 40 °C		
Relative Humidity	20% ÷ 80% non condensing		
Acoustic Noise @ 1 m	< 40 dBA		-
STANDARDS			
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3		
GUARANTEE			
Guarantee	2 years, including batterie		
ITEM CODE	**PHO0057**	**PHO0058**	**PAO0001**

DHEA 1000

DHEA 1500

LINE INTERACTIVE VI

Uninterruptible power supplies for SO-HO applications

Problems with the quality of the supply of electricity and power blackouts are usual events nowadays. For businesses and everyday life too.

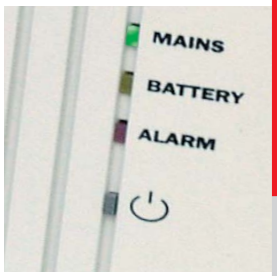
Interference, brownouts and blackouts can all cause work to stop, damage to hardware and most of all loss of the data being processed.

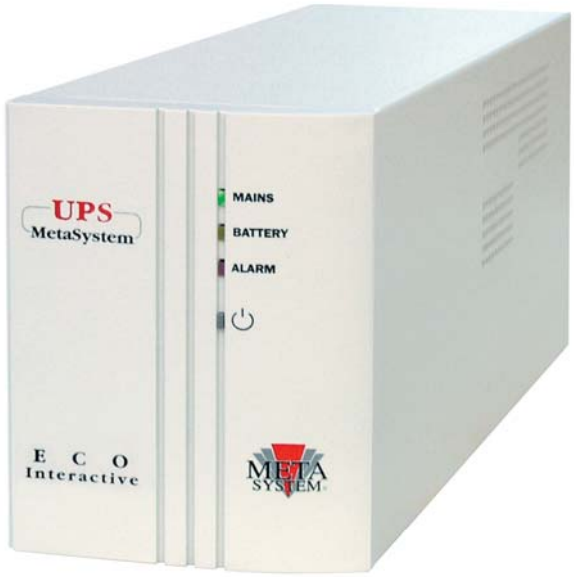
Conseguently system's restoring will take many times and costs. Therefore, giving computers and data the right protection assure real and cost-effective benefits.

Line interactive technology gives a reliable performance at a very affordable price.

For any Small-Office Home-Office application, UPS with this technology offer the best price/quality ratio for office data security - for a business or for a PC at home.

Meta System's range, with very attractive and handy UPS offers power ratings from 600 VA to 1500 VA that are a perfect solution for any office or home PC system.





There are two models in the Eco Interactive range: the Eco Interactive 308 SXI and the Eco Interactive 311 SXI, which to supply the load with a rated power of 770 VA and 1100 VA respectively. They are line interactive UPS and both models are fitted with an electronic stabiliser (AVR), a hard-wired remote control and a RS232 serial interface. They can be used in conjunction with UPS Communicator diagnostics software, providing automatic local shutdown for all Windows and Linux systems, downloaded free of charge from our website www.metasystem.it. On request, these UPS can also be supplied with UPS SuperviSor software on CD, supporting all operating systems and all the advanced functions of heterogeneous networks (multi-server shutdown, messaging, remote control).
The Eco Interactive's guarantee ideal protection for PCs, small networks, servers, telephone switchboards, surveillance systems, domestic applications and automation.

Ideal Protection for PCs, small networks, servers, switchboards and surveillance systems.

The Eco Interactive's have a convenient, hard-wired remote control to switch the UPS on and off. The remote control has an on-off switch and a multi-colour LED with semaphore signalling, indicating the main operating statuses.
They also come complete with a universal (Italian/Schuko), three-socket extension cord.

Model	Eco Interactive 308 SXI	Eco Interactive 311 SXI
SPECIFICATIONS		
Nominal Power	770 VA	1100 VA
Active Power	500 W	700 W
Technology	Line Interactive with AVR (VI)	
INPUT		
Input Voltage	230 V	
Input Voltage Range	184 V÷265 V	
Input Frequency	50 Hz	
OUTPUT		
Output Voltage	230 V	
Output Frequency	50 Hz ± 1%	
Wave form	Pseudo - Sinusoidal	
BATTERIES		
Runtime @ 50% load	18'	11'
Runtime @ 80% load	8'	5'
GENERAL SPECIFICATIONS		
Signals and Alarms	Led and acoustic signalling	
Communication Ports	RS232 port (DB9 connector)	
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)	
Protection	Electronic protection against overloads and short circuits Operation blocked at end of runtime or overheating Automatic shutdown for protections triggering	
Output Sockets	3-socket multiple extension cord (Italian/Schuko)	
MECHANICAL SPECIFICATIONS		
Net Weight	8.5 Kg	10 Kg
Dimensions (W x H x D)	120 x 168 x 385 mm	
ENVIRONMENTAL DATA		
Working Temperature	0 °C ÷ 40 °C	
Relative Humidity	20% ÷ 80% non condensing	
Acoustic Noise @ 1 m	< 32 dBA	
STANDARDS		
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3	
GUARANTEE		
Guarantee	2 years, including batteries	
ITEM CODE	**P41000N**	**P41010N**

The Harviot 730 SX comes complete with a safe-touch on/off button to guarantee maximum operating safety and to prevent the UPS from being switched off by accident.
Its multi-coloured led at the top of the UPS is easy to see even if the UPS is kept on the floor, and gives the end-user all the principal status information about the UPS, accompanied by a buzzer signal. The Harviot 730 SX is a line interactive UPS with AVR and has both an inbuilt RS232 serial communications port and RJ11 telephone protection to protect the phone line against voltage surges.

ELECTRONIC STABILIZER (AVR)
For superior quality output voltage

RS232 SERIAL INTERFACE
Communications with your PC and management of local shutdown (freeware).

TELEPHONE LINE PROTECTION
Protects the phone/modem line against voltage surges.

SAFE SWITCH ON
To avoid switching the UPS on or off by accident

USER INFORMATION
With easy-to-understand warning lights and audible signals.

MULTIPLE OUTPUT SOCKET
3-socket multiple extension cord supplied, making it easier to connect up loads.

Power button in silicon rubber

Computer interface and phone protection

Model	Harviot 730 SX
SPECIFICATIONS	
Nominal Power	730 VA
Active Power	430 W
Technology	Line Interactive with AVR (VI)
INPUT	
Input Voltage	230 V
Input Voltage Range	184 V ÷ 265 V
Input Frequency	50 Hz
OUTPUT	
Output Voltage	230 V
Output Frequency	50 Hz ± 1%
Wave form	Pseudo - Sinusoidal
BATTERIES	
Runtime @ 50% load	12’
Runtime @ 80% load	5’
GENERAL SPECIFICATIONS	
Signals and Alarms	Led and acoustic signalling
Communication Ports	RS232 port (DB9 connector)
UPS Communicator Software	Download free of charge from the website (www.metasystem.it)
Protection	Electronic protection against overloads and short circuits Operation blocked at end of autonomy or overheating Automatic shutdown for protections triggering
Output Sockets	3-socket multiple extension cord (Italian/Schuko)
MECHANICAL SPECIFICATIONS	
Net Weight	6.5 Kg
Dimensions (W x H x D)	110 x 178 x 315 mm
ENVIRONMENTAL DATA	
Working Temperature	0 °C ÷ 40 °C
Relative Humidity	20% ÷ 80% non condensing
Acoustic Noise @ 1 m	< 32 dBA
STANDARDS	
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3
GUARANTEE	
Guarantee	2 years, including batteries
ITEM CODE	**PHI0038**

Niky 600 Plus / 800 Plus

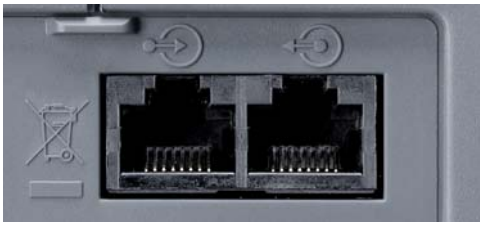
The Niky 600 Plus and 800 Plus are line interactive UPS providing powers of 600 VA and 800 VA respectively.
They are complete with electronic stabilisation (AVR) and provide excellent protection for the connected loads against mains interference. Not only do they safeguard a continuous power supply they also offer excellent protection for telephones/faxes/modems/LAN through their RJ11/RJ45 sockets.
These UPS have three IEC output sockets, a LED indicating their operating status and a port for monitoring the operation of the UPS and executing the emergency shutdown of Windows and Linux operating systems with the software as standard.
Their attractive design and small footprint, combined with the simplicity of their installation and operation, makes them perfect for any low-power application, both for offices and for the home.

Box contents:

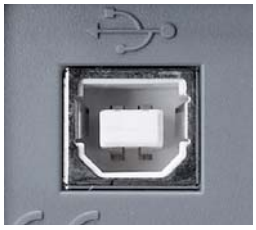
- UPS
- Multilingual instructions
- Schuko input cable
- IEC output cable

Rear view.

Niky 600 Plus / 800 Plus



Protection for telephone / fax / modem / LAN



USB port

Model	Niky 600 Plus	Niky 800 Plus
SPECIFICATIONS		
Nominal Power	600 VA	800 VA
Active Power	300 W	400 W
Technology	Line Interactive con AVR (VI)	
INPUT		
Input Voltage	230 V	
Input Voltage Range	160 V÷290 V	
Input Frequency	50 Hz / 60 Hz	
OUTPUT		
Output Voltage	230 V	
Output Frequency	50 Hz / 60 Hz ± 1Hz	
Wave form	Pseudo-Sinewave	
BATTERIES		
Runtime @ 50% load	10'	10'
Runtime @ 80% load	5'	5'
GENERAL SPECIFICATIONS		
Signals and Alarms	Led and acoustic signals	
Communications Ports	USB port	
Tel/Fax/Modem/LAN Protection	RJ 11 / RJ 45 connector	
UPS Communicator Software	download free of charge from the website (www.metasystem.it)	
Protection	Electronic protection against overloads and short circuits. Operation blocked at the end of runtime or overheating Automatic shutdown for protections triggering	
Output Sockets	N.3 IEC 320	
MECHANICAL SPECIFICATIONS		
Net Weight	7 Kg	7,5 Kg
Dimensions (WxHxD)	95 x 171 x 354 mm	
ENVIRONMENTAL DATA		
Working Temperature	0 °C ÷ 40 °C	
Relative Humidity	0 % ÷ 95 % non condensing	
Acoustic Noise @ 1 m	< 40 dBA	
STANDARDS		
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3	
GUARANTEE		
Guarantee	2 years, including batteries	
ITEM CODE	**PCI0028**	**PCI0029**

Description	Item Code
Pack of 5 multiple output extension cord	**PAI0012**

Niky 1100 Plus / 1500 Plus

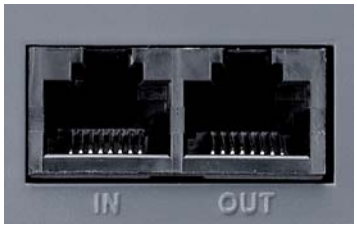
The Niky 1100 Plus / 1500 Plus are line interactive UPS models designed for advanced applications requiring more power and demanding more exacting specifications than entry level UPS can usually provide.
These versions supply powers of 1100 VA and 1500 VA respectively. They are complete with electronic stabilisation (AVR), a LED for status indication and total protection, RJ/11RJ45 socket for telephone/ fax/ modem/LAN protection. The serial port RS232 with DB9 connector and the USB port enables the monitoring of UPS operation and execution of emergency shutdown of Windows and Linux operating systems with the software as standard.
The Niky 1100E / 1500E are fitted with IEC output sockets located on the rear of the uninterruptible power supply.
The specifications of these UPS make them a perfect solution for industrial automation applications.

Box contents:

- UPS
- Multilingual instructions
- Schuko input cable
- Schuko output cable
- USB cable

Rear view.

Niky 1100 Plus / 1500 Plus



Protection for telephone / fax / modem / LAN

RS232 port

Model	Niky 1100 Plus	Niky 1500 Plus
SPECIFICATIONS		
Nominal Power	1100 VA	1500 VA
Active Power	600 W	900 W
Technology	Line Interactive con AVR (VI)	
INPUT		
Input Voltage	230 V	
Input Voltage Range	175 V÷285 V	
Input Frequency	50 Hz / 60 Hz	
OUTPUT		
Output Voltage	230 V	
Output Frequency	50 Hz / 60 Hz ± 1Hz	
Wave form	Pseudo-Sinewave	
BATTERIES		
Runtime @ 50% load	10'	10'
Runtime @ 80% load	5'	5'
GENERAL SPECIFICATIONS		
Signals and Alarms	Led and acoustic signals	
Communications Ports	RS232 ports	
Tel/Fax/Modem/LAN Protection	RJ 11 / RJ 45 connector	
UPS Communicator Software	download free of charge from the website (www.metasystem.it)	
Protection	Electronic protection against overloads and short circuits. Operation blocked at the end of runtime or overheating Automatic shutdown for protections triggering	
Output Sockets	N.6 IEC 320	
MECHANICAL SPECIFICATIONS		
Net Weight	13 Kg	16 Kg
Dimensions (WxHxD)	147 x 234 x 360 mm	
ENVIRONMENTAL DATA		
Working Temperature	0 °C ÷ 40 °C	
Relative Humidity	0 % ÷ 95 % non condensing	
Acoustic Noise @ 1 m	< 40 dBA	
STANDARDS		
Standards	EN 62040-1-1, EN 62040-2, EN 62040-3	
GUARANTEE		
Guarantee	2 years, including batteries	
ITEM CODE	**PCI0030**	**PCI0031**

COMPATIBLE UPS ACCESSORIES

DESCRIPTION	Battery MegaLine RACK 36V	PL MegaLine	CB 36 - Installed Battery charger	Megaline Splitter Cable	PW 1.250 - Power Upgrade	BP/2 - Manual bypass	BP/1 Manual bypass for single cabinet units	KB Megaline/2 - Autonomy Extension kit	KB Megaline/2 - Installed Autonomy Extension kit	KB Megaline/1 - Autonomy Extension kit	KB Megaline/1 - Installed Autonomy Extension kit	Additional Battery Cabinet for Megaline	Whad Battery Cabinet	Whad Battery Splitter Cable	BPW Bypass for Whad 5000/6000 VA	Battery Cabinet for Whad Rack 1U	Battery Cabinet for Whad Rack 2U
Item Code	PAR0002	PAM0048	PAM0044	PAM0031	PAM0027	PAM0024	PAM0023	PAM0020	PAM0021	PAM0018	PAM0019	PAM0003	PAO0009	PAO0054	PAO0017	PAR0014	PAR0015
TRIMOD 																	
MEGALINE 		•	•	•	•	•	•	•	•	•	•	•					
WHAD 							only for 3000 4000						only for "EXT"	only for "EXT"	only for 5000 6000		
MEGALINE RACK 	•		•		•		•	•	•	•	•						
WHAD RACK 																•	•
POWER STRIP 																	
DHEA 																	
ECO HARVIOT 																	
NIKY PLUS 																	
DK 																	

Item Code	DESCRIPTION
PAR0001	Kit Rack Splitter
PAR0016	Telescopic rail guides Rack 1U
PAR0017	Telescopic rail guides Rack 2U
PAR0018	Telescopic rail guides Rack 6U
PAI0012	5 Multi Socket kit
PAR0019	External Bypass Switch
PAO0022	Battery box 2U
PAO0023	Battery box 4U
PAR0020	Rail kit
PAM0009	Relay Interface kit
-	UPS Communicator (free download)
PAI0007	UPS Supervisor software RS232 port version
PAI0011	UPS Supervisor software USB port version
PAI0014	CS121: SNMP / WEB Manager for UPS (external version)
PAI0017	CS121B: SNMP / WEB Manager for UPS (external version)
PAI0027	CS121 SK: SNMP / WEB Manager for UPS (slot version)
PAI0028	CS121B SK: SNMP / WEB Manager for UPS (slot version)

TRIMOD										●	●	●	●		●	●
MEGALINE										●	●	●	●	●		
WHAD										only for 1500 2000 2500 3000 4000 5000 6000	●	●	●	only for 800 1000 1250 1500 2000 2500	only for 800 1000 1250 1500 2000 2500	only for 3000 4000 5000 6000	only for 3000 4000 5000 6000
MEGALINE RACK				●					●	●	●	●	●	●	●	
WHAD RACK	●	●	●							●	●	●		●	●		
POWER STRIP											●	●				
DHEA										●	●	●		●	●		
ECO HARVIOT					●					●	●	●		●	●		
NIKY PLUS					●						●						
DK						●	●	●	●		●					●	●

TRIMOD® — Power module

The TRIMOD® power upgrade module enables to increase power when added to the inverter cabinet. The module is available with either 2.7 kVA, 3.4 kVA or 5 kVA power ratings. Thanks to its exclusive modular architecture, the TRIMOD® is able to be upgraded either in power and runtime, in line with the actual needs of the load, by simply adding power modules or battery drawers, with great savings in the initial cost of investment.

TRIMOD® — Battery drawer

The TRIMOD® battery drawer can be used to increase your UPS runtime, either directly inside the inverter cabinet, provided there is enough free space for the extra battery drawers, or in additional battery cabinets. By inserting drawers of batteries (in multiples of four), chosen from 7.2 Ah or 9 Ah version, you can create ad hoc runtime configurations, facilitating both UPS commissioning and subsequent maintenance requirements.

TRIMOD® — Transformer

The TRIMOD® was engineered with a passing neutral system based on the very latest technology in electronics, eliminating the need for transformers and providing great benefits in terms of cost, weight and size. Meta System can supply a range of high-efficiency, compact isolation transformers, fitted inside an elegant coordinating cabinet with the UPS system for the few special cases demanding it.

MEGALINE — PW1250 - Power board

All the models (except for the MegaLine 5000 single cabinet and the MegaLine 10000 double cabinet) can be upgraded in power in order to satisfy the requirements of the user. Installation is very simple. Power upgrade: an extra board and an extra battery kit must be fitted. Redundancy upgrade: the board can be fitted without the corresponding kit of batteries.

MEGALINE — KB MegaLine/1, KB MegaLine/2 - Runtime extensions

All the MegaLine models can have an extended runtime by fitting kits of three 12V 9Ah batteries inside their battery cabinet (max. 4 in the single cabinet, max 10 inside the battery cabinet of double cabinet models) or in additional battery cabinets.

MEGALINE — Additional Battery cabinets

Additional battery cabinets (option) for runtime extension. They can be connected in parallel by using the special MegaLine splitter cables. It is possible to connect several cabinets with no limit thanks to the MegaLine low battery voltage level. The 36V battery kits allow to obtain several sets of battery strings in parallel, increasing the level of redundancy of the system.

MEGALINE

PL MegaLine

An 80 cm cable to connect the inverter and battery cabinet in a tower configuration.

The inverter must be put on top of the battery cabinet.

MEGALINE

MegaLine Splitter

Y-shaped cable to connect two MegaLine battery cabinets together. If configurations include more than two battery cabinets, a splitter cable must be fitted for each extra MegaLine battery cabinet (e.g. 1 inverter unit + 5 MegaLine battery cabinets = 4 splitters).

MEGALINE

BP/1, BP/2 - Manual maintenance bypass

The manual maintenance bypass makes it possible to remove the UPS from its original application without interrupting the power supply to the load. Thanks to the manual bypass it's possible to execute any service and maintenance that require the UPS to be switched off: maintenance, upgrades, and expansions of power or runtime. It replaces the rear connector and can be easily disconnected from the UPS. Available in two versions for the single (BP/1) or double cabinet (BP/2).

MEGALINE

CB36 - Additional battery charger

An extra CB36, 7A battery charger can be fitted inside the battery cabinets. This reduces the overall recharge time and it is particularly useful when a large number of extra battery kits is required.

MEGALINE and WHAD

Relay Interface Kit

The interface is used to signal the operating status by dry contact ports. The interface is suitable with all UPS equipped with logic level port. The interface indicates mains operation, battery operation, low batteries (runtime reserve) and anomaly (overload or internal anomaly). Maximum capacity of the relay contacts: 1A (150Vdc or 125Vac).

DHEA

Battery Pack

The runtime of DHEA can be easily and quickly increased adding extra battery packs on top. Each battery pack stores six 12V 7.2Ah batteries. Connecting up to the electronic unit is simple and safe, so that even the less expert among us can pick up and fit each element in the system with extreme ease. The inverter's 72V rated power voltage is only present when the module has been connected up: during transport, there is only 36V across the battery pack terminals for maximum safety and in compliance with safety standards.

On its own, a UPS is unable to guarantee total protection of the data processing systems it powers. This is due to several factors, amongst which:

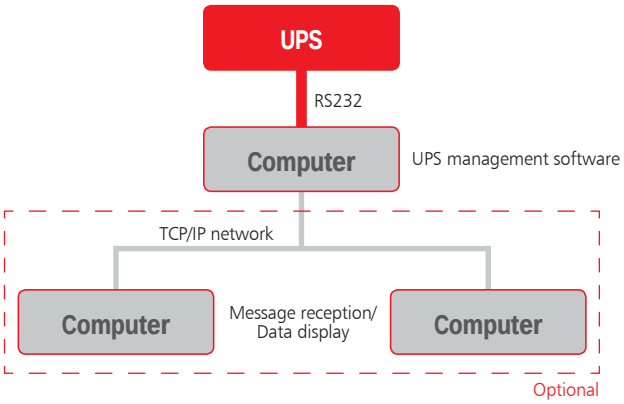
- Batteries do not have unlimited autonomy
- Unexpected load connections, such as stoves and vacuum cleaners, can cause overloads which annul the protection provided by the UPS.
- Installation in unmanned areas such as EDP rooms and basements or round-the-clock operations can make alarm reception difficult or impossible. This consequently put critical equipment at risk.

Moreover, since the systems can be extremely costly to repair, also owing to the time relevant downtime, it is easy to understand the importance to equip a UPS with a supervisory system able to inform the user of the imminent danger and automatically proceed with a series of actions to protect the data and the operating systems.

Meta System offers various supervision systems able to meet the customers' different requirements.

Local Protection

To protect a single computer (server or workstation) and its relative peripherals, it is enough to use an RS232 connection or USB and install the operating software in the system that must be protected.
If the computer is linked to an IP network, it is possible to receive alarm signals from the UPS as pop-up and e-mail messages, while the operating data can be graphically displayed via specific monitoring programs.

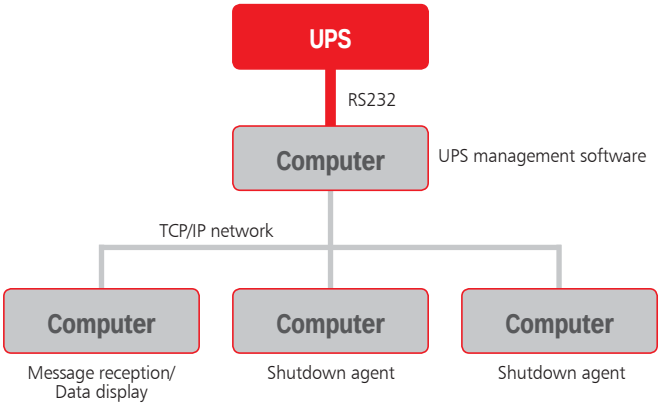


The advantage of this type of management is the low cost of the implementation, but the UPS must be positioned near the system to be protected.

The following applications are available:
- UPS Communicator
- UPS Supervisor

Extension of the Local Protection

In case of several computers to manage, the previously described solution can be used with a special software "agent" installed in the other computers. This special software will then receive and execute the commands transmitted by the computer interfaced with the UPS.



Here again, the implementation costs are very low, but the management system is completely inhibited when the computer interfaced with the UPS is shutdown (fault, maintenance, upgrading, etc…). If this happens, it will no longer be able to receive the alarm signals and will endanger the remaining computers.

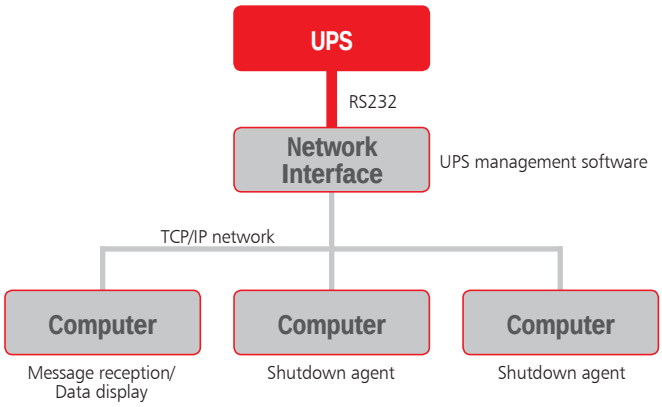
The following applications are available:
- UPS Communicator
- UPS Supervisor + RCCMD agent

Integration with the IP network

For this type of installation, the UPS must be connected to a special network interface in which the management software is installed. The network board is then connected to the IP network.

Since the UPS is directly linked to the UPS network, its management system can send e-mail and pop-up messages, shutdown and power the computer again.

Protection for the various computers is guaranteed by equipping them with a software agent that receives commands from the network interface of the UPS.



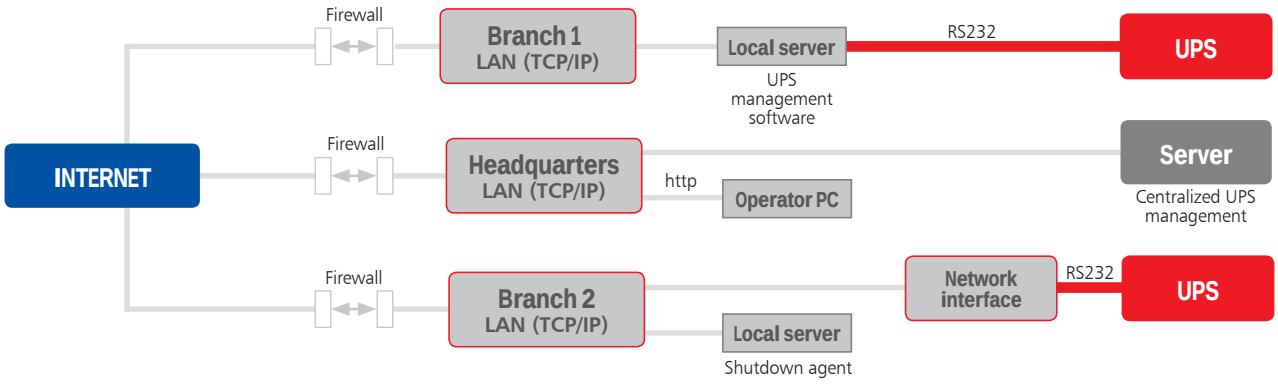
There are lots of advantages with this solution:
- The UPS can even be installed at a distance from the systems it must protect
- the entire management no longer depends on one single computer, effectively guaranteeing that all the devices connected are protected.
- The data can be displayed via any WEB browser without dedicated software having to be installed.

The following products are available for this type of installation:
- CS121 network interface + RCCMD software agent
- CS121B network interface + RCCMD software agent
- CS121 SK network interface + RCCMD software agent
- CS121B SK network interface + RCCMD software agent

Management of several UPS

It requires a software application that continuously monitors an even high number of UPS installed either locally or in remote sites.

All the alarms generated by the UPS through their respective management systems are received, via the IP network, by this application, which memorizes them in a database and transmits a series of e-mail and pop-up messages to the operators who, by means of the WEB browser, are quickly able to identify the UPS that generated the alarm and to make a complete and efficient diagnosis.



A Bank is a typical example of how this application can be used:
- Each branch has a UPS monitored by one of the previously described management systems, which controls and protects the local network
- The various different local networks are linked to each other permanently
- The monitoring station that continuosly controls all the UPS is installed in the headquarters

The advantage of this solution is the standard monitoring system which allows to manage UPS without having to know their IP address.

The software available for this type of application is called UNMS. Each UPS must be interfaced with UPS Supervisor, or with CS121 network interfaces or with a system that supports the SNMP protocol.

Environmental monitoring

There are applications which require UPS monitoring and environmental monitoring too.

With CS121 / CS121 SK it is possible to monitor temperature and humidity using special sensors. Within environmental monitoring is also possible set treshold values and program relevant job to execute as sending e-mail, pop-up message, remote computer command, shutdowns, ecc.

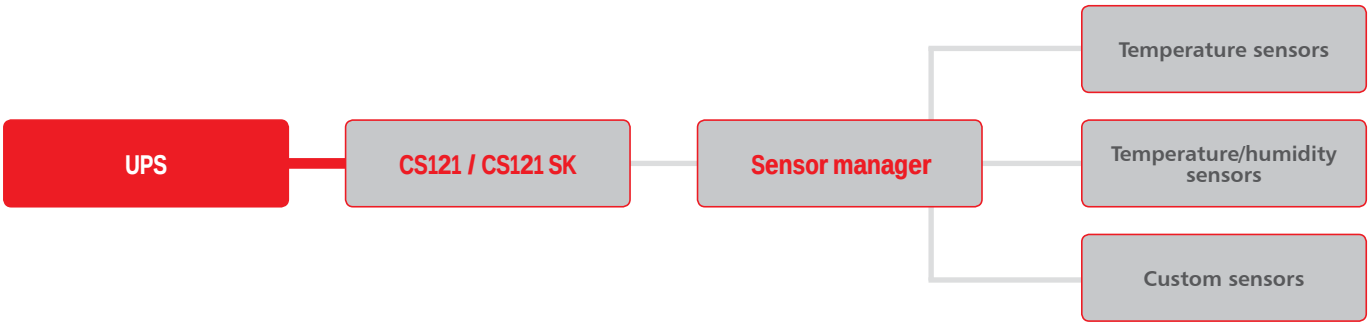
If more than one sensor is required, a special device allowing connection up to 8 units can be installed between the CS121 interface and the sensors themselves.

The historic data of the trend of the entities measured by the sensors are memorized in a dedicated log file and can be displayed in graphic form or exported for successive analysis and filing.

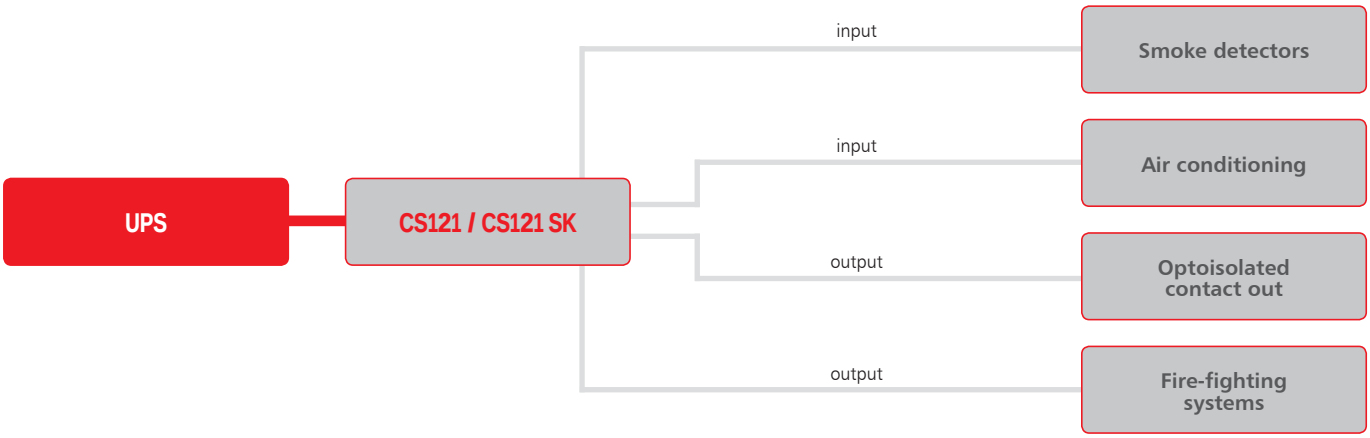
The system controls also the status of digital inputs (e.g. microswitches that open doors or fault indicator contacts of conditioning systems) and hardware devices like indicator lights or sirens can be programmed: here again, e-mail messages can be transmitted or commands executed on remote computers.

Monitoring of one single sensor

Monitoring of several sensors



Monitoring of digital inputs and control of hardware devices

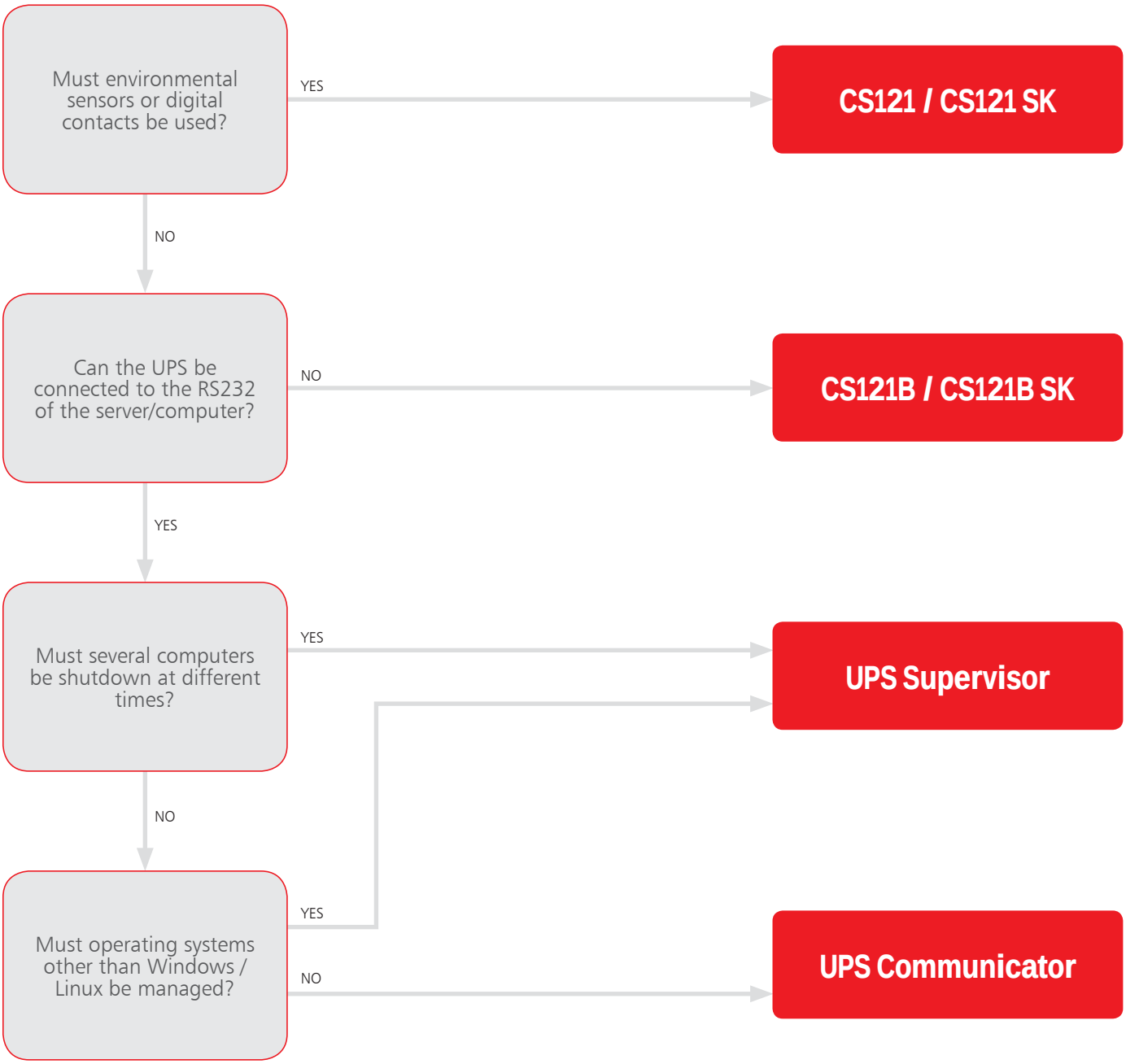


The following products are available for this type of system:

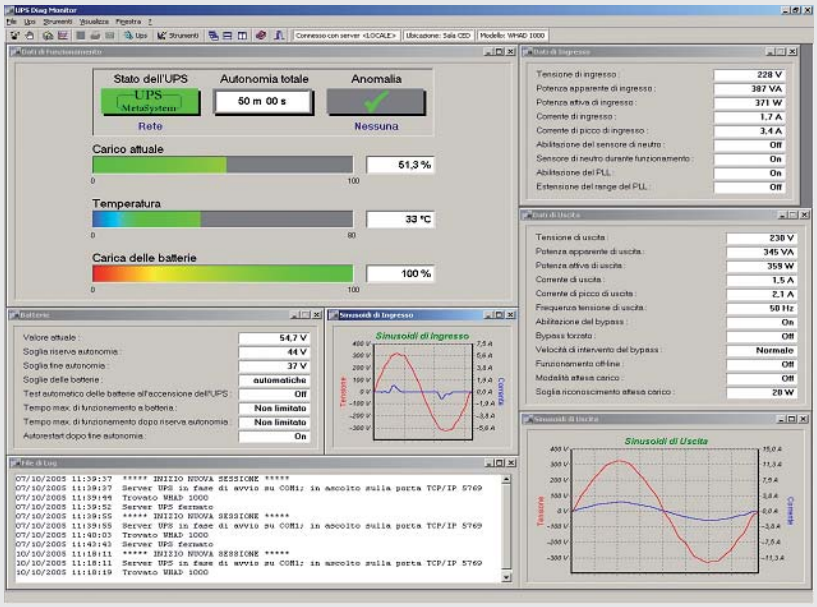
- CS121 / CS121 SK : network interface
- SM_T_COM : temperature sensor for CS121 / CS121 SK
- SM_T_H_COM : temperature and humidity sensor for CS121 / CS121 SK
- SensorManager : manager of sensors for CS121 / CS121 SK
- SM_T : temperature sensor for SensorManager
- SM_T_H : temperature and humidity sensor for SensorManager

How to choose the right product

The concepts outlined on the previous pages could give rise to doubts as to which is the best system to use and in which circumstances. To establish the best solution for every sort of requirement it is enough to answer few simple questions. The diagram below tells you how:



UPS Communicator



This is Meta System's free solution. It comprises a group of applications that continually monitor UPS operation and protect the operating systems of the computers powered by the UPS itself. The client/server structure makes it extremely flexible, efficient, simple to use and "light" when it comes to the system resources required.

UPS Communicator includes the following main modules:

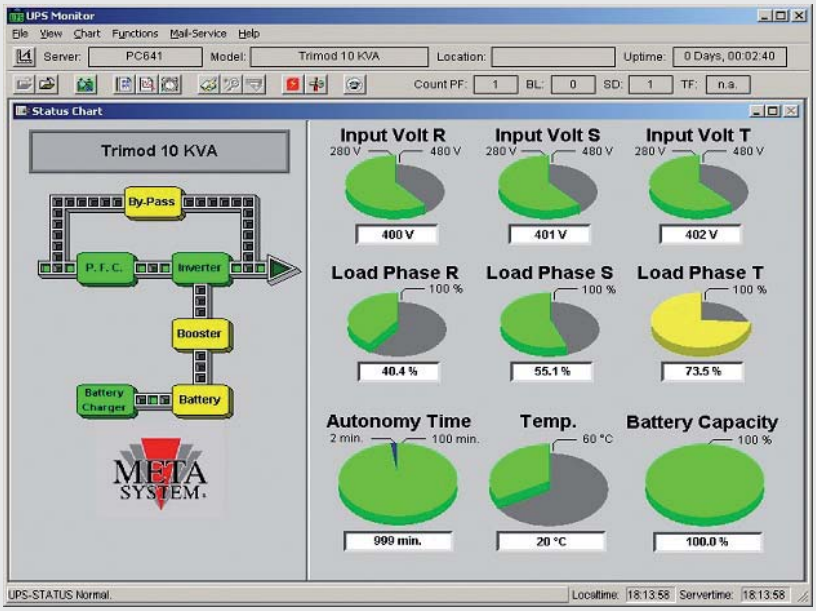
- **UPS Server:**
  server module for UPS management through the RS232 link.
  This server module can control numerous events (power failure, overload, bypass, internal faults, etc..) and is able to carry out lots of actions for each one (registration in the log file, transmission of pop-up messages, e-mail transmission, program execution, local and remote shutdowns, etc...).

- **UPS Diag Monitor:**
  graphic interface which, after connection to the UPS Server module, allows to access the operating data of the UPS, make a complete diagnosis, program special functions and execute tests.

- **RS System:**
  agent for executing commands on remote computers (shutdown, customized commands, pop-up messages) via the TCP/IP protocol.

Other features:

- Supports the UPS DAKER line
- Supports all Windows operating systems (98 and more recent)
- Supports all Linux distributions
- Can be downloaded free of charge from Meta System web page (free online registration is required)



Solution that's similar to UPS Communicator but supplied on CD-Rom. It comprises the following main modules:

- **UPSMAN:**
  server module for UPS management through the RS232 link.
  This module can control numerous events (power failure, overload, bypass, internal faults, etc..) and is able to carry out lots of actions for each one (registration in the log file, transmission of pop-up messages, e-mail transmission, program execution, local and remote shutdowns, etc...), also at different times.

- **UPSMON:**
  graphic interface which, after connection to the UPSMAN module, allows you to access the main operating data of the UPS and conduct tests.

Other features:

- It supports all UPS models.
- It supports all the main operating systems, even in different architecture (Intel, Alpha, Itanium, etc…): Windows 98 and more recent, Linux, Unix, Novell Netware and Mac OS X 10.x. Consult the Internet web site for the complete list.
- Free upgrades can be downloaded from the Internet.
- Includes one RCCMD license

Product code	Description
PAI0007	"RS232" version of the UPS Supervisor
PAI0011	"USB" version of the UPS Supervisor

RCCMD

This software enables a computer to receive and execute, via the TCP/IP protocol, the following remote commands transmitted by the UPS management systems:

- Shutdown of the operating system
- Display of pop-up messages
- Execution of customized programs (.COM, .EXE, .BAT, .CMD) with the relative options

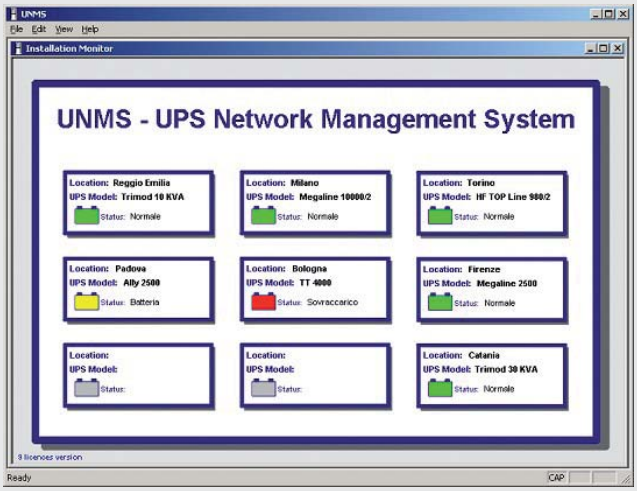
All the commands received are recorded in a log file.
Execution of these commands depends on an authorization control: the commands are only accepted if the UPS that transmitted them is part of an authorization list.
A "redundancy" list can be created, i.e. a command will only be executed if it has been transmitted by several UPS (e.g. to shutdown computers with redundant powering on two or more UPS).
The software supports 99% of the operating systems currently available on the market (including the AS/400 systems and virtualization systems like VMware) and is also available for different types of architecture (e.g. Intel, PowerPC, Alpha processors).
Compatible with: UPS Supervisor, CS121 (all models), SiteSwitch 4 (only the SS4 model).

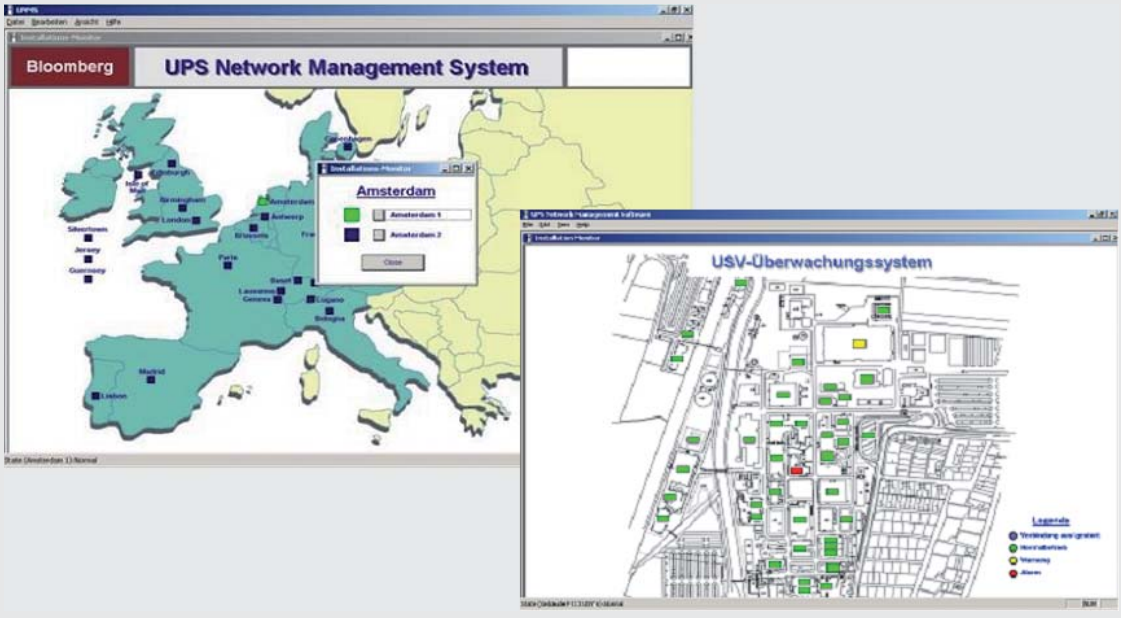
Notes

- An RCCMD license is required for each computer that needs to be controlled.
- Only the licenses are supplied: the software can be downloaded from the Internet.

Product code	Description
PAI0013	RCCMD multi OS license
PAI0035	Package of 5 RCCMD multi OS licenses
PAI0036	Package of 10 RCCMD multi OS licenses
PAI0037	Package of 25 RCCMD multi OS licenses
PAI0038	Package of 50 RCCMD multi OS licenses
PAI0016	RCCMD license for AS/400 (minimum release: V5R3M0)

UNMS (UPS Network Management System) is a WEB based application that can continuously monitor the status of all the UPS installed in one or more locations by means of the UPS management systems (CS121, UPS Supervisor , SNMP) and the TCP/IP protocol.
All the alarm signals generated by the various different UPS are received by the monitoring station so as to achieve an immediate and thorough diagnosis of the problem and allow the technical assistance service to act urgently if needed.
The operating status of each UPS is represented by a traffic light icon: in case of anomaly, the icon of the UPS in the alarm status changes colour depending on the seriousness of the fault. The control program sends pop-up messages, e-mail and runs customized programs. The monitoring function of the UPS concerned can be accessed with an Internet browser and a simple click on the mouse.
The SNMP protocol's support allows this application to be used with different brands of UPS, so long as they are compatible with the MIB RFC 1628 specifications.
The system also allows the graphic interface to be customized, memorizing of all alarms received in a database for research purposes and can display graphs showing the trend of the main operating parameters of the UPS.
The basic version is free of charge. It allows to manage at the same time up to nine UPS in basic version the SNMP protocol is disabled.
UNMS is available for Windows XP Pro and Windows Server 2003.





Network interfaces

They are special network devices designed to manage UPS autonomously. External software is not required: a 32-bit processor resides in the board along with an operating system of the "UNIX Embedded" type able to continuously monitor the operation of the UPS, handle lots of events (power failure, overload, bypass, faults,…) and consequently accomplish a series of actions, such as:

- Memorizing log files complete with the date and time
- Memorizing the trend of the main operating data complete with the date and time
- E-mail transmission
- Accomplishment of scheduled actions
- Displaying pop-up messages, making shutdowns and executing customized commands on remote computers *
- Turning the UPS off and on
- Transmitting Wake On Lan signals of the "Magic Packet" type
- Supporting the SNMP protocol and that of the main types of operating software (HP OpenView, IBM Tivoli, etc…)
- Transmission of SNMP trap messages
- Data and configuration display via the Internet browser (Internet Explorer, Mozilla Firefox, Opera, etc…) or Telnet
- The firmware can be upgraded using a dedicated software package that can be downloaded from the Internet free of charge
- 10/100Mbit Base-T Ethernet link (half-duplex and full-duplex) with self-recognition function
- Includes one RCCMD license

* The RCCMD software agent must be installed in these computers

CS121B

Power supply voltage :	9 to 30 V DC (power supplier included)
Temperature range :	0° C to 40° C
Humidity range :	10 to 80 % non-condensing
Dimensions [L x D x H] :	70 x 126 x 30 mm
Type of installation :	external
UPS supported :	all, expect for TRIMOD, WHAD 3000/6000
Product code :	PAI0017

CS121B SK

Power supply voltage :	9 to 30 V DC
Temperature range :	0° C to 60° C
Humidity range :	10 to 80 % non-condensing
Dimensions [L x D x H] :	60 x 120 x 30 mm
Type of installation :	internal (slot)
UPS supported :	TRIMOD, WHAD 3000/6000
Product code :	PAI0028

RS232

UPS

CS121B
or
CS121B SK

- HTTP / java / UPSMON
- Execution of remote programs
- SNMP, SNMP Trap management
- E-mail transmission (SMTP)
- Telnet, FTP, setup / update
- Log File, Historical Data File

SHUTDOWN / COMMANDS / MESSAGES

- Unix / Linux + RCCMD agent
- Windows + RCCMD agent
- MAC OS X + RCCMD agent
- AS/400 + RCCMD agent
- Novell Netware+ RCCMD agent

CS121 and CS121 SK

They are the "professional" version of our network interfaces. Besides including all the functions described for the "CS121B / CS121B SK" versions, they also feature the following additional functions:

- 1 multifunction RS232 port (interfacing with environmental sensors, MODBUS protocol, pipe-through function, setup via terminal)
- 4 digital contacts that can be independently programmed as inputs or outputs and used for integrating with alarm systems, for example
- MODBUS over IP protocol

CS121

Power supply voltage :	9 to 30 V DC (power supplier included)
Temperature range :	0° C to 40° C
Humidity range :	10 to 80 % non-condensing
Dimensions [L x D x H] :	70 x 126 x 30 mm
Type of installation :	external
UPS supported :	all, expect for TRIMOD, WHAD 3000/6000
Product code :	PAI0014

CS121 SK

Power supply voltage :	9 to 30 V DC
Temperature range :	0° C to 60° C
Humidity range :	10 to 80 % non-condensing
Dimensions [L x D x H]:	60 x 120 x 30 mm
Type of installation :	internal (slot)
UPS supported :	TRIMOD, WHAD 3000/6000
Product code :	PAI0027

UPS

RS232

CS121
or
CS121 SK

- Fire-fighting systems
- Air conditioning
- Smoke detectors
- IN relays
- OUT relays

- Configuration via Terminal
- RS232 Pipe-Through
- MODBUS over RS232
- Temperature sensors
- Sensor Manager

- MODBUS over IP
- HTTP / java / UPSMON
- Execution of remote programs
- SNMP, SNMP Trap management
- E-mail transmission (SMTP)
- Telnet, FTP, setup / update
- Log File, Historical Data File

SHUTDOWN / COMMANDS / MESSAGES

- Unix / Linux + RCCMD agent
- Windows + RCCMD agent
- MAC OS X + RCCMD agent
- AS/400 + RCCMD agent
- Novell Netware+ RCCMD agent

SM_T_COM sensor

Temperature sensor for direct connection to the COM2 of the CS121, CS121 SK and SiteSwitch 4 (only the SS4 model) interfaces.
Cannot be used with SensorManager.

Temperature range :	-25 to +100°C (± 0.5%)
Power supply voltage :	9 to 15 V DC (straight from CS121)
Dimensions [L x D x H] :	70 x 70 x 27 mm
Length of connecting cable :	approx. 1.8 m (included)
Product code :	PAI0018

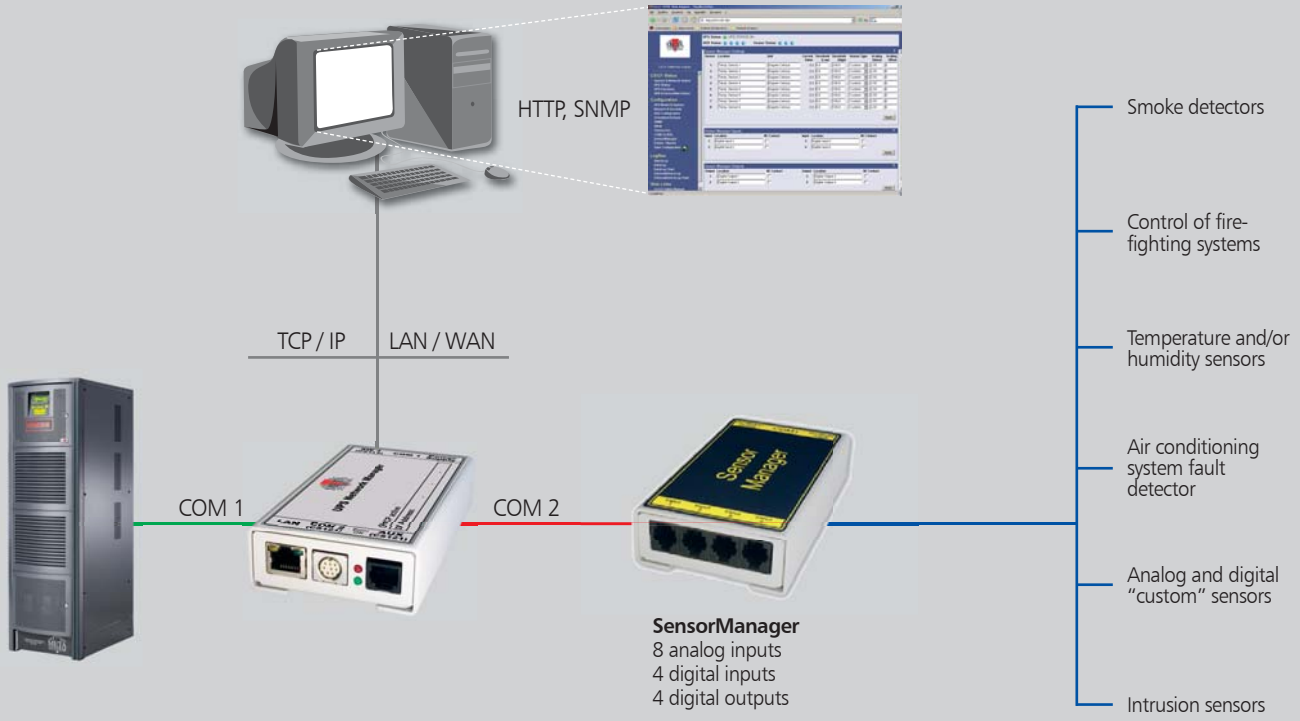
SM_T_H_COM sensor

Combined temperature and humidity sensor for direct connection to the COM2 of the CS121, CS121 SK and SiteSwitch 4 (only the SS4 model) interfaces.
Cannot be used with SensorManager.

Temperature range :	-25 to +100°C (± 0.5%)
(Relative) humidity range :	0 to 100 % (± 0.5%)
Power supply voltage :	9 to 15 V DC (straight from CS121)
Dimensions [L x D x H] :	70 x 70 x 27 mm
Length of connecting cable :	approx. 1.8 m (included)
Product code :	PAI0032

Sensor Manager

Manager for environmental sensors: connects to the COM2 of CS121, CS121 SK and SiteSwitch 4 (only the SS4 model) interfaces and controls up to 8 analog inputs, 4 digital inputs and 4 digital outputs. Configuration and management are created from the previously described interfaces.
The "Scale Driver" and "Offset" configuration functions allow SensorManager to be used with any analog apparatus (see specifications).
Includes 1 "SM_T" temperature sensor.



Power supply voltage :	9 to 24 V DC
Temperature :	0° C to 40° C
Humidity :	10 to 80 % non-condensing
Analog inputs :	0 to 10 V
Digital inputs :	9 to 24 V
Digital outputs :	9 to 24 V (100mA)
Dimensions [L x D x H]:	70 x 126 x 30 mm
Product code :	PAI0019

SM_T sensor

Temperature sensor **for exclusive use with SensorManager.**
Can be connected to another "SM_T" sensor using a dedicated connector.

Temperature range :	0 to 100 °C (± 1%)
Power supply voltage :	9 to 24 V DC (straight from SensorManager)
Dimensions [L x D x H] :	70 x 70 x 27 mm
Length of connecting cable :	approx. 5 m (included)
Product code :	PAI0021

SM_T_H sensor

Combined temperature and humidity sensor **for exclusive use with SensorManager.**

Temperature range :	0 to 100 °C (± 1%)
(Relative) humidity range :	0 to 100 % (± 5%)
Power supply voltage :	9 to 24 V DC (straight from SensorManager)
Dimensions [L x D x H] :	70 x 70 x 27 mm
Length of connecting cable :	approx. 5 m (included)
Product code :	PAI0020

SM_FLASH

Flashing light signal. The events and times at which this signal must go on/off can be specified thanks to connection to SensorManager, interfaced with the CS121, CS121 SK and SiteSwitch 4 (only the SS4 model) devices.
Only compatible with SensorManager.

Power supply voltage :	12 to 15 V DC
Power input :	170 mA
Dimensions [L x D] :	70 x 40 mm
Connecting cable :	RJ12 - approx. 5 m (included)
Product code :	PAI0039

Door opening sensor

It consists of a reed contact held by a bulb, and a magnet. Connection to the AUX port of the CS121, CS121 SK and SensorManager devices allows you to use all the functions provided by these devices.
Compatible with CS121, CS121 SK and SensorManager.

Sensor dimensions [L x D x H] :	29 x 19 x 6 mm
Magnet dimensions [L x D x H] :	29 x 19 x 6 mm
Connecting cable :	approx. 1.8 m
Product code :	PAI0040

SiteSwitch 4

This device is used to manage energy distribution, i.e. it allows to power and shutdown the devices connected to its four independent powering outputs.
For example, during a power failure, a UPS can transmit a command that shuts down the least important loads (such as laser printers) so as to provide the critical systems with as much autonomy as possible. Once the mains power returns, a command that powers these loads again can be transmitted by the same UPS.
The 5 leds on the front part allow you to check the main power status and that of each output.
Brackets allowing the device to be installed in 19" rack cabinets are included.
SiteSwitch 4 is available in two different versions: SS4 and SS4 AUX.

SS4

This is the high-performance version since it houses a network interface able to receive the commands from the CS121 interface /all models) that controls the UPS via TCP/IP.
This means that SS4 can be installed near the powered loads and allows a UPS to manage a potentially infinite number of them.
A CS121 SK network interface in the SS4 guarantees autonomous operation, i.e. without receiving commands from a UPS: commands can be transmitted to the computers (via RCCMD software), powering and shutdowns can be programmed, e-mail transmitted and environmental sensors controlled through its WEB interface.
It is compatible with the SNMP protocol.

Power supply voltage :	230 V / 16 A
Output sockets :	4 x (230 V / 8 A)
Output socket control :	internal / CS121 (all models)
Type of management connection :	Ethernet 10/100 Mbit/s
Dimensions [L x D x H] :	260 x 180 x 60 mm
Product code :	PAI0033

SS4 AUX

This is the cost effective solution. It is controlled by the CS121 and CS121 SK interfaces installed in the UPS via their contact ports and a connecting cable. It is the ideal solution if it must be installed near the UPS (e.g. inside the same rack cabinet), however, no more than 15 meters away.

Power supply voltage: :	230 V / 16 A
Output sockets :	4 x (230 V / 8 A)
Output socket control :	CS121 / CS121 SK
Type of management connection :	RJ11 cable - approx. 5 m (included)
Dimensions [L x D x H] :	260 x 180 x 60 mm
Product code :	PAI0034

Customer Care and Guarantee

Customer Care is handled directly by our dealers. Our distribution network can assist you with any sales or technical support you need, before or after purchase, relating to:

- offers, configurations and quotations
- pre-sales support to identify needs and choice the best solution
- after-sales technical support for any product enquiries
- technical and sales documentation

Furthermore, all MetaSystem UPS have 24-month warranty against manufacturing defects included in the price.

All MetaSystem products are designed, engineered and manufactured with total quality processes that guarantee the highest lifetime and reliability.

Moreover, in the rare event of a failure, they have also been designed in order to minimize the time to repair. All MetaSystem's modular products

are easily repaired by swapping power modules or boards, whereas non modular products minimize the number of boards to repair and are easily accessible.

The result is that most problems can be solved just on the first service call or simply by exchanging the failed module.

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UPS

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