OUR SOLUTIONS

(AMERICAN VOLTAGE)

ALWAYS ENERGY

salicru

ENERGY EFFICIENT SOLUTIONS

Over the past 60 years, **Salicru** has been able to adapt to the evolution of the power electronics market and constantly develop in all of its business areas. This has enabled the company to become **a leading centre of technological transfer** in the field of security electronics, as a way of **responding to the new challenges and needs of society,** with the main mission to guarantee a continuous, clean, economical, reliable and ecological electricity supply to its customers.

SOLUTIONS

To ensure energy availability, at **Salicru** we offer the following solutions:

Uninterruptible Power Supply systems (UPS)	Integrated solar solutions	Variable frequency drives (VFD)	Power supplies and inverters	Transformers and autotransformers	Voltage stabilisers
Electrical protection with backup for all kinds of critical environments	Generation of AC voltage with inverters and energy management devices	Efficient control of any application driven by asynchronous motors	Solutions AC/DC, AC/AC, DC/AC and DC/DC	Voltage adjustment in generation, transmission and distribution	Regulation of the input voltage of the power supply

MARKETS

With our products and services, we are present in the domestic, corporate, industrial, infrastructure, telecommunications, railway, electricity and renewable energy markets, also operating through the electrical and IT channels.

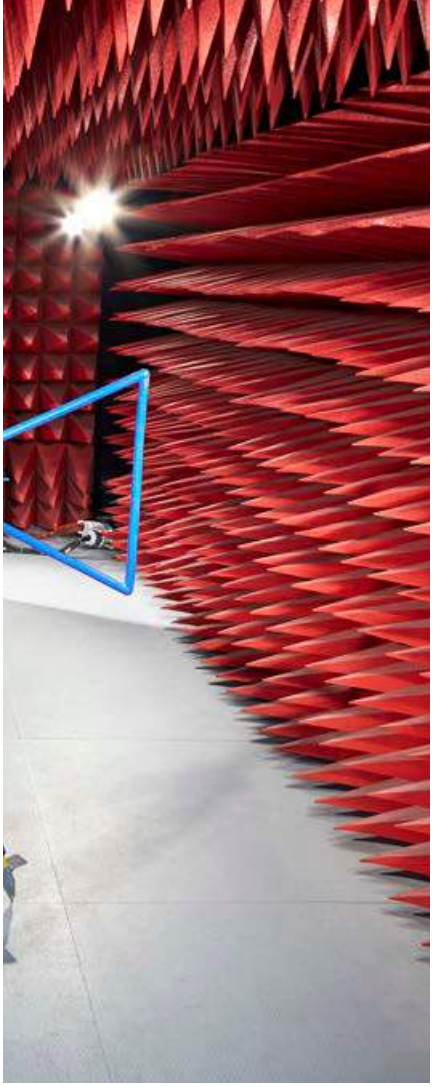
We lead each of the segments in which we operate with our products within the Spanish manufacturing sector, especially in Uninterruptible Power Supply (UPS) systems, a segment in which we introduced the first prototype in Spain in 1973.

We manufacture at our headquarters in Santa Maria de Palautordera (Barcelona) and distribute from there and from our offices in Madrid, Valencia, Bilbao, Alicante, Malaga, the Balearic Islands, the Canary Islands, Zaragoza, Galicia, Asturias and Seville.

Thanks to a **half-century strategy of internationalisation**, we are present in more than 130 countries, with a strong presence in the markets of Europe, Africa, Asia Pacific and South America.

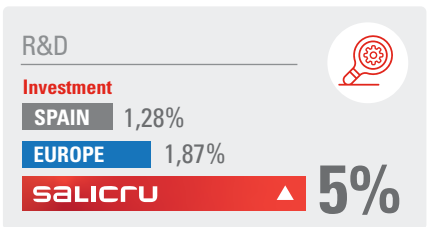
At **Salicru**, we understand that each customer is unique and has specific needs, which is why **we also offer tailor-made solutions** designed to perfectly adapt to each requirement. From initial assessment to final implementation, our team of experts works with the customer to create a customised solution that guarantees the continuity and security of all their energy at all times.

+130 COUNTRIES
with installed devices



R&D in our DNA

Our mission is to ensure energy availability with the highest level of quality and reliability. In order to always offer new solutions and products to our customers, at Salicru we never stop researching and innovating, and **we allocate 5% of our turnover to Research and Technological Development** (R&D), four times more than the Spanish average and almost triple the European average.



Research, development and technological innovation are **our industrial growth strategy**. Through different lines of action, we constantly reinforce our activity in this area, with the aim of promoting a continuous process of improvement in our products and services.

In this way, we enhance **new technological skills** and position ourselves at the forefront of the sector, anticipating future challenges and opportunities.

