ALWAYS **ON**

UNINTERRUPTIBLE POWER SUPPLIES
ELSIST UPS SERIES

CATALOG 2021

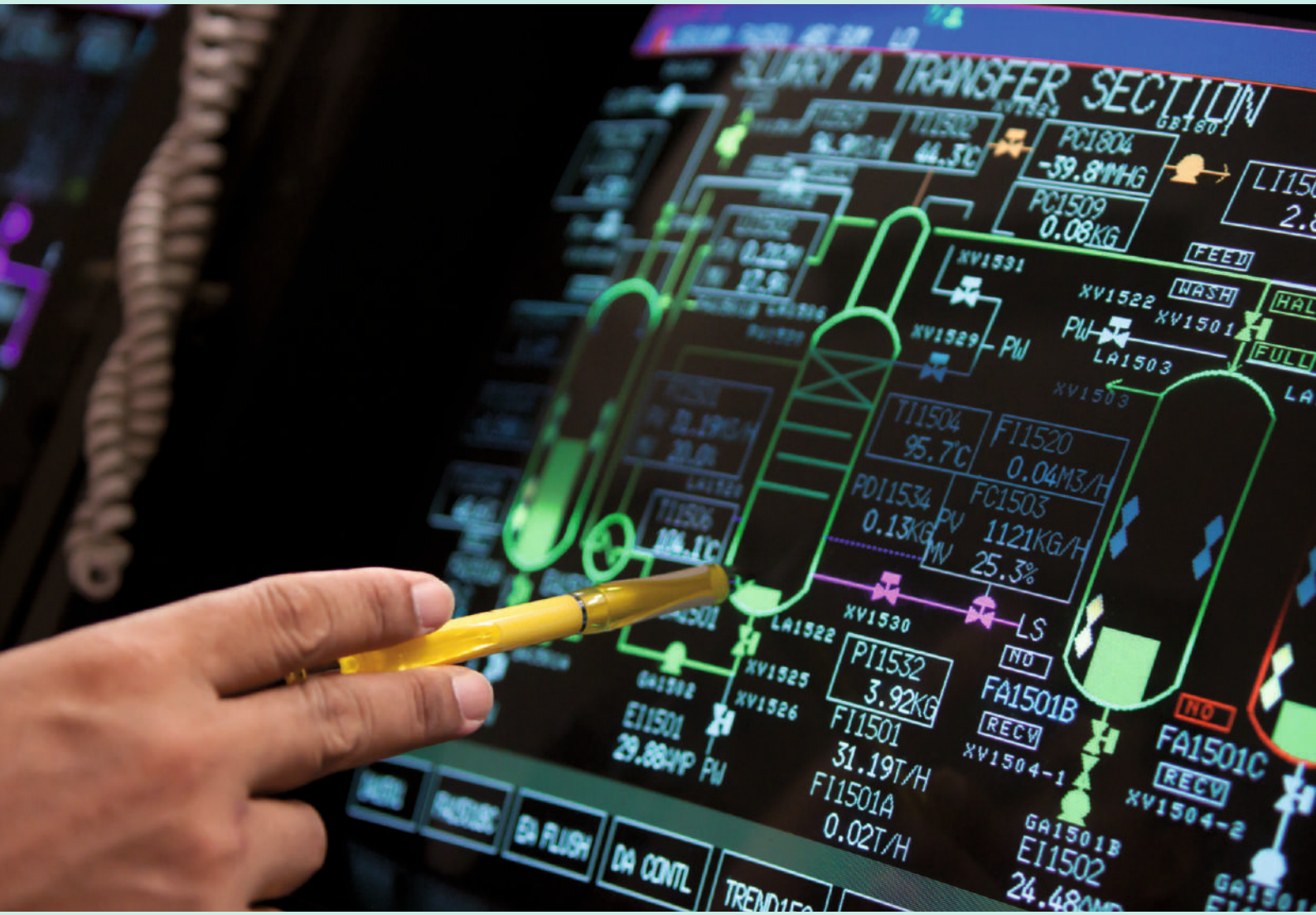
BW DESIGNS AND DEVELOPS

BW designs and develops high technology products for power electronics market and is leader in designing uninterruptible power supplies.

BW offers a wide range of products based on state-of-art technology.

The main configuration of the systems is based on the control of input sinusoidal waveform, allowing the reduction of input harmonic distortion (THDi) below 3%, with an efficiency higher than 95% in normal operation and higher than 98% in Power-Save condition.

BW also develops custom solutions suitable for special applications.



Why an UPS?

Even today the quality of power supply is a problem. Voltage interruptions and various electrical disturbances are a daily issue and can create considerable problems, either to the powered equipment or to the time lost due to interruptions, with additional risk of data losses on important files.
Today more than ever, time and speed are important resources. The interruption of our work because of these disadvantages involves a very high cost and the reactivation of normal operations, which may last even a few hours, must be minimized.
If not protected, computer systems are often victims of disturbances they may compromise good functioning.
Provide adequate protection to our utilities means not only to safeguard our goods, but also to avoid costs not only in terms of money but also such for quality of work and for data availability.
It is therefore very advantageous to be sure of a continuous and safe work, protected by Elsist uninterruptible power systems.

Main blocks on a UPS

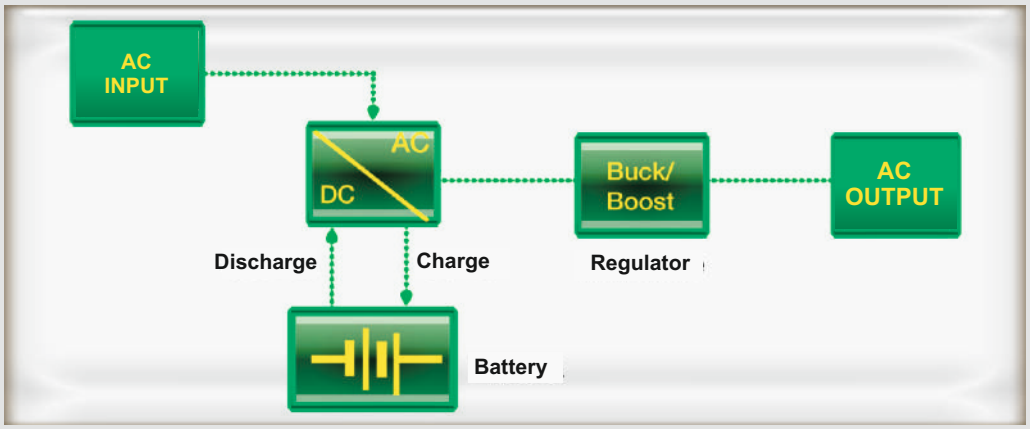
RECTIFIER	it converts the AC input voltage into an intermediate DC voltage and charges the battery
INVERTER	it converts the intermediate DC voltage into a filtered AC voltage to the load
BATTERIES SET	they store energy when mains is present. when input source is lost they supply the load for a certain amount of time

Technical term	Symbol	Description
Volt	V	Voltage
Ampere	A	Current
Power Factor	Cos φ	Phase shift angle between voltage and current
Watt	W	Real power (Volt x Ampere x Cos φ)
Voltampere	VA	Apparent power (Volt x Ampere if single phase Volt x Ampere x √3 if three-phase)
Frequency	Hz	Number of cycles per second
Crest Factor	CF	Ratio between peak current and effective current (Ipk/Ieff)
Autonomy time	minute	UPS runtime when supplied by the battery

UPS operation

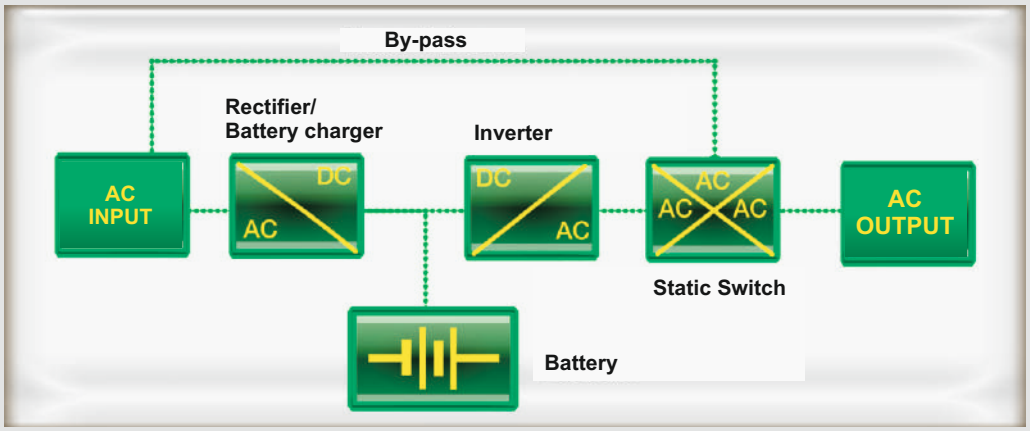
LINE INTERACTIVE SERIES

Our UPS Line Interactive range assures safe and cost-effective reliability. We are pleased to recommend you Line Interactive series for all Small Office and Home users, because they represent the best price / quality ratio. Elsist take care of this product range giving great importance to design , simple appearance, user friendly interface, ease of installation for perfect integration into any type of environment.
In normal operation, the load is fed by the network through an Automatic Voltage Regulator (AVR). This circuit corrects network variations, stabilizing them within certain values. When such variations exceed AVR circuit regulation capability, battery is activated to ensure continuity of proper operation.



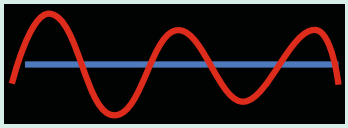
ON-LINE DOUBLE CONVERSION SERIES

Elsist UPS with on-line technology are characterized by zero time intervention, which means the load protection without interruption of the supply and with the same waveform (perfectly sinusoidal), as well as with network operation and with battery operation. In fact, a fully sine-wave voltage is perfectly reconstructed over all time. On-Line Technology models are suitable for protecting Servers, Data Center, Storage Systems, Automation, Video Surveillance, Security systems and others. ON-LINE technology can provide total protection not only for black-out but also for all the variations in voltage and frequency that silently attack our users every day.
Since 1978, Elsist has largely devoted his production to this UPS technology with expandable autonomies, hence with over-sized integrated rectifiers, in order to support additional battery modules (for business continuity). These series are also dedicated to manufacturing plant, electro-medical devices and general safety.
Elsist ON-LINE series offer also integrated shutdown software, targeted for more critical computing applications such as Servers and Data Networks. The reliability of these series is the feature on which Elsist keep focus: the total protection of applications in order to forget the risk of electrical power inconveniences.

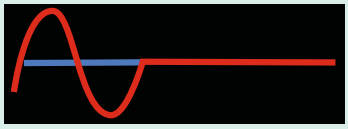


Electrical disturbance

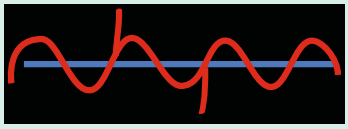
Sometimes we experience electrical disturbances on the mains such as voltage fluctuations, spikes, flickering, blackouts that can disturb the correct operation of our systems or even cause them damages. There are various kind of electrical disturbances. Hereafter, we're listing the most common ones:



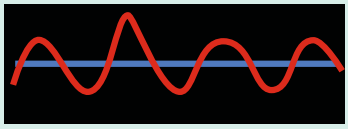
SAGS a sudden decrease of input voltage for a short time.
BROWNOUTS are steady decrease of input voltage for a long time. The load is still supplied but at a voltage below its tolerances.



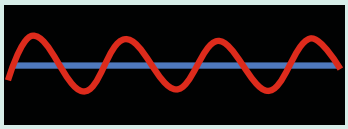
BLACKOUTS no power at all, in this condition the load is not supplied



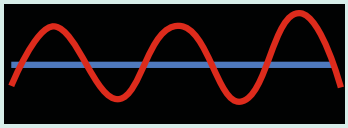
SPIKES a sudden and very large increase in the voltage level. Quite dangerous for the load



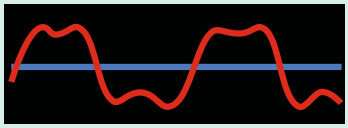
SURGES a sudden increase in the voltage level above the normal level, usually more than 20ms



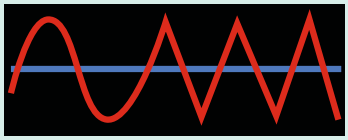
NOISE voltage disturbances generated by magnetic field interference (EMI) or by radio frequency interference (RFI)



OVER VOLTAGE an increase of input voltage for a long period of time. The load is still supplied with a voltage above its tolerances. A dangerous condition for the load.



HARMONICS a distortion of the voltage waveform



FREQUENCY FLUCTUATION a frequency variation

Innovative Energy

FOR AN ECO-FIENDLY SUSTAINABILITY

because BW is focused on energy saving, selling high efficiency products. An environmentally-friendly approach is one of our main goals since design stage, in order to sustain a clean energy development.

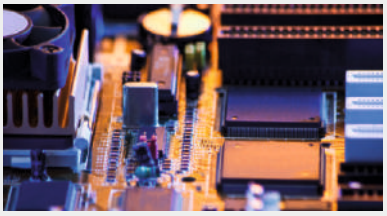
Technical Service

Elsist provides a 360-degree service

Service

Elsist provides its customers with a complete technical assistance and a preventive maintenance support. Different types of Service contract are available, to allow customers to select the most suitable one for their applications. Today Elsist may offer a 24 hours a day monitoring system, handled by its service center in Milan. With this particular service contract, named "Safety", we provide a full time control of the device, by checking its operation in real time and set-up onsite intervention for problem solving whenever necessary. After sales service of Elsist is granted by a team of top trained technicians to ensure the best support for your installations.

System installation consultancy

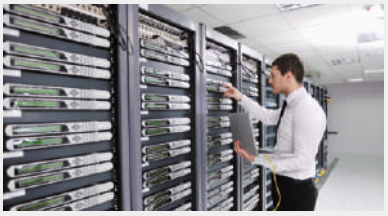


Special selling conditions on spare parts

Checking of the environment for Standard&Norms compliance

Customized Service contract, also multi-brand

Fast support within 24 hours



Pre-sale support

«Safety Intelligent» contract for a 24 hours a day support

Special prices on labor cost

Special selling conditions for battery replacement

«Full» contract allows a free of-charge replacement

Applications

Market Segments

Elsist products are used in various critical applications with full customers satisfaction

Security

TLC

IT

Oil&Gas

Photovoltaic

Power Generation

Transportation

Hospital

Automation

Choose the most suitable UPS

Home
SOHO
POS System


MULTISTATION


HOME550


NEMO2.0


MISSION


PURE

Office
IT Segment
Banks


MISSION


UPSERVER2.0


FLEXIBLE


PURE


POLARIS

Telecom
Office
Data Center
Industrial
Banks
Railway


TRI-ONE


POLARIS


NAUTILUS

Emergency
Systems


MISSION MSS


POLARIS PSS


TRI-ONE TMSS

Special
Products


SIRIUS

MULTISTATION

Line interactive single-phase UPS

Protect your equipment with an uninterruptible power supply against data loss. Multistation 1000 has an output capability of 1000 VA.

This device is mainly designed for domestic multimedia or small office applications . It provides complete surge protection for critical loads, which are connected directly to protected sockets through the UPS.

It has a Line-interactive technology with pseudo-sinusoidal waveform and a short transfer time of 2ms. Autonomy time during a black-out is about 10'.

With its compact design, Multistation 1000 is equipped with 3 schuko outlet protected against power outages and with 3 filtered schuko outlet. It has also a USB interface for communication and a USB CHARGER output to recharge devices such as mobile phone, tablet or similar.

MultiStation 1000

Code		MULTISTATION 1000
Technical Requirements		
Power	VA	1000
Input Voltage		230 Vac ± 27%
Input Frequency		50/60 Hz ± 5%
Output Voltage		230 Vac ±10% (±5% without mains)
Output Frequency		50/60 Hz ± 1%
Autonomy time		10'
Battery		sealed, maintenance-free lead-acid
Output Outlets		3 protected by UPS – 3 filtered and protected against voltage fluctuations
Modem/T port (10BaseT/100BaseT)		RJ11 (2 wires, single line) or RJ45 (compatible network)
USB charger		USB output to recharge external device
Display LEDs		standard
Dimensions and Weight		
Dimensions (WxHxD)	mm	202x91x290
Weight UPS standard with battery	kg	5,4

Total power protection
Ultra-wide input voltage range operation for avoiding battery discharge
Monitoring of the UPS operations
Cold start capability
Low battery/exhausted battery controls
Setting of different levels of alarm
USB interface for control and data aquisition via PC
Remote communicaton and control capability

NEMO 2.0

Line interactive single-phase UPS

NEMO 2.0 series by ELSIST in available in seven output power levels and provide a transfer time extremely short (4ms).

All the models (from 650VA to 4000VA) are equipped with a LCD display for monitoring:

1. Input Voltage
2. Output Voltage
3. Operating mode with input mains
4. Operating mode with battery
5. Battery Level
6. Low Battery
7. Load Level
8. Overload
9. Errors and malfunctions

NEMO 2.0 series is equipped with an automatic voltage regulation against line voltage deviations (AVR), and with overload and shortcircuit protections on the output.
All models include an integrated RJ11/RJ45 filtered connector for phone line.
A USB interface is also included in the models.
By means of the embedded shutdown software, the unit allows you to control and monitor the most important operations of the UPS.
NEMO 2.0 series meets all the requirements requested by international standards for Safety and EMC compatibility.

Provide your printers, workstations, PCs, and other IT applications with reliable protection against data loss using NEMO 2.0 series of uninterruptible power supply

Nemo 2.0

Code		NEMO 2.0 65	NEMO 2.0 80	NEMO 2.0 120	NEMO 2.0 160	NEMO 2.0 200	NEMO 2.0 300	NEMO 2.0 400
Technical Requirements								
Power rating	VA	650	800	1200	1600	2000	3000	4000
Input Voltage		230 Vac ± 27%						
Input Frequency		50/60 Hz ± 5%						
Output Voltage		230 Vac ±10% (±5% without mains)						
Output Frequency		50/60 Hz ± 1%						
Autonomy Time		10'						
Battery Type		Pb sealed, maintenance-free						
Output Outlets		2IEC	2IEC	4IEC			2IEC,2SCHUKO	
Modem/T port (10BaseT/100BaseT)		RJ11 (2 wires, single line) or RJ45 (network compatibility)						
USB Interface		yes						
LCD Display		yes						
Dimensions and Weight								
Dimensions (WxHxD)	mm	101x142x298	101x142x298	101x142x298	149x162x353	158x198x380	158x198x380	145x213x436
Weight with battery	kg	3,9	4,4	4,7	8,4	10	11,4	23

Total power protection
Ultra-wide input voltage range operation for avoiding battery discharge
Monitoring of UPS operations
Cold start capability
Low battery/exhausted battery controls
Setting of different levels of alarm
USB interface for control and data aquisition via PC
Remote communicaton and control capability

PURE

Single-phase, Line interactive UPS with sinusoidal waveform

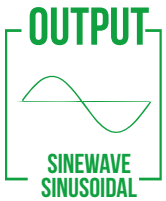
Our new Pure series is a line interactive UPS with short intervention time (2-6ms) and is available at 1kVA, 2kVA, 3kVa power level.

This series provide a fully sinusoidal waveform at the output.
All models are equipped with LCD display for an easy visibility of their operating status.

Main data visible on display are:

- Input voltage
- Output voltage
- Mains operation mode
- Battery operation mode
- Battery level
- Load level
- Battery discharged
- Overload
- Errors / failures

USB port and RS232 connection for remote control are available by default. The software with shoutdown capability and parameters monitoring is also included in the package. The software is compatible with all most common operating systems.



Code		PURE 1000	PURE 2000	PURE 3000
Technical Characteristics				
Power Rating		1000VA / 800W	2000VA / 1600W	3000VA / 2400W
Input Voltage		208/220/230/240 VAC		
Input Voltage Range		160-290 VAC		
Frequency Range		50/60 Hz (Auto sensing)		
Output Voltage		208/220/230/240 VAC		
AC Voltage Regulation (Batt. Mode)		±3% (before battery alarm)		
Harmonic Distortion		3%@100% linear load, 5%@100% non linear load		
Waveform (Batt. Mode)		Pure Sinewave		
Transfer Time		Typical 6 ms, 10ms max.		
Efficiency		97% Normal mode		
		85% Battery mode	86% Battery mode	86% Battery mode
Battery Type & Number		12 V / 9 Ah x 2	12 V / 9 Ah x 4	12 V / 9 Ah x 6
Typical Recharge Time		5 hours recover to 90% capacity		
Full Protection		Overload, output shortcircuit, discharge, and overcharge protection		
LCD Display		AC mode,batt. mode,buck boost mode,batt. level,load level,overload,fault and low batt.		
USB & smart RS-232 Port		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/10, Linux, Unix,MAC		
Alarm				
Battery Mode		Sounding every 10 seconds		
Low Battery		Sounding every second		
Overload		Sounding every 0.5 second		
Fault		Continuously sounding		
Dimensions and Weight				
Dimension, W x H x D	mm	144x265x400	191x337x468	191x337x468
Humidity		0-90% RH@0-40degC (No condensazione)		
Noise Level		<45		

MISSION

On-line double conversion Single-phase 1K-10K

Elsist introduce the new model "MISSION". Mission is a single phase serie from 1KVA to 10KVA with PF 0,9.

Mission 1K-3K

Mission 6K-10K

Mission

On-line double conversion with DSP tecnology (Digital Signal Processor).

Main features are:

- High input and output PF
- Wide input voltage range (energy saving)
- Eco Mode (Economic operation mode)
- Back feed protection and Surge
- Protection - Auto self test
- Cold Start
- Parallel operation capability
- Output By-pass
- Additional battery pack
- USB
- EPO
- Software included
- Intelligent Slot SNMP board (optional)
- Dry contact (optional)

MISSION UPS is equipped with a LCD display to shows all parameters (more than 50 items), and is possible to set the most basic configurations directly on LCD display.

Control Panel LCD

MISSION UPS

True On-line UPS Double Conversion Single Phase 1kVA-10kVA

MISSION is a compact UPS, and can be used for all kind of applications.
It is a true on-line transformerless UPS, double conversion technology, single phase, from 1 kVA to 10 kVA. It includes a maintenance bypass (6KVA and 10KVA models), and it is possible to increase the back-up time by adding battery packs.

MISSION is the most suitable product for critical loads. It has 0 ms switching time and guarantee a perfect protection for all applications requiring an input voltage without disturbances and no interruptions.
A PF at 0,8 and DSP technology (Digital Signal Processor) it provides high output efficiency for all kind of loads.

NORMATIVA CE1016 COMPLIANT CON RISERVA DI CARICA

cosφ 0.9

Code	MISSION 1KVA	MISSION 2KVA	MISSION 3KVA	MISSION 6KVA	MISSION 10KVA
Input					
Power	1KVA/0,9KW	2KVA/1,8KW	3KVA/2,7KW	6KVA/5,4KW	10KVA/9KW
Input line	Single phase + N				
Input voltage	115±5VAC-295±5VAC			220VAC/230VAC/240VAC	
Input frequency	45-55Hz @ 50/55HZ 65Hz @ 60HZ			50/60 Hz auto sensing	
Power factor	≥ 0.98			≥ 0.80 (input THDV ≤1%)	
Outpu					
Output line	Single phase + N				
Output voltage	220/230/240VAC selectable				
Output frequency	50/60 Hz				
Power factor	0.9				
Voltage tollerance	±2%			±1%	
Switching time	Main -- Battery = 0ms				
Output THD	≤ 3% (100% linear load)			≤ 2% (100% linear load)	
Batteries					
Output THD	2	4	6	16/18/20 monoblocchi configurabili	
Kind of batteries	Maintenance-free, Sealed lead acid				
Back up time	10'				
Dimensions and Weight					
Dimensions (WxHxD) mm	144x215x368	191x339x469	191x339x469	250x616x502	250x616x502
Weight kg kg	10,5	21,6	26,2	62	64
Display	LCD+LED				
Colour	black				

Total power protection
Ultra-wide input voltage range operation for avoiding battery discharge
Monitoring of the UPS operations
Cold start capability
Low battery/exhausted battery controls
Capability to set different levels of alarms
USB interface for control and data aquisition via PC
Remote communication and control capability through the web

MISSION MT - CEI 0-16 / CEI 0-21

Single-phase CPSS compliant with CEI 0-16 - CEI 0-21

MISSION MT series is an equipment specifically designed to provide power to all ancillary circuits in a Medium Voltage substation for at least 60 minutes. It also keep an energy storage in case of long black-out due to maintenance or severe failures on the mains.

Code		MISSION MT 1KVA	MISSION MT 2KVA	MISSION MT 3KVA	MISSION MT 6KVA	MISSION MT 10KVA
Input						
Power		1KVA/0,9KW	2KVA/1,8KW	3KVA/2,7KW	6KVA/5,4KW	10KVA/8KW
Input		Single-phase + gnd				
Input Voltage		115±5VAC-295±5VAC			220VAC/230VAC/240VAC	
Input Frequency		45-55Hz @ 50/55HZ 65Hz @ 60HZ			50/60 Hz auto select	
Power Factor		≥ 0.98			≥ 0.80 (input THDV ≤1%)	
Output						
Output		Single-phase + gnd				
Output Voltage		220/230/240VAC selectable				
Output Frequency		50/60 Hz				
Power Factor		0.9				
Output voltage		±2%			±1%	
Switching time		Mains -- Battery = 0ms				
Output voltage distortion		≤ 3% (100% linear load)			≤ 2% (100% linear load)	
Batteries						
Battery type		maintenance-free, sealed lead-acid				
Autonomy time		maintenance-free, sealed lead-acid				
Dimensions and Weight						
Dimensions (WxHxD)	mm	144x215x368	191x339x469	191x339x469	250x616x502	250x616x502
Weight UPS standard with batt.	kg	10,5	21,6	26,2	62	64
Display		LCD+LED				
Color		black				
Standards		EN/IEC 60950-1	EN/IEC 62040-1	EN/IEC 62040-2	EN/IEC 62040-3	CEI 0-16 CEI 0-21

APPLICATIONS:
- MV substations
- Substations
- LV and MV switchboards
- Automation

TECHNICAL CHARACTERISTICS:
- On-Line double conversion technology
- Sinusoidal waveform
- UPS on battery signal
- Energy storage

MISSION MSS - EN50171

Single-phase CPSS for energizing safety equipment in compliance with EN50171

Mission MSS series is designed to be compliant with EN50171 standard.

Main applications are:
- Centralized emergency lighting systems
- Automatic fire extinguishing installations
- Paging systems and signalling safety installations
- Smoke extraction equipment
- Carbon monoxide warning systems
- Specific safety installations related to specific buildings, e.g. high-risk areas.

Our “Elsist Battery Control” system allows the right operation in case of mains outages, checking the conditions of every battery pack. The battery charger is designed to recharge the batteries at 80% of total capacity in less than 8 hours.

Autonomy times may be 1, 2 or 3 hours at nominal load, according to the condition specified by EN50171 standard.

Code		MISSION MMS 1KVA	MISSION MMS 2KVA	MISSION MMS 3KVA	MISSION MMS 6KVA	MISSION MMS 10KVA
Input						
Power		1KVA/0,9KW	2KVA/1,8KW	3KVA/2,7KW	6KVA/5,4KW	10KVA/9KW
Power according to EN50171		0,75KW	1,50KW	2,25KW	4,50KW	7,50KW
Input		single-phase + gnd				
Input Voltage		115±5VAC-295±5VAC			220VAC/230VAC/240VAC	
Input Frequency		45-55Hz @ 50/55HZ 65Hz @ 60HZ			50/60 Hz auto select	
Power Factor		≥ 0.98			≥ 0.80 (input THDV ≤1%)	
Output						
Output		single-phase + gnd				
Output Voltage		220/230/240VAC selectable				
Output Frequency		50/60 Hz				
Power Factor		0.9				
Voltage tolerance		±2%			±1%	
Switching time		Mains -- Battery = 0ms				
Output voltage distortion		≤ 3% (100% linear load)			≤ 2% (100% linear load)	
Batteries						
Battery type		maintenance-free, sealed lead-acid				
Autonomy time		60’- 90’ - 120’				
Dimensions and Weight						
Dimensions (WxHxD)	mm	144x215x368	191x339x469	191x339x469	250x616x502	250x616x502
Weight UPS standard with batt.	kg	10,5	21,6	26,2	62	64
Display		LCD+LED				
Battery		black				
Standards		EN/IEC 60950-1 EN/IEC 62040-1 EN/IEC 62040-2 EN/IEC 62040-3 EN 50171				

MAIN CHARACTERISTICS
1-High overload capability
2-Reverse voltage battery protection
3-High recharging current
4-10 years battery lifetime
5-RS232-RS485 interfaces
6-Relay card with clean contacts for remote alarms

MISSION CF

Single-phase Frequency converter 6K-10K

SINGLE-PHASE 50/60Hz FREQUENCY CONVERTER - MISSION TOWER SERIES

50/60Hz Frequency converter at 6kVA and 10kVA with VFI sinusoidal waveform (Voltage and Frequency Independent).

Frequency converter supply a linear current and a complete protection to:
- Data Network/PC
- Data center
- Server
- Telecommunication system
- Hospital equipment
- Industrial equipment

The Frequency converter provides an output at 50Hz or 60Hz which is independent from input frequency.
The Power Factor correction circuit improves the quality of absorbed input current, thus increasing the efficiency and saving energy

Code		MISSION CF 6KVA	MISSION CF 10KVA
Input			
Power		6KVA/5,4KW	10KVA/9KW
Input		Single-phase + gnd	
Input Voltage		220VAC/230VAC/240VAC	
Input Frequency		50/60 Hz auto slect	
Power Factor		≥ 0.80 (input THDV ≤1%)	
Output			
Output		Single-phase + gnd	
Output Voltage		220/230/240VAC selezionabile	
Output Frequency		50/60 Hz	
Power Factor		0.8	
Voltage tolerance		±1%	
Output voltage distortion		≤ 2% (100% linear load)	
Dimensions and Weight			
Dimensions (WxHxD)	mm	250x616x502	250x616x502
Weight UPS standard with batt.	kg	62	64
Display		LCD+LED	
Color		black	

Main characteristics:
- High PF at input and at output
- Wide input range (energy saving)
- Monitoring and self-test at switch-on
- USB port
- EPO contact
- Software included

MISSION series of Frequency converter is equipped with a LCD display showing all parameters (more than 50 items). Moreover, it is possible to set the base configurations directly on the display

RACK LINE

Elsit developed a Rack Line series to support the requirement of Data&IT market, where customers looks for high efficiency, easy-to-manage and reliable equipment.
Our series is based on On-line technology in a 19" Rack mount arrangement, providing an efficient, flexible, compact and attractive solution.

Rack mount system

Rack mount system (detail)

LCD Display

UPSERVER 2.0

Rack-Tower on-line, double conversion UPS at 2kVA

UPServer 2.0 series is is the ultimate solution to protect Server and Data Center.
It has an output power capability of 2000VA, which is suited to supply 90% of the critical loads in IT applications.
It may be configured either in rack or tower version and is based on a On-Line double conversion DSP (Digital Signal Processor) technology.

UPServer 2.0 may increase its autonomy time by adding battery packs.
USB, RS232 communication ports and filtered RJ45 port are available by default.
EPO contact is present by default, too. SNMP card and Realy card are available as option. Input and Output with IEC cables are connected for an easy and quick installation.

UPServer 2.0 is the best cost effective solution for your IT system

UPServer2.0

Code		UPServer 2.0
Input		
Power		2Kva/1,35Kw
Input line		Single-phase + ground
Input voltage		110V - 290V
Input frequency		50Hz - 60Hz +/- 10% (autodetect)
Power factor		0,98
Output		
Output		Single-phase + ground
Output Voltage		200Vac - 240Vac (configurable)
Output Frequency		50Hz - 60Hz (sync mains)
Power Factor		0,7
Output voltage		1%
Switching time		Zero
Output voltage distortion		Thd < 3%
Batteries		
Number of batteries		2
Battery type		12V 9Ah (standard) Maintenance-free, sealed lead-acid
Autonomy time		10' (expandable)
Dimensions and Weight		
Dimensions (WxHxD)	mm	440x86,5x430
Weight UPS	kg	15,1
Display		LCD + LED
Color		black

FLEXIBLE

Rack-Tower on-line, double conversion UPS at 1kVA - 3kVA

FLEXIBLE series is available in three different output power : 1000VA – 1500VA – 3000VA.
All output power have compact dimensions, perfect to be installed into rack cabinet with 600mm maximum depth. The 3000VA model is 520mm max. deep.

FLEXIBLE series can be installed in rack or tower version, it is a true On-line UPS with double conversion tecnology and DSP control (Digital Signal Processor).

Power factor at 0,9 for 1000VA and 3000VA, whilst model 1500VA operates with power factor 1.
It is possible to increase the back up time with additional battery packs.

USB and RS232 are standard comunications ports, and also RJ45 filter port is available by default.
EPO contact is included and it is possible to use SNMP or RELAY CARD (optional) with Intelligent slot port on the rear panel.

FLEXIBLE is configured with terminal block (input and output), perfectly suitable for every kind of industrial applications.
FLEXIBLE is the best in class UPS with high quality. It's your best choice to protect critical load.

Flexible

Code		Flexible1000	Flexible1500	Flexible3000
Input				
Power		1kVA/0,9kW	1,5kVA/1,5kW	3kVA/2,7kW
Input line			Single-phase + ground	
Input voltage			110V - 290V	
Input frequency			50Hz - 60Hz +/- 10% (autodetect)	
Power factor			0,98	
Output				
Output			Single-phase + ground	
Output Voltage			200Vac - 240Vac (configurable)	
Output Frequency			50Hz - 60Hz (sync mains)	
Power Factor		0,9	1	0,9
Output voltage			1%	
Switching time			Zero	
Output voltage distortion			Thd < 3%	
Batteries				
Number of batteries		2	3	6
Battery type		12V 9Ah (standard)	12V 7Ah (standard)	12V 7Ah (standard)
Autonomy time			10' (expandable)	
Dimensions and Weight				
Dimensions (WxHxD)	mm	440x86,5x430	440x86,5x430	440x131x520
Weight UPS	kg	15,1	18	26
Display			LCD + LED	
Color			black	

FLEXIBLE

NEW!

Rack-Tower, on-line, double conversion UPS at 6kVA – 10kVA

Flexible series is now completed by two new devices with high output power, from 6kVA to 10kVA.

These uninterruptible power supplies can be configured in a rack or tower version, are based on double conversion on-line topology with DSP (Digital Signal Processor) technology and have a power factor of 0.9.

The autonomy in case of power failure can be increased thanks to the additional battery packs.
The products are equipped with USB, RS232 and parallel communication ports. In addition, an Intelligent slot for SNMP card (optional) or Relay card (optional) and an EPO contact are available.

The input and output terminals are easily accessible for simple configuration in all industrial environments.
The Flexible series is ideal for protecting critical loads that require continuous, high quality power supply and with zero network to battery transfer time.

cosφ 0.9

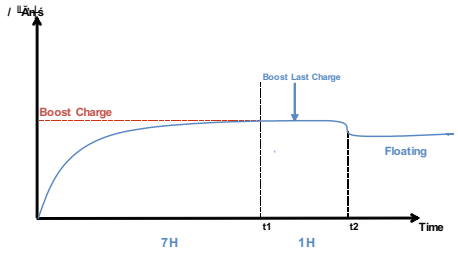
Flexible

Code	Flexible6000	Flexible10000
Input		
Power	6kVA/5,4kW	10kVA/9kW
Input line	Single-phase with GND connection	
Input voltage	220/230/240Vac (L+N+GND)	
Input frequency	45-55Hz / 54-66Hz ±0,5Hz	
Power factor	≥0.99	
Harmonic distortion THDi	≤3% (100% linear load)	
Output		
Output Voltage	220/230/240Vac	
Output Frequency	50-60Hz (sync mains)	
Power Factor	0.9	
Voltage regulation	±2%	
Switching time	zero	
Output Voltage distortion THDv	≤2% with linear load	
Waveform	sinusoidal	
Efficiency	>93,5%	
Batteries		
Battery Voltage	±96/±108/±120Vdc	
Type of battery	Sealed lead-acid, no maintenance	
Recharge time (typ.)	6-8 hours	
Charging current	10A max	
Communication		
Communication interface	USB, RS232, Parallel port, SNMP/ Relay card (optional)	
General Characteristics		
Operating temperature	0 - 40°C	
Humidity	0 95% no condensing	
Altitude	<1500m	
Noise	<55dB	
Dimensions and Weight		
Dimensions (WxHxD)	440x86x520mm	440x131x580mm
Net weight	23kg	25kg
Safety	IEC/EN62040-1 IEC/EN60950-1	
EMC	EN62040-2, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8	

TRI-ONE UPS

Three-phase in / Single-phase out on-line UPS

Tri-One is an On-line double conversion UPS with Three-Phase input and Single-Phase output.
It is available at different output power: 10kVA, 15kVA and 20kVA.
Thanks to its high performance, Tri-One series provides the best protection for any kind of application and load.
Through its LCD display it is possible to control all parameters and functions. Moreover, it is possible to remotely control the UPS by means of the SNMP card. Tri-One series use a smart recharge control for the battery, in order to increase their lifetime (see picture below). In fact, batteries are charged at three different steps, increasing their performance and life, and reduce overall cost.



Tri-one

Grafico di ricarica

Code		TRI-ONE 10	TRI-ONE 15	TRI-ONE 20
Technical characteristics				
Power	Vac	10kVA/9kW	15kVA/13,5kW	20kVA/18kW
Input Voltage	Vac		208 – 478	
Input Frequency	Hz		45-65	
Phase			Three-phase	
THD current			< 2% linear load	
Power Factor			da 0.99 a 100% with linear load	
Output Voltage Vac	Vac		230 ±1%	
Output Power (possibility to increase cosphi)	Hz		50/60	
Output Frequency			Sinusoidal THD <2%	
Frequency Tolerance			±0.2Hz (without mains)	
Switching time			0 ms	
Overload capability			150% per 10 sec. Before switching to By-pass	
Efficiency			AC – AC in normal operation > 96%	
Batteries				
Type			Maintenance-free, sealed lead-acid	
Typ. autonomy time			10 minutes	
Cold Start			Yes	
Voltage	Vdc		240	
Recharge time			4 - 6 hours	
General Characteristics				
Noise			<50 dB ad 1 m	
Operating Temperature			0°C ~ 40°C electronis (batteries 18°C ~ 25°C)	
Humidity			fino al 90% without condensing	
Operating Altitude			up to 3000 slm	
Mechanical Characteristics				
Connection with external battery cabinet			Plug-in & Play	
Output outlet			Terminal blocks	
Protection				
Input			Breaker	
Output			Current protection threshold	
Battery			Fuse / Breaker	
By-pass overload			Up to 200% for 500 sec. then output switch Off	
Minumum Battery Voltage			Audible alarm then Inverter off	
Dimensions and Weight				
Dmensions (WxHxD)	mm	250x655x597	250x616x502 *	250x616x502 *
Weight UPS	kg	76	45 + 80	48+80
Safety				
Safety Standard compliance			EN50091-1, cUL, 62040-3	
EMC Standard			EN50091-2, EN61000-3-3, EN61000-3-2, FCC Classe A	

* (+ battery cabinet)

TRI-ONE TMSS - EN50171

CPSS for energizing safety equipment in compliance with EN50171

Tri-One TMSS series is designed to be compliant with EN50171 standard.

Main applications are:
- Centralized emergency lighting systems
- Automatic fire extinguishing installations
- Paging systems and signalling safety installations
- Smoke extraction equipment
- Carbon monoxide warning systems
- Specific safety installations related to specific buildings, e.g. high-risk areas.

Our “Elsist Battery Control” system allows the right operation in case of mains outages, checking the conditions of every battery pack. The battery charger is designed to recharge the batteries at 80% of total capacity in less than 8 hours.
Autonomy times may be 1, 2 or 3 hours at nominal load, according to the condition specified by EN50171 standard.

Code		TRI-ONE TMSS 10	TRI-ONE TMSS 15	TRI-ONE TMSS 20
Technical requirements				
Power		10kVA/8kW	15kVA/12kW	20kVA/16kW
Input Voltage	Vac		208 – 478	
Input Frequency	Hz		45-65	
Input			Three-phase	
THD current			< 2% with mains	
Power Factor			da 0.99 a 100% without mains	
Output Voltage	Vac		230 ±1%	
Output Power (according to EN50171)		7,5kW	11,3kW	15kW
Output Frequency	Hz		50/60	
Waveform Sinusoidal			Sinusoidal THD <2%	
Frequency Stability			±0.2Hz (without mains)	
Switching time			0 ms	
Overload			150% per 10 sec. before switching to By-pass	
Efficiency			AC – AC in normal operation > 96%	
Batteries				
Type			maintenance-free, sealed lead-acid	
Autonomy time (typ)			10 minutes	
Cold Start			yes	
Battery Voltage	Vdc		240	
Recharge time			quick recharge up to 8 hours	
General Characteristics				
Noise			<50 dB at 1 m	
Operating Temperature			0°C ~ 40°C electronics (battery 18°C ~ 25°C)	
Humidity			up to 90% without condensing	
Altitude			up to 3000m	
Mechanical				
External battery cabinet connection			Plug-in & Play	
Outlet			Terminal blocks	
Protection				
Input			Breaker	
Output			Electronic limit of current	
Battery			Fuse / Breaker	
Overload By-pass			Sino al 200% per 500 sec. poi toglie l’uscita	
Dimensions and Weight				
Dimensions (WxHxD)	mm	250x655x597	250x616x502 *	250x616x502 *
Weight UPS + battery	kg	76	45 + 80	48+80
Safety				
Safety standard			EN50091-1, cUL, 62040-3	
EMC			EN50091-2, EN61000-3-3, EN61000-3-2, FCC Classe A	

* (+ battery cabinet)

TRI-ONE CF

Three-phase/Single-phase Frequency converter at 10kVA-15kVA-20kVA

THREE-PHASE/SINGLE-PHASE FREQUENCY CONVERTER 50/60Hz - TRI-ONE TOWER SERIES

50/60Hz Frequency converter at 6kVA and 10kVA with VFI sinusoidal waveform (Voltage and Frequency Independent).

Frequency converter supply a linear current and a complete protection to:

- Data Network/PC
- Data center
- Server
- Telecommunication system
- Hospital equipment
- Industrial equipment

The Frequency converter provides an output at 50Hz or 60Hz which is independent from input frequency. The Power Factor correction circuit improves the quality of absorbed input current, thus increasing the efficiency and saving energy.

Code		TRI-ONE CF 10	TRI-ONE CF 15	TRI-ONE CF 20
Technical Characteristics				
Power		10kVA/9kW	15kVA/13,5kW	20kVA/18kW
Input Voltage	Vac		208 – 478	
Input Frequency	Hz		45-65	
Input			Three-phase	
THD current			< 2% with linear load	
Power Factor			from 0.99 to 100% with linear load	
Output Voltage	Vac		230 ±1%	
Output Frequency	Hz		50/60	
Waveform Sinusoidal			Sinusoidal THD <2%	
Frequency Stability			±0.2Hz (without mains)	
Overload			150% per 10 sec. before switching to By-pass	
Efficiency			AC – AC in normal operation > 96%	
General Characteristics				
Noise			<50 dB ad 1 m	
Operating temperature			0°C ~ 40°C electronic (batteries 18°C ~ 25°C)	
Humidity			up to 90% without condensing	
Altitude			up to 3000 m	
Mechanical				
External battery cabinet connection			Plug-in & Play	
Outlet			Terminal blocks	
Protection				
Input			Breaker	
Output			Electronic limit of current	
Minimum battery voltage			Audible Alarm. Then Inverter shutdown	
Dimensions and Weight				
Dimensions (WxHxD)	mm	250x655x597	250x616x502	250x616x502
Weight UPS + battery	kg	76	45 + 80	48+80
Safety				
Safety standard			EN50091-1, cUL, 62040-3	
EMC		EN50091-2, EN61000-3-3, EN61000-3-2, FCC Classe A		

Main characteristics:
- High PF at input and at output
- Wide input range (energy saving)
- Monitoring and self-test at switch-on
- USB port
- EPO contact
- Software included

TRI-ONE series of Frequency converter is equipped with a LCD display showing all parameters (more than 50 items). Moreover, it is possible to set the base configurations directly on the display

SIRIUS SPECIAL PRODUCTS

SIRIUS

NEW!

Rack-Tower, on-line, double conversion UPS 1K – 3K at 110Vac

Sirius series is a special product with power from 1kVA to 3kVA.

These uninterruptible power supplies can be configured in a rack or tower version, are based on double conversion on-line topology with DSP (Digital Signal Processor) technology and operate with an input / output voltage of 110Vac.

The autonomy time in case of power failure can be increased thanks to the additional battery packs.
The products are equipped with RS232 communication port and RJ45 port by default. Also available is an Intelligent SNMP card insertion slot (optional) and an EPO contact.

The input and output terminals are easily accessible for simple configuration in all industrial environments.
The Sirius series is ideal for protecting critical loads that require continuous, high quality power supply and with zero network / battery transfer time.

Sirius

Code	Sirius1000	Sirius2000	Sirius3000
Input			
Power	1kVA/0,7kW	2kVA/1,4kW	2kVA/2,1kW
Input type		Single-phase with GND connection	
Input voltage		Io≤60% 55-138Vac ±5%, Io>80% 80-138Vac ±5%	
Input frequency		46-55Hz / 56-64Hz	
Power Factor		≥0.97	
Output			
Output Voltage		110/115/120Vac	
Output Frequency		In AC mode: same than Mains; in Batt mode: 50/60Hz	
Power Factor		0.7	
Voltage regulation		±2%	
Switching time		Zero	
Output Voltage distortion THDv		≤5% with linear mode	
Waveform		sinusoidal	
Efficiency		>85% in AC mode; >83% in Batt mode	
Batteries			
Battery voltage	36Vdc	96Vdc	96Vdc
Battery type	12V - 9Ah	12V – 7.2Ah	12V - 7.2Ah
Autonomy time	12min	20min	16min
Recharge time (typ.)		8 hours	
Recharge current		1A max.	
Communication			
Communication interface		RS232, RJ45, SNMP (optional)	
General Characteristics			
Operating temperature		0 – 40°C	
Humidity		0 95% no condensing	
Altitude		<1500m	
Noise		<45dB	
Mechanical			
Dimensions (WxHxD)	440x86.5x450mm	440x131x550mm	440x131x550mm
Net weight	18kg	36kg	37kg

POLARIS

Three-phase on-line, double conversion UPS at 10kVA-350kVA

POLARIS is a true on-line UPS, double conversion technology with high efficiency.
Input and Output voltages are three-phase. Rating power available from 10kVA to 350kVA.

High performance and high efficiency with PF 0,9 and PF 1.

POLARIS uses power modular technology and it works in redundance mode N+x.

It is a flexible system, in fact is possible to add or remove power cabinets depending by the amount of load to supply. In this way it is possible to optimize the financial investments by escalating the configuration according to the real needs.

POLARIS can be used for any kind of load: IT, AUTOMATIC MACHINE, DATA CENTER, HOSPITAL, INDUSTRY, etc.
POLARIS can solve every kind of problems, such as blackouts, spikes, voltage disturbances, frequency disturbances, harmonic distorsion (THD <2%), current noise, brownouts, surges, and so on.

POLARIS serie uses a Digital Signal Processor (DSP) control to increase the reliability, the efficiency, and for auto protection and auto diagnosis.

Polaris series keep input current balanced. No unbalance problems may occur during the operation

Polaris

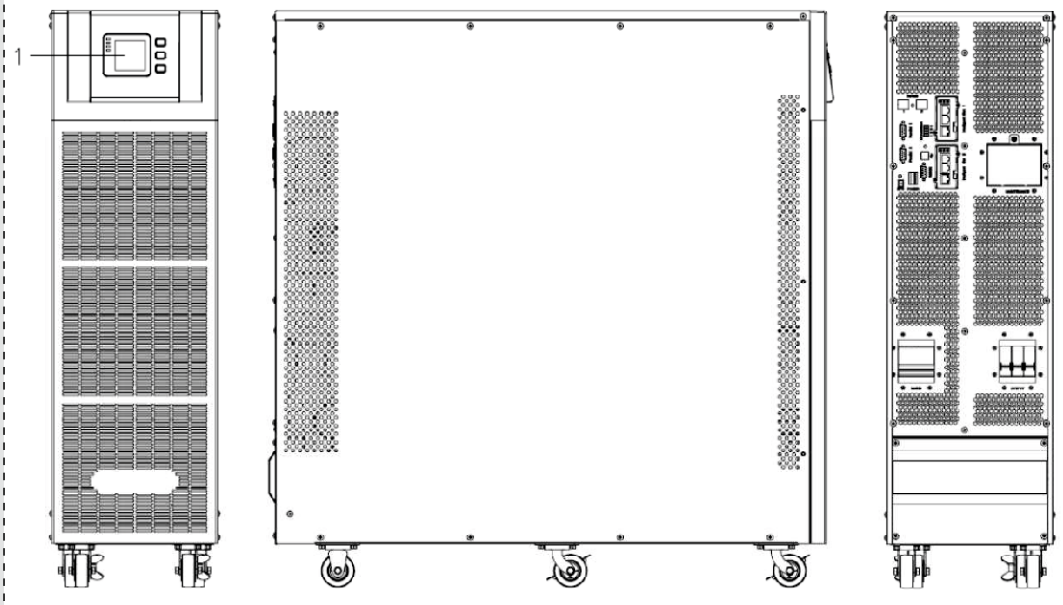
Polaris 3-phase 10k-350k

MAIN FEATURES:
- True On-line UPS input three-phase + N, output three-phase + N
- Switching time 0 ms
- Power factor 0,9 or 1
- LCD display
- Modular power from 10kVA to 350kVA
- DSP (Digital Signal Processor)
- Input Low distorsion < 2%
- ECO mode function
- Optional: SNMP, MODBUS, RELAY. Standard: USB port, RS485, EPO contact
- EPO contact
- Battery configured from 16-18-20 blocks according to application's requirement.
- ModBus 485

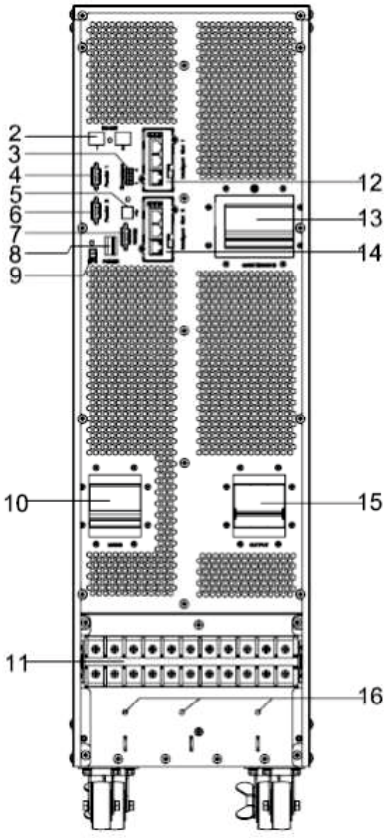
POLARIS

Three-phase on-line, double conversion UPS at 10kVA-350kVA

Figure 1: cabinet UPS



Front view | Lateral view | Rear view



1) LCD panel
2) RS485 port
3) Clean contacts
4) Parallel Port 1
5) USB port
6) Parallel Port 2
7) RS232 port
8) Power switch
9) REPO port
10) Input switch
11) Terminal blocks for input, output and battery
12) Intelligent slot 1 (SNMP /Relay board)
13) Manual By-pass switch with its cover
14) Intelligent slot 2 (SNMP/Relay board)
15) Output switch
16) Terminal blocks for Ground connection

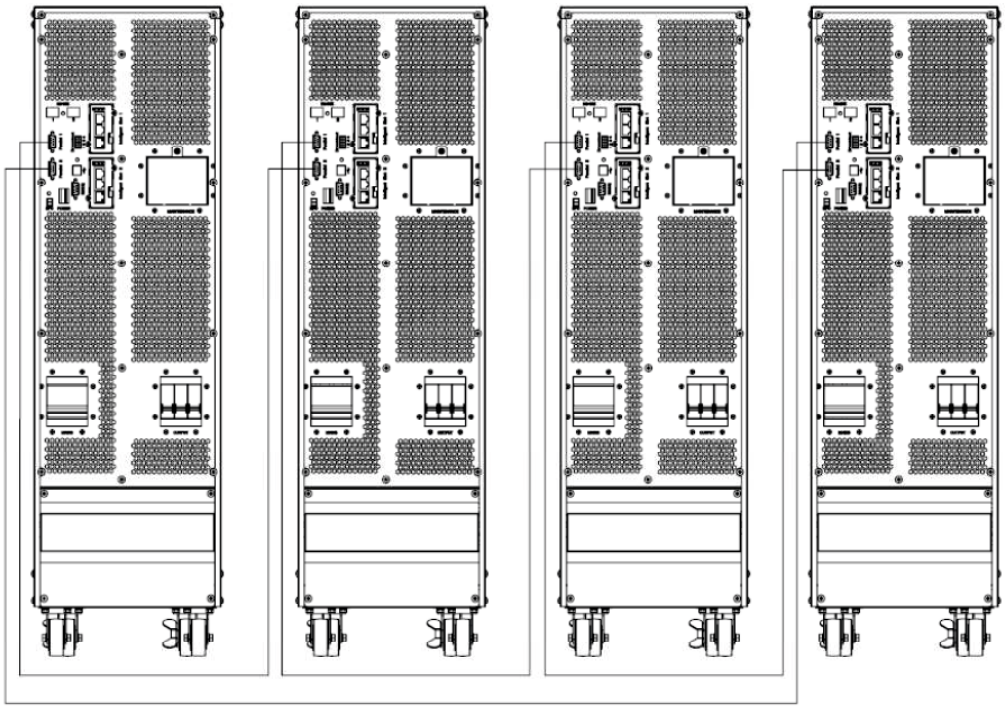
Rear view without cover

Modular power technology

Modular power technology used for POLARIS serie is an easy "Parallel concept".

POLARIS serie has an intelligent sensor which automatically detects other UPSs with same power.
No settings via software, no parallel boards needed, UPS it is always ready and with a self test reset and adjust its output power.

Parallel control cables are shielded with double isolation to avoid noise interference.
The cables are connected in ring mode, as shown in the picture below.
Ring connection is very reliable.



The parallel configuration guarantees an higher reliability than a single "full power" UPS. For making a correct configuration it is important to meet the items written below:

1) Every UPS must have the same power and connected to the same by-pass line .
2) The electric cables (input, output, by-pass) must have the same length and same characteristics

POLARIS UPS

Three-phase on-line, double conversion UPS at 10K-350K

MODEL POWER	POLARIS10 10KVA/9KW	POLARIS15 15KVA/13,5KW	POLARIS20 20KVA/18KW	POLARIS30 30KVA/27KW
Input	Three-phase + N			
Voltage	Vac 380-400-415			
Frequency	45 - 60 Hz (auto sensing)			
Power Factor	0,99			
THDi	< 2%			
Output	Three-phase + N			
Voltage	380-400-415 Vac			
Frequency	45 - 60 Hz (+/- 0,1%)			
Power Factor	0,9	0,9	0,9	0,9
THDo	< 1% (linear load) - <3% (non linear load)			
Efficiency	> 96,5%	> 97,5%	> 97,5%	> 97,5%
Battery	Dyamic 16pcs - 18pcs. - 20pcs. (configurable)			
Autonomy	10' standard with embedded battery			
Switching time	0 ms.			
Overload				
Self-check	Normal op.: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass Automatic self test at switch on			
Display	LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms			
Interface	USB - RS485 - Clean Contacts- Intelligent slot - MODBUS 485			
Communication	SNMP (optional) - RELAY card (optional)			
Operating temperature	Operating: 0° + 40° / Storage: -25° + 55°			
Dimensions (WxHxD)	250x868x828 mm	250x868x828 mm	250x868x828 mm	250x868x828 mm
Number of Units	1	1	1	1

MODEL POWER	POLARIS40 40KVA/36KW	POLARIS60 60KVA/54kW	POLARIS80 80KVA/72KW	POLARIS100 100KVA/81KW
Input	Three-phase + N			
Voltage	Vac 380-400-415			
Frequency	45 - 60 Hz (auto sensing)			
Power Factor	0,99			
THDi	< 2%			
Output	Three-phase + N			
Voltage	380-400-415 Vac			
Frequency	45 - 60 Hz (+/- 0,1%)			
Power Factor	0,9	0,9	0,9	0,8
THDo	< 1% (linear load) - <3% (non linear load)			
Efficiency	> 97,5%	> 97,5%	> 97,5%	> 97,5%
Battery	Dynamic 16pcs - 18pcs. - 20pcs. (configurable)			
Autonomy	10' standard with embedded battery			
Switching time	0 ms.			
Overload				
Self-check	Normal op.: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass Automatic self test at switch on			
Display	LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms			
Interface	USB - RS485 - Clean Contacts- Intelligent slot - MODBUS 485			
Communication	SNMP (optional) - RELAY card (optional)			
Operating temperature	Operating: 0° + 40° / Storage: -25° + 55°			
Dimensions (WxHxD)	250x868x828 mm	250x868x828 mm	250x868x828 mm	750x868x828 mm
Number of Units	1	1	1	3

NOTE: MODEL AT COSφ 1 UPON REQUEST

POLARIS UPS

Three-phase on-line, double conversion UPS at 10K-350K

MODEL POWER	POLARIS120 120KVA/108KW	POLARIS160 160KVA/144KW	POLARIS180 180KVA/162KW	POLARIS200 200KVA/162KW
Input	Three-phase + N			
Voltage	Vac 380-400-415			
Frequency	45 - 60 Hz (auto sensing)			
Power Factor	0,99			
THDi	< 2%			
Output	Three-phase + N			
Voltage	380-400-415 Vac			
Frequency	45 - 60 Hz (+/- 0,1%)			
Power Factor	0,9	0,9	0,8	0,8
THDo	< 1% (linear load) - <3% (non linear load)			
Efficiency	> 97,5%	> 97,5%	> 97,5%	> 97,5%
Battery	Dynamic 16pcs - 18pcs. - 20pcs. (configurable)			
Autonomy	10' standard with embedded battery			
Switching time	0 ms.			
Overload				
Self-check	Normal op.: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass Automatic self test at switch on			
Display	LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms			
Interface	USB - RS485 - Clean Contacts- Intelligent slot - MODBUS 485			
Communication	SNMP (optional) - RELAY card (optional)			
Operating temperature	Operating: 0° + 40° / Storage: -25° + 55°			
Dimensions (WxHxD)	500x868x828 mm	500x868x828 mm	750x868x828 mm	750x868x828 mm
Number of Units	2	2	3	3

MODEL POWER	POLARIS250 250kVA / 240kW	POLARIS300 300kVA / 288kW	POLARIS320 320kVA / 288kW	POLARIS350 350kVA / 288kW
Input	Three-phase + N			
Voltage	Vac 380-400-415			
Frequency	45 - 60 Hz (auto sensing)			
Power Factor	0,9	0,9	0,99 0,9	0,8
THDi	< 2%			
Output	Three-phase + N			
Voltage	380-400-415 Vac			
Frequency	45 - 60 Hz (+/- 0,1%)			
Power Factor				
THDo	< 1% (linear load) - <3% (non linear load)			
Efficiency	>97,5%			
Battery	Dynamic 16pcs - 18pcs. - 20pcs. (configurable)			
Autonomy	10' standard with embedded battery			
Switching time	0 ms.			
Overload				
Self-check	Normal op.: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass Automatic self test at switch on			
Display	LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms			
Interface	USB - RS485 - Clean Contacts- Intelligent slot - MODBUS 485			
Communication	SNMP (optional) - RELAY card (optional)			
Operating temperature	Operating: 0° + 40° / Storage: -25° + 55°			
Dimensions (WxHxD)	750x868x828	1000x868x828	1000x868x828	1000x868x828
Number of Units	3	4	4	4

NOTE: MODEL AT COSφ 1 UPON REQUEST

POLARIS PSS - EN50171

CPSS for energizing safety equipment in compliance with EN50171

MODEL POWER	POLARIS10PSS 10KVA/9KW	POLARIS15PSS 15KVA/13,5KW	POLARIS20PSS 20KVA/18KW
POWER according to EN50171	7,5KW	11,3KW	15KW
Input	Three-phase + N		
Voltage	Vac 380-400-415		
Frequency	45 - 60 Hz (auto sensing)		
Power Factor	0,99		
THDi	< 2%		
Output	Three-phase + N		
Voltage	380-400-415 Vac		
Frequency	45 - 60 Hz (+/- 0,1%)		
THDo	< 1% (linear load) - <3% (non linear load)		
Efficiency	> 96,5%	> 97,5%	> 97,5%
Battery	Dynamic 16pcs - 18pcs. - 20pcs. (configurable)		
Autonomy	60 / 120 / 180 min		
Switching time	according to EN50171		
Overload	Normal op.: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass		
Self testing	Automatic self test at switch on		
Display	LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms		
Interface	USB - RS485 - Clean Contacts - Intelligent slot		
Communication	SNMP (optional) - MODBUS (optional) - RELAY card (optional)		
Operating temperature	Operating: 0° + 40° / Storage: -25° + 55°		
Dimensions (WxHxD)	250x868x828 mm	250x868x828 mm	250x868x828 mm
Number of Units	1	1	1
Standards	EN/IEC 60950-1 EN/IEC 62040-1 EN/IEC 62040-2 EN/IEC 62040-3 EN 50171		

MODEL POWER	POLARIS30PSS 30KVA/27KW	POLARIS40PSS 40KVA/36KW	POLARIS60PSS 60KVA/54kW
POWER according to EN50171	22,5KW	30KW	45KW
Input	Three-phase + N		
Voltage	Vac 380-400-415		
Frequency	45 - 60 Hz (auto sensing)		
Power Factor	0,99		
THDi	< 2%		
Output	Three-phase + N		
Voltage	380-400-415 Vac		
Frequency	45 - 60 Hz (+/- 0,1%)		
THDo	< 1% (linear load) - <3% (non linear load)		
Efficiency	> 97,5%	> 97,5%	> 97,5%
Battery	Dynamic16/18/20pcs	Dynamic 32/34/36/38/40pcs	Dynamic16/18/20pcs
Autonomy	60 / 120 / 180 min		
Switching time	according to EN50171		
Overload			
Self testing	Automatic self test at switch on		
Display	LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms		
Interface	USB - RS485 - Clean Contacts - Intelligent slot		
Communication	SNMP (optional) - MODBUS (optional) - RELAY card (optional)		
Operating temperature	Operating: 0° + 40° / Storage: -25° + 55°		
Dimensions (WxHxD)	250x868x828 mm	250x868x828 mm	250x868x828 mm
Number of Units	1	1	1
Standards	EN/IEC 60950-1 EN/IEC 62040-1 EN/IEC 62040-2 EN/IEC 62040-3 EN 50171		

POLARIS PSS - EN50171

CPSS for energizing safety equipment in compliance with EN50171

MODEL POWER	POLARIS80PSS 80KVA/72KW	POLARIS100PSS 100KVA/81KW	POLARIS120PSS 120KVA/108KW
POWER according to EN50171	60KW	75KW	90KW
Input	Three-phase + N		
Voltage	380-400-415 Vac		
Frequency	45 - 60 Hz (auto sensing)		
Power Factor	0,99		
THDi	< 2%		
Output	Three-phase + N		
Voltage	380-400-415 Vac		
Frequency	45 - 60 Hz (+/- 0,1%)		
THDo	< 1% (linear load) - <3% (non linear load)		
Efficiency	> 97,5%	> 97,5%	> 97,5%
Battery	Dynamic 32/34/36/38/40pcs	Dynamic6/18/20pcs	Dynamic 32/34/36/38/40pcs
Autonomy	60 / 120 / 180 min		
Switching time	according to EN50171		
Overload	Normal op: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass		
Self testing	Automatic self test at switch on		
Display	LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms		
Interface	USB - RS485 - Clean Contacts- Intelligent slot		
Communication	SNMP (optional) - MODBUS (optional) - RELAY card (optional)		
Operating temperature	Operating: 0° + 40° / Storage: -25° + 55°		
Dimensions (WxHxD)	250x868x828 mm	750x868x828 mm	500x868x828 mm
Number of Units	1	3	2
Standards	EN/IEC 60950-1 EN/IEC 62040-1 EN/IEC 62040-2 EN/IEC 62040-3 EN 50171		

MODEL POWER	POLARIS160PSS 160KVA/144KW	POLARIS180PSS 180KVA/144KW	POLARIS200PSS 200KVA/160KW
POWER according to EN50171	120KW	135KW	150KW
Input	Three-phase + N		
Voltage	380-400-415 Vac		
Frequency	45 - 60 Hz (auto sensing)		
Power Factor	0,99		
THDi	< 2%		
Output	Three-phase + N		
Voltage	380-400-415 Vac		
Frequency	45 - 60 Hz (+/- 0,1%)		
Power factor	0,9	0,8	0,8
THDo	< 1% (linear load) - <3% (non linear load)		
Efficiency	> 97,5%	> 97,5%	> 97,5%
Battery	Dynamic 32/34/36/38/40pcs		
Autonomy	60 / 120 / 180 min		
Switching time	according to EN50171		
Overload	Normal op: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass		
Self testing	Automatic self test at switch on		
Display	LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms		
Interface	USB - RS485 - Clean Contacts- Intelligent slot		
Communication	SNMP (optional) - MODBUS (optional) - RELAY card (optional)		
Operating temperature	Operating: 0° + 40° / Storage: -25° + 55°		
Dimensions (WxHxD)	500x868x828 mm	750x868x828 mm	750x868x828 mm
Number of Units	2	3	3
Standards	EN/IEC 60950-1 EN/IEC 62040-1 EN/IEC 62040-2 EN/IEC 62040-3 EN 50171		

POLARIS CF

Three-phase Frequency Converter at 10K-200K

THREE-PHASE/SINGLE-PHASE FREQUENCY CONVERTER 50/60Hz - POLARIS SERIES

50/60Hz Frequency converter at 6kVA and 10kVA with VFI sinusoidal waveform (Voltage and Frequency Independent).
Frequency converter supply a linear current and a complete protection to:
- Data Network/PC
- Data center
- Server
- Telecommunication system
- Hospital equipment
- Industrial equipment

The Frequency converter provides an output at 50Hz or 60Hz which is independent from input frequency.
The Power Factor correction circuit improves the quality of absorbed input current, thus increasing the efficiency and saving energy

MODEL POWER	POLARIS CF 10 10KVA/9KW	POLARIS CF 15 15KVA/13,5KW	POLARIS CF 20 20KVA/18KW
Input		Three-phase + N	
Voltage		380-400-415 Vac	
Frequency		45 - 60 Hz (auto sensing)	
Power Factor		0,99	
THDi		< 2%	
Output		Three-phase + N	
Voltage		380-400-415 Vac	
Frequency		45 - 60 Hz (+/- 0,1%)	
Power Factor	0,9	0,9	0,9
THDo		< 1% (linear load) - <3% (non linear load)	
Efficiency	> 96,5%	> 97,5%	> 97,5%
Overload		Normal op: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass	
Self Test		Automatic self test at switch on	
Display		LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms	
Interface		USB - RS485 - Clean Contacts- Intelligent slot	
Communication		SNMP (optional) - MODBUS (optional) - RELAY card (optional)	
Temperature		Operating: 0° + 40° / Storage: -25° + 55°	
Dimensions (WxHxD)	250x868x828 mm	250x868x828 mm	250x868x828 mm
N. of units	1	1	1

MODEL POWER	POLARIS CF 30 30KVA/27KW	POLARIS CF 40 40KVA/36KW	POLARIS CF 60 60KVA/54kW
Input		Three-phase + N	
Voltage		380-400-415 Vac	
Frequency		45 - 60 Hz (auto sensing)	
Power Factor		0,99	
THDi		< 2%	
Output		Three-phase + N	
Voltage		380-400-415 Vac	
Frequency		45 - 60 Hz (+/- 0,1%)	
Power Factor	0,9	0,9	0,9
THDo		< 1% (linear load) - <3% (non linear load)	
Efficiency	> 97,5%	> 97,5%	> 97,5%
Overload		Normal op: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass	
Self Test		Automatic self test at switch on	
Display		LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms	
Interface		USB - RS485 - Clean Contacts- Intelligent slot	
Communication		SNMP (optional) - MODBUS (optional) - RELAY card (optional)	
Temperature		Operating: 0° + 40° / Storage: -25° + 55°	
Dimensions (WxHxD)	250x868x828 mm	250x868x828 mm	250x868x828 mm
N. of units	1	1	1

POLARIS CF

Three-phase Frequency Converter at 10K-200K

MODEL POWER	POLARIS CF 80 80KVA/72KW	POLARIS CF 100 100KVA/81KW	POLARIS CF 120 120KVA/108KW
Input		Three-phase + N	
Voltage		380-400-415 Vac	
Frequency		45 - 60 Hz (auto sensing)	
Power Factor		0,99	
THDi		< 2%	
Output		Three-phase + N	
Voltage		380-400-415 Vac	
Frequency		45 - 60 Hz (+/- 0,1%)	
Power Factor	0,9	0,8	0,9
THDo		< 1% (linear load) - <3% (non linear load)	
Efficiency	> 97,5%	> 97,5%	> 97,5%
Overload		Normal op: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass	
Self Test		Automatic self test at switch on	
Display		LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms	
Interface		USB - RS485 - Clean Contacts- Intelligent slot	
Communication		SNMP (optional) - MODBUS (optional) - RELAY card (optional)	
Temperature		Operating: 0° + 40° / Storage: -25° + 55°	
Dimensions (WxHxD)	250x868x828 mm	750x868x828 mm	500x868x828 mm
N. of units	1	3	2

MODEL POWER	POLARIS CF 160 160KVA/144KW	POLARIS CF 180 180KVA/144KW	POLARIS CF 200 200KVA/160KW
Input		Three-phase + N	
Voltage		380-400-415 Vac	
Frequency		45 - 60 Hz (auto sensing)	
Power Factor		0,99	
THDi		< 2%	
Output		Three-phase + N	
Voltage		380-400-415 Vac	
Frequency		45 - 60 Hz (+/- 0,1%)	
Power Factor	0,9	0,8	0,8
THDo		< 1% (linear load) - <3% (non linear load)	
Efficiency	> 97,5%	> 97,5%	> 97,5%
Overload		Normal op: 110% 60' - 125% 10' - 150% 1' - >150% switch to bypass	
Self Test		Automatic self test at switch on	
Display		LCD: Voltage IN/OUT - Frequency IN/OUT - Load - Battery Voltage Operating Temp. - Overload - Failure - Alarms	
Interface		USB - RS485 - Clean Contacts- Intelligent slot	
Communication		SNMP (optional) - MODBUS (optional) - RELAY card (optional)	
Temperature		Operating: 0° + 40° / Storage: -25° + 55°	
Dimensions (WxHxD)	500x868x828 mm	750x868x828 mm	750x868x828 mm
N. of units	2	3	3

NAUTILUS

Three-phase on-line, double conversion UPS at 10KVA – 2,4MVA

The new Nautilus series take advange of 19" rack modular architecture to provide high quality and high reliability solutions.

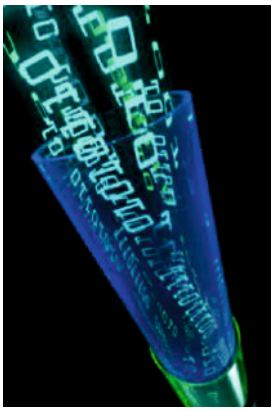
Each power module operates in "decentralized parallel" mode together with the others, and the complete system manage independently the input load.

Nautilus

When a single power module fails, then it is automatically shutdown (decentralized parallel mode) in order to guarantee a continuous operation by means of the remaining power modules

NAUTILUS

Three-phase on-line, double conversion UPS at 10KVA - 2,4MVA



Main advantages of using NAUTILUS series:

- High efficiency system, >95%, for lowering energy cost
- Centralized static switch for higher reliability
- Reduced time and cost for repairing and service

NAUTILUS series is suitable for application such as Data Center, Bank, Hospital, Airport, Industrial systems and Emergency lighting systems.

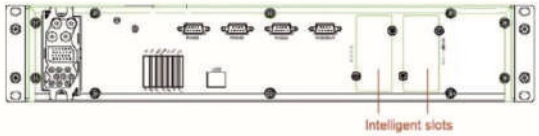
MAIN CHARACTERISTICS

· Input Power Factor 0,99
· Input Harmonic Distortion <2%
· Centralized LCD display to check all parameters related to each module in real time.
· EPO function
· Display LCD touch screen

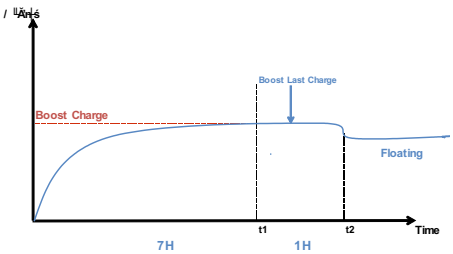
· COMMUNICATION:
1x RS232 – 2x Rs485
1x MODBUS PORT
1x CLEAN CONTACTS
2x COMMUNICATION SLOT

· The power module uses next generation DSP microprocessor to reduce the number of components and increase UPS reliability
· The UPS automatically shares the load and use the centralizet switch to increase the relaibility
· Possibility of using a centralized battery connected to several UPS
· Smart Battery recharge system: periodic battery test, checking of real recharge value, for increasing battery's lifetime

Display LCD touch screen



Communication ports



Battery recharging graph

NAUTILUS

Three-phase on-line, double conversion UPS at 10KVA - 2,4MVA

Model		Nautilus 10	Nautilus 15	Nautilus 20	Nautilus 30
Input		10kVA/9kW	15kVA/13,5kW	20kVA/16kW	30kVA/27kW
Phase			3ph + n		
Nominal Voltage			380/400/415		
Voltage range			208-478		
Frequency range			40-70Hz		
Power Factor			>/= 0,99		
Harmonic distortion			<2%		
Output					
Phase			3f + n		
Nominal voltage			380/400/415		
Power Factor			0,9		
Voltage tolerance			(+/- 2%)		
Frequency tolerance (normal op.)			(+/-1/2/4/5/10%)		
Frequency tolerance (battery op.)			50-60+0,2Hz		
Crest factor			3 :1		
THD			<2%		
Waveform			Sinusoidal		
Battery					
Battery charger		da 5,7 - 25A	da 5,7 - 25A	da 5,7 - 25A	da 5,7 - 25A
Dimensions (WxHxD)	mm	600x1400x860	600x1400x860	600x1400x860	600x1400x860
Weight	kg	123	126	127	156

Model		Nautilus 40	Nautilus 50	Nautilus 60	Nautilus 80
Input		40kVA/36kW	50kVA/45kW	60kVA/54kW	80kVA/72kW
Phase			3ph + n		
Nominal Voltage			380/400/415		
Voltage range			208-478		
Frequency range			40-70Hz		
Power Factor			>/= 0,99		
Harmonic distortion			<2%		
Output					
Phase			3f + n		
Nominal voltage			380/400/415		
Power Factor			0,9		
Voltage tolerance			(+/- 2%)		
Frequency tolerance (normal op.)			(+/-1/2/4/5/10%)		
Frequency tolerance (battery op.)			50-60+0,2Hz		
Crest factor			3 :1		
THD			<2%		
Waveform			Sinusoidal		
Battery					
Battery charger		da 5,7 - 25A	da 5,7 - 25A	da 5,7 - 25A	da 5,7 - 25A
Dimensions (WxHxD)	mm	600x1400x860	600x1400x860	600x1400x860	600x2000x850
Weight	kg	158	186	189	195

NAUTILUS

Three-phase on-line, double conversion UPS at 10KVA - 2,4MVA

Model		Nautilus 100	Nautilus 120	Nautilus 160	Nautilus 200
Input		100kVA/90kW	120kVA/108kW	160kVA/144kW	200kVA/180kW
Phase		3ph + n			
Nominal Voltage		380/400/415			
Voltage range		208-478			
Frequency range		40-70Hz			
Power Factor		>/= 0,99			
Harmonic distortion		<2%			
Output					
Phase		3f + n			
Nominal voltage		380/400/415			
Power Factor		0,9			
Voltage tolerance		(+/- 2%)			
Frequency tolerance (normal op.)		(+/-1/2/4/5/10%)			
Frequency tolerance (battery op.)		50-60+0,2Hz			
Crest factor		3 :1			
THD		<2%			
Waveform		Sinusoidal			
Battery					
Battery charger		25A	30A	38A	50A
Dimensions (WxHxD)	mm	600x2000x850	600x2000x850	600x2000x850	600x2000x850
Weight	kg	286	316	350	380

Model		Nautilus 300	Nautilus 400	Nautilus 500
Input		300kVA/270kW	400kVA/360kW	500kVA/450kW
Phase		3ph + n		
Nominal Voltage		380/400/415		
Voltage range		208-478		
Frequency range		40-70Hz		
Power Factor		>/= 0,99		
Harmonic distortion		<2%		
Output				
Phase		3f + n		
Nominal voltage		380/400/415		
Power Factor		0,9		
Voltage tolerance		(+/- 2%)		
Frequency tolerance (normal op.)		(+/-1/2/4/5/10%)		
Frequency tolerance (battery op.)		50-60+0,2Hz		
Crest factor		3 :1		
THD		<2%		
Waveform		Sinusoidal		
Battery				
Battery charger		80A	100A	130A
Dimensions (WxHxD)	mm	600x2000x850	600x2000x850	1200x2000x850
Weight	kg	600	815	860

NOTE: Scalability up to 2,4MVA

VOLTAGE STABILIZER

Single-phase stabilizer

Electronic voltage stabilizer SEM and SET series are designed for a continuous service, providing maximum reliability and requiring minimum maintenance.
Application: SOHO, lighting system, industrial equipment, telecommunication system, medical appliance.
Main features: very quick intervention time, high efficiency (98%), no harmonic distortion, no micro-interruption of output voltage, load variation from zero to 100%, any power factor of the load.
Option available: model with Input voltage 90V ÷ 290V (or 155V ÷ 500V) and Output voltage 230V (or 400V) ± 5%

Code		SEM 01	SEM 02	SEM 03	SEM 04	SEM 05	SEM 06	SEM 07
Technical Requirements								
Power KVA (Cosfi 0,8)		1	2	3	4	5	7,5	10
Input Voltage V	V	230 -30% +20%						
Input Frequency Hz	Hz	50						
Output Voltage V	V	230 ± 3%						
Waveform	Hz	sinusoidal						
Dimensions and Weight								
Dimensions (WxHxD)	mm	310x310x180					270x460x450	
Weight	kg	11	16	18	20	22	37	45

Codice		SEM 08	SEM 09	SEM 10	SEM 11	SEM 12	SEM 13	SEM 14
Technical Requirements								
Power KVA (Cosfi 0,8)		15	20	25	30	40	50	75
Input Voltage V	V	230 -30% +20%						
Input Frequency Hz	Hz	50						
Output Voltage V	V	230 ± 3%						
Waveform	Hz	sinusoidal						
Dimensions and Weight								
Dimensions (WxHxD)	mm	270x460x450		310x520x520			600x1050x400	
Weight	kg	63	90	115	135	180	210	350

VOLTAGE STABILIZER

Three-phase stabilizer

Code		SET 01	SET 02	SET 03	SET 04	SET 05	SET 06	SET 07
Technical Requirements								
Power KVA (Cosfi 0,8)		3	5	7,5	10	15	20	25
Input Voltage V	V	400 -30% +20%						
Input Frequency Hz	Hz	50						
Output Voltage V	V	400 ± 3%						
Waveform	Hz	sinusoidal						
Dimensions and Weight								
Dimensions (WxHxD)	mm	400x650x200		500x750x250		350x800x790		
Weight	kg	35	43	53	62	78	100	110

Codice		SET 08	SET 09	SET 10	SET 11	SET 12	SET 13	SET 14
Technical Requirements								
Power KVA (Cosfi 0,8)		30	40	50	60	75	100	150
Input Voltage V	V	400 -30% +20%						
Input Frequency Hz	Hz	50						
Output Voltage V	V	400 ± 3%						
Waveform	Hz	sinusoidal						
Dimensions and Weight								
Dimensions (WxHxD)	mm	350x800x790			500x700x1250			700x1400x900
Weight	kg	120	170	220	270	300	500	500

BATTERIES

Sealed lead-acid 12V 5Ah-200Ah

Maintenace-free, sealed lead-acid batteries produced by Elsist.

Compatible with most of the UPS devices.

Available from 5Ah to 200Ah capacity.

Elsist batteries are manufactured to withstand long and deep discharge. Packed in a box suitable for safe deliveries.

Code	Voltage	Capacity	Dimensions LxWxH	Weight
E.BT005	12V	4,5Ah	90x70x101mm	1,66kg
E.BT007	12V	7Ah	151x65x95mm	2,26kg
E.BT009	12V	9Ah	151x65x95mm	2,51kg
E.BT012	12V	12Ah	151x65x95mm	3,56kg
E.BT018	12V	18Ah	181x77x167,5mm	5,35kg
E.BT024	12V	24Ah	165x125x175mm	8,5kg
E.BT027	12V	27Ah	165x125x175mm	9,3kg
E.BT035	12V	33Ah	195x130x164mm	10,5kg
E.BT040	12V	40Ah	197x165x170mm	12,2kg
E.BT055	12V	55Ah	239x132x205mm	15,3kg
E.BT065	12V	65Ah	348x167x178mm	20,2kg
E.BT070	12V	70Ah	348x167x178mm	21,6kg
E.BT080	12V	80Ah	260x170x211mm	23,6kg
E.BT0100	12V	100Ah	330x171x215mm	29,0kg
E.BT0120	12V	120Ah	410x176x224mm	33,5kg
E.BT0150	12V	150Ah	482x170x240mm	44,8kg
E.BT0200	12V	200Ah	522x238x223mm	59,1kg

BATTERY CABINET

Metal cabinet for sealed lead acid batteries

Elsist provides a metal cabinet with hinged door and revolving handle with key, built according to the current European standards (CE) and EN 60439-1, EN 62040-1 standards and suitable to contain sealed lead batteries according to EN 50272- 2.
The degree of protection is IP20 (according to IEC 60529).
The cabinet is compatible with all Elsist UPS systems and can contain different types of batteries.
For example, up to 40 x 100Ah batteries can be installed.
If required, the cabinet can be completed with an input switch / breaker sized according to the system power

Code	Dimensions (WxDxH)
BB 3-Phase	1000 x 800 x 1800 mm
BBT12U	190 x 460 x 330mm
BBT40U	250 x 600 x 615mm
BBT80U	250 x 830 x 865mm
BBR12U	440 x 690 x 88mm

BBT12U

BBT40U

BBT80U

BBR12U

WHY USE AN ELSIST UPS?

THE ANSWER TO SOME FREQUENTLY ASKED QUESTIONS.

WHY THE QUALITY OF ELECTRICAL NETWORKS IS A PROBLEM?

In the "digital era", the increase in the use of telecommunications and IT infrastructures, which are much more sensitive to electrical disturbances compared to equipment of the past, highlights the importance of having a "clean" electricity supply network in order to avoid equipment breakdowns and interruption of services, with loss of data and increase of financial costs due to such interruptions. Often these disturbances are not detected but they can damage components of equipment without being able to understand the reasons. Because of that it is important to protect the systems from all sources of power supply disturbance

CAN I USE VOLTAGE STABILIZERS OR FILTERED AND PROTECTED SOCKETS INSTEAD OF A UPS TO PROTECT MY EQUIPMENT?

Voltage stabilizers or protected sockets can be used but still represent a partial solution. Compared to these devices, a UPS in addition filters and adjusts the mains voltage providing a "clean" output voltage, and also offers protection against network failures, continuing to operate thanks to its own batteries. A feature that neither stabilizers nor filtered outlets can offer.

IF I USE A GENSET, AM I SUFFICIENTLY PROTECTED?

No, a generator does not fully protect the load from disturbances in the electricity grid. This is because the generator takes a significantly long time (even a few minutes) to start up and go to full capacity. For this reason, a UPS is necessary to ensure that the connected devices can normally be supplied within the period of time between the interruption of the electricity grid and the start-up of the generator set. Elsist UPSs are compatible with generator set of different brands.

WHAT POWER CAPABILITY SHOULD HAVE MY UPS?

First of all, the total amount of the load to be protected must be calculated (in Watts). The power absorbed by the single device can be found on its technical data sheet or on the label affixed to the equipment itself. Once the total power has been calculated, select the UPS by adding a margin of about 25% (e.g. if the total load is 800W, then select a 1000W UPS). In this way a margin is guaranteed in case of further addition of equipment, and moreover, the UPS is not always operated at its maximum power, increasing its reliability.

HOW MANY AUTONOMY TIME MUST I GUARANTEE?

The back-up time guaranteed by the battery may vary depending on the type of device and application protected by the UPS. It may be only the time necessary to carry out a shutdown procedure, or a few minutes to allow a generator to start-up, or a few hours if you feed a system located in a remote place, that is difficult to access. It is advisable to dimension the back-up time and the number of batteries in an optimal way with respect to the specific needs, also taking into account the degradation of the batteries over time, in order to avoid unnecessary costs.

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Systems with high efficiency and high reliability to lower the total cost of ownership

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BW POWER SYSTEMS

Avenida Valdelaparra, 27 - Nave 12
28108 Alcobendas - Madrid (España)

+34 699 700 337

bw.corporate@b-wspain.com
www.b-wspain.com