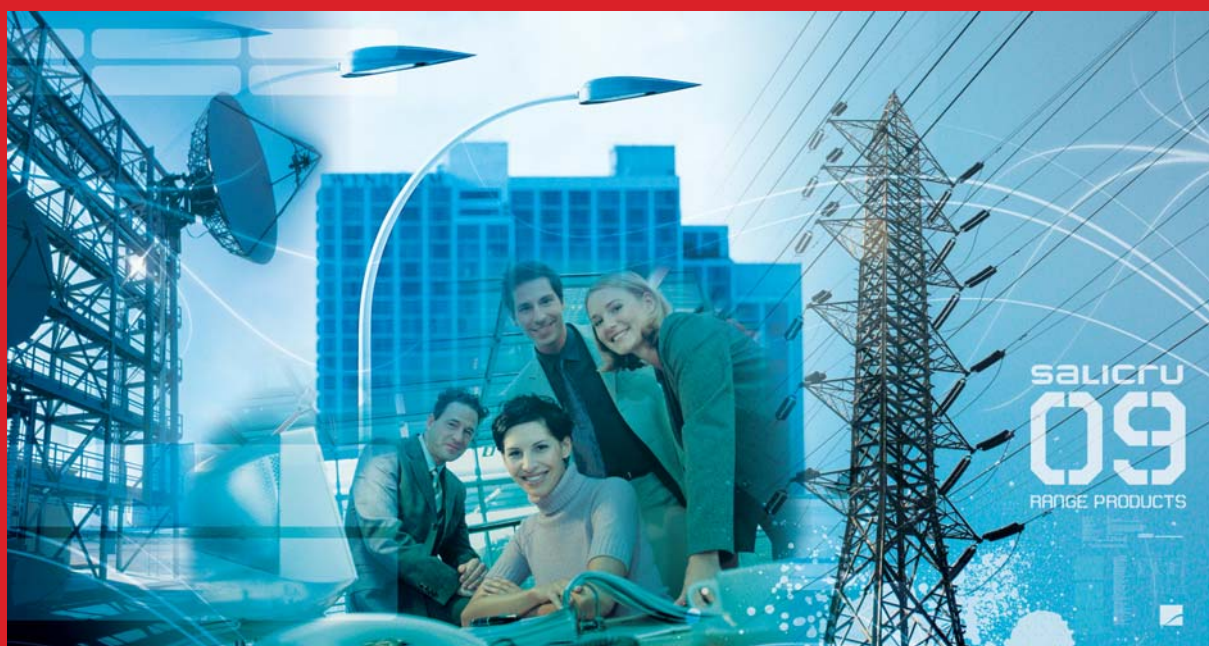


SALICRU



PRODUCT RANGE CATALOGUE

MAY 2009

SALICRU





CONTINUOUS, CLEAN AND RELIABLE ELECTRICAL POWER SUPPLY

Electronics and telecommunications are more and more present in our daily lives, on both the professional and personal level. The fact of having a quality electrical power supply will therefore be essential in any of the areas of activity, above all considering that in such a competitive world as this, total availability will be essential for the success of any business.

SALICRU's job is to assure this energy availability with maximum quality and reliability.



UNIVERSAL SOLUTIONS

According to different studies, 40% of faults occurring in computer systems are caused by disturbances in the electrical power supply (far more than those caused by computer viruses) also affecting productivity losses derived from inactivity and the resources needed for restoring the damage caused.

► Types of electrical disturbances

- Transitory.
- Micro cuts – voltage downtimes.
- Surges.
- Troughs.
- Gradual low voltage.
- Power supply failure.
- Harmonics.
- High frequency interferences.
- Frequency variations.



► Types of applications

We can also find unending other applications liable to be affected, just like the computer environments, by electrical disturbance on all areas of professional and personal life, such as:

- **Domestic use:** PC, peripherals, modem-fax-telephone, TV/LCD, domotics, HDD-external, DVD, etc.
- **Small trades/offices:** PC/MAC, fax-copiers-scanners, SPT, telesurveillance, hubs, routers, etc.
- **Medium and large companies:** Servers, work stations, telephony-VOIP, internetworking, data storage, data processing centres, calculation centres, etc.
- **Industrial activity:** Monitoring, handling, telecontrol, safety, alarm, process control, continuous production lines, analysis, laboratory, numerical control, etc.
- **Telecommunications:** Data centres, internet centres, land line telephony infrastructure, mobile telephony switching stations, radio-television broadcasters, transmission-reception equipment, etc.
- **Lighting:** Public lighting, car parks, tunnels, motorways-freeways, shopping centres, industrial estates, etc.
- **Infrastructures:** Electro medicine, emergency lighting-ventilation, military applications, security, transport, electrical stations and sub-stations, etc.



QUALITY AS A STANDARD

The **SALICRU** Quality and Environmental System is structured and adapted to assure that the manufactured products and services offered adapt to the legal and regulatory requirements and meet the clients' needs and expectations and all environmental requirements.

Quality, prevention of pollution and respect for the environment are a common objective of all **SALICRU** staff.

SALICRU is concerned with the continuous improvement of environmental management, and with minimising and suitably managing waste and energy consumption and promoting recycling.



WE OFFER ALL OF OUR RESOURCES TO YOU

The accumulated experience of more than 40 years, with more than 600,000 units in operation, facing innumerable professional challenges, have allowed **SALICRU** to acquire the experience and knowledge that guarantee the solutions in the forms of advisory, support, manufacture and management.

► **NATIONAL PRESENCE:** Delegations and Service and Technical Support

MADRID	LAS PALMAS DE G. CANARIA	SANTA CRUZ DE TENERIFE
BARCELONA	MÁLAGA	SEVILLA
BADAJOS	MURCIA	VALENCIA
BILBAO	PALMA DE MALLORCA	VALLADOLID
GIJÓN	PAMPLONA	ZARAGOZA
LA CORUÑA	SAN SEBASTIÁN	

► **INTERNATIONAL PRESENCE:** Branches and Distributors, with Commercial Attention and Service and Technical Support

FRANCE	BELGIUM	UKRAINE	JORDAN
PORTUGAL	DENMARK	ARGENTINA	KUWAIT
HUNGARY	GERMANY	BRAZIL	MOROCCO
UNITED KINGDOM	GREECE	CHILE	TUNISIA
POLAND	HOLLAND	COLOMBIA	KAZAKHSTAN
RUSSIA	IRELAND	ECUADOR	PAKISTAN
CHINA	NORWAY	PERU	PHILIPPINES
SINGAPORE	CZECH REPUBLIC	SAUDI ARABIA	INDONESIA
MEXICO	SWEDEN	ALGERIA	MALAYSIA
URUGUAY	SWITZERLAND	EGYPT	THAILAND

1	DOMESTIC USE	
APPLICATIONS	INTERFERENCES	SOLUTIONS
• CAR	DC/AC ENERGY CONVERSION	SPS AUTO
• TELEPHONE • INTERNET • HOME CINEMA • DTT	VOLTAGE PEAKS	SPS SAFE
• TV / DVD	VOLTAGE PEAKS + MAINS FAILURE	SPS HOME
• PC/PERIPHERALS	VOLTAGE PEAKS + MAINS FAILURE + OVERVOLTAGES AND UNDERVOLTAGES	SPS SOHO SPS ADVANCE

2	SMALL OFFICES	
APPLICATIONS	INTERFERENCES	SOLUTIONS
• PHOTOCOPIER	VOLTAGE PEAKS	SPS SAFE
• PC/PERIPHERALS • FAX • TELEPHONE • SERVERS	VOLTAGE PEAKS + MAINS FAILURE	SPS HOME
• SWITCH • HUB • ROUTER	VOLTAGE PEAKS + MAINS FAILURE + OVERVOLTAGES AND UNDERVOLTAGES	SPS SOHO SPS ADVANCE

3	SME / BIG CORPORATIONS	
APPLICATIONS	INTERFERENCES	SOLUTIONS
• WORKSTATIONS • INTERNETWORKING • PERIPHERALS • SERVERS	VOLTAGE PEAKS + MAINS FAILURE + OVERVOLTAGES AND UNDERVOLTAGES + BLACKOUTS + FREQUENCY VARIATION	SLC TWIN SLC CUBE STR SLC ELITE
• SWITCHBOARD • INTERNET	VOLTAGE PEAKS + MAINS FAILURE + OVERVOLTAGES AND UNDERVOLTAGES	SPS HOME
• ELECTRICAL POLLUTION	HARMONICS	HC

4	INDUSTRIAL	
APPLICATIONS	INTERFERENCES	SOLUTIONS
• TOOL MACHINE	VOLTAGE PEAKS AND UNDERVOLTAGES	VOLTAGE PEAKS AND UNDERVOLTAGES
• PROCESS CONTROL	VOLTAGE PEAKS AND UNDERVOLTAGES	VOLTAGE PEAKS AND UNDERVOLTAGES
• MANOEUVRING AND TELEMANAGEMENT • CONTINUOUS PRODUCTION LINE	VOLTAGE PEAKS AND UNDERVOLTAGES + BLACKOUTS	VOLTAGE PEAKS AND UNDERVOLTAGES + BLACKOUTS
• SPEED DRIVERS • ELECTRICAL POLLUTION	HARMONICS	HARMONICS

UPS



INDUSTRY		5 TELECOM			6 LIGHTING			7 INFRA-STRUCTURES		
REFERENCES	SOLUTIONS	APPLICATIONS	INTERFERENCES	SOLUTIONS	APPLICATIONS	INTERFERENCES	SOLUTIONS	APPLICATIONS	INTERFERENCES	SOLUTIONS
SPS + OVERVOLTAGES DERIVATIVES	EMI/RE	- TRANSMISSION AND COMMUNICATION EQUIPMENT - TELEPHONY - RADIO AND TV SYSTEMS - VoIP	VOLTAGE PEAKS + MAINS FAILURE + OVERVOLTAGES AND UNDERVOLTAGES + BLACKOUTS + ENERGY CONVERSION (AC/DC - DC/DC - DC/AC)	OPTIMUS FAC P CS-IS CS-WAVE MDL	- STREET LIGHTING - AIRPORTS - SEAPORTS - CAR PARKS - TUNNELS - SHOPPING CENTERS - MOTORWAYS	ENERGY SAVING + OVERVOLTAGES AND UNDERVOLTAGES	ILUEST ILUEST +	- AIRPORTS - SEAPORTS - TUNNELS - HOSPITALS - RAILWAYS - ROADWAYS	VOLTAGE PEAKS + MAINS FAILURE + OVERVOLTAGES AND UNDERVOLTAGES + BLACKOUTS + FREQUENCY VARIATION	SLC TWIN SLC CUBE STR SLC ELITE
SPS + MAINS FAILURE + AND UNDERVOLTAGES	SPS SOHO SPS ADVANCE									
SPS + MAINS FAILURE + AND UNDERVOLTAGES BLACKOUTS + FREQUENCY VARIATION	SLC TWIN SLC CUBE STR SLC ELITE									
HARMONICS	HC								HARMONICS	HC



EE PHASE ON-LINE UPS 300 VA - 300 KVA 	HC ANTI-HARMONIC FILTER FROM 25 A 	OPTIMUS DC ENERGY SYSTEM 300 W - 4.200 W 	FAC P DC ENERGY SYSTEM 1 kW - 170 kW 	CS-IS/WAVE MDL DC/AC INVERTER 500 VA - 20 KVA 	ILUEST+ LIGHTING FLOW DIMMER - STABILISER 7,5 kVA - 45 kVA 	ILUEST LIGHTING FLOW DIMMER - STABILISER 3,5 kVA - 120 kVA 	RE/EMI VOLTAGE STABILISER 300 VA - 1.000 KVA
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SPS AUTO



► SPS AUTO: In the car as at home

The **SALICRU SPS AUTO** is an inverter that gives alternating voltage of 230 volts / 50 Hz starting with direct voltage of 12 volts provided by a car or boat battery. Furthermore, it has a USB port to supply DC voltage to small devices directly.

It combines a small size, identical to that of a refreshment can, aluminium surround and a power adapted to the most common portable units. The input connection is lighter type and the output euro plug, including a schuko to be able to connect any load.

It is the ideal companion for any trip or daily work, taking away the concern with having the batteries of the different portable devices always loaded.

► APPLICATIONS: Availability of alternating current in any place

Enjoy your trip by car or boat without worrying about the state of the your mobile battery or the charge in your digital camera. With an **SPS AUTO** you will always have a power supply available through your vehicle battery. You can supply or charge: Digital cameras, video cameras, video consoles, laptop PCs, PDAs, iPods, mobile phone chargers, battery chargers, portable refrigerators, GPSs, small electrical appliances such as epilators, shavers, sterilisers, food heaters, videos, DVDs, small TVs, lamps, fans, etc.



► USB connection detail

► SPS AUTO unit

► TECHNICAL SPECIFICATIONS

2 YEARS
WARRANTY
ASK FOR LOCAL
CONDITIONS

MODEL		SPS.AUTO
TECHNOLOGY		High frequency inverter (HF)
CONTROL		By microprocessor
INPUT	DC Input Voltage	10 ÷ 15 V
	Maximum consumption	15 A
OUTPUT AC	Voltage	230 V ± 5%
	Wave shape	Simulated sinewave
	Frequency	50 Hz ± 3%
	Power	150 W (30 minutes)
	Cont. output / instant. max. power	100 W / 200 W
OUTPUT DC	Voltage	5 V
	Intensity	500 mA
ALARMS		Low battery, low input voltage, overvoltage, overload and overtemperature.
PROTECTION	Low battery shutdown	10 Vdc ± 0.5%
	Output short-circuit	By microprocessor
	Input reverse polarity	By means of fuse
	Fuse	15 A (spare part included)
	Thermal protection	50° C ± 0.5%
GENERALS	Cooling	Air natural
	Consumption without load	250 mA
	Efficiency	90%
	Input connection	Lighter connector / 12 Vdc
	Enclosure	Aluminium
	Load connector adaptor	Europlug (4 mm) to schuko (6 mm)
STANDARDS	Safety	EN-60950-1
	Electromagnetic Compatibility (EMC)	EN-55022; EN-61000-6-1
	Marking	CE
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV

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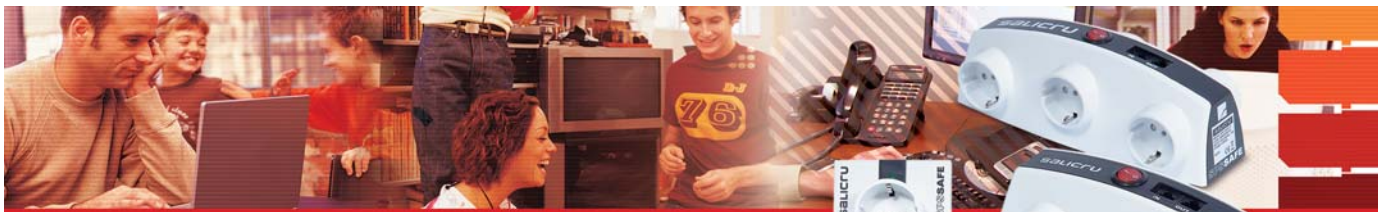


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SPS SAFE



SALICRU

► SPS SAFE: Over-voltage protection for office and household electronics

The SALICRU **SPS SAFE** series units have been conceived with a very advanced, light and compact design, making them true protection of equipment for SoHo applications and domestic use. To offer greater versatility, models are available with 1, 4 and 6 schuko sockets. The electrical design allows the **SPS SAFE** to protect your equipment from interference in a broad mains voltage range (200 - 240 V), includes over-voltage detection for the telephone/ADSL line and effectively protects against overloading.

For easy control of its operation, it has a mains active protection light indicator (OK). The convenient layout of the socket bases allows easy connection of the adapters of electronic devices. The connection bases include child protector with stoppers.

► APPLICATIONS: Protected equipment, improved operation

The range of models with 1, 4 and 6 sockets, allows adaptation to all protection requirements and, along with the telephone/ADSL line, makes them the best ally for comprehensive protection of office and household electronics. The possible applications are: PC, modem, fax, telephone, printer, scanner, photocopier, router, hub/switch, external HDD, Home Cinema, TV/LCD, DVD, domotics, video console, etc.



► SPS SAFE units

► TECHNICAL SPECIFICATIONS

2 YEARS
WARRANTY
ASK FOR LOCAL
CONDITIONS

MODEL		SPS.SAFE.1		SPS.SAFE.4		SPS.SAFE.6	
POWER		2300 W					
INPUT	Voltage range	200 ÷ 240 V					
	Frequency	50 / 60 Hz					
OUTPUT	Voltage	200 ÷ 240 V					
	Current	10 A					
	Frequency	50 / 60 Hz					
	Outlet quantity	1		4		6	
	Outlet type	Schuko					
PROTECTION	Overload	Fuse					
	Short-circuit	Fuse					
	Phone line	84 Joules					
GENERALS	Maximum inrush current	12 kA		24 kA			
	Max. energy dissipation	297 Joules		615 Joules			
	Operating temperature	0° C ÷ 40° C					
	Relative humidity	Up to 95%, non-condensing					
	On / Off switch	Luminous for general control ⁽¹⁾					
	Power cord	Schuko plug of 1.80m ⁽¹⁾					
STANDARDS	Safety	IEC-60884-1					
	Electromagnetic Compatibility (EMC)	EN-55022 EN-55024					
	Marking	CE					
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV					

⁽¹⁾ SPS.SAFE.4 and SPS.SAFE.6 only.

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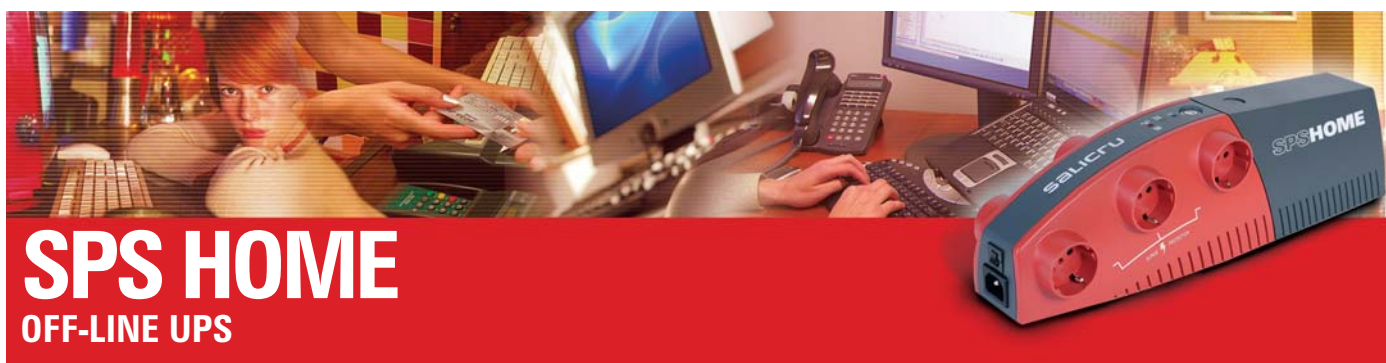


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^(*) Spain only ^(**) Rest of World



► SPS HOME: Uninterruptible power supplies for domestic and office equipment

The **SALICRU SPS HOME** series is an Off-Line type UPS available in 500 and 700 VA powers and conceived for total adaptation in professional and domestic single-post environments.

With an attractive appearance and multiple base, its design goes much further and makes it an efficient UPS capable of supply autonomy up to 19 minutes⁽¹⁾ and a voltage peak suppressor for the most commonly used peripherals (printers, modems, telephone lines, etc.).

The upper panel includes three LED status indicators and a multi-function pushbutton.

The unit communication and control are available through the USB port and monitoring and management software.



► SPS HOME views

► PERFORMANCES

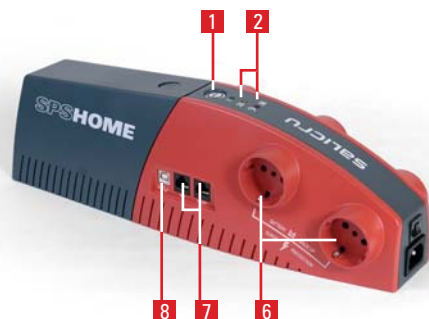
- Off-Line technology.
- Schuko-type sockets.
- Two UPS sockets and three sockets protected against voltage peaks.
- On/Off multi-function pushbutton, test and alarm silencer.
- Indicator LEDs of mains present, battery model and battery fail / overloading.
- USB port.
- RJ-45 type connectors for the telephone line or ADSL / modem.
- Batteries easily replaced by the user, Hot-Swap function.
- Thermal overloading protection.
- Cold Start function.
- Standard monitoring and management software.
- Auto test activation on every start.
- Automatic restart function after a mains cut and end of autonomy.

► APPLICATIONS: Protect your PC against possible faults in the power supply

The **SPS HOME** series is the most competitive solution for protecting consumer electronics in small companies and the home, such as PC/MAC, fax/copier, TV/LCD, satellite decoders, DVD, home cinema, video, Hi-Fi set, printer, scanner, router, TDT, external HDD, domotic and security systems, etc.

► DESCRIPTION

1. Multi-function pushbutton.
2. Optical indicators.
3. Output bases with protection for peripherals.
4. Thermal protection.
5. AC input.
6. Output bases with autonomy.
7. RJ-45 connectors telephone line or ADSL / modem.
8. USB port.



► SPS HOME views



► COMMUNICATION software

Intuitive monitoring software for visualising the main electrical values of the equipment (input and output voltage and frequency, percentage charge and battery levels, etc.), pre-programming delays in shutdown activation depending on the time of the failure of the network or low battery, weekly event log, graphs of the system evolution in time, etc.



► Measurement screen

► SALICRU warranty

- 2-year warranty.
- Batteries covered by the warranty.
- Possible warranty extension.

► TECHNICAL SPECIFICATIONS

MODEL		SPS.500.HOME	SPS.700.HOME
TECHNOLOGY		Off-line	
INPUT	Nominal voltage	220 V, 230 V, 240 V	
	Voltage range	Up to 165 V ± 276 V	
	Nominal frequency	50 / 60 Hz	
	Frequency range	± 10%	
	Frequency auto-sensing	Yes	
OUTPUT	Voltage	220 V, 230 V, 240 V	
	Voltage accuracy ⁽¹⁾	± 5%	
	Frequency ⁽¹⁾	50 / 60 Hz	
	Frequency accuracy ⁽¹⁾	± 0.3 Hz	
	Wave shape ⁽¹⁾	Simulated sinewave	
	Type of outlets	Schuko	
	Quantity of outlets with autonomy	2	
	Quantity of outlets with TVSS protection	3	
	Transfer time	2 / 4 ms	
PROTECTION	Input	Thermal, rearmed by user	
	Overload	AC and battery mode	
	Short-circuit	Immediate breaking	
	TVSS protection	480 Joules, 2 ms	
	Data line	Tel / Fax, modem, ADSL internet + Ethernet network 10 / 100 Mb	
BATTERY	Type	Sealed batteries of Lead-Calcium maintenance free, 3 - 5 years lifetime	
	Recharge time	8 hours	
	Autonomy ⁽²⁾	Up to 16 minutes	Up to 19 minutes
	Replacement	By user	
	Protection	From deep discharges	
FUNCTIONS	Cold Start	Yes	
	Autotest	Every start up	
	Automatic restart up	Yes	
	Indicators	Green LED	
INDICATORS	Battery mode	Yellow LED	
	Battery fault / overload	Red LED	
ALARMS	Battery mode output	Beep every 4 seconds	
	Low battery (end of autonomy)	Beep every second	
	Charger fault	Beep every 0.5 seconds	
	Overload	Beep continuously	
COMMUNICATION	Port	USB	
	Software	Monitoring and management for Windows family, Novell and Linux	
GENERALS	Maximum operating altitude	2400 m.a.s.l.	
	Relative humidity	Up to 95%, non-condensing	
	Temperature	0° C + - 40° C	
	Acoustic noise at 1 metre	< 40 dB	
STANDARDS	Safety	EN 62040-1-1; EN 60950-1	
	Electromagnetic Compatibility (EMC)	EN 62040-2	
	Operating	EN 62040-3	
	Marking	CE	
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV	

(1) Battery mode
 (2) PC with 15" LCD

► RANGE

MODEL	POWER (VA / W)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
SPS.500.HOME	500 / 250	375 x 100 x 110	2.5
SPS.700.HOME	700 / 350	375 x 100 x 110	2.9

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SPS SOHO

LINE-INTERACTIVE UPS 400 VA - 2000 VA

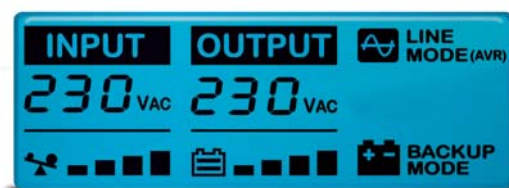
► SPS SOHO: The best electrical protection for information systems

The SALICRU **SPS SOHO** series includes all the necessary performance for improved protection of computer equipment. The **SPS SOHO** series are uninterruptible power supply systems (UPS) with line-interactive technology available in 400, 600, 800, 1000, 1400 and 2000 VA. The permanent stabilisation of the input voltage causes less use of the batteries to achieve maximum autonomy if necessary.

For better integration in the protected environment, they also include USB communication with complete monitoring and control software capable of automatically turning off the systems in the event of long cuts. They also include as standard a powerful display with information on the input voltage, output voltage, charge level, battery level and operation status. And for complete protection, they include a filter for the data/modem/ADSL line. All of these features make them the UPS solution with the best quality/price ratio on the market.



► SPS SOHO models



► LCD display

► PERFORMANCES

- A complete display with all of the necessary information.
- Line-interactive, microprocessor-controlled technology.
- Permanent stabilisation with Boost / Buck technology.
- Cold Start function.
- Battery can be changed by the user, HotSwap function.
- USB communications port.
- Monitoring and management software included.
- Protection of RJ-45 data / modem line.
- Automatic restart function after a mains cut.
- Load connection by schuko-type sockets.
- Protection against overloads, short-circuits and transients.

► APPLICATIONS: The best ally of information technologies

The high value of the information stored and managed by computer systems and the high indexes of disturbance in the electrical supply (cuts, micro cuts, fluctuations,...) make the **SPS SOHO** series UPS an essential element in protecting your computer systems. Your PCs, servers and other peripherals can offer you maximum output if they are well protected.

► DESCRIPTION

1. AC input.
2. Output bases.
3. USB communication port.
4. Data/ADSL line protection.
5. Thermal input protection.



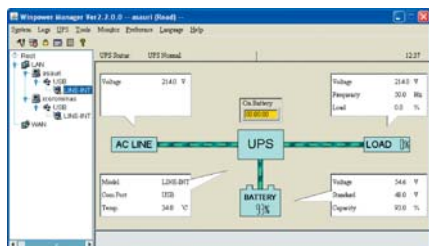
► 400 / 600 / 800 models



► 1000 / 1400 / 2000 models

► CONTROL software

- UPS monitoring and management software.
- Supplied on CD and valid for the Windows, Linux and Mac families.



► Flow diagram

► COMPLETE solution

- **SPS SOHO** series UPS.
- UPS / PC USB communication cable.
- Monitoring software CD.
- Data line / modem / ADSL cable.
- Instructions manual.
- Warranty certificate.

► SALICRU warranty

- 2-year warranty for product replacement.
- Batteries covered by the warranty.
- Possible extension of the warranty.

► TECHNICAL SPECIFICATIONS

MODEL		SPS 400 / 600 / 800 SOHO	SPS 1000 / 1400 / 2000 SOHO
TECHNOLOGY		Line-Interactive	
INPUT	Nominal voltage	230 V	
	Voltage range	Up to 162 V ÷ 290 V	
	Nominal frequency	50 / 60 Hz	
	Frequency auto-sensing	Yes	
	Stabilization	Buck / Boost	
OUTPUT	Voltage	230 V	
	Voltage accuracy ⁽¹⁾	± 10%	± 5% for load < 50% ⁽²⁾
	Frequency ⁽¹⁾	50 / 60 Hz	
	Frequency accuracy ⁽¹⁾	± 1 Hz	
	Wave shape ⁽¹⁾	Simulated sinewave	
	Outlet type	Schuko	
	Outlet quantity	2	3
	Transfer time	2 / 4 ms	
PROTECTION	Input	Rearm thermal	
	Overload	AC and battery modes	
	Short-circuit	Immediate shutdown	
	Data line (RJ-45)	Tel / fax, modem, ADSL internet + Ethernet network 10 / 100 Mb	
BATTERY	Type	Sealed lead acid batteries, maintenance free, average life 3-5 years	
	Recharge time	6 - 10 hours up to 90%	
	Autonomy ⁽³⁾	Up to 20 minutes	Up to 40 minutes
	Replacement	By user	
	Protection	Against deep discharge Against short-circuit through fuses	
FUNCTIONS	Cold Start	Yes	
	Automatic restart	Yes, after end of autonomy	
INDICATORS	LCD multifunction	Yes	
	Displayed values	Input voltage / output voltage	
	Levels	Connected load / overload / battery capacity	
	Operating modes	Normal / Battery / AVR (stabiliser)	
ALARMS	Battery mode output	Beep every 10 seconds	
	Low battery (end of autonomy)	Beep every second	
	Battery replacement	Beep every 2 seconds	
	Fault	Beep continuously	
	Overload	Beep every 0.5 seconds	
	Communication	USB	
COMMUNICATION	Port	USB	
	Software	Monitoring and management for Windows family, Linux and Mac	
GENERALS	Maximum altitude	2400 m.a.s.l.	
	Relative humidity	Up to 95%, non-condensing	
	Temperature	0° C ÷ + 40° C	
	Acoustic noise at 1 metre	< 40 dB	< 45 dB
STANDARDS	Safety	EN 62040-1-1; EN 60950-1	
	Electromagnetic Compatibility (EMC)	EN 62040-2	
	Operating	EN 62040-3	
	Marking	CE	
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV	

(1) Battery mode

(2) ± 10% for SPS.1000.SOHO

(3) PC + LCD 15"

► RANGE

MODEL	POWER (VA / W)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
SPS.400.SOHO	400 / 240	330 x 100 x 140	5
SPS.600.SOHO	600 / 360	330 x 100 x 140	6
SPS.800.SOHO	800 / 480	330 x 100 x 140	6.5
SPS.1000.SOHO	1000 / 600	405 x 145 x 205	9
SPS.1400.SOHO	1400 / 840	405 x 145 x 205	9.5
SPS.2000.SOHO	2000 / 1200	405 x 145 x 205	10

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SPS ADVANCE

LINE-INTERACTIVE UPS 750 VA - 3000 VA

► SPS ADVANCE: Flexibility at the service of electrical protection

The **SALICRU SPS ADVANCE** series is a line-interactive UPS with pure sinusoidal output, available in 750, 1000, 1500, 2000 and 3000 VA and designed for easy configuration by the user in tower and 19" rack format.

The front panel includes LCD display and four pushbuttons for easy monitoring, and five measurers, three status indications and 9 alarms.

► LCD panel



► SPS ADVANCE models



► PERFORMANCES

- Control by high-reliability microprocessor.
- Sinusoidal output.
- High frequency design.
- Stabiliser with boost and buck technology.
- Extendable autonomy for the 1500, 2000 and 3000 VA models.
- Battery charging depending on temperature, ABM function.
- Batteries can be replaced by the user.
- Selectable output range and line sensitivity.
- Cold Start function.
- Potential-free contacts / RS-232 / USB port.
- Monitoring software for Windows, Linux and Mac.
- RJ-11 / RJ-45 Data line protector.
- Management by SNMP protocol with remote monitoring by web browser.
- Protection against overloads, short-circuits and overheating.
- 2 in 1 Rack / Tower design for all models.



► Battery replacement



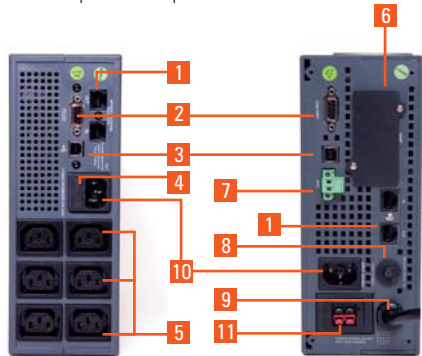
► Assembling conversion design for rack

► APPLICATIONS: Computer environments always safe

The **SPS ADVANCE** series will provide high level protection for computer environments for small and medium sized enterprises: PCs, servers, work stations and other network equipment. This series protects your most sensitive electronic units against problems in the electrical supply, including surges and troughs, peaks, prolonged voltage downtimes, and faults in the electrical network.

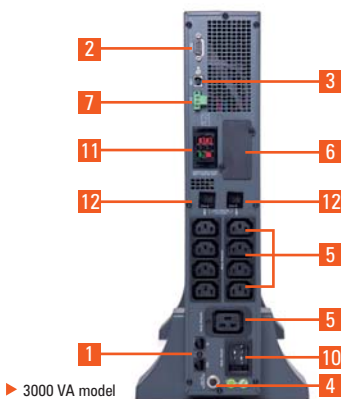
► EQUIPMENT connectivity

1. Modem / Transitory protection.
2. RS-232 / Optocouplers.
3. USB port.
4. AC protection.
5. AC IEC-type output.
6. Slot SNMP / AS-400.
7. Emergency stop (E.P.O.).
8. Input magnetic thermal switch.
9. AC output.
10. AC input.
11. External battery connector.
12. Output thermal protection.



► 750 / 1000 VA models

► 1500 / 2000 VA models



► 3000 VA model

► COMPLETE solution

- **SPS ADVANCE** series UPS.
- Power supply cable.
- Monitoring software.
- UPS / PC USB Communication cable.
- Three output connection cables (IEC).
- Fax / modem line cable.
- User manual.

► OPTIONS

- External battery charger for extended autonomy (1500 / 2000 VA).
- 19" rack assembly kit.
- Temperature + humidity measurer for units with internal SNMP. ⁽¹⁾
- Temperature measurer for units with internal SNMP. ⁽¹⁾

► COMMUNICATIONS

- Internal SNMP card. ⁽¹⁾
- External SNMP card.
- AS-400 card. ⁽¹⁾

⁽¹⁾ Above 1500 VA.



► TECHNICAL SPECIFICATIONS

MODEL				750 / 1000 VA	1500/2000 VA	3000 VA
POWER (W)				500 / 700	1050 / 1340	2100
INPUT	Voltage			220 / 230 / 240 Vac		
	Voltage range	Acceptable voltage range		0 ÷ 300 Vac		
		Transference to batteries due to low mains (Wide mode)		154 / 161 / 168 Vac ± 4%		
		Transference to batteries due to high mains		264 / 276 / 288 Vac ± 2%		
		Stabiliser mode	Boost	If the input V decreases more than 10%, the output V is increased 12%		
	Buck		If the input V increased more than 10%, the output V is decreased 11%			
	Frequency range			50 / 60 Hz ± 5 Hz on Normal mode; > 40 Hz on Generator mode		
	Transient absorption capacity			230 Joules	250 Joules	
OUTPUT	Voltage			220 / 230 / 240 Vac		
	Voltage accuracy (Bat. mode)			± 5% RMS for the complete battery voltage range		
	Frequency			50 / 60 Hz		
	Frequency accuracy (Bat. mode)			± 0.1 Hz		
	Wave shape			Pure sinewave		
	Overload	Line mode		110% shutdown after 3 minutes 150% shutdown after 5 cycles		
		Battery type		110% shutdown after 30 seconds 120% shutdown after 5 cycles		
TRANSFER TIME	Inverter - mains			2 ÷ 4 ms		
BATTERY	Battery type			AGM sealed, and maintenance free		
	Typical autonomy ⁽²⁾			10 minutes		
	Recharge time			3 hours at 90%		
INDICATORS				LCD panel		
AUDIBLE ALARMS	Autonomy Mode			Beep every 4 seconds		
	Low Battery			Beep every second		
	UPS fault			Continuous beep		
	Overload			Beep every second		
	Battery replacement			Beep every second		
ENVIRONMENT	Operating temperature			0° C + - 40° C		
	Relative humidity			Up to 95%, non-condensing		
	Noise level at 1 metre			< 45 dB		
INTERFACE	Monitoring software			Windows family, Linux and Mac platforms		
	RS-232			Yes	Yes	Yes
	Optocouplers			Yes	Yes	Yes
	USB			Yes	Yes	Yes
	SNMP			Option	Option	Option
	E.P.O.			N/A	Yes	Yes
STANDARDS	Safety			EN 62040-1-1 ; EN 60950-1		
	Electromagnetic Compatibility (EMC)			EN 62040-2		
	Operating			EN 62040-3		
	Marking			CE		
	Quality and Environmental management			ISO 9001 and ISO 14001 TÜV		

⁽²⁾ At 70% load

► RANGE

MODEL	POWER (VA / W)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
SPS.750.ADV	750 / 500	386 x 86 x 235	8.6
SPS.1000.ADV	1000 / 700	386 x 86 x 235	9.6
SPS.1500.ADV	1500 / 1050	414 x 86 x 217 (x 2) ⁽³⁾	18.5
SPS.2000.ADV	2000 / 1340	414 x 86 x 217 (x 2) ⁽³⁾	20.5
SPS.3000.ADV	3000 / 2100	582 x 86 x 438	31.5

⁽³⁾ Dimension per module

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SLC TWIN

ON-LINE DOUBLE CONVERSION UPS 700 VA - 20 kVA

► SLC TWIN: Parallel supply for single phase loads

The **SALICRU SLC TWIN** series has been conceived to provide the necessary flexibility to the range of medium power UPS, as it is here where it is necessary to combine leading protection with the capacity to adapt to the different applications.

Therefore the most important services of the **SLC TWIN** series is its capacity to grow in parallel up to 3 units, with or without redundancy, in order to achieve real upgrading and thus avoid having to change the UPS in greater qualitative and quantitative demands from the different consumers.

The range is made up of units with single phase input – from 700 VA to 10 kVA – or three-phase – from 8 to 20 kVA –, always with single phase output.

Moreover, amongst many other advantages, the series includes a rectifier with Soft Start, working at inaudible switching frequency at 20 kHz, power factor $> 0.98^{(1)}$ and output precision better than 1%.⁽¹⁾

► PERFORMANCES

- On-line double conversion technology.
- Parallel operation without any need for centralised bypass. ⁽¹⁾
- Parallel capacity up to 3 units. ⁽¹⁾
- Parallel cable, standard. ⁽¹⁾
- Possible extended autonomies.
- Battery test, standard.
- Rectifier with PFC (power factor corrector) and Soft Start.
- Power factor > 0.98 . ⁽¹⁾
- Manual bypass interruption-free. ⁽¹⁾
- Separator transformer. ⁽²⁾
- PWM inverters and IGBT transistors.
- Control panel with block diagram, LCD display and keyboard.
- Communications extended with RS-232 (standard), USB ⁽²⁾, SNMP ⁽²⁾ and AS-400 ⁽²⁾ ports.
- MODBUS communications protocol. ⁽²⁾
- Standard monitoring software.
- Models in 19" rack up to 6 kVA.



► SLC TWIN RACK 19"

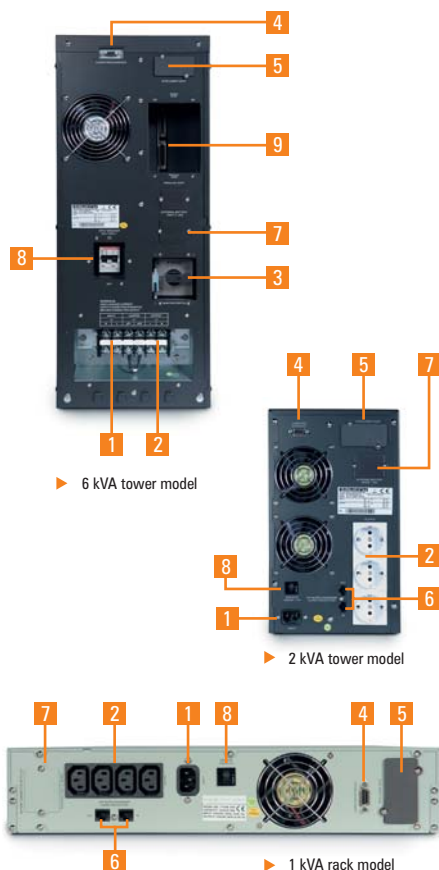
► APPLICATIONS: High line power supply for medium powers

Information losses in computer environments are caused in 45% of cases by problems in the electrical supply, without counting the losses in productivity derived from the inactivity and the resources needed to restore the damage caused. All processes that require a reliable, continuous, quality power supply are protected and supplied by a **SALICRU SLC TWIN** series UPS. Especially conceived to protect departmental networks, work stations and their associated peripherals, servers, VOIP telephony, industrial processes, medical equipment, etc.

(1) Depending on the model
(2) Optional

DESCRIPTION

1. AC input.
2. AC output.
3. Maintenance bypass.
4. RS-232 interface.
5. Intelligent slot (SNMP, USB, AS-400).
6. Data line protection RJ-11/RJ-45.
7. Battery module connection.
8. Input protection.
9. Parallel port.



ADAPTABILITY

- Extended autonomies. ⁽¹⁾
- Galvanic isolation. ⁽¹⁾
- Other input / output voltages. ⁽¹⁾
- Tower or 19" rack format.
- Single or three-phase input.
- Redundant parallel system ≥ 4 kVA.

COMMUNICATIONS

- RS-232 interface.
- Monitoring software.
- SNMP adapter / Web. ⁽¹⁾
- AS-400 card.
- USB port card. ⁽¹⁾
- MODBUS protocol. ⁽¹⁾
- Temperature-humidity sensor. ⁽¹⁾

SERVICES

- Pre-sale and after sale advisory service.
- Multiple formulae for maintenance and telemaintenance (SICRES).

(1) Optional



ON-LINE DOUBLE CONVERSION UPS

700 VA - 20 kVA

TECHNICAL SPECIFICATIONS

MODEL		SLC TWIN 700 VA - 10 kVA	SLC TWIN/3 8 kVA - 20 kVA
FORMAT		Tower or rack ⁽²⁾	Tower
TECHNOLOGY		On-line, double conversion, PFC, double DC bus	
INPUT	Nominal voltage	220 / 230 / 240 V ⁽³⁾	3 x 380 / 400 / 415 V
	Voltage range	176 $\pm$ 276 V	3 x 304 $\pm$ 478 V
	Frequency	50 / 60 Hz	
	Frequency range	$\pm$ 4 Hz	
	Power factor	≥ 0.98 ⁽²⁾	≥ 0.95
	Rectifier structure	PFC with Soft Start	
OUTPUT	Nominal voltage	220 / 230 / 240 V	
	Voltage accuracy ⁽²⁾	$\pm 1\%$ steady state; $\pm 2\%$ transient state	
	Maximum slew rate	1 Hz / s	
	Synchronisation	Mains present ± 4 Hz; free running ± 0.05 Hz ⁽²⁾	
	Efficiency	$> 88\%$ at full load	
	Total harmonic distortion (THDv) ⁽²⁾	$\leq 2\%$ linear load; $\leq 6\%$ non-linear load (in accordance with EN 62040-3)	
BYPASS	Permissible overloads ⁽⁴⁾	Up to 130% for 10 minutes; $> 130\%$ for 1 second	
	Crest factor	3 to 1	
	Nominal voltage	220 / 230 / 240 V	
	Permissible voltage range	$\pm 15\%$	
BATTERIES	Permissible frequency range	50 / 60 Hz ± 4 Hz	
	Overload	Up to 130% permanently; $> 130\%$ for 1 second	
	Battery type	Sealed, maintenance free	
CHARGER	Protection	Against overvoltages, under voltages and alternating current component	
	Technology	PWM	
	Charge type	P / U (Constant power - Constant voltage)	
COMMUNICATION	Recharging time	7 hours up to 90%	8 hours up to 90%
	Ports	RS-232	
GENERALS	Monitoring software	For platforms Windows family, Linux and Mac	
	Operating temperature	0° C $\pm$ 40° C	
	Relative humidity	Up to 95%, non-condensing	
	Operating altitude	2400 m.a.s.l.	
	Acoustic noise level at 1metre	< 45 dB ⁽²⁾	< 60 dB
STANDARDS	Safety	EN 62040-1; EN 60950-1; EN 60529	
	Electromagnetic Compatibility (EMC)	EN 62040-2	
	Operating	VFI in accordance with 62040-3	
	Marking	CE	
	Quality and Environmental management	ISO-9001 and ISO 14001 TÜV	

(2) Depending on the model

(3) Voltage availability of 110 / 115 / 120 / 127 V

(4) On line mode

RANGE

TOWER MODEL	POWER (VA / W)	DIMENSIONS (Dx W x H mm)	WEIGHT (Kg)	INPUT / OUTPUT
SLC - 700 - TWIN	700 / 490	410 x 145 x 220	13	II / II
SLC - 1000 - TWIN	1000 / 700	410 x 145 x 220	14	II / II
SLC - 1500 - TWIN	1500 / 1050	470 x 195 x 347	34	II / II
SLC - 2000 - TWIN	2000 / 1400	470 x 195 x 347	34.5	II / II
SLC - 3000 - TWIN	3000 / 2100	470 x 195 x 347	35.5	II / II
SLC - 4000 - TWIN	4000 / 2800	575 x 260 x 717	84	II / II
SLC - 5000 - TWIN	5000 / 3500	575 x 260 x 717	87	II / II
SLC - 6000 - TWIN	6000 / 4200	575 x 260 x 717	90	II / II
SLC - 8000 - TWIN	8000 / 5600	575 x 260 x 717 ⁽⁵⁾	92 ⁽⁶⁾	II or III / II
SLC - 10000 - TWIN	10000 / 7000	575 x 260 x 717 ⁽⁵⁾	93 ⁽⁶⁾	II or III / II
SLC - 12000 - TWIN	12000 / 8400	575 x 260 x 717 (x 2)	52 + 123	III / II
SLC - 15000 - TWIN	15000 / 10500	575 x 260 x 717 (x 2)	52 + 123	III / II
SLC - 20000 - TWIN	20000 / 14000	575 x 260 x 717 (x 2)	52 + 123	III / II

(5) Two modules for SLC TWIN/3 versions

(6) 38 + 69 for SLC TWIN/3 versions

RACK 19" MODEL	POWER (VA / W)	DIMENSIONS (Dx W x H mm)	WEIGHT (Kg)	INPUT / OUTPUT
SLC - 700 - TWIN R	700 / 490	450 x 483 x 84 (2U)	15	II / II
SLC - 1000 - TWIN R	1000 / 700	450 x 483 x 84 (2U)	16	II / II
SLC - 1500 - TWIN R	1500 / 1050	450 x 483 x 84 (2U) (x 2)	10 + 25	II / II
SLC - 2000 - TWIN R	2000 / 1400	450 x 483 x 84 (2U) (x 2)	10.3 + 25	II / II
SLC - 3000 - TWIN R	3000 / 2100	450 x 483 x 84 (2U) (x 2)	11.2 + 25	II / II
SLC - 4000 - TWIN R	4000 / 2800	600 x 483 x 130 (3U) (x 2)	17 + 65	II / II
SLC - 5000 - TWIN R	5000 / 3500	600 x 483 x 130 (3U) (x 2)	18 + 65	II / II
SLC - 6000 - TWIN R	6000 / 4200	600 x 483 x 130 (3U) (x 2)	19 + 65	II / II

Values for standard autonomies.
For other configurations, consult dimensions and weights

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REF. JM629A01 CODE 401AB000403 ED. MAY 2009

UNINTERRUPTIBLE POWER SUPPLY (UPS)

(*) Spain only (**) Rest of World

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SLC CUBE STR

ON-LINE THREE-PHASE UPS FROM 7.5 TO 100 kVA

► SLC CUBE STR: The latest developments in three-phase power supplies

The **SALICRU SLC CUBE STR** series gathers the latest developments in power electronics applied to quality AC electrical power supply. The new DSP control microprocessors are up to 200 times faster than a standard microprocessor, which means, amongst other things, that the available power sources can be better used without passing to bypass or shutting down, and the potential situations of failure can be better detected.

A power factor close to one unit, a very low harmonic distortion level, the capacity for redundant parallel and a broader margin of input voltages are others of the characteristics that make this series unique.

The powers range from 7.5 to 100 kVA, thus covering the large part of the medium power three-phase applications.

► PERFORMANCES

- Power topology On-line double conversion without transformer, smaller and lighter.
- High frequency rectifier and inverter (HF) by IGBT transistors.
- Power factor > 0.99.
- Total harmonic distortion of input current (THDi) of 3%.
- DSP state-of-the-art control in rectifier, inverter and bypass.
- High output > 92%.
- Configurations in redundant parallel. ⁽¹⁾
- Standard maintenance bypass.
- Wide range of input voltages, smaller use of the battery and the bypass.
- Intelligent battery changing system (Batt-Watch).
- RS-232, RS-422 and AS-400 standard communication ports.
- Automatic battery test.
- Management and communication software. ⁽¹⁾
- Soft Start.
- Expanded log of 380 events.
- Advanced communication with power generator units.



► SLC CUBE STR model

► SLC CUBE STR LCD panel

► APPLICATIONS: Quality supply for critical systems

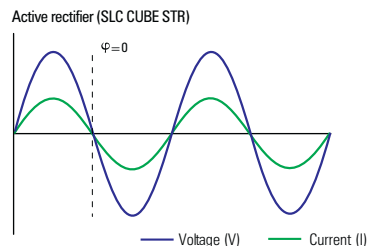
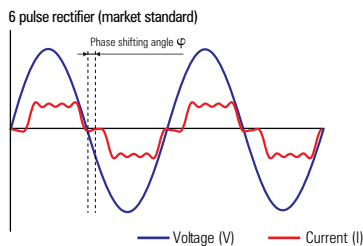
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| <ul style="list-style-type: none"> ► Information Technologies (IT). ► Telecommunications systems. ► Industrial and control processes. ► Industrial machinery. ► Instrumentation and laboratory. ► Local LAN computer networks. | <ul style="list-style-type: none"> ► Server farms. ► Radio and TV systems. ► Emergency and lighting systems. ► Hospitals and medical centres. ► Voice and data networks. ► Switches and network hubs. | <ul style="list-style-type: none"> ► Data centres. ► Centralised sale/distribution systems. ► Computing centres. ► Large corporation installations. ► Military applications. ► Security and transport systems. |
|--|---|--|

(1) Optional

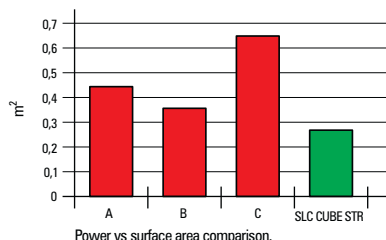
SLC CUBE STR

BENEFITS

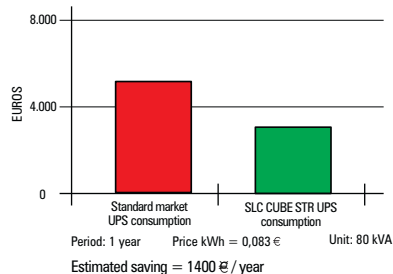
- High power factor (> 0.99) and low distortion (3%)



- Smaller occupied surface area



- Larger energy savings



OPTIONS

- Parallel kit.
- Extended autonomies
- Independent bypass line.
- External manual bypass.
- Remote control.
- Separator transformer.

COMMUNICATION & services

- RS-232 and RS-422 series ports.
- Relay interface (AS-400).
- Management and communication softwares. ⁽¹⁾
- Integration in computer networks by SNMP adapter. ⁽¹⁾
- Pre-sale and after-sale advisory service.
- Multiple formulae of maintenance and telemaintenance (SICRES).

(1) Optional



ON-LINE THREE-PHASE UPS FROM 7.5 TO 100 kVA

TECHNICAL SPECIFICATIONS

MODEL		SLC CUBE STR	
TECHNOLOGY		On-line, double conversion, HP, DSP control	
INPUT	Nominal voltage		3 x 380 / 3 x 400 / 3 x 415 V ⁽²⁾
	Voltage range		3 x 138 ÷ 485 V ⁽³⁾
	Frequency range		45 ÷ 65 Hz
	Power factor		> 0.99
	Total harmonic distortion (THDi)		3%
OUTPUT	Nominal voltage		3 x 380 / 3 x 400 / 3 x 415 V
	Accuracy	Steady state	± 1%
		Dynamic state	± 2%
	Frequency	Synchronised	50 / 60 Hz ± 3 Hz
		Free running	50 / 60 Hz ± 0.01%
	Maximum slew rate		± 1 Hz / s
	Efficiency		> 92% at full load
	Total harmonic distortion (THDv)		≤ 3%
	Permissible overload		150% for > 1 minute; 125% for > 10 minutes
	Crest factor		3 to 1
Permissible load power factor		From 0.7 lagging to 0.7 leading	
STATIC BYPASS	Type and activation criteria		Solid state, DSP control
	Transfer time		Nil
	Nominal voltage		3 x 380 / 3 x 400 / 3 x 415 V
	Permissible voltage range		± 10% (Selectable)
	Permissible frequency range		50 / 60 Hz ± 3 Hz (Selectable)
	Re-transference		Automatic by alarm situation cancelling
MANUAL BYPASS	Transfer type		Manual
	Voltage		3 x 380 / 3 x 400 / 3 x 415 V
	Frequency		50 / 60 Hz
RECTIFIER	Structure		Three phase IGBT, full wave, soft start and PFC
	Protection		Against transient overvoltages
BATTERIES	Type		Lead acid, sealed, maintenance free
	Recharging time		4 hours up to 80% of the capacity
	Protection		Against overvoltages, undervoltages, and alternating current component
	Charge voltage management		Batt-Watch
COMMUNICATION	Ports		RS-232 / RS-422
	Relay interface (AS-400)		AC fault, bypass, low battery, output fault
GENERALS	Operating temperature		0° C + + 40° C
	Relative humidity		Up to 95%, non-condensing
	Operating altitude		2400 m.a.s.l.
	Acoustic noise at 1 metre		< 52 dB at 100% load
STANDARDS	Safety		EN-62040-1-2 ; EN-60950-1
	Electromagnetic Compatibility (EMC)		EN-62040-2
	Operating		VFI-SS-111 in accordance with EN 62040-3
	Marking		CE
	Quality and Environmental management		ISO 9001 and ISO 14001 TÜV

(2) Voltage availability 3 x 208 / 3 x 220 V

(3) At 42% load

RANGE

MODEL	POWVER (kVA / kW)	CABINET Nr. UPS + BAT	UPS DIMENSIONS ⁽⁴⁾ (D x W x H mm)	WEIGHT (Kg)	UPS DIMENSIONS ⁽⁴⁾ (D x W x H mm)	WEIGHT (Kg)
SLC-7.5-CUBE STR	7.5 / 6	1 + -	760 x 400 x 1060	333	-	-
SLC-10-CUBE STR	10 / 8	1 + -	760 x 400 x 1060	335	-	-
SLC-15-CUBE STR	15 / 12	1 + -	760 x 400 x 1060	340	-	-
SLC-20-CUBE STR	20 / 16	1 + -	760 x 400 x 1060	343	-	-
SLC-30-CUBE STR	30 / 24	1 + 1	760 x 400 x 1060	190	770 x 400 x 1065	478
SLC-40-CUBE STR	40 / 32	1 + 1	880 x 525 x 1310	240	770 x 400 x 1065	478
SLC-50-CUBE STR	50 / 40	1 + 1	880 x 525 x 1310	250	1165 x 835 x 1300	721
SLC-60-CUBE STR	60 / 48	1 + 1	880 x 525 x 1310	260	1165 x 835 x 1300	721
SLC-80-CUBE STR	80 / 64	1 + 1	990 x 630 x 1380	280	1165 x 835 x 1300	1105
SLC-100-CUBE STR	100 / 80	1 + 1	990 x 630 x 1380	320	1165 x 835 x 1300	1105

(4) Standard autonomy for 3 x 400 V input / output voltages.
For other dimensions, weights and configurations consult.
For 3 x 208 / 3 x 220 V voltages, maximum available power is 50 kVA

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UNINTERRUPTIBLE POWER SUPPLY (UPS)

UNINTERRUPTIBLE POWER SUPPLY (UPS)

(*) Spain only (**) Rest of World

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SLC ELITE / SLC ELITE MAX

UNINTERRUPTIBLE POWER SUPPLY SYSTEMS FROM 60 TO 300 kVA

► SLC ELITE / SLC ELITE MAX: New solutions in high performance protection

The **SLC ELITE** and **SLC ELITE MAX** series On-line double conversion with THF (Transformerless High Frequency) technology, in a power range between 60 and 300 kVAs, are at the top of the **SALICRU** UPS range and are a further step in protecting and supplying high output three-phase power supply.

The premises in designing these series were to have an end product that gathered the maximum performance with regard to flexibility, operability, reliability and the lowest possible operating cost, amply achieved thanks to its characteristics of modularity, parallel capacity, tolerance to failure, high output, easy operation and adaptability to the different working environments. All of this makes them the ideal protection system for computer environments, telecommunications and critical process systems and infrastructures.

► PERFORMANCES

- On-line double conversion with PLD control.
- Walk-in or soft start rectifier.
- Input power factor > 0.95.
- Growth in parallel up to 8 units (standard parallel kit).
- Ring topology in redundant configurations.
- THF technology inverter in all models.
- Batt-Watch control of the batteries for fast charging, surveillance and extreme care.
- AGM batteries with a life span of 10 years, standard.
- Static and maintenance bypass in all equipment, standard.
- User interface by alphanumerical display programmable in several languages.
- Fluid-Cooling heat dissipation system. ⁽¹⁾
- Operation selectable inverter / EcoMode.
- THDi < 5%, with harmonicless.
- The best ratio between power/occupied surface.
- FP admissible up to 0.8 both with inductive and capacitive loads.



► SLC ELITE model



► SLC ELITE MAX model

► APPLICATIONS: Ideal for all environments

Data centre: Data are currently the most powerful value in business, making the hourly cost of network downtime astronomical – applications servers, communication servers, data storage bases, active network elements, etc.—.

Telecommunications: The telecommunications era brings forth the need to avoid failures in supply that could cut off the communication between subscribers – internet centres, land line telephony infrastructure, mobile switching centre, radio/television broadcasters, etc.—.

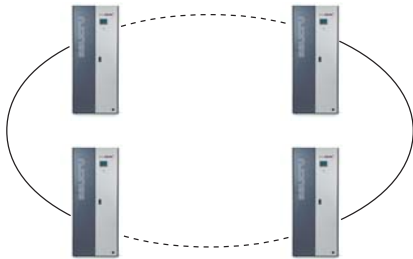
Industrial processes: Electrically complicated environments, contaminated environments and special mechanical requirements are some of the industrial work scenarios where the purpose is to supply safe energy in difficult environments – continuous critical processes, monitoring, instrumentation, security systems, etc.—.

(1) SLC ELITE MAX models

SLC ELITE SLC ELITE MAX

► PARALLEL architecture

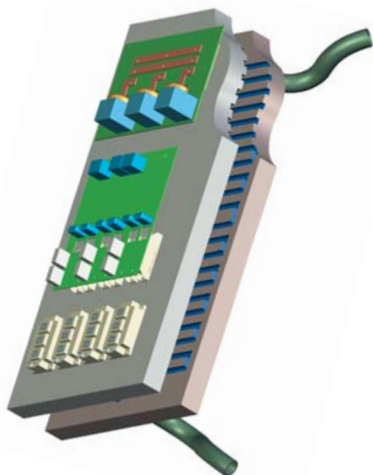
- To reply to larger requests for availability and the need for growth and evolution in the installations, the **SLC ELITE** and **SLC ELITE MAX** series allow for the parallel operation of up to 8 units.



► Ring topology

► FLUID-COOLING

- Innovative heat dissipation system consisting of circulating high output transport fluid.



► Fluid-Cooling system

► COMMUNICATIONS

- RS-232, AS-400 and relay interfaces standard.
- Monitoring and file closing software.⁽¹⁾
- Remote control.⁽¹⁾
- SNMP adapter.⁽¹⁾
- SICRES telemanagement software.⁽¹⁾
- MODBUS protocol.⁽¹⁾
- RS-485 protocol.⁽¹⁾
- 2nd RS-232 port.⁽¹⁾

► TOTAL availability

- Harmonicless solutions.⁽¹⁾
- Extended autonomies.⁽¹⁾
- External manual bypass.⁽¹⁾
- Galvanic isolation in the bypass line.⁽¹⁾
- Non-standard frequencies and voltages.⁽¹⁾
- Independent bypass and rectifier inputs.⁽¹⁾

(1) Optional



UNINTERRUPTIBLE POWER SUPPLY SYSTEMS FROM 60 TO 300 KVA

► TECHNICAL SPECIFICATIONS

MODEL		SLC ELITE	SLC ELITE MAX
TECHNOLOGY		On-line, double conversion, PLD control	
INPUT	Voltage	3 x 380 V / 3 x 400 V / 3 x 415 V	
	Voltage range	3 x 330 V ÷ 480 V	3 x 320 V ÷ 480 V
	Frequency range	40 ÷ 70 Hz	
	Rectifier	Walk-in type	
	Total harmonic distortion (THDi)	< 5% ⁽²⁾	
	Power factor	> 0.99 ⁽²⁾	> 0.96
OUTPUT	Voltage	3 x 380 V / 3 x 400 V / 3 x 415 V	
	Accuracy	Steady state	± 1%
		Dynamic state with load steps	± 4% 50%
	Frequency	Synchronised	Selectable ± 1%, ± 2%, ± 5% and ± 10%
		Free running	± 0.005% ± 0.0001%
	Maximum slew rate	±1 Hz/s	
	Efficiency	> 92%	> 95%
	Total harmonic distortion (THDv)	< 2%	
	Dynamic response time	50 ms	
	Permissible overload	125%	10 minutes
		150%	5 seconds Immediate
STATIC BYPASS	Type and activation criteria	Solid state, PLD control	
	Transfer time	Nil	
	Voltage	3 x 380 V / 3 x 400 V / 3 x 415 V	
	Re-transference	Automatic after alarm disappearance	
	Permissible overload	1000% for 100 ms	
	Transfer to Bypass	Immediate for overloads higher than 150%	
	Transfer type	Manual	
MANUAL BYPASS	Voltage	3 x 380 V / 3 x 400 V / 3 x 415 V	
	Frequency	50 / 60 Hz	
BATTERIES	Type	Pb-Ca, maintenance free, gas recombination	
	Recharge time	From end of autonomy till 80% of the capacity, 4 hours	
	Protection	Against overvoltage, undervoltage and alternating current	
	Charge voltage control	Batt-Watch	
GENERALS	Operating temperature	0° C ÷ + 40° C	
	Relative humidity	Up to 95%, non-condensing	
	Maximum operating altitude	2400 m.a.s.l.	
STANDARDS	Safety	EN-62040-1-2 ; EN-60950-1	
	Electromagnetic Compatibility (EMC)	EN-62040-2	
	Operating	VFI in accordance with EN-62040-3	
	Marking	CE	
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV	

(2) Harmonicless solution

Data liable to changes without prior notice.

► SLC ELITE RANGE

MODEL	POWER (kVA/k W)	Nr. UPS + BAT CABINETS	UPS DIMENSIONS (D x W x H mm)	WEIGHT (Kg)	BAT DIMENSIONS (D x W x H mm)	WEIGHT (Kg) ⁽³⁾
SLC-60-EL	60 / 48	1 + 1	730 x 710 x 1800	295	830 x 790 x 1800	547
SLC-80-EL	80 / 64	1 + 1	730 x 710 x 1800	330	830 x 790 x 1800	726
SLC-100-EL	100 / 80	1 + 1	730 x 710 x 1800	370	830 x 790 x 1800	726
SLC-120-EL	120 / 100	1 + 1	730 x 710 x 1800	450	830 x 790 x 1800	870

► SLC ELITE MAX RANGE

MODEL	POWER (kVA/k W)	Nr. UPS + BAT CABINETS	UPS DIMENSIONS (D x W x H mm)	WEIGHT (Kg)	BAT DIMENSIONS (D x W x H mm)	WEIGHT (Kg) ⁽³⁾
SLC-160-ELM	160 / 128	1 + 1	800 x 1240 x 1800	570	830 x 790 x 1800	1190
SLC-200-ELM	200 / 160	1 + 1	800 x 1240 x 1800	600	830 x 1400 x 1800	1640
SLC-250-ELM	250 / 200	1 + 1	800 x 1240 x 1800	630	830 x 1400 x 1800	1640
SLC-300-ELM	300 / 240	1 + 1	800 x 1240 x 1800	630	830 x 1400 x 1800	1776

(3) Estimated autonomy between 4 and 8 minutes, with 3 x 400 V input / output voltages. For other configurations, dimensions and weights consult.

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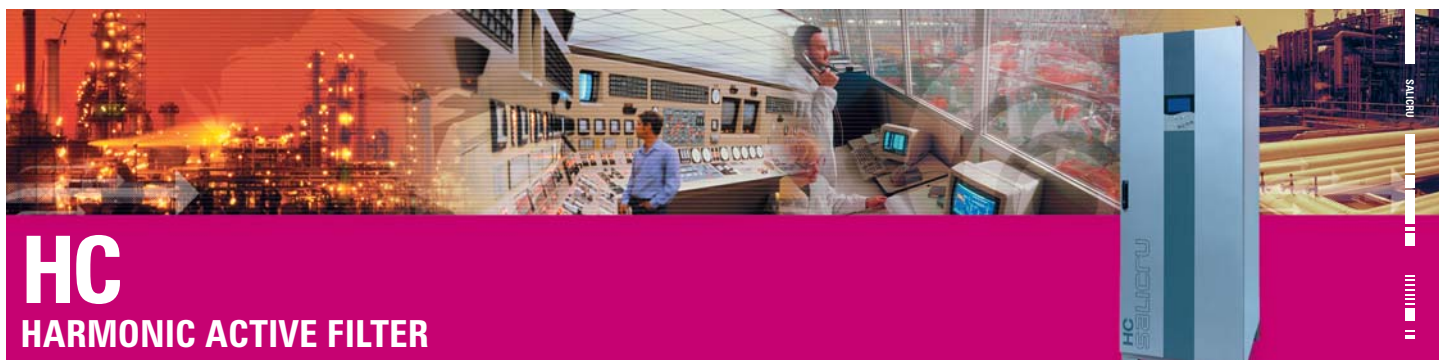
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UNINTERRUPTIBLE POWER SUPPLY (UPS)

(*) Spain only (**) Rest of World



HC

HARMONIC ACTIVE FILTER

► HC: The most effective filter against harmonic distortion

Today most industries are affected by the harmonics caused in units with loads that are not linear for the general electrical system. Their presence has serious consequences on them, as when damage is caused to equipment most affected by the quality of the network, this also directly affects the industrial process in which they are being used, and all of this ends up causing large economic losses.

The **SALICRU HC** series is an active harmonic compensating filter that effectively eliminates all current harmonics in non-linear loads, compensates the reactive power factor of the inductive loads and works as a virtual resistance to anticipate possible harmonic resonances. We thus considerably reduce the voltage wave distortion and the temperature in transformers and cables.

It behaves in a similar manner to a current harmonic generator: it measures the harmonics generated by the non-linear loads and suppresses them with the new ones, which are of the same width and opposite phase.

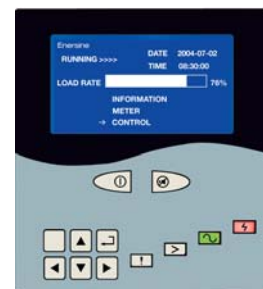
The **SALICRU HC** series harmonic filter compensate three-phase harmonic currents, and is made in a range of powers from 25 to 200 A of compensating current, and with possible unlimited growth in parallel.

► PERFORMANCES

- Active filter, measurement of the existing harmonics and generation in phase opposition.
- Complete compensation to harmonic 51.
- Short reply time < 40 ms.
- Control panel with LCD graphic screen.
- Converter module with IGBT power semiconductors and PWM technology.
- Reactive power factor compensation in inductive loads.
- Harmonic attenuation ratio > 10.
- Up to 200 A compensation per phase and 600 A in neutral, per unit.
- Reply to transitories < 1 ms.
- Soft start lasting 10 seconds.
- Unlimited parallel capacity.
- Automatic limitation of the compensating current.
- Ease of sizing.
- Small losses < 3%.



► HC equipment



► Control panel

► APPLICATIONS: Evidence of harmonics in the network

The **SALICRU HC** series harmonic filter will compensate harmonic currents, avoiding:

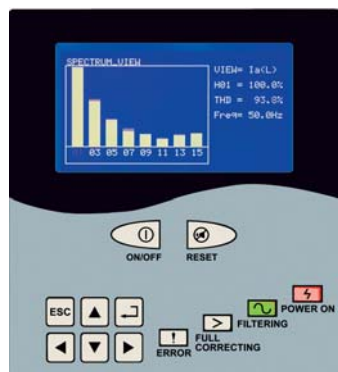
- The heating, excessive vibration and loss of torque in rotating machines and motors and generators.
- The unnecessary triggering of the protection relays and magnetic thermal switches.
- Faults in the condenser bank.
- The overheating, faults in the dielectrics, increase in the film effect and voltage falls in the power conductors.
- Unexpected errors in the electronic measuring, control and monitoring equipment.
- Currents in the circuits due to resonance.
- The interference in the communication circuits.
- The heating, noise and losses in the transformers.
- Distortions in the wave form of the voltage, etc.



► OPERATION principle

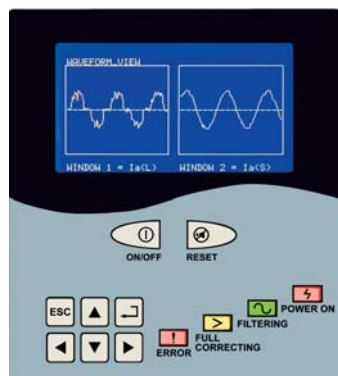
► Distortion analysis

Through the wave form spectrum we are able to appreciate the distortion level of each of the harmonics.

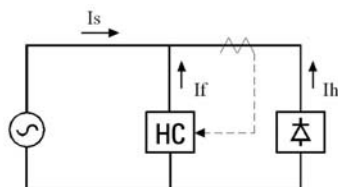


► Example of compensation

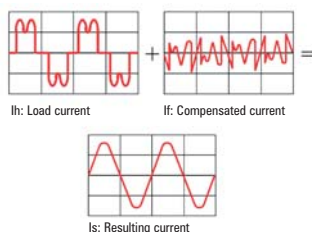
To the left, load current strongly distorted, to the right, the same current after correction.



This result is achieved by measuring the current circulating through the load, generating the compensating wave form and adding them both:



► Operation diagram



► SERVICES

- Pre-sales and after-sales advisory service.
- Multiple formulae for maintenance and telemaintenance.



HARMONIC ACTIVE FILTER

► TECHNICAL SPECIFICATIONS

MODEL		HC 25	HC 50	HC 100	HC 150	HC 200
INPUT	Voltage	3 x 208 V / 3 x 380 V / 3 x 400 V / 3 x 480 V				
	Voltage range	± 15%				
	Phase quantity	3 phases, 4 cables				
	Frequency	50 / 60 Hz				
	Frequency range	± 3 %				
	Current transformers	Included				
OUTPUT	Compensator current per phase	25 A _{RMS}	50 A _{RMS}	100 A _{RMS}	150 A _{RMS}	200 A _{RMS}
	Compensator current in neutral	75 A _{RMS}	150 A _{RMS}	300 A _{RMS}	450 A _{RMS}	600 A _{RMS}
	Harmonic attenuation ratio	> 10				
	Response time	< 40 ms				
	Transient response time ⁽¹⁾	< 1 ms				
	Inrush current	Less than nominal current				
	Current limit	Yes, at full compensation				
	Soft Start	10 seconds				
INDICATIONS	Synoptic	LCD graphic screen				
	Control ON	Red LED				
	Equipment on filtering	Green LED				
	Equipment at full compensation	Yellow LED				
	Fault	Red LED				
	Measurements	Apparent power, frequency, power factor, phase to phase voltage, total THD, current per phase				
	Wave shape	Yes, through graphic				
	Harmonic spectre	Yes				
	Event data logger	Yes				
	CONTROL	ON / OFF key	Yes, with possibility of enabling (to avoid accidents)			
Alarm silencer		Yes				
GENERALS	Storage temperature	- 20° C ÷ + 70° C				
	Operating temperature	0° C ÷ + 40° C				
	Relative humidity	Up to 95%, non-condensing				
	Maximum operating altitude	2400 m.a.s.l.				
	Heat losses	550 W	950 W	2000 W	3000 W	4100 W
	Acoustic noise at 1 metre	< 60 dB		< 63 dB		< 65 dB
	Protection degree	IP20				
	Enclosure format	Wall mounting		Floor standing		
	Entry cable	Bottom				
	Lifting rings	No		Yes		
	STANDARDS	Harmonics	EN 61000; IEEE 519 - 1192			
Safety		EN 50178				
Electromagnetic Compatibility (EMC)		EN 55011; EN50081-2 ; EN 61000-4-2/3/4/5/6, EN 61000-6-2				
Design		EN 60146				
Marking		CE				
Quality and Environmental management		ISO 9001 and ISO 14001 TÜV				

(1) It is the total time including the detection one till the static compensation for a 100% step load in less than 40 ms.

► RANGE

MODEL	COMPENSATOR CURRENT (A)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
HC 25	25	400 x 490 x 920	60
HC 50	50	400 x 490 x 920	75
HC 100	100	810 x 400 x 1930	270
HC 150	150	810 x 400 x 1930	300
HC 200	200	810 x 700 x 1930	540

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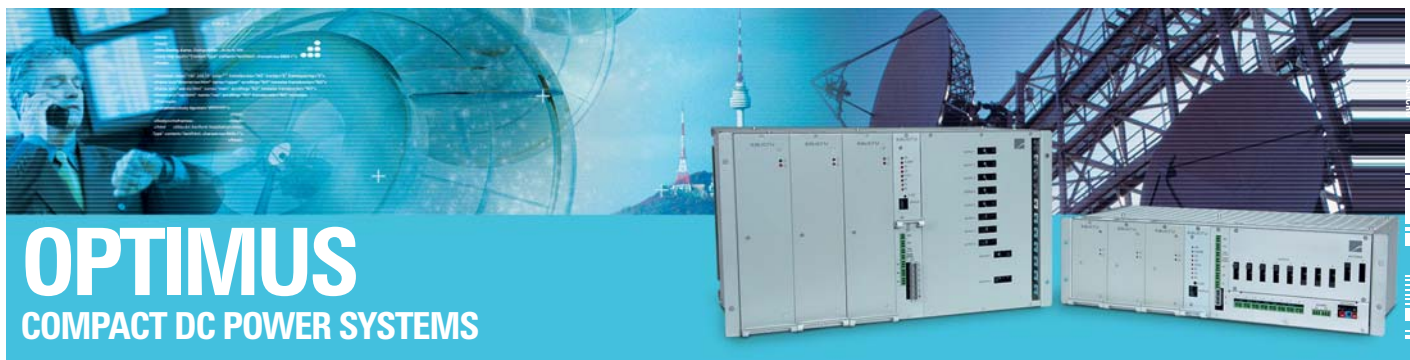
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VOLTAGE STABILISER AND POWER LINE CONDITIONER

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(*) Spain only (**) Rest of World



► OPTIMUS: Compact DC Power Systems for Telecommunications

The DC Power Systems of the **SALICRU OPTIMUS** series are rectifiers especially designed for supplying small and medium power telecommunications equipment. Produced in versions of 300 and 700 W per module, they can be configured both in the number of rectifiers and battery breakers or distribution in order to adapt to the most varied power supply requirements.

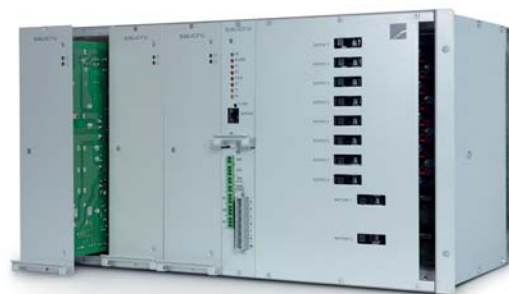
They are conceived to be included in 19" racks or ETSI, and 2 sub-racks can be connected in parallel in applications with larger power demands. The main sub-rack, in its maximum configuration, has 3 plug-in type rectifiers, monitoring and control unit. MS-100 current distribution unit with capacity for up to 8 breakers of different calibres, alarm card and 2 breakers for connecting 2 sets of batteries.

All of the system values and parameters, and the alarm category, may be modified by an LCD display or software for PC (optional).

► Optimus 300 W



► Optimus 700 W



► PERFORMANCES

- Suitable for single phase or three-phase supplies.
- Great power density.
- Easy installation and maintenance.
- High MTBF.
- High efficiency.
- Low cost operation and maintenance.
- Battery charging current limitation.
- Plug-in type output distribution unit (8 breakers).
- Plug-in type battery unit (2 breakers).
- Suitable for connecting any type of battery.
- Front input/output and connectors.
- Alarm card.
- Breaker calibre up to 30 A (OPTIMUS 300) or 60 A (OPTIMUS 700).
- Modularity: up to 3 plug-in type rectifiers per sub-rack.
- Power factor close to the unit.

► LCD panel



► MS-100 Control



► Supply and alarm unit.
Optimus 700 W

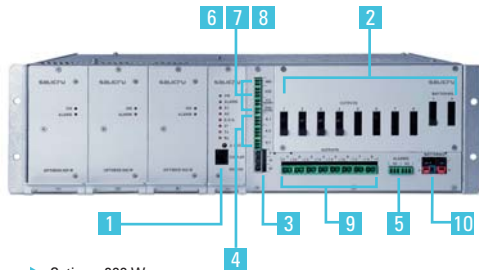


► APPLICATIONS: Telecommunications systems always operative

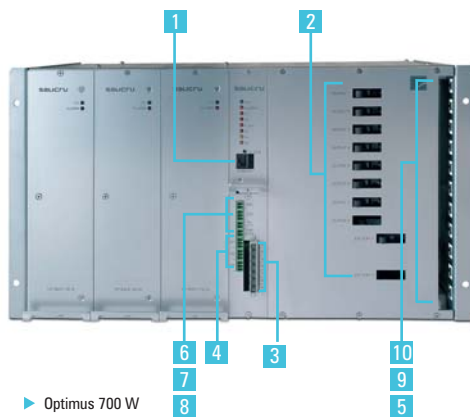
The **SALICRU OPTIMUS** DC Power Systems provide high level supply to the always critical telecommunications systems, guaranteeing their perfect operation without unexpected cuts. Due to their modular nature, they can also be expanded according to needs, thus optimising the investment.

► UNIT connectivity

1. RJ-45 connector optional for LCD display or PC.
2. 10 plug and play type connections (8 for output distribution and 2 for batteries).
3. AC power supply connectors.
4. Urgent alarm outputs, Not urgent and informative.
5. Alarm outputs trigger distribution magnetic thermal and trigger battery magnetic thermal.
6. Temperature probe.
7. Reading of maximum/minimum input voltage.
8. RS-232 and RS-485 ports.
9. Outputs 1 to 8.
10. Battery connectors.



► Optimus 300 W



► Optimus 700 W

► OPTIONS

- LCD display.
- Monitoring software for Windows.
- RS-485 to TCP-IP converter.

► COMMUNICATIONS & services

- MS-100 Monitoring and Control Unit.
- RS-232 and RS-485 serial ports.
- Pre-sale and after-sale advisory service.
- Multiple formulae for maintenance and telemaintenance (SICRES).



► TECHNICAL SPECIFICATIONS

MODEL	OPTIMUS 300	OPTIMUS 700
INPUT	AC voltage	230 V
	Voltage range	± 15%
	Power factor	> 0.86
	Nominal current	1.4 A
	Maximum current	2.1 A
	Efficiency	> 85% (50% to 100% of the load)
	Frequency	50 / 60 Hz
	Protection	Input fuse 10 A and overtemperature
	DC voltage	- 48 V
	Voltage adjustment	- 48 V ± - 60 V
OUTPUT	Accuracy	± 0.1% (with battery fully charged)
	Nominal power	300 W
	Maximum subrack power	900 W
	Nominal current (per module)	5.5 A
	Response time	± 0.1% (10% to 100% load steps)
	Protection	Output fuse 25 A
	Maximum ripple	50 mVpp
	Structure	Single or three phase
	Protection	Active Power Factor Correction (PFC)
	Protection	Against 5 kV transients (8 / 20 impulses µs)
STRUCTURE	Dielectric strength	1500 Vac, 1 minute, input
	Protection degree in accordance with standards	IP20
	Isolation	> 10 MΩ
	Psophometric noise	< 2 mV
	Acoustic noise at 1 metre	< 40 dB
	Cooling	Natural
	Operating temperature	- 10° C + + 45° C
	Storage temperature	- 20° C + + 70° C
	Relative humidity	Up to 95% non-condensing
	Maximum operating altitude	2400 m.a.s.l.
GENERALS	Mean Time Between Failures (MTBF)	250,000 hours
	Mean Time To Repair (MTTR)	15 minutes
	Optical module indicators	On / Rectifier fault
	Optical control MS-100 indicators	On, Alarm, Alarm A1, Alarm A2, End of autonomy, Alarm 01, TX, RX
	Communication port	RS-485 or RS-232 through RJ-45 connector
	Protocol	MODBUS, as standard
	Safety	EN 60950-1
	Electromagnetic Compatibility (EMC)	ETS 300386-2
	Marking	CE
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV
INDICATORS AND COMMUNICATION	Standards	EN 60950-1
	Electromagnetic Compatibility (EMC)	ETS 300386-2
	Marking	CE
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV
STANDARDS	Safety	EN 60950-1
	Electromagnetic Compatibility (EMC)	ETS 300386-2
	Marking	CE
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV

Data liable to changes without prior notice.

► RANGE

MODULE	POWER / MODULE (W)	DIMENSIONS (D x W x H mm)	WEIGHT ⁽¹⁾ (Kg)
OPTIMUS 300	300	260 x 483 x 133	13
OPTIMUS 700	700	260 x 483 x 267	17

(1) Complete subrack

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SWITCH MODE POWER SUPPLY

(*) Spain only (**) Rest of World



► FAC P: DC Power Systems for medium and high powers

The **SALICRU FAC P** series DC Power Systems are rectifiers especially designed to supply the most varied medium and high power equipment in DC. Made in powers of 1000, 2000, 2700 and 5000 W, they can be connected in parallel and form part of 19" cabinets, where each cabinet can also include the monitoring and control unit (MS-102), batteries and DC output distribution, and a load priority system. Each rectifier module is also prepared for hot swapping, with all of the advantages that this involves for the system operation.

On the other hand, the large amount of rectifier modules that can be connected in a single system will allow a power concentration of over 170 kW.

The Monitoring and Control Unit (MS-102) controls the whole system, stores and manages input, output and battery data and all of the parameters are programmed here. Through the RS-485 port, there is communication with the rectifier modules, controlling at all times the output voltage, the current spreads between modules, the battery loading current, the control of the priority and non-priority load contactors, the ends of autonomy, etc. Exterior communication may be in local or remote mode (GSM / TCP-IP).

► FAC 1000 P



► FAC 2700 P



► FAC 2000 P



► PERFORMANCES

- Suitable for single phase or three-phase supplies.
- Great power density.
- Easy installation and maintenance.
- Low cost operation and maintenance.
- High MTBF.
- High efficiency.
- Battery charging current limitation.
- Unit power factor.
- Hot swapping modules.
- Monitoring and Control Unit (MS-102).



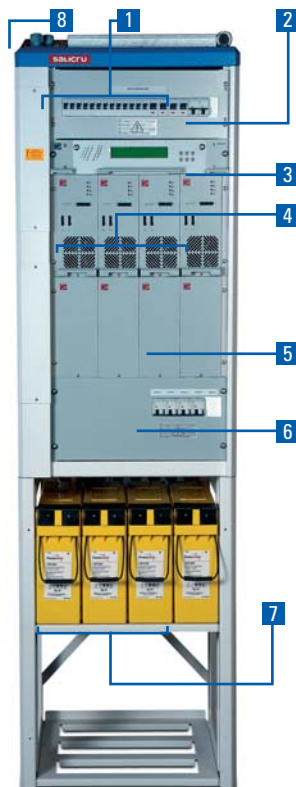
► MS-102

► APPLICATIONS: DC power systems always available

The **SALICRU FAC P** series DC Power Systems provide high level supply to the always critical telecommunications systems, guaranteeing their perfect operation without unexpected cuts. Due to their modular nature, they can also be expanded according to needs, thus optimising the investment.

UNIT connectivity

1. Output distribution.
2. Input protection.
3. MS-102.
4. FAC P modules.
5. Slots for increasing power.
6. Battery protection.
7. Batteries.
8. Cable input.



OPTIONS

- MS-102 Monitoring and Control Unit.
- Output distribution.
- Positive, negative or floating output voltages.
- Ground failure detector.
- Any type of battery: Sealed, Ni-Cd, open, etc.
- Atmospheric discharger.
- Output voltage reducer.
- Other IP.

COMMUNICATIONS & services

- RS-232 and RS-485 serial ports.
- Relay interface.
- MODBUS communications protocol.
- Pre-sale and after-sale advisory service.
- Multiple formulae for maintenance and telemaintenance.



TECHNICAL SPECIFICATIONS

MODEL		FAC 1000P	FAC 2000P	FAC 2700P	FAC 5000P
INPUT	AC voltage	230 V			230 V or 3 x 400 V
	Voltage range	± 15%			
	Power factor	> 0.99 ⁽¹⁾			
	Nominal current	5.0 A	10.7 A	13.5 A	24.8 A
	Maximum current	5.9 A	12.6 A	15.8 A	29.2 A
	Efficiency	> 87%	> 82%	> 90%	
	Frequency	50 / 60 Hz			
	Protection	Electronic			
OUTPUT	DC nominal voltage	12, 24, 36, 48, 60, 110, 125, 216, 220 V		48, 110, 125 V	12, 24, 36, 48, 60, 110, 125, 216, 220 V
	Voltage adjustment range	- 15% + 25%			
	Accuracy	± 0.1% (with charged batteries)			
	Nominal power	1000 W ⁽²⁾	2000 W ⁽³⁾	2700 W	5000 W ⁽³⁾
	Nominal current	25, 25, 24, 18, 14, 8, 7, 4, 4 A	75, 75, 48, 36, 29, 16, 14, 8, 8 A	49, 22, 20 A	181, 181, 121, 91, 72, 40, 36, 20, 20 A
	Psophometric noise	< 3 mV		< 1 mV	< 3 mV
	Load sharing	Active parallel			
	STRUCTURE	Power factor corrector (PFC)	Yes ⁽¹⁾		
Protection		Against 5 kV peaks (8 / 20 µs)			
BATTERY	Type	Pb-Ca or Ni-Cd			
	Charging curve	I / U constant			
	Charging current	0.1 to 0.3 C adjustable			
	Recharging time	Up to 80% in 4 hours (0,2 C)			
	Protections	Against overvoltages and undervoltages			
GENERALS	Dielectric strength	2000 V at 1 minute			
	Protection degree according with the standards	IP20			
	Insulation	> 20 MΩ			
	Acoustic noise at 1 metre	< 50 dB			
	Cooling	Forced		Controlled and forced	Forced
	Operating temperature	0° C ÷ + 40° C			
	Storage temperature ⁽⁴⁾	- 20° C ÷ + 70° C			
	Relative humidity	Up to 95%, non-condensing			
	Maximum operating altitude	2400 m.a.s.l.			
	Mean Time Between Failures (MTBF)	100,000 hours		150,000 hours	100,000 hours
	Mean Time To Repair (MTTR)	15 minutes			
INDICATORS	LCD panel	Yes		NA	Yes
	General alarm	Yes			
	Equipment On	Yes			
	Batteries on discharge / float	Yes		NA	Yes
COMMUNICATIONS	Ports	RS-232 / RS-485 / relays			
STANDARDS	Safety	EN 60950-1			
	Electromagnetic Compatibility (EMC)	EN 61204-3; ETS 300 386-2			
	Marking	CE			
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV			

- (1) Single phase input only.
 (2) Except 12 V and 24 V output voltages.
 (3) Except 12 V output voltage.
 (4) No batteries.

RANGE

RECTIFIER MODULE	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
FAC 1000P	425 x 483 x 2U	12
FAC 2000P	525 x 483 x 3U ⁽⁵⁾	15
FAC 2700P	450 x 73 x 6U	6
FAC 5000P	525 x 483 x 4U	28

(5) 2U for 48V models.

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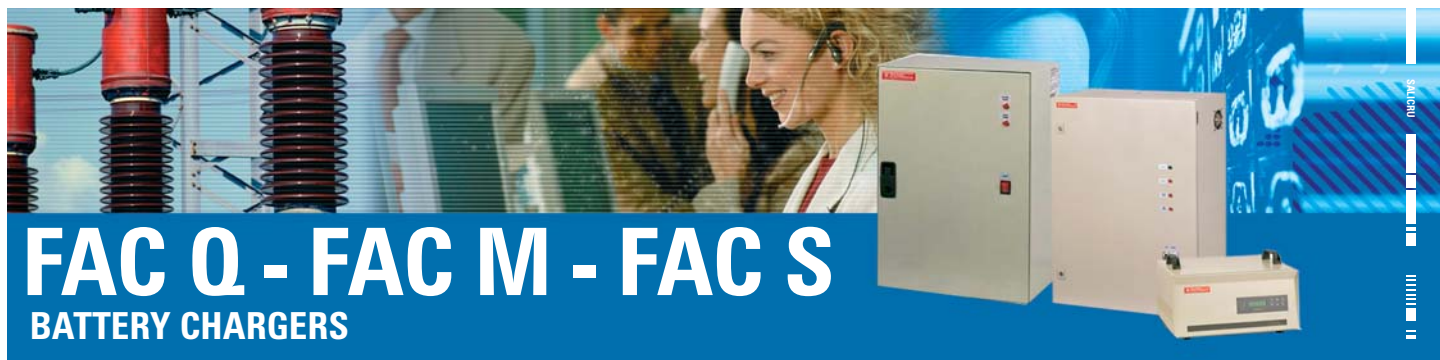
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SWITCH MODE POWER SUPPLY

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FAC Q - FAC M - FAC S

BATTERY CHARGERS

► FAC Q - FAC M - FAC S: Battery chargers for industrial applications

Traditionally battery charging has been done with units limited to charging the battery, taking little or no care of such important aspects as the efficiency, the DC output voltage curl, the flexibility, the weight, the size, the temperature, the charging control and a long etc.

The **SALICRU** Batter Charger Units, using the technology used in high quality power supplies for telecommunications equipment, are characterised by their architecture based on high frequency switching and offering numerous additional services as opposed to other solutions, which gives greater profitability in the industrial process. The **FAC Q**, **FAC M** and **FAC S** series are easily adaptable to a wide range of possible applications and contribute to maintaining a clean, reliable environment.

On the mechanical level, the **FAC Q** and **FAC M** are characterised as offering the wall solution as the most effective in industrial environments lacking in space, while the **FAC S** deals with the portability of the battery charge.

► FAC Q



► FAC M



► FAC S



► PERFORMANCES

- Switched technology.
- High efficiency and precision.
- Low output voltage curl.
- Great flexibility in powers and voltages.
- Permanent protection against short circuits and overloading.
- Excellent dynamic behaviour.
- Capacity to withstand large starting peaks.
- High power factor.
- Low starting current.
- Lower weight and heating.

► APPLICATIONS: Electrical protection and battery charging

The **FAC Q** series is especially conceived to correctly supply all kinds of emergency lighting, surgery lamps, security and alarm circuits, power supply circuits to machines with irreversible processes, converters, breakers, etc.

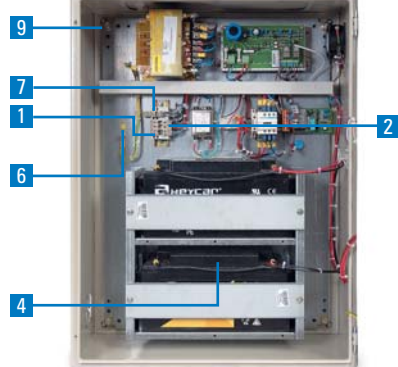
The **FAC M** series is conceived, amongst other applications, to face the usual requirements of automatic remote control, so the battery is provided with the capacity to withstand a large amount of high current peaks.

The **FAC S** series, with digital switched technology, covers a market niche traditionally unattended with regard to the technology involved: applications of handling and remote control, power generation, mini-stations or process control in the industrial and electrical sectors, to mention the most representative.

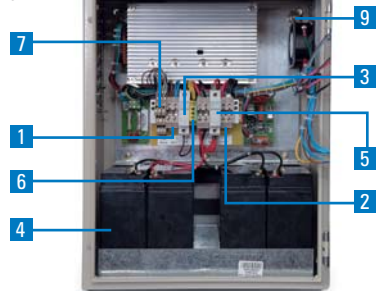
UNIT connectivity

1. AC input.
2. DC output (or AC in FAC Q).
3. Input protection (on door in FAC Q).
4. Batteries.
5. Battery protection (on door in FAC Q).
6. Ground socket.
7. Relay interface.
8. RS-485 interface.
9. Drill holes for fixing to the wall.

FAC Q



FAC M



FAC S



OPTIONS

- ▶ LCD display.
- ▶ Ni-Cd batteries.
- ▶ Relay interface.
- ▶ Voltmeter / Ammeter.
- ▶ Positive and negative ground failure detector.
- ▶ Version I for FAC Q: Normal Contactor / Emergency.

COMMUNICATION & services

- ▶ Standard relay interface and 3 kV isolation.
- ▶ Pre-sale and after sale advisory service.
- ▶ Multiple formulae for maintenance and telemaintenance.

TECHNICAL SPECIFICATIONS

MODEL		FAC M		FAC Q	FAC S
		FAC 165 M	FAC 1000 M		
INPUT	AC Input	230 V ± 15%		230 V ± 10%	230 V ± 15% / -20%
	Power factor	0.7	0.99	0.7	
	Efficiency	> 85%	> 90%	> 85%	> 90%
	Frequency	50 / 60 Hz			
	Protection	Circuit breaker			
OUTPUT	Voltage	12, 24, 48 V DC	12, 24, 48, 110, 125 V DC	Normal 24 V AC / Emergency 24 V DC	12, 24, 48, 110, 125 V DC
	Current	Depending on the model			
	Power	165 W ⁽¹⁾	1000 W ⁽¹⁾	250, 350, 500, 600, 700 W	1000 W ⁽¹⁾
	Accuracy (with charged batteries)	± 1%	± 0.1%	± 1%	± 0.09%
	Ripple	< 200 mVpp	< 20 mVpp	< 200 mVpp	< 20 mVpp
BATTERIES	Protection	Switch with fuse	Circuit breaker	Switch or circuit breaker	Circuit breaker
	Charge type	I / U			
	Charging current	1 A	0.1 C	3 A	0.1 C
	Protection against overvoltages and undervoltages	Yes			
	Ni-Cd / Pb-Ca	Optional / Yes			NA / Yes
COMMUNICATIONS	Standard relay interface	Optional	Optional	Yes	Optional
	Allocation	Rect. fault / Mains fault	Programmables	Rect. fault / Mains fault ⁽²⁾	Programmables
	Contact quantity	2	5	2 ⁽³⁾	5
	Remote shutdown	No	Yes	-	-
	3 kV insulation interface	-	Optional	-	Optional
SIGNALLING	LED synoptic	Yes			
	LCD panel	No	Optional	No	Optional
	Voltmeter / Ammeter	-	-	Optional	-
	Acoustic end of autonomy	-	-	Yes	-
	Positive and negative earth fault	-	-	-	Optional
GENERALS	Structure	Single phase			
	Protection degree ac. to standards	IP21			
	Insulation	> 10 MΩ			
	Acoustic noise at 1 metre	< 40 dB			
	Cooling	Natural	Forced	Natural	Forced
	Operating temperature	0° C + + 40° C			
	Storage temperature	- 20° C + + 70° C			
	Relative humidity	Up to 95%, non-condensing			
	Maximum operating altitude	2400 m.a.s.l.			
	Mean Time Between Failures (MTBF)	60,000 hours			
STANDARDS	Mean Time To Repair (MTTR)	30 minutes			
	Safety	EN 60950-1			
	Electromagnetic Compatibility (EMC)	EN 61204-3			
	Marking	CE			
Quality and Environmental management		ISO 9001 and ISO 14001 TÜV			

(1) Except 12 and 24 Vdc

(2) Version I: Standard + Normal / Emergency contact (optional)

(3) 3 contacts for version I

RANGE

MODEL	DIMENSIONS (D x W x H mm)	WEIGHT (kg)
FAC 165 M	200 x 400 x 550	Depending on model
FAC 1000 M	220 x 400 x 650	Depending on model
FAC Q	300 x 600 x 800	Depending on model
FAC S	550 x 400 x 230	Depending on model



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INDUSTRIAL POWER SUPPLY

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(*) Specially (**) Rest of World



CS IS

DC POWER CONVERTERS



► CS IS: High performance DC/AC industrial converters

SALICRU's **CS IS** series DC/AC converters are based on technically advanced solutions such as PWM technology and digitally controlled servo systems so as to obtain: high performance, low distortion (THDv < 2%) and elevated stability. Moreover, they offer excellent tolerance to short-circuits, polarity inversion protection and the possibility of operating in Eco-mode.

The line is available in power ranges between 1000 and 6000 VA, with admissible continuous incoming voltage from 48 Vdc to 220 Vdc nominal input.

► PERFORMANCES

- Availability in a wide range of voltages and outgoing power.
- Broad range of input voltage variation.
- LCD display comes standard.
- Communication through relay interface or RS-232/RS-485.
- Excellent dynamic behavior.
- Automatic restart to re-establish incoming power.
- Ramp start.
- 19" rack or box casing.



► CS 4000-IS model

► OPTIONS

- Static bypass.
- EMI filters.
- Separation transformer on the bypass line.
- Psfometric filter.
- Anti-harmonic filter.

► SERVICES

- Pre-sales and post-sales consultation service.
- Several maintenance and remote maintenance methods.

► APPLICATIONS: Energy conversion for industrial plants

SALICRU's **CS IS** series provides quality AC power from a DC power source (normally batteries) for the most varied of industrial applications such as cogeneration and biomass plants, gas generators, water distributors, power stations and substations, telecommunications, etc.

► TECHNICAL SPECIFICATIONS

MODEL		CS IS
INPUT	DC nominal voltage	48 V, 110 V, 120 V, 125 V, 220 V
	Voltage range	- 17%, + 20%
OUTPUT	AC nominal voltage	120 V, 220 V, 230 V, 240 V
	Accuracy	± 2%
	Frequency	50 / 60 Hz
	Frequency range	Synchronized: 0.1 Hz ÷ 9.9 Hz in increments of 0.1 Hz Unsynchronized: ± 0.05%
	Synchronization speed	1 Hz/s
	Admissible overload	150% for 30 seconds / 125% for 45 seconds
	Efficiency	Up to 92%
GENERAL	Operating temperature	- 10° C ÷ + 40° C
	Cooling	Forced
	Relative humidity	Up to 95%, non-condensing
	Maximum operating altitude	2400 m.a.s.l.
STANDARDS	Safety	EN 60950-1
	Electromagnetic Compatibility (EMC)	EN 61000-6-3; EN 61000-6-1
	Marking	CE
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV

Data liable to changes without prior notice.

► RANGE

MODEL	POWER (VA)	INPUT VOLTAGE (Vdc)					DIMENSIONS (D x W x H mm)		WEIGHT (Kg)
		48	110	120	125	220	BOX	RACK	
CS 1000-IS	1000	•	•	•	•	•	390 x 424 x 183 ⁽¹⁾	390 x 483 x 4U ⁽¹⁾	42
CS 2000-IS	2000	•	•	•	•	•	390 x 424 x 183 ⁽¹⁾	390 x 483 x 4U ⁽¹⁾	55
CS 3000-IS	3000	•	•	•	•	•	585 x 436 x 465	550 x 483 x 6U	67
CS 4000-IS	4000	•	•	•	•	•	585 x 436 x 465	550 x 483 x 6U ⁽²⁾	69
CS 5000-IS	5000	•	•	•	•	•	585 x 436 x 465	550 x 483 x 6U ⁽²⁾	75
CS 6000-IS	6000	•	•	•	•	•	585 x 436 x 465	-	85

(1) For voltages ≥ 110 Vdc

(2) Without filters

Ask for other power needs and/or configurations.

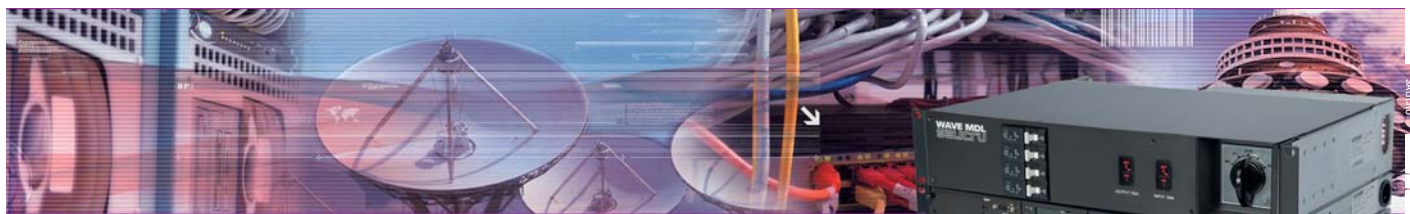


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CS WAVE MDL

48 VDC POWER CONVERTERS

► CS WAVE MDL: DC/AC converters for telecommunications

Today's telecommunications systems include a large variety of critical loads that must be correctly powered and protected. SALICRU's **CS WAVE MDL** is based on the modular architecture that can be adapted to any growth and/or redundancy needs.

The maximum configurations allows up to 24 kVA in models with 1 or 1.5 kVA, which are supplemented by the modules: static bypass (STS), LCD display, communications and/or manual bypass with distribution.

► PERFORMANCES

- DSP Design (Digital Signal Processor).
- Back-feed protection standard (in configurations with STS).
- All Master technology for better reliability.
- Sinoidal output.
- Hot-Swap.
- High density power.
- Polarity inversion protection.
- Smart ventilation control.



► CS WAVE MDL model

► OPTIONS

- Static bypass up to 12 kVA.
- LCD display.
- Communications interface.
- Manual bypass with distribution.

► SERVICES

- Pre-sales and post-sales consultation service.
- Several maintenance and remote maintenance methods.

► APPLICATIONS: AC power for Telecom systems

Normally for mobile or land-line telecommunications systems not able to connect to the mains, that need autonomous solutions providing power from back-up elements (batteries, fuel-cell,...).

► TECHNICAL SPECIFICATIONS

MODEL		CS WAVE MDL
INVERTER	Technology	DSP; All Master
	Modular power	1000 VA / 800 W and 1500 VA / 1200 W
	Maximum no. models x system	15 x 1500 VA or 24 x 1000 VA
	Input voltage	40.5 Vdc ± 58 Vdc
	Output voltage	230 Vac
	Output frequency	50 / 60 Hz
	Psometric noise	≤ 1 mV
	Efficiency	> 89%
	Admissible overload	150% for 20 seconds
STATIC BYPASS (STS)	Power	12 kVA
	Transfer time	< 5 ms
	Synchronism	± 2.5%
LCD DISPLAY	Settings	Input / Output / Alarms / General
INTERFACE	Ports	RS-232, RS-485, USB and free contacts
	Protocol	CANBUS
MANUAL BYPASS	Distribution	2 x 20 A + 1 x 32 A + 1 x 50 A
	5 position selector	Combined Inverter - STS - Manual bypass
STANDARDS	Safety	EN 60950-1
	Electromagnetic Compatibility (EMC)	EN 61000-6-4; EN 61000-6-2
	Marking	CE
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV

Data liable to change without prior notice.

► RANGE

MODEL	DESCRIPTION	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
CS 1000-WAVE MDL 48/230	Inverter 1000 VA	270 x 215 x 1U	2.5
CS 1500-WAVE MDL 48/230	Inverter 1500 VA	270 x 215 x 1U	3
STS-WAVE MDL	Static bypass (STS)	270 x 215 x 1U	3
LCD-WAVE MDL	Display LCD	270 x 90 x 1U	1
COM-WAVE MDL	Communications	270 x 180 x 1U	0.5
BM + DIS-WAVE MDL	Manual bypass + distribution	270 x 483 x 2U	4



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► ILUEST+: Regulation + Control = Saving

The days of employing simple voltage dimmers or 'dual-level' voltage regulation to decrease lighting consumption, methods which were perfectly valid before, are long over. Today, it is not sufficient just to stabilise and dim the voltage power supply to lightings to bring about important energy savings. Through the use of advanced technology available, the various lighting equipment installed can be remotely monitored, measured and quantified, thus enabling the sustainability of the lighting installation.

The **ILUEST +** series of advanced Lighting flow regulators from **SALICRU**, takes over from its highly successful and field-tested predecessor, has vast improvements in critical aspects of modularity, power density, protection and telemanagement. As a result, greater flexibility in areas of power growth, maintenance, commissioning and equipment integration can be better realized along with superior reliability and shorter payback periods.

The **ILUEST +** series is available in a wide range of powers, has 3 implementation variants - indoor, outdoor and OEM Kit - and 2 monitoring versions. Used in conjunction with our powerful telemanagement **SICRES** technology, the **ILUEST +** is now the state-of-the-art reference in lighting regulation and control.

► QUALITY PERFORMANCES

- Bi-directional 'Buck' converter with IGBTs, electronic, static and transformerless.
- Continuous regulation of the output voltage, no voltage steps; higher lamp lifetime.
- Lineal and programming ramps.
- High response time.
- Stabilisation better than $\pm 1\%$ + saving voltage periods = savings > 40%.
- Protections with automatic programming rearm due to overload and overtemperature.
- Protections with fuses ⁽¹⁾ and against lightning arrestors. ⁽²⁾
- Automatic bypass per phase, independent operating, manual operating ⁽³⁾, active by default and make before break.
- RS-232 and RS-485 ports + MODBUS protocol, as standard.
- **SICRES** telemanagement card built in completely. ⁽⁴⁾
- Duty cycle adapted to the warm up curve of the lamp.
- Programming of two saving levels and start voltage via software. ⁽⁴⁾
- Average payback of the investment between 6 and 24 months.
- Low weight and dimensions, higher power density.
- No harmonic injection to mains.

► ILUEST+ model



► ILUEST+ module

► APPLICATIONS: Better management of lightings

The **ILUEST +** is suitable for use in many areas, both industrial and commercial e.g. roads and highways, road bridges & tunnels, airports, hospitals, commercial centres, ports, railroads, car parks and many more. The superior supervisory and remote control capability of the **ILUEST +** will result in the better and more efficient management of lightings, regardless of their applications.

As an example, our studies have shown that a town of 10,000 inhabitants with 1700 public lighting points would consume an average of 1,210 MW of electricity per year. By using just 13 units of the **ILUEST +** rated 30 KVA each, potential annual savings of 490 MW can be realized, translated to 270 Tm less CO₂ to the atmosphere.

(1) In the equipment.
(2) MOV (Metal Oxid Vastisor).

(3) Through stated input or keypad.
(4) In COM version.

► MONITORING

► **LCD version:** Stabiliser equipment with LCD synoptic for local communication. Based on:

- **LCD panel:** It provides input / output voltages, frequency, load and saving percentage levels, output currents, power factor, load type and temperature. It includes timer, astronomical clock and event data logger.



► LCD version

► **COM version:** Stabiliser module LCD version with SICRES card for remote communication.

- **SICRES card:** Interface for Ethernet networks with TCP-IP and SNMP protocols and GSM / GPRS modems and RTC.

► IMPLEMENTATIONS



► Indoor horizontal format

► Outdoor version



► OEM Kit

► AVAILABLE options

- External or internal manual bypass.
- GSM and GPRS modem.
- **SICRES** (converts LCD version to COM).
- Digital I/O (digital inputs and outputs).
- Lightning arrestor.

► SERVICES

- Customized studies and simulations of the saving and payback.
- Extended warranties (under request).
- Multiple formulae of maintenance and telemaintenance (**SICRES**).



LIGHTING FLOW DIMMER-STABILISERS

► TECHNICAL SPECIFICATIONS

MODEL		ILUEST +
TECHNOLOGY		Bidirectional 'Buck' converter with IGBTs, electronic, static and transformerless
INPUT	Voltage	Single phase: 230 V / Three phase: 3 x 400 V
	Voltage range	+ 25% / - 7% nominal voltage + 25% / - 17% saving voltage HPSV + 25% / - 10% saving voltage MV
	Frequency	40 ÷ 65 Hz
	Module protection	Input / output fuses ; electronic for temperature, overload, fault and varistors
	Equipment protection per phase	Switch
OUTPUT	Voltage	Adjustable from 215 V to 230 V (220 V as standard)
	Accuracy inside voltage range	Better than ± 1%
	Soft start voltage	Preset ⁽¹⁾ and adjustable
	Saving voltage	Adjustable from 180 V to 210 V
	Speed ramp setting	From 1 V/minute to 6 V/minute
	Response time	< 40 ms
	Control	Lineal and independent per phase
	Efficiency	96% ÷ 98%
	Phase unbalancing	100% permissible
	Selectable saving voltage	Through LCD panel or RS-232 port
BYPASS	Permissible overload	150% for 30 seconds; 120% for > 1 minute
	Type	No-break
	Features	Automatic, reversible, independent per phase, independent operating, input for manual activation
	Activation criteria	Overtemperature, overload, fault, output fault, manual activation
COMMUNICA-TION	Ports	RS-232 and RS-485
	Monitoring	SICRES system (COM version)
GENERALS	Operating temperature	- 20° C ÷ + 55° C ⁽²⁾
	Relative humidity	Up to 95%, non-condensing
	Maximum altitude	2400 m.a.s.l.
	Mean Time Between Failures (MTBF)	60,000 hours
	Mean Time To Repair (MTTR)	30 minutes
	Acoustical noise at 1 metre	48 dBA (at typical load)
IMPLEMENTA-TIONS	Indoor	Vertical
		Horizontal
	Outdoor	Indoor built in a polylester cabinet IP54
STANDARDS	OEM Kit	Modules + Supports + Control wiring + Power Supply
	Safety	EN 60950-1; UNE AENOR EA 0032-2007
	Electromagnetic Compatibility (EMC)	EN 61000-6-2; EN 61000-6-3
	Operating	UNE AENOR EA 0033-2007
	Marking	CE
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV

(1) Depending on type of lamp

(2) 4% power derating per each degree over 45°C

► RANGE

MODEL	POWER (kVA)	OEM KIT		
		QUANTITY OF MODULES	DIMENSIONS PER MODULE (D x W x H mm)	WEIGHT (Kg)
KIT NET + 7,5-4-LCD	7.5	3	200 x 172 x 310	11
KIT NET + 10-4-LCD	10	3	200 x 172 x 310	11
KIT NET + 15-4-LCD	15	3	200 x 172 x 310	12
KIT NET + 20-4-LCD	20	3	200 x 172 x 310	12
KIT NET + 25-4-LCD	25	3	200 x 172 x 470	19
KIT NET + 30-4-LCD	30	3	200 x 172 x 470	20
KIT NET + 45-4-LCD	45	3	200 x 172 x 470	20

MODEL	POWER (kVA)	INDOOR IMPLEMENTATION ⁽³⁾		OUTDOOR IMPLEMENTATION	
		DIMENSIONS (D x W x H mm)	WEIGHT (Kg)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
NET + 7,5-3	7.5	240 x 520 x 610	29	320 x 750 x 1105	64
NET + 10-3	10	240 x 520 x 610	30	320 x 750 x 1105	65
NET + 15-3	15	240 x 520 x 610	31	320 x 750 x 1105	66
NET + 20-3	20	240 x 520 x 610	33	320 x 750 x 1105	68
NET + 25-3	25	240 x 520 x 770	54	320 x 750 x 1105	89
NET + 30-3	30	240 x 520 x 770	55	320 x 750 x 1105	90
NET + 45-3	45	240 x 520 x 770	56	320 x 750 x 1105	91

(3) Horizontal

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III

LIGHTING FLOW DIMMER STABILISERS

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ILUEST

LIGHTING FLOW DIMMER STABILISERS

► ILUEST: Energy savings in outdoor lighting

Current lighting systems, though more and more optimised and more efficient, are also larger in the number of light points and are therefore a larger and larger burden for the public or private entities that deal with its management.

The **SALICRU ILUEST** series is a light flow reducer-stabiliser conceived to maximise energy savings in outdoor lighting installations, considerably reducing the electricity bill and at the same time protecting and looking after the lamps to give them a longer life and therefore reduce the critical maintenance costs.

Available in a wide range of powers, both in single phase and three-phase, they are made in three different versions and several options, particularly including the Pack Telegestión remote GSM communication, due to its important role in efficiently managing the lighting.

► OPTIMISED PERFORMANCES

- Electronic light flow adjustment by static elements and microprocessor control.
- Entirely independent adjustment per phase.
- Independent static bypass per phase.
- Magnetic thermal protection and protection against atmospheric discharges integrated per phase.
- Efficiency > 97%.
- It does not bring in harmonics or alter the power factor of the installation.
- Instantaneous stabilisation in all operating states.
- Work cycle adapted to the initial heating phase of the lamps.
- Suitable for all kinds of discharge lamps (including metal halogen).
- Soft transitions between the nominal and reduced flow states.
- Fine adjustments of all voltage levels and output precision improved by $\pm 2\%$.
- Selectable start-up voltage.
- Two saving levels software-adjustable. ⁽¹⁾
- Additional energy savings through the complete elimination of the night-time overloading.



► ILUEST unit

- Significant increase in the life span of the lamps.
- Control by LCD display and remote telemanagement, by GSM modem. ⁽¹⁾
- Savings of over 40%.
- Easy installation alongside the control centre or inside it.
- Average repayment of the investment between 6 and 24 months.
- Optimised maintenance of the unit.

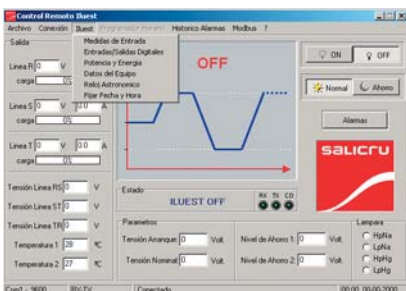
► APPLICATIONS: More efficient outdoor lighting

All of these, from urban public lighting (avenues, streets, roads, ring roads, roundabouts, bridges, etc.) to lighting in industrial areas, shopping centres, car parks, hospitals, ports, railway stations or airports, can benefit from the advantages given by the **ILUEST** in such important aspects as rationality in light levels, maintenance of the installations and electrical consumption.

(1) Optional

► TELEMAGEMENT PACK for total lighting control

The 'Telemangement Pack' has an electronic card + LCD display built into the unit, and PC software for its supervision.



► Telemangement software

The functions of the system particularly include:

- Local mode communication (LCD display or laptop PC) and remote (GSM modem).
- Application Software for PC under windows environment.
- 10 digital measurements and 17 analogue measurements (12 voltage, 3 output current and 2 temperature).
- Multiple measurements available: Active and apparent powers, power factor, charge level, etc.
- Multiple programming and adjustment parameters: Time, date and month in course, selection of types of lamp, starting, nominal and economy voltage, etc.
- Calibrations.
- Planning and sending SMS and e-mails.
- Timing 7 days a week + 10 special days.
- Selection and programming of astronomic clock included.

► AVAILABLE options

- Telemangement Pack (for units ≥ 60 kVA).
- GSM Modem for Telemangement Pack.
- LCD display to visualise the different electrical measurements.
- Manual bypass to electrically isolate the unit during maintenance work.
- Automatic bypass to contactors, per phase or common.
- Light probe, to adjust the flow in line with the incident natural light.
- Time programmer to order change to economy by time bands.
- Astronomic clock for better control of sunrise and sunset.
- Atmospheric gas discharger.

► SERVICES

- Studies and personalised saving and repayment simulations.
- Extended warranties (to be consulted).
- Multiple formulae of maintenance and telemaintenance (SICRES).



► TECHNICAL SPECIFICATIONS

MODEL		ILUEST
INPUT	Single phase voltage	120 V, 220 V, 230 V, 240 V
	Three phase voltage	3 x 208 V, 3 x 220 V, 3 x 380 V, 3 x 400 V, 3 x 415 V
	Voltage range	+ 33% / - 8% nominal voltage + 4% / - 29% saving voltage 1 + 10% / - 24% saving voltage 2
	Frequency	48 + 63 Hz
	Protection per phase	Single pole circuit breaker
OUTPUT	Single phase voltage	120 V, 220 V, 230 V, 240 V
	Three phase voltage	3 x 208 V, 3 x 220 V, 3 x 380 V, 3 x 400 V, 3 x 415 V
	Accuracy	Better than $\pm 2\%$
	Warm up start voltage	Nominal or 210V (Selectable)
	Minimum saving voltage	180V (phase to neutral) adjustable for MV, HPSV, MH and fluorescent
	Regulation	Independent per phase
	Harmonic distortion	Nil
	Efficiency	> 97%
	Permissible power factor	From 0.5 lagging to 0.7 leading
	Unbalancing between phases	Permissible 100%
	Saving voltage selection 1 or 2 ⁽¹⁾	Through LCD panel or PC software
BYPASS		Automatic static solid built in and independent per phase
ENVIRONMENTS	Operating temperature	- 40° C ÷ + 45° C
	Relative humidity	Up to 95%, non-condensing
	Maximum altitude	2400 m.a.s.l.
	Mean Time Between Failures (MTBF)	60,000 hours
	Mean Time To Repair (MTTR)	30 minutes
	Acoustic noise at 1 metre	< 35 dB
INDICATORS	Optical (per phase)	Process "mode", activated saving order "Saving On", selected tap, automatic bypass, Automatic bypass alarm
	Acoustic (per phase)	Automatic bypass alarm
IMPLEMENTATION	Indoor version	Horizontal Vertical
	Made of sheeted steel at carbon cold, with holes to be fixed to the floor or wall	
	Outdoor version	Cabinets made of polyester or metallic of steel at carbon
STANDARDS	Safety	EN-60950-1
	Electromagnetic Compatibility (EMC)	EN-61000-6-2; EN-61000-6-3
	Marking	CE
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV

(1) Without Telemangement Pack through dipswitches

Data liable to changes without prior notice.

► RANGE

Input / Output 230 V

MODEL	POWER (kVA)	INDOOR VERSION		OUTDOOR VERSION	
		DIMENSIONS (D x W x H mm)	WEIGHT (Kg)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
NE 3,5-2	3.5	220 x 270 x 550	42	320 x 500 x 860	72
NE 5-2	5	220 x 270 x 550	43	320 x 500 x 860	73
NE 7,5-2	7.5	220 x 270 x 550	45	320 x 500 x 860	75
NE 10-2	10	220 x 270 x 550	46	320 x 500 x 860	76
NE 15-2	15	220 x 270 x 550	50	320 x 500 x 860	80
NE 20-2	20	220 x 270 x 650	67	320 x 500 x 860	105

Input / Output 3 x 400 V

MODEL	POWER (kVA)	INDOOR VERSION			OUTDOOR VERSION	
		HORIZONTAL DIMENSIONS (D x W x H mm)	VERTICAL DIMENSIONS (D x W x H mm)	WEIGHT (Kg)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
NET 7,5-4	7.5	235 x 653 x 840	245 x 380 x 800	60	320 x 770 x 1098	94
NET 10-4	10	235 x 653 x 840	245 x 380 x 800	80	320 x 770 x 1098	116
NET 15-4	15	235 x 653 x 840	245 x 380 x 800	81	320 x 770 x 1098	117
NET 20-4	20	235 x 653 x 840	245 x 380 x 800	82	320 x 770 x 1098	118
NET 25-4	25	235 x 653 x 840	245 x 380 x 800	90	320 x 770 x 1098	125
NET 30-4	30	235 x 653 x 840	245 x 380 x 800	95	320 x 770 x 1098	130
NET 45-4	45	235 x 653 x 840	245 x 380 x 800	139	320 x 770 x 1098	173
NET 60-4	60	260 x 653 x 1070	-	181	320 x 770 x 1348	221
NET 80-4	80	260 x 653 x 1070	-	204	320 x 770 x 1348	244
NET 100-4	100	260 x 653 x 1070	-	214	320 x 770 x 1348	254
NET 120-4	120	260 x 653 x 1070	-	225	320 x 770 x 1348	265

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RE

ELECTRONIC VOLTAGE STABILISERS

► RE: The fastest and the most accurate electronic regulation system of the market

In today's electronic environment, saturated and highly unstable, where fluctuations in the power supply voltage are more than frequent, voltage stabilisers play a very important role in guaranteeing stable voltage to loads more sensitive to such variations.

The **SALICRU RE** series of electronic stabilisers, based on a completely static structure of high efficiency, fast reply speed and excellent output precision, are made in single phase or three-phase configuration and in a range of powers from 300 VA to 150 kVA.

The three-phase units are conceived with a completely phase-independent regulation in order to avoid possible regulation problems due to imbalance in the loads. Moreover, the units include a static bypass⁽¹⁾ to guarantee the power supply in the event of a possible fault.

► PERFORMANCES

- Ultra-fast regulation: reply speed under 100 ms.
- Control and test of all parameters by one microprocessor per phase.
- Entirely static structure, without moving elements, greater reliability.
- Static bypass⁽¹⁾, loads always supplied.
- In three-phase units, independent regulation per phase, immune to imbalances.
- Output precision better than 2%.
- 15% input regulation margins standard.
- Efficiency > 97%.
- Voltmeter standard above 9 kVA.
- Voltmeter switch standard in three-phase units.
- Separator transformer or ultra-isolation on unit output.⁽²⁾
- Relay interface.⁽²⁾
- Maximum and minimum voltage protections.⁽²⁾



► RE unit

► APPLICATIONS: Assured industrial processes

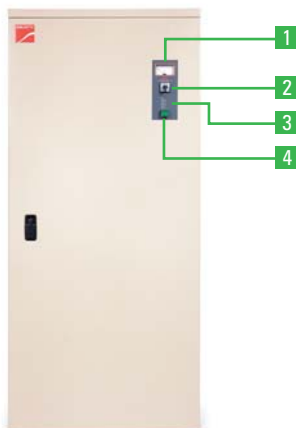
Many are the industrial processes where voltage stability is essential: from a wide range of applications where the numerical control processors and automatons are entrusted with guaranteeing the final result, up to all kinds of calculation centres, computer peripherals, transmission and communications equipment, laboratory equipment, etc.

(1) Models ≥ 1 kVA

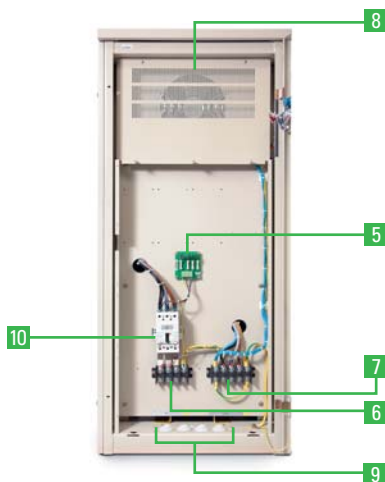
2) Optional

DESCRIPTION

1. Output voltmeter.
2. Voltmeter switch (three-phase units).
3. Synoptic.
4. Start / Stop switch.
5. Transient protection.
6. Input terminals.
7. Output terminals.
8. Ventilation grilles.
9. Cable input / output.
10. General input magnetic thermal switch.



► Exterior view of RE unit



► Connection view of RE unit

OPTIONS available

- Relay interface.
- Manual maintenance bypass.
- Maximum-minimum voltage protections with manual or automatic reset.
- Output magnetic thermal protection.
- Gas discharger.
- Input/output ammeter.
- Separator transformer (T).
- Ultra-isolation transformer (NS).

SERVICES

- Pre-sale and after-sale advisory service.
- Multiple formulae of maintenance and telemaintenance.



ELECTRONIC VOLTAGE STABILISERS

TECHNICAL SPECIFICATIONS

MODEL		RE
INPUT	Single phase voltage	120 V, 220 V, 230 V, 240 V
	Three phase voltage	3 x 208 V, 3 x 220 V, 3 x 380 V, 3 x 400 V, 3 x 415 V
	Regulation range	± 15% ⁽¹⁾
	Frequency range	48 ÷ 63 Hz
	Power factor	> 0.95
OUTPUT	Single phase voltage	120 V, 220 V, 230 V, 240 V
	Three phase voltage	3 x 208 V, 3 x 220 V, 3 x 380 V, 3 x 400 V, 3 x 415 V
	Accuracy	Better than ± 2%
	Frequency	48 ÷ 63 Hz
	Harmonic distortion	Nil
	Response time	100 ms
	Efficiency	> 97%
	Permissible overload	200% for 1 minute
BYPASS	Type	Static ⁽²⁾
GENERALS	Ambient operating temperature	- 10° C ÷ + 45° C
	Relative humidity	Up to 95%, non-condensing
	Maximum operating altitude	2400 m.a.s.l.
	Mean Time Between Failures (MTBF)	60,000 hours
	Mean Time To Repair (MTTR)	30 minutes
	Acoustic noise level at 1 metre	< 35 dB
	Cooling	Natural or forced depending on power rate
	Electrical noise attenuation on common mode	With isolation transformer > 40 dB With ultra-isolation transformer > 120 dB
STANDARDS	Safety	EN 60950-1
	Electromagnetic Compatibility (EMC)	EN 61000-6-3; EN 61000-6-2
	Marking	CE
	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV

- (1) Other ranges under request
(2) Standard from 1 kVA and above

RANGE ⁽³⁾

MODEL	POWER (kVA)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
RE-309-2	0.3	280 x 210 x 185	6
RE-609-2	0.6	280 x 210 x 185	6
RE-1009-2	1	280 x 210 x 185	9
RE-2009-2	2	390 x 250 x 195	19
RE-3009-2	3	390 x 250 x 195	22
RE-4509-2	4	460 x 300 x 220	35
RE-6009-2	6	570 x 317 x 237	44
RE-9009-2	9	570 x 317 x 237	58
RE-12009-2	12	680 x 340 x 240	67
RE-15009-2	15	680 x 340 x 240	69
RE-20009-2	20	740 x 350 x 675	103
RE-25009-2	25	740 x 350 x 675	127
RE-30009-2	30	740 x 350 x 675	154
RE-40009-2	40	740 x 350 x 675	170
RE-50009-2	50	740 x 350 x 675	186

Nomenclature, dimensions and weight for models: 230 V 50 Hz input / 230 V 50 Hz output and ± 15% input range

MODEL	POWER (kVA)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
RET 3-4	3	680 x 340 x 240	32
RET 6-4	6	680 x 340 x 240	61
RET 9-4	9	680 x 340 x 240	68
RET 15-4	15	790 x 410 x 560	80
RET 20-4	20	790 x 410 x 560	117
RET 30-4	30	790 x 410 x 560	164
RET 45-4	45	790 x 410 x 560	225
RET 60-4	60	925 x 425 x 640	260
RET 75-4	75	925 x 425 x 640	317
RET 100-4	100	810 x 640 x 1530	343
RET 125-4	125	810 x 640 x 1530	438
RET 150-4	150	810 x 640 x 1530	650
RET 200-4	200	810 x 640 x 1530	850
RET 250-4	250	810 x 640 x 1530	925

Nomenclature, dimensions and weight for models: 3 x 400 V 50 Hz input / 3 x 400 V 50 Hz output and ± 15% input range

(3) For models with isolation transformer and other configurations, consult

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► EMI: Strength and precision at the service of voltage regulation

Today's industrial processes lie alongside a multitude of loads that we might define as 'difficult' – of marked reactive character, high intensity peaks (e.g.: motors), etc. – and which are also highly sensitive to variations in the power supply voltage.

In these cases, the voltage must be stabilised by using sufficiently strong devices and with suitable overloading capacity to face these loads without hardly needing power over sizing.

If to all of this we add high precision output (up to $\pm 1\%$), the result are the **SALICRU EMI** voltage stabilisers to servo motors, based on continuously adjusting self-transformers and made in a wide range of powers from 2 to 30 kVA in single phase structure and from 6 to 400 kVA in three-phase (higher powers to order).

In the three-phase units it is also possible to choose between common regulation and independent regulation by phase, which gives more precise stabilisation on the loads connected to each of the phases. These are all controlled by a powerful microprocessor system and monitored by a complete synoptic.

► PERFORMANCES

- Great robustness, admitting overloads of up to 1000% of the nominal.
- Output voltage stability better than 1% (adjustable) against static or dynamic variations.
- Control and testing of all the parameters without electro mechanical elements.
- In three-phase units, common regulation or independent by phase, immune to imbalances.
- Input regulation margin of $\pm 15\%$, standard (others to order).
- Output voltmeter, standard.
- Voltmeter switch in three-phase units, standard.
- Automatic transformer on unit output. ⁽¹⁾
- Maximum – minimum output voltage protections. ⁽¹⁾
- Fast speed.
- Efficiency > 95%, smaller operating cost.
- High reliability (long MTBF).
- Nil distortion.
- Wide range of powers.
- Three-phase configuration in star or triangle.
- Silent operation.
- Manual bypass. ⁽¹⁾

(1) Optional



► EMI models



► Three phase equipment synoptic
(Independent phase regulation)

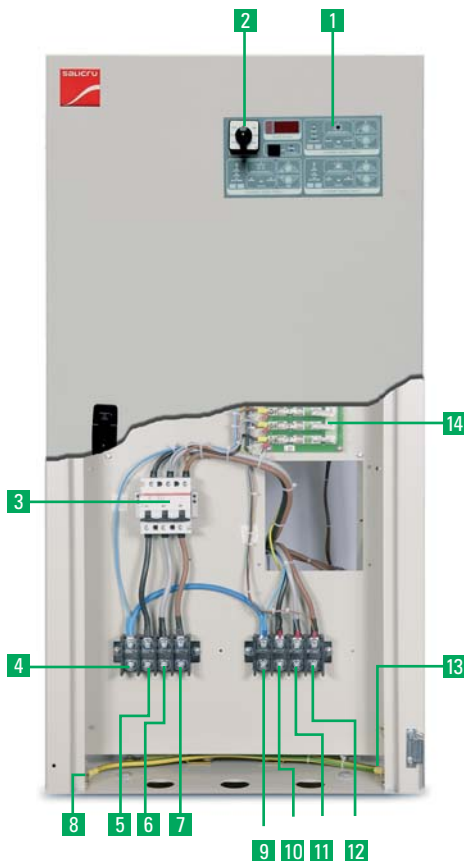
► APPLICATIONS: Effective protection in industrial processes

The present transformation industry profusely uses the so-called machine tools, which most of the time are highly sensitive to variations in their supply voltage: milling machines, grinding machines, presses, lathes, polishing machines, electro erosion machines and a long etc. deal with shaping solid materials.

The activations and the electrical movements, the numerical control, electric ovens or telecommunications repeaters are other applications inherent to this kind of equipment.

► DESCRIPTION

1. Synoptic.
2. Voltmeter voltage selector.
3. Magnetic thermal start/stop switch.
4. N phase input terminal.
5. R phase input terminal.
6. S phase input terminal.
7. T phase input terminal.
8. Ground socket input terminal.
9. N phase output terminal.
10. U phase output terminal.
11. V phase output terminal.
12. W phase output terminal.
13. Linking ground output terminal.
14. Protection against voltage transients.



► Displays and connections

► OPTIONS available

- Separator transformer (T).
- Ultra-isolation transformer.
- Maximum - minimum output voltage protections with manual or automatic reset.
- Magnetic thermal protection on the output.
- Gas discharger.
- Independent regulation by phase.
- Maintenance bypass.
- Caster installation kit.⁽¹⁾

► SERVICES

- Pre-sale and after sales advisory service.
- Multiple formulae of maintenance and telemaintenance.

(1) Up to 35 kVA models as standard.



VOLTAGE STABILISER TO SERVOMOTOR

► TECHNICAL SPECIFICATIONS

MODEL		EMi
INPUT	Single phase voltage	120 V, 220 V, 230 V or 240 V
	Three phase voltage	3 x 208 V, 3 x 220 V, 3 x 230 V, 3 x 240 V, 3 x 380 V, 3 x 400 V or 3 x 415 V
	Regulation range	± 15% ⁽²⁾
	Frequency	48 ÷ 63 Hz
	Power factor	> 0.95
OUTPUT	Single phase voltage	120 V, 220 V, 230 V or 240 V
	Three phase voltage	3 x 208 V, 3 x 220 V, 3 x 230 V, 3 x 240 V, 3 x 380 V, 3 x 400 V or 3 x 415 V
	Accuracy	± 1% selectable
	Output voltage setting	± 5%
	Nominal power	2 kVA up to 400 kVA
	Harmonic distortion	Nil
	Efficiency	> 95%
	Permissible overload (depending on the model)	200% for 2 min, 500% for 10 s, 1000% for 50 ms
	Ambient temperature	- 10° C ÷ + 45° C
	Relative humidity	Up to 95%, non-condensing
GENERALS	Maximum operating altitude	2400 m.a.s.l.
	Mean Time Between Failures (MTBF)	130,000 hours
	Mean Time To Repair (MTTR)	30 minutes
	Acoustic noise level at 1 metre	< 35 dB
	Cooling	Natural or forced depending on the power rate
	Electrical noise attenuation on common mode	With isolation transformer > 40 dB
		With ultra-isolation transformer > 120 dB
	Safety	EN 60950-1
	Electromagnetic Compatibility (EMC)	EN 61000-6-3; EN 61000-6-2
	Marking	CE
STANDARDS	Quality and Environmental management	ISO 9001 and ISO 14001 TÜV

(2) Other ranges under request

► RANGE⁽³⁾

MODEL	POWER (kVA)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
M 2 - 2	2	340 x 240 x 680	26
M 3 - 2	3	340 x 240 x 680	29
M 4 - 2	4.5	340 x 240 x 680	35
M 7 - 2	7	340 x 240 x 680	52
M 9 - 2	9	340 x 240 x 680	54
M 12 - 2	12	390 x 520 x 630	82
M 15 - 2	15	440 x 640 x 635	94
M 20 - 2	20	440 x 640 x 635	117
M 30 - 2	30	440 x 640 x 635	150

Nomenclature, dimensions and weights for models: 230V 50Hz input / 230V 50Hz output and ± 15% input range

MODEL	POWER (kVA)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
T 6 - 4	6	680 x 340 x 240	56
T 9 - 4	9	630 x 390 x 520	81
T 15 - 4	15	630 x 390 x 520	99
T 20 - 4	20	630 x 390 x 520	136
T 27 - 4	27	635 x 440 x 640	157
T 35 - 4	35	805 x 470 x 720	198
T 45 - 4	45	638 x 616 x 1318	272
T 60 - 4	60	638 x 616 x 1318	336
T 75 - 4	75	838 x 616 x 1318	369
T 90 - 4	90	838 x 616 x 1718	384
T 120 - 4	120	838 x 616 x 1718	433
T 150 - 4	150	838 x 616 x 1718	531
T 190 - 4	190	838 x 616 x 1718	633
T 225 - 4	225	838 x 616 x 1718	673
T 300 - 4	300	1038 x 816 x 2118	743
T 400 - 4	400	1038 x 816 x 2118	810

Nomenclature, dimensions and weights for models: 3 x 400V 50Hz input / 3 x 400V 50Hz output, with common regulation and ±15% input range

(3) Consult for independent phase regulation, isolation transformer versions and other configurations

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ARC

CONTINUOUS REGULATION SELF-TRANSFORMERS

► ARC: Leaders in continuous regulation of alternating voltage

SALICRU offers the **ARC** as a cheaper, safer, stronger means of having regulable alternating voltage with high precision, continuously and without interruptions.

Based on **ARC** (Continuous Regulation Self-transformer) blocks, toroidal or in columns, they may be supplied by single phase or three-phase and be powers, for control from a distance, by means of an inertia-free servomotor with double direction turning and instant braking. They may also be made in a frame surround or be portable, and have measuring instruments such as voltmeters and/or ammeters.



► ARC equipment

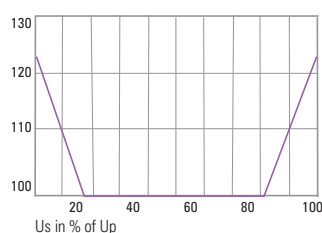
► APPLICATIONS: Precision regulation in industrial processes

It is in industrial processes where most of the **ARC** applications are found. From lighting technique applications, galvanotecnics, galvanoplastia, electrolysis, temperature regulation in electric ovens, speed regulation, electrical tests and controls and voltage regulation, to forming part of practice benches in schools and polytechnic universities; all require precision variation of the output alternating voltage offered by the **ARC**.

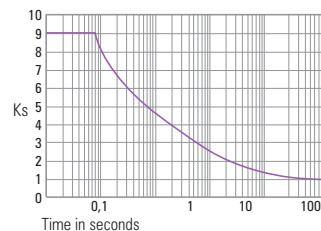
► PERFORMANCES

- Broad margin of input and output voltages, single phase and three-phase.
- Possible single or double regulation in the three-phase systems.
- Linear output voltage, with capacity to take values such as the number of coils in the core of the self-transformer.
- Manual or powered regulation.

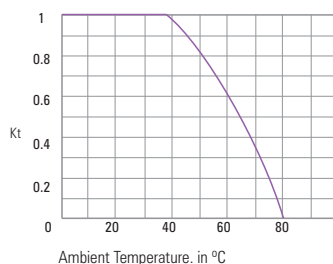
► TECHNICAL CHARACTERISTICS



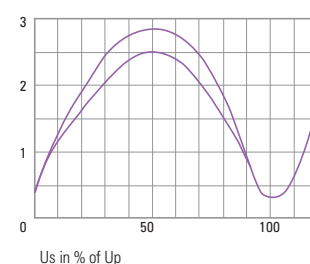
- Maximum current I_{max} that can be supplied for the nominal mains voltage.



- Admissible momentary overloads K_s depending on their duration.



- If they exceed 40° C, the nominal current I_n will be affected by the coefficient K_t .



- Voltage drops in secondary U_s depending on the supply voltage U_p .

► RANGE

Data liable to changes without prior notice

MODEL	TYPE	REGULATION	CONNECTION	Vin (V)	Vout (V)	POWER (kVA)
ARC	Toroidal	Simple	-	230	0 ÷ 250	0.625 ÷ 22
3ARC	Toroidal	Simple	Star	3 x 400 + N	3 x 0 ÷ 440 + N	1.875 ÷ 16.5
C3ARC	Column	Simple	Star	3 x 400 + N	3 x 0 ÷ 440 + N	25 ÷ 160
C3ARC	Column	Double	Delta	3 x 230	3 x (230 ÷ 0 ÷ 230)	2 x 25 ÷ 2 x 160
C3ARC	Column	Double	Delta	3 x 400	3 x (400 ÷ 0 ÷ 400)	2 x 45 ÷ 2 x 280



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NS

ULTRA-ISOLATION TRANSFORMERS

► NS: Much more than isolation

Electrical distribution networks are often disturbed by parasites caused by machines, industrial equipment, switching transitories, storms, vehicles, etc. The noise of network parasites are erroneously dealt with as data, causing deviations in the results obtained by the calculation systems, analysers, electronic instruments, etc.

The **SALICRU NS** series transformers resolve the problems thanks to their triple screening, attenuating the noises from the mains supply (up to 140 dB in common mode).

► PERFORMANCES

- Output frees from electrical noise.
- Triple screen armouring.
- Low coupling capacity.
- High isolation (1000 MΩ)
- High efficiency.
- Silent.
- Models from 300 VA to 9000 VA.

► APPLICATIONS: The perfect isolation

- Computers and peripherals.
- Control of industrial processes
- Electronic instrumentation.
- Communication systems.
- Medical analysers.
- Audio/video records.
- Telemetry.



► NS-6 model

► TECHNICAL SPECIFICATIONS

MODEL		NS
INPUT	Single phase voltage	230 V
	Frequency range	47 ÷ 53 Hz
OUTPUT	Single phase voltage	230 V
	Single phase voltage	140 dB
	Electromagnetic noise at 50 cm distance	0.1 Gauss
GENERALS	Dielectric strength	2500 V minimum
	DC isolation	1000 MΩ
	Permanent permissible overvoltage	110% of nominal
STANDARDS	Shield	Triple
	Safety	EN 61558
	Marking	CE
	Quality and Environmental management	ISO-9001 and ISO 14001 TÜV

Data liable to changes without prior notice.

► RANGE

MODEL	POWER (VA)	DIMENSIONS (D x W x H mm)	WEIGHT (Kg)
NS-3	300	190 x 155 x 155	9
NS-6	600	210 x 155 x 155	11
NS-10	1000	235 x 205 x 155	15
NS-20	2000	290 x 205 x 195	26
NS-30	3000	325 x 205 x 195	33
NS-45	4500	365 x 205 x 195	41
NS-60	6000	385 x 205 x 195	45
NS-90	9000	465 x 305 x 285	100



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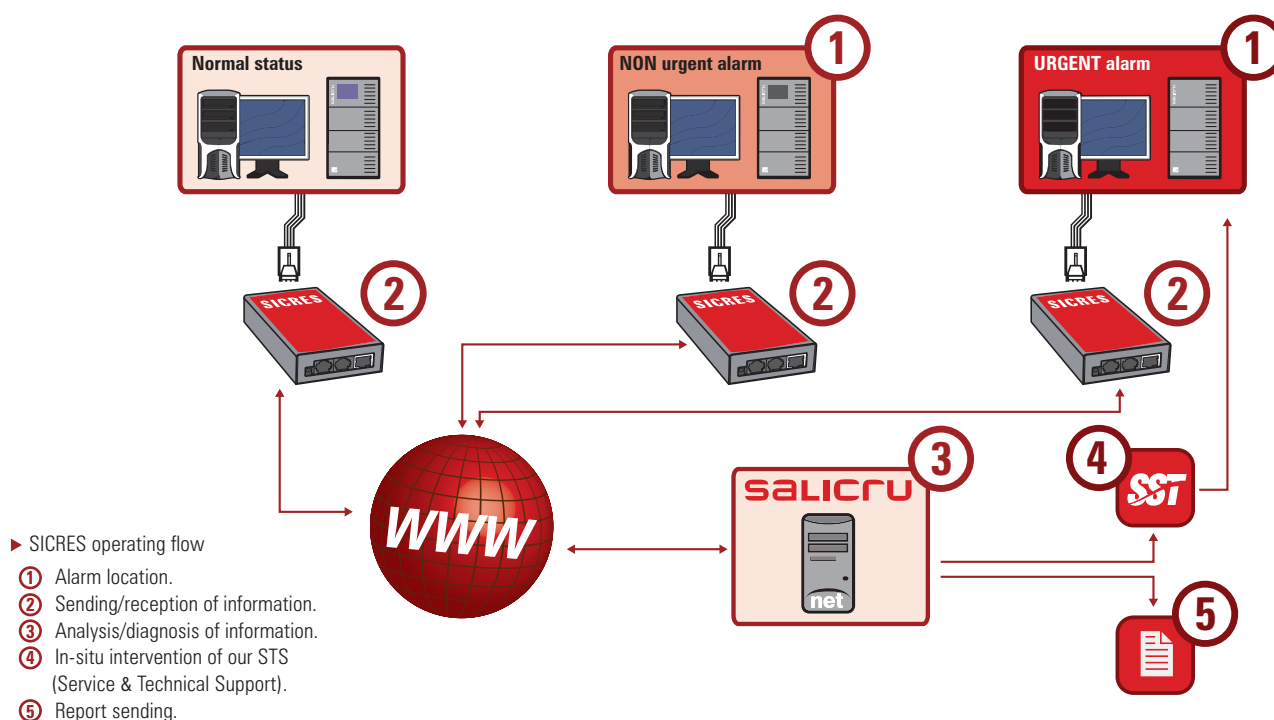
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► SICRES: Complete surveillance of your equipment

The units for protecting and controlling critical loads are normally installed in locations away from the passing or working areas, which prevents information from being obtained on the state and alarms without sending a technician to the place of the installation. Sometimes this lack of information means not having the protection equipment in the best state, causing considerable losses of data, production line downtimes, etc.

To be informed at all times of the state and even anticipate possible faults in the equipment, **SALICRU** offers the **SICRES** solution; the internet telemaintenance service with different forms: **BASIC**, **MEDIUM**, **PREMIUM** and **PREMIUM PLUS**, which will allow the customer to be advised in the event of a fault, the equipment to be monitored via web and to be accessed for control, amongst other things, thus avoiding the unnecessary movement of maintenance personnel and reporting and solving problems before the user notices them.



► ADVANTAGES & services

With the **SICRES** system, you can concentrate entirely on your business and forget about the surveillance and management of your **SALICRU** protection systems. Leave this responsibility in our hands, and work peacefully.

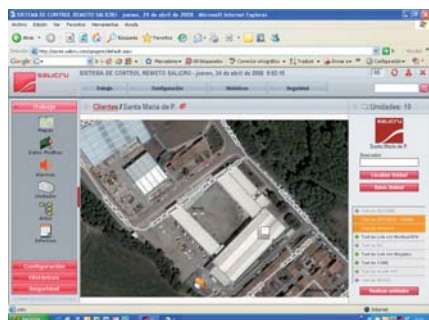
The **SICRES** telemaintenance allows monitoring, analysis and technical support in real time, 24/7 by **SALICRU** professionals, thus reducing the MTTR (mean time to repair) in any unexpected event.

During the monitoring, an events and alarms log is created that allows exhaustive analysis of the equipment, providing valuable information on the operating tendency and thus identifying potential future problems. Likewise, every month a detailed report is sent on the state of the customer's equipment.

For events and/or alarms that the customer considers more important **SICRES** will send electronic mails and SMS messages to instantly report the incident and start the suitable corrective action at the same time.

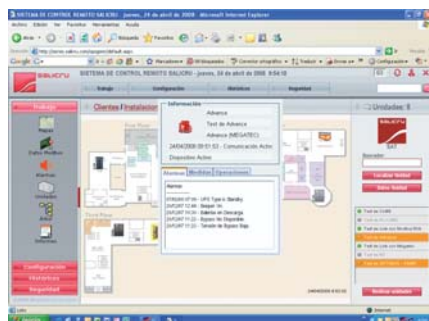
► MONITORING & control

- Personalised screens for perfect unit localisation.



► Equipment location

- Unit alarms and measurements in real time.



► Equipment data

► VERSIONS

- To perfectly integrate **SICRES** in all products of the **SALICRU** range, both current equipment and the previous series, there are two versions:

- **SICRES CARD:** For product ranges with a slot for the **SICRES** card. This avoids having small units around the equipment.

- **SICRES BOX:** When the unit does not have a slot, the **SICRES** adapter can be installed externally.



► SICRES CARD

► SICRES BOX

► FORMS

MODEL	BASIC	MEDIUM	PREMIUM	PREMIUM+
Monitoring from SALICRU	•	•	•	-
Web Monitoring	-	•	•	•
Telephone support	•	•	•	•
Monthly reports	•	•	•	•
Remote access to the unit	-	-	•	•
Customer-owned system	-	-	-	•
SMS sending	•	•	•	•
Electronic mail	•	•	•	•
Technical support on location	•	•	•	•
Maintenance contract	• ⁽¹⁾	• ⁽¹⁾	• ⁽¹⁾	-
Unit parameter adjustment	-	-	•	•

(1) Consult kinds of maintenance contract.

► REQUIREMENTS

- Have a maintenance contract.
- **SICRES SNMP/WEB ADAPTER** compatible with the unit.
- Internet connection.

► COMPATIBILITY

SERIES	SICRES CARD	SICRES BOX	SICRES + SNMP TH GX
SPS.ADVANCE	• ⁽²⁾	•	-
SPS.TOP	-	•	-
SLC LINK	•	•	-
SLC TWIN	•	•	-
UPS NX	-	•	-
SLC NEXT	-	•	-
UPS DL	-	•	-
SLC CUBE	-	•	-
SLC CUBE STR	-	-	•
SLC ELITE	-	-	•
SLC ELITE MAX	-	-	•
ILUEST	-	•	-
ILUEST+	•	•	-
CS IS	-	•	-
OPTIMUS	-	•	-

(2) Equipment ≥ 1500 VA

ADAPTER - SOFTWARE MANAGEMENT AND MONITORING



► SOFTWARE - ADAPTERS: The best complements for a full protected installation

An **Uninterruptible Power Supply (UPS)** is needed to protect electrical installations from disturbance and avoid damage to the loads or loss of data. However, this protection will not be complete until the user has a completely autonomous system that informs them of the status of the UPS and proceeds to perform preconfigured actions.

This system consists of the management and monitoring of the UPS in real time, to allow full remote control of it all times by means of software installed in a PC/Server and/or **Ethernet/SNMP** adapter. **SALICRU** offers this complete solution with the: **UPSMAN**, **UNMS II**, **RCCMD**, **WINPOWER** and **UPSMON** softwares and the different **Ethernet/SNMP** adapters available for each of the UPS series.

► UPSMAN: Complete UPS management

The **UPSMAN** (UPS MANAGEMENT) software manages and monitors a single UPS by means of a PC/Server through RS-232, USB, potential free contact (AS-400) communication or **Ethernet/SNMP**.

To gain full control of the UPS, this enables electronic mails and 'broadcasts' to be sent, automatic UPS and PC/Server start-ups and shut downs to be managed, to have an alarm log, to check the status of the UPS, carry out other applications depending on the circumstances, etc...

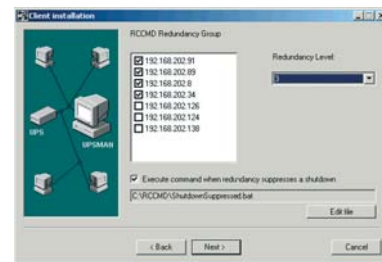
The **UPSMAN** package includes an **RCCMD** software licence.



► RCCMD: Remote shutdown application

It becomes virtually impossible to manage and monitor a UPS in heterogeneous computer networks where different systems converge, for the less common operating system on the market do not have this software. The **RCCMD** is an application that allows the simultaneous and secure shutdown of the different servers or Workstations of 95% of the existing platforms.

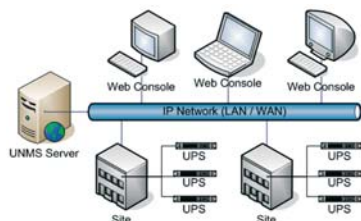
Like the most complete monitoring softwares, the **RCCMD** is capable of launching messages or commands to the different clients of the network.



► UNMS II: Unlimited UPS management

For networks with more than one UPS to feed the and which require monitoring concentration from a single control post, the **UNMS II** (UPS Network Management System) software is the ideal solution. The **UNMS II** allows not only the management of multiple **UPSMAN** installations along a computer network but also of sensors and all devices that have an **Ethernet/SNMP** adapter.

The **UNMS II** has different levels or licences, which depend on the number of UPS to be managed. Except for the basic level, when the **UNMS II** licence is acquired, a screen can be personalised to make the management of all the UPS much easier and intuitive.



► ETHERNET/SNMP Adapters: IP network integration

For the perfect integration of the UPS in the computer network, the best thing is not to depend exclusively on a computer, which is why the **Ethernet/SNMP** (Single Network Management Protocol) adapter enables the UPS to be completely independent without any need to have a PC or server associated.

BOX and **CARD** versions: Allowing the UPS to be integrated in the computer network. Available in box and insertable card version for the intelligent slots of the **SALICRU** equipment. There is also the possibility of connecting temperature and humidity sensors and RS-232 communication with Modbus protocol.

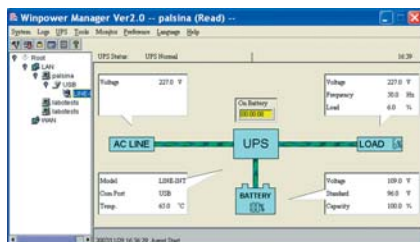


ADAPTER - SOFTWARE

► WINPOWER & UPSMON: The best UPS control

When you have a single work station of a small computer network, the UPS used for their protection are single phase low or medium power, which means they have to be implemented in the system management.

The **WINPOWER** and **UPSMON** softwares allow shutdowns to be monitored and controlled in the PCs where they are installed, and electronic mails, SMS messages or broadcasts to be sent, amongst other functions.



► WINPOWER



► UPSMON

► OPTIONAL

► **SENSORS:** For cases where it is essential to have all the environmental data of the room where the UPS is located, there is a temperature and humidity sensor that allows these data to be included from the monitoring software without resorting to a totally external system. The sensor includes communication cable with the **Ethernet/SNMP** adapter.

► **DISPLAY:** The perfect view of the parameters of the UPS from a distance by means of a display that shows any parameter from the **Ethernet/SNMP**, adapter, **UPSMAN** or **RCCMD** software.



Display size 400 mm x 110 mm.



Display size 1300 mm x 110 mm.



MANAGEMENT & MONITORING

► TECHNICAL CHARACTERISTICS

	SOFTWARE				ETHERNET/SNMP ADAPTERS					
	UPSMAN	RCCMD	WINPOWER	UPSMON	SNMP / WEB ADAPTER					
					TH BOX GX5	TH CARD GX5	BOX GX5	CARD GX5	TH CARD CNT	BOX CNT
Monitoring (software installed in PC)	•	-	•	•	-	-	-	-	-	-
Web Browser viewing	-	-	-	-	•	•	•	•	•	•
RS-232 Communication port	•	-	•	•	-	-	-	-	-	-
USB Communication port	•	-	•	•	-	-	-	-	-	-
Communication by potential-free contacts	•	-	-	-	-	-	-	-	-	-
Ethernet TCP/IP Port	-	-	-	-	•	•	•	•	•	•
Ordered shutdown of the PC /server	•	•	•	•	•	•	•	•	•	•
Sending electronic mails	•	-	•	•	•	•	•	•	•	•
Megatech Protocol	-	-	•	•	•	•	•	•	•	•
SEC Protocol	•	-	-	-	-	-	•	•	-	•
MODBUS Protocol (RS-232 port)	-	-	-	-	•	•	-	-	-	-
SALICRU Protocol	•	-	-	-	•	•	•	•	-	-
Software UPS shutdown	-	-	•	•	-	-	-	-	-	-
Location in UPS slot	-	-	-	-	-	•	-	•	•	-
Monitoring of the main parameters of the UPS	•	-	•	•	•	•	•	•	•	•
Broadcast (window) of warning in the event of alarm	•	-	•	•	-	-	-	-	-	-
Different user/administrator levels	•	-	•	-	•	•	•	•	•	•
Time synchronisation	-	-	-	-	•	•	•	•	-	-
Event log	•	-	•	•	•	•	•	•	•	•
Value log	•	-	•	•	•	•	•	•	•	•
Temperature and humidity sensor connection	-	-	-	-	•	•	-	-	•	-

Data liable to changes without prior notice.

► COMPATIBILITY

SERIES	SOFTWARE				ETHERNET/SNMP ADAPTERS					
	UPSMAN	RCCMD	WINPOWER	UPSMON	SNMP / WEB ADAPTER					
					TH BOX GX5	TH CARD GX5	BOX GX5	CARD GX5	TH CARD CNT	BOX CNT
SPS.HOME	•	•	-	•	-	-	-	-	-	-
SPS.SOH	•	•	•	-	-	-	-	-	-	-
SPS.PRO	•	•	-	-	-	-	-	-	-	-
SPS.ADVANCE	•	•	-	-	•	• (1)	•	• (1)	• (1)	•
SPS.TOP	•	•	-	-	•	-	•	-	-	-
SLC LINK	•	•	-	•	•	•	•	•	•	-
SLC TWIN	•	•	•	-	•	•	•	•	•	•
UPS NX	•	•	-	-	•	-	•	-	-	-
SLC NEXT	•	•	-	-	•	-	•	-	-	-
UPS DL	•	•	-	-	•	-	•	-	-	-
SLC CUBE	•	•	-	-	•	-	•	-	-	-
SLC CUBE STR	•	•	-	-	•	•	•	•	-	-
SLC ELITE	•	•	-	-	•	•	•	•	-	-
SLC ELITE MAX	•	•	-	-	•	•	•	•	-	-

(1) Equipment $\geq 1500VA$

902 48 24 00*
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WWW.SALICRU.COM

SALICRU

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SERVICE & TECHNICAL SUPPORT

(*) Spain only (**) Rest of World

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DELEGATIONS and SERVICE & TECHNICAL SUPPORT (STS)

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GIJÓN	SANTA CRUZ DE TENERIFE
LA CORUÑA	SEVILLA
LAS PALMAS DE G. CANARIA	VALENCIA
MÁLAGA	VALLADOLID
MURCIA	ZARAGOZA

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POLAND	URUGUAY

REST OF WORLD

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DENMARK	PERU
GERMANY	SAUDI ARABIA
GREECE	ALGERIA
HOLLAND	EGYPT
IRELAND	JORDAN
NORWAY	KUWAIT
CZECH REPUBLIC	MOROCCO
SWEDEN	TUNISIA
SWITZERLAND	KAZAKHSTAN
UKRAINE	PAKISTAN
ARGENTINA	PHILIPPINES
BRAZIL	INDONESIA
CHILE	MALAYSIA
COLOMBIA	THAILAND

Product Range

Uninterruptible Power Supply (UPS)
Voltage Stabilisers and Power Line Conditioners
Switch Mode Power Supply
Industrial Power Supply
Lighting Flow Dimmer Stabilisers
Static Inverters