Like other priorities in the service area, at Salicru we focus on the **continuous training of customers, distributors and technical field staff**.

Having a **Connected Software** department has enabled us to achieve maximum autonomy and excellence in this field by developing connectivity applications that allow us to manage our solutions in an intuitive and accessible way, with full security and an in-house data policy.

By consolidating the specialisation of our team, our **greatest differential value**, with its extensive knowledge of the market and its problems, **we also consolidate all the solutions needed** to contribute in each situation, making us the perfectally.

SINCE 1965
industrial activity

ENERGY EFFICIENCY

Saving energy and reducing our carbon footprint are key to cutting energy consumption and maintaining services without compromising comfort and quality of life, while protecting the environment and promoting sustainable behaviour in energy use.

Energy efficiency is a business value that increases competitiveness, as it contributes to the optimisation of processes and associated facilities. As a business strategy, a set of new energy-saving applications and technologies is also being implemented in the manufacturing process of all products.

COMMITTED TO GROWTH

At Salicru, we are committed to business excellence and sustainable development, values that we fully share with the **CRE100DO Foundation** of the Spanish middle market, whose objective is to stimulate growth, innovation and cooperation between strategic sectors. We also participate in the **Forum of Renowned Spanish Brands** (FMRE), a strategic alliance created to defend the importance of branding and internationalisation.

SERVICE

Our more than 60 years of experience in the power electronics sector is not only reflected in a wide range of products, but also extends to a broad spectrum of services. **One of our main pillars is Salicru Services**, implemented at the company's headquarters and in its national and international offices. This structure allows us to be closer to our customers and enables us to respond immediately to any need.

We offer remote connection and equipment monitoring directly from our headquarters, for predictive maintenance and a rapid response to any incidents.

+160.000 EQUIPMENTS
production per year

+2.000.000 EQUIPMENTS
in operation worldwide

200 MVA/YEAR
safe power supply

ISO 9001
Quality

ISO 14001
Environment

ISO 45001
Safety and health

UNIQUE PROJECTS

Our reputation and experience have led us to participate in projects that, due to their characteristics, can be considered singular. We have carried out various types of work in collaboration with other clients, including the following notable examples.

- Electrical guarantee for Spotify Camp Nou
- Electrical protection for Gewan Island and Neom Islands (Qatar)
- Offices and ATMs of the Bank of Riyadh (Saudi Arabia)
- Lighting for access to the Great Wall of China (China)
- Lighting and security protection for the Pyramids of Giza and the temples of Luxor (Egypt)
- Energy coverage for railway network stations (Sweden)
- Energy coverage for all high-speed rail lines AVE (Spain)
- Madrid and Bilbao Metro (Spain)
- Electrical protection for Charles de Gaulle Airport (France)
- Power supply for the Pepsico production plant (Pakistan)
- Energy guarantee equipment for the Aviation Authority control centres in Dublin and Shannon (Ireland)
- Lighting for Barcelona Airport, Torres Mega (Spain)
- Electrical backup for the Echelon data centre network (Ireland)
- Video signal protection for television broadcasts in 1st and 2nd division football stadiums (Spain)
- Photovoltaic power supply for the 'Galápagos con luz propia' project in the Galápagos Islands (Ecuador)
- Power supply for the Oxigen Data Centre (Spain)
- Protection of public lighting in the main municipalities of Tunisia (Tunisia)
- Protection for the 2015 Africa Cup of Nations (Equatorial Guinea and Gabon)
- Power supply for engine control equipment at the AIRBUS plant in Bremen (Germany)
- Energy coverage for all Ferrocarrils de la Generalitat de Catalunya railway junctions (Spain)
- Prototype of Ferrolinera, a device for transforming DC from commuter and high-speed rail catenaries to power stations, substations and electric charging points (Spain)
- CaixaBank electrical network protection (Spain)
- Emergency power supply to turbines on the Spanish Navy's F-100 frigates (Spain)
- TRAC project for rural cellular access (Spain)
- Protection of the traffic light system in Barcelona and Zaragoza (Spain)
- Collaboration on the Smart City Project of the Rivas Vaciamadrid City Council with the protection of public lighting (Spain)

1965

Manufacturas
SALICRU

1968

SALICRU

1971

SALICRU®

1973

SALICRU

1982

SALICRU, S/A

1987

SALICRU, S.A.

1997

SALICRU
ELECTRONICS

2000

salicru

2005

salicru

Table of contents

Energy efficient solutions p. 1
Table of contents p. 7

Uninterruptible power supplies (UPS)

SPS PC p. 8
SPS ONE A UL p. 12
SLC TWIN PRO2 A p. 16
SLC TWIN PRO2 T UL p. 20
SLC TWIN RT2 A p. 24
SLC TWIN RT2 T UL p. 28
SLC CUBE3+ A p. 32
SLC ADAPT2 A 6/9 kVA p. 36
SLC ADAPT2 A 14/30 kVA p. 40
SLC ADAPT H p. 44
SLC X-PERT p. 48
SLC X-TRA p. 52
CF CUBE3+ A p. 56
SOFTWARES USB / RS-232 p. 60
ETHERNET / SNMP NETWORK CARDS / NIMBUS CLOUD p. 62
UBT p. 66
BACS p. 70

Solar inverters

EQUINOX APP & WEB PORTAL p. 74
SLC Energy Manager p. 76
EQUINOX2 T A p. 80
EQUINOX2 T p. 84

DC systems

DC POWER-S p. 86
DC POWER-SD p. 90
DC POWER-L p. 94
DC POWER-L 12P p. 98
CS-IS p. 102

Transformers and Autotransformers

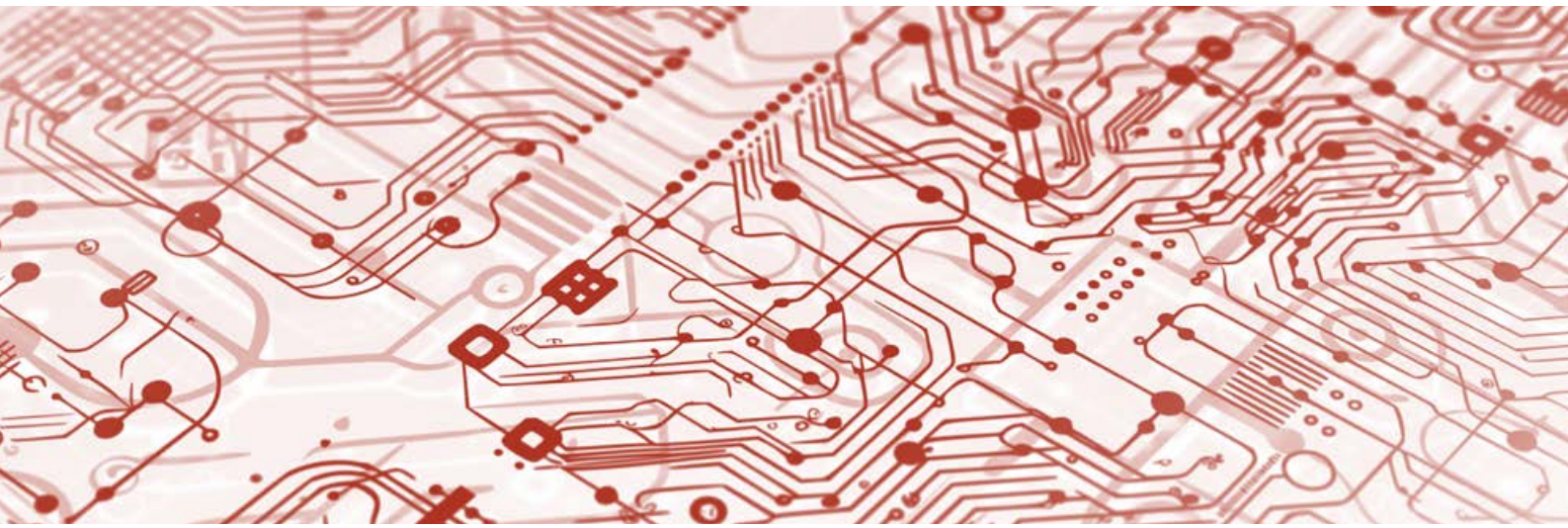
IT p. 104

Voltage Stabilisers

RE3 A p. 106
EMi3 A p. 110

Surge Protective Device

SCP 50 p. 114
SCP 80 p. 116
SCP 100 p. 118
SCP 160 p. 120
SCP 200 p. 122



SPS PC

UPS 600 to 1250 VA with AVR

SPS PC: The 'best value' option for home and professional computing environments

Salicru's **SPS PC** series is an Uninterruptible Power Supply (UPS) system featuring Line-interactive technology which provides the best protection solution for equipment and information within home and professional (small businesses, offices, shops, etc.) computing environments.

Its use of AVR Boost&Buck technology, which enables permanent stabilisation of power supply voltage, provides the dual benefit of ensuring better care of connected loads and reducing use of the UPS's batteries. And, in the event of an input power outage, it provides battery power to keep the equipment operating.

The **SPS PC** series is available between 600 and 1250 VA power ratings for 120V or 230V input/output voltages.

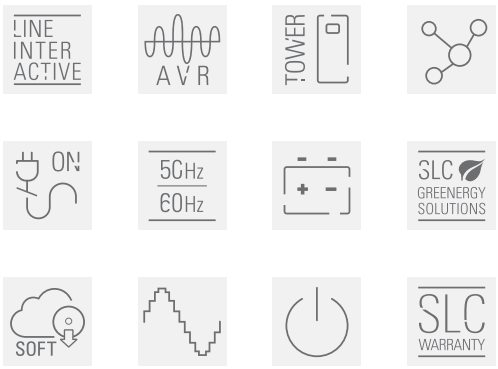
Applications: The best option to protect computer systems in homes, offices and shops

As the popularity and use of computer systems in homes, small offices and businesses grows, and the information processed and stored by them increases in value, their protection by means of a UPS system, such as Salicru's **SPS PC** series, has become essential.

It is the ideal protection for point of sale (POS) terminals, workstations, network devices, company telephone systems and all peripherals associated with these environments.

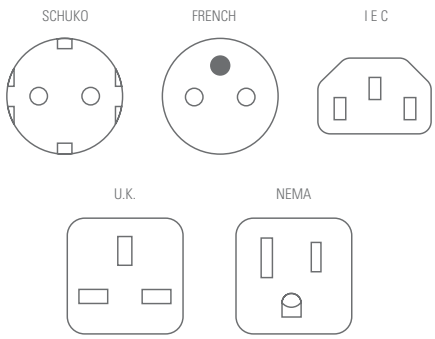
Performances

· Line-interactive technology.
· Microprocessor control guaranteeing high reliability.
· AVR Boost&Buck permanent stabilisation.
· A single on/off switch for easier and more convenient use.
· Smart battery charger to shorten average recharging times.
· Battery recharging with equipment turned off.
· Battery-powered cold-start function.
· Automatic restart when input voltage restored.
· USB communication interface + Monitoring software (optional).
· Automatic loading even when the equipment is stopped.



Available sockets

Versions available for Schuko, Nema, IEC, UK or french socket power outlets.



Salicru warranty

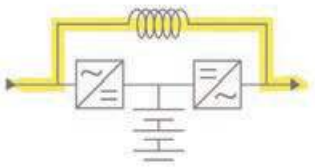
· UPS management and monitoring software for closing files and applications, compatible with Windows, Linux, Unix and Mac. Free to download from www.salicru.com.

Mac Linux Windows

Operating modes

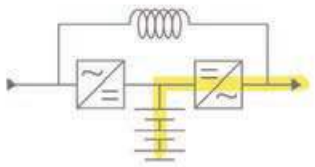
Line-interactive

The UPS stabilizes input voltage to regulate a fixed output voltage.



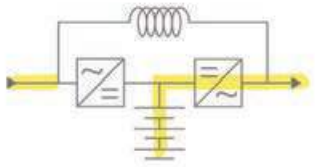
Batteries

In the event of power failure, the batteries are used as a reserve power supply.



Bypass voltage out of range

If the input voltage is out of tolerable range, the equipment will be powered by batteries.



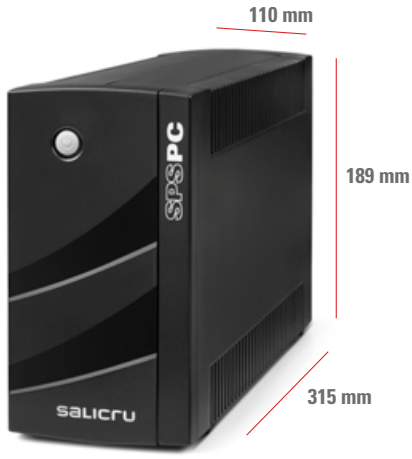
Range

MODELS 230 V	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SPS 650 PC	650 / 360	252 × 84 × 158	3.9
SPS 850 PC	850 / 480	252 × 84 × 158	4.2
SPS 1000 PC	1000 / 600	315 × 110 × 189	6.9

MODELS 120 V	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SPS 600 PC A	600 / 300	252 × 84 × 158	3.9
SPS 750 PC A	750 / 390	252 × 84 × 158	4.2
SPS 1250 PC A	1250 / 625	315 × 110 × 189	6.9

Dimensions

SPS 650/850 PC
SPS 600/750 PC A



SPS 1000 PC
SPS 1250 PC A

Connections

SPS 650/850 PC
SPS 600/750 PC A

SPS 1000 PC
SPS 1250 PC A

1. AC input.
2. Socket output (NEMA 5-15R, Schuko, IEC, UK or french socket).
3. Thermal rearmable input.
4. USB port (optional).

Technical specifications

MODEL		SPS PC 230 V	SPS PC A 120 V
TECHNOLOGY		Line-interactive	
INPUT	Rated voltage	220-240 V AC	110-120 V AC
	Voltage range	162-290 V AC	82-148 V AC
	Stabiliser	AVR Buck / Boost	
	Rated frequency	50 / 60 Hz	
	Auto~detection of frequency	Yes	
	Protection	Thermal re-arm or fuse (depending on model)	
OUTPUT	Rated voltage	220-240 V AC	110-120 V AC
	Waveform (battery mode)	Simulated sineware	
	Frequency	50 / 60 Hz ± 1 Hz(1)	
	Transfer time	4 ms	
	Socket type	Schuko, NEMA 5-15R, IEC, UK or french socket	
BATTERY	Battery type	Enclosed batteries Pb-Ca without maintenance, sealed, useful life 3-5 years	
	Recharge time	8 hours untill 90% capacity	
	User replaceable battery	Yes	
COMMUNICATION	Ports	USB(2)	
	Monitoring software	Compatible with Windows, Linux, Unix and Mac(2)	
	Downloadable from	support.salicru.com	
INDICATIONS	Mains present	Yes	
	Failure	Yes	
OTHER FUNCTIONS	Cold start (start-up from batteries)	Yes	
	Automatic restart	Yes, after the end of back up time	
	Autotest	On each start-up	
GENERAL	Operating temperature	0º C ÷ + 40º C	
	Relative humidity	Untill 90%, without condensation	
	Maxium operating altitude	2,400 m.s.n.m.	
	Acoustic noise at 1 metre	< 40 dB	
STANDARDS	Safety	EN-IEC 62040-1	
	Electromagnetic compatibility (EMC)	EN-IEC 62040-2	
	Quality and environmental management	ISO 9001, ISO 14001, ISO 45001	

(1) Battery mode
(2) Optional

SPS ONE A UL

Line-interactive UPS 450 to 2000 VA

SPS ONE A UL: The best electrical protection for home and professional office

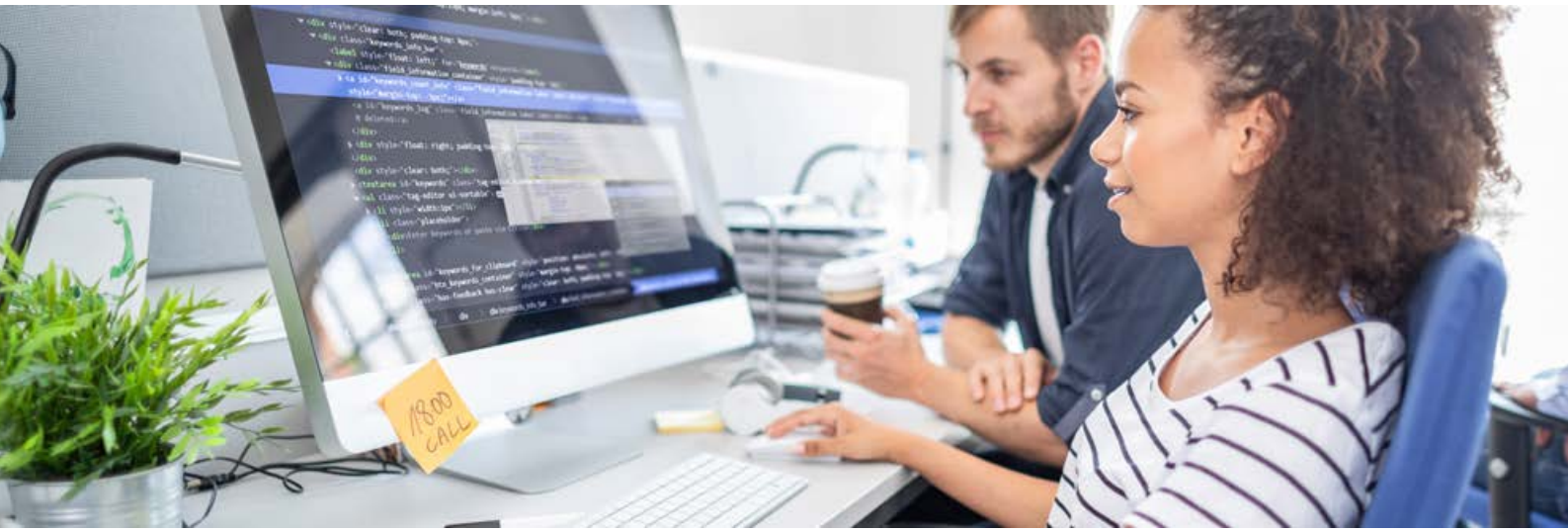
An uninterruptible power supply (UPS) in a mini tower format with Line-interactive topology, Salicru's **SPS ONE A UL** series provides battery backup (with pseudo sine wave inverter output) and overload protection. During power failures, **SPS ONE A UL** devices provide battery backup to enable computer systems to shut down properly and protect against data loss and electronics damage. Operation through automatic voltage regulation (AVR) to correct small voltage fluctuations without having to use the battery, thus extending its life. The AVR function is essential in areas where voltage fluctuations occur frequently.

It features a UPS/PC communication interface via USB with HID protocol, which allows parameter setting, UPS control and shutdown or hibernation of the computer through the USB port. Compatible with Windows, Linux and Mac operating systems. UPS management and monitoring software is also available for closing files/applications for Windows, Linux and Mac families. Free and downloadable from www.salicru.com.

The **SPS ONE A UL** series is available in 450, 650, 850, 1000,1500 and 2000 VA power ratings.

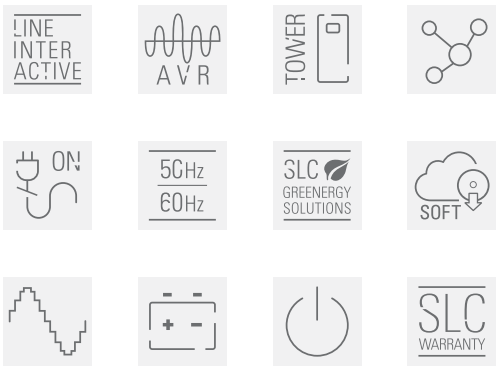
Applications: Essential security to ensure the continuity of typical office computing tasks.

The numerous computer and multimedia devices we have in our homes, offices and small businesses hold large amounts of personal and professional files and data. All of these systems, however, are highly dependent on one thing: a good quality, stable power supply to ensure that they can be used and enjoyed without interruption. The best solution to prevent interruptions, damage or data loss is the protection provided by a UPS from Salicru's **SPS ONE A UL** series.



Performances

- Line-interactive technology.
- Backup battery for power supply interruptions.
- Overvoltage protection for sensitive devices.
- Automatic voltage stabilisation (AVR)
- Pseudo sine wave output voltage.
- USB interface with HID protocol for all models.
- Management and monitoring software for Windows, Linux and Mac.
- A single on/off button for ease of use.
- LED status indications.
- Automatic restart when power supply restored.
- Compact mini tower format.
- Protection against overloads, short circuits and transients.
- SLC Greenergy solution.



Interface USB con protocolo HID

- Configuración de parámetros, control del SAI y cierre/hibernación del ordenador a través del puerto USB.
- Disponible para entornos Windows, Linux y Mac.

Mac Linux Windows

Software

- Monitorización del SAI y cierre ordenado de ficheros/aplicaciones para familias Windows, Linux y Mac.
- Gratuito y descargable desde www.salicru.com.

Garantía Salicru

- Registro on-line en support.salicru.com.
- Reposición del producto en la oficina/domicilio del usuario. (1)
- Baterías cubiertas por la garantía.

(1) Consultar países con este servicio.

Range

MODEL	CODE	POWER (VA / W)	NO. OF SOCKETS	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SPS 450 ONE A UL	662AF000023	450 / 240	4	279 × 101 × 142	3.55
SPS 650 ONE A UL	662AF000024	650 / 360	4	279 × 101 × 142	4.2
SPS 850 ONE A UL	662AF000022	850 / 480	4	279 × 101 × 142	4.9
SPS 1000 ONE A UL	662AF000025	1000 / 600	6	320 × 130 × 182	8.2
SPS 1500 ONE A UL	662AF000026	1500 / 900	8	320 × 130 × 182	10.4
SPS 2000 ONE A UL	662AF000027	2000 / 1200	8	320 × 130 × 182	11

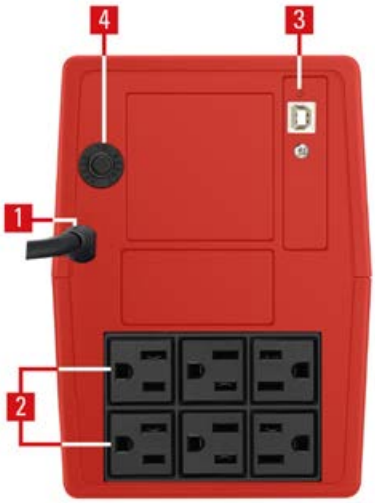
Dimensions

SPS 450÷850 ONE A UL

SPS 1000÷2000 ONE A UL

Connections

SPS 450÷850 ONE A UL



SPS 1000 ONE A UL

SPS 1500/2000 ONE A UL

1. AC input.
2. UPS sockets NEMA 5-15R type.
3. USB port.
4. Thermal cutoff or fuse input (according to model).

Technical specifications

MODEL		SPS ONE A UL
TECHNOLOGY		Line-interactive
FORMAT		Tower
INPUT	Rated voltage	120 V AC
	Voltage range	Until 89 V ÷ 145 V ±5%
	Stabiliser	AVR Buck / Boost
	Rated frequency	50 / 60 Hz
	Auto~detection of frequency	Yes
	Protection	Thermal re-arm or fuse (depending on model)
OUTPUT	Rated voltage	120 V AC
	Voltage accuracy (battery mode)	±10%
	Waveform (battery mode)	Simulated sineware
	Frequency	50 / 60 Hz
	Transfer time	2 / 6 ms
	Socket type	NEMA 5-15R
BATTERY	Battery type	Enclosed batteries Pb-Ca without maintenance, sealed, design life 3-5 years
	Recharge time	4-6 hours until 90% capacity
	User replaceable battery	Yes
	Back up time	Up to 20 minutes
	Battery replacement alarm	Yes
COMMUNICATION	Ports	USB HID
	Monitoring software	Compatible with Windows, Linux, Unix and Mac
	Downloadable from	support.salicru.com
INDICATIONS	Type	LED
	Operating modes	Normal / Stabilisation (AVR) / Battery
	Mains present	Green LED
	Alarm	Output battery mode, low battery (back up time), charger failure and overload
	Audible	Every 10 s for battery operation. Every 1 s for low battery. Every 0.5 s for overcharge. Continuous for fault 0.5 s for battery replacement.
	Failure	Red LED
OTHER FUNCTIONS	Cold start (start-up from batteries)	Yes
	Automatic restart	Yes, after the end of back up time
GENERAL	Operating temperature	0º C ÷ + 40º C
	Relative humidity	Utill 90%, without condensation
	Maxium operating altitude	2,400 masl
	Acoustic noise at 1 metre	< 40 dB
STANDARDS	Safety	UL 1778 & CSA C22.2
	Electromagnetic compatibility (EMC)	FCC part 15 Subpart B
	Operation	EN 62040-3
	Quality and environmental management	ISO 9001, ISO 14001, ISO 45001

SLC TWIN PRO2 A

On-line double-conversion UPS 1000 VA to 3000 VA

SLC TWIN PRO2 A: Advanced on-line protection for sensitive and critical loads

Salicru's **SLC TWIN PRO2 A** series is a UPS range in a tower format equipped with on-line double-conversion technology and the latest features to make it an advanced protection system for sensitive and critical loads.

High output power factor to ensure availability to all types of loads. Full control through status information via LCD display and keypad. And extensive monitoring and communication options via the built-in USB HID interface, an intelligent slot for SNMP cards or relays and a wide range of software packages available – free monitoring version downloadable for Windows, Linux, Unix or Mac and packages available for multi servers or virtualised systems.

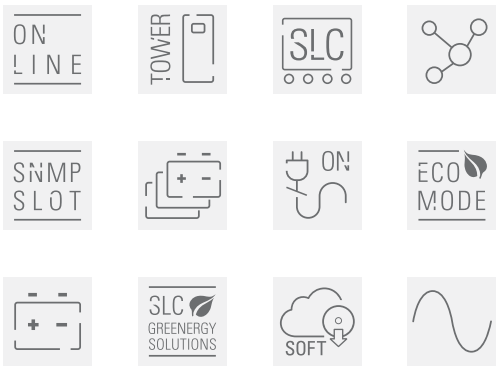
For facilities that require more back-up time, there is a possibility of backup extensions using UPSs with extra charger and additional battery modules. Also notable is the possibility of Eco-mode operation to improve the efficiency of the device, EPO (emergency power off) functions, operation as a frequency converter and built-in battery test.

Applications: High-performance features for single-phase environments of up to 3 kVA

Power supply failures in IT systems can cause losses as a result of downtime and the time taken to restore the system to normal operation, and damage to network hardware. Many other disturbances (micro power outages, voltage fluctuations, frequency variations, harmonics, transients, etc.) can also cause IT environments to malfunction.

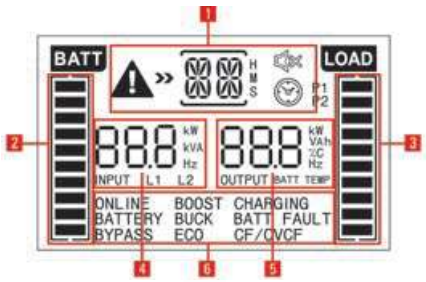
Performances

- On-line double-conversion technology.
- Output power factor PF=1 (1000 VA), FP= 0,9 (2000/3000 VA).
- Control panel with LCD screen and keypad.
- Tower format.
- Backup extensions available for all power ratings.
- UPS models with extra charger for backup extensions.
- USB HID interface for all models as standard.
- Downloadable monitoring software for Windows, Linux, Unix and Mac.
- Intelligent slot for SNMP/relays.
- Eco-mode operation.
- Automatic frequency detector.
- Frequency conversion function.
- EPO – emergency power off.
- NEMA sockets available.
- Manual and/or automatic programmable battery test.
- Smart battery charger to shorten average recharging times.
- Battery recharging with device turned off.
- SLC Greenergy solution.



Display

1. Configuration values, fault codes and remaining autonomy.
2. Level of battery available.
3. Level of load connected.
4. Values for the input (current, voltage and frequency).
5. Values for the output and battery (current, voltage and frequency).
6. Settings mode.



Communications

- **USB HID UPS:** Enables control, parameter configuration and computer shutdown/ hibernation via the USB port. Available for Windows, Linux and Mac.
- UPS monitoring and management software for closing files/applications in Windows, Linux, Unix and Mac environments. Free and downloadable from www.salicru.com.
- Intelligent slot for connecting SNMP or optocoupler cards.

Mac Linux Windows

UL and FCC certifications

SLC TWIN PRO2 A series are certified for CANADA and USA markets.

c UL us LISTED UPS E519374

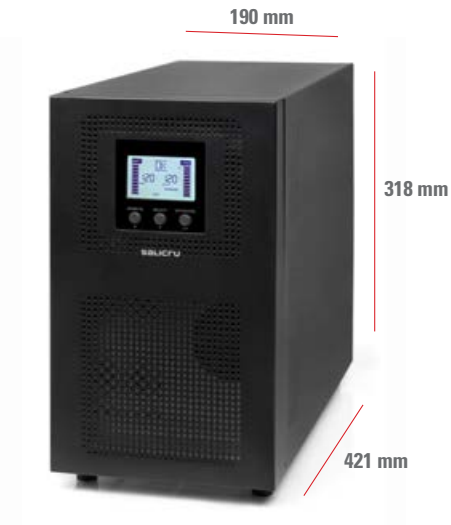
FC

Range

MODEL	CODE	POWER (VA / W)	NO. OF SOCKETS	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC-1000-TWIN PRO2 A	699DA000001	1000 / 1000	6xNEMA 5-15R	397 × 145 × 220	13
SLC-2000-TWIN PRO2 A	699DA000003	2000 / 1800	8xNEMA 5-20R	421 × 190 × 318	20.3
SLC-3000-TWIN PRO2 A	699DA000005	3000 / 2700	8x5-20R + 1x5-30R	421 × 190 × 318	28

Dimensions

SLC 1000 TWIN PRO2 A



SLC 2000/3000 TWIN PRO2 A

Connections

SLC 1000 TWIN PRO2 A

SLC 2000 TWIN PRO2 A

SLC 3000 TWIN PRO2 A

1. Input cable NEMA 5-15P plug for 1000VA model, NEMA 5-20P for 2000VA model and NEMA L5-30P for 3000VA.
2. Output sockets, programmable critical/non-critical, NEMA 5-15R type for 1000VA model and NEMA 5-20R type for 2000-3000VA models, (10A max).
3. 30A max. outlet, NEMA 5-30R (for 3000 VA model).
4. Connection for battery module (only in models with extra charger).
5. Smart slot for SNMP/potential-free contacts/MODBUS.
6. Emergency stop (EPO).
7. USB interface.
8. RS-232 interface.
9. ADSL/fax/modem transient protector.

Technical specifications

MODEL		SLC TWIN PRO2 A
TECHNOLOGY		On-line double-conversion
FORMAT		Tower
INPUT	Rated voltage	100 / 110 / 115 / 120 / 127 V AC
	Voltage range 100% load	87 ÷ 150 V
	Voltage range 40% load	55 ÷ 150 V
	Rated frequency	50 / 60 Hz (auto-detection)
	Frequency range	±10 Hz
	Power factor	> 0,99 at full load
OUTPUT	Power factor	1 (1000 VA) / 0,9 (2000/3000 VA)
	Waveform	Pure sine wave
	Rated voltage	100 / 110 / 115 / 120 / 127 V AC
	Voltage accuracy	±1%
	Total harmonic distortion (THDv)	< 2% linear load
	Synchronised frequency	±3 Hz
	Frequency accuracy (battery mode)	±0,1Hz
	Synchronous speed	1 Hz/sec.
	On-line performance	> 89%
	Eco-mode performance	> 97,2 %
	Admissible overloads in battery mode	110% constant / 130% for 2 min / 140% for 1.5 s
	Admissible overloads in bypass mode	130% constant / 180% for 60 s
	Admissible overloads in-line mode	110% constant / 130% for 5 min / 140% for 1.5 s
	Available socket formats	NEMA
BATTERY	Protection	Against power surges, undervoltages and alternating current components
	Battery type	Pb-Ca sealed, AGM, maintenance-free
	Charge type	I/U (constant current/constant voltage)
	Recharge time	4 hours to 90 %.
	Battery test	Manual and/or automatic programmable
COMMUNICATION	Ports	USB-HID / RS-232
	Intelligent slot	Slot for SNMP/potential-free contacts/ MODBUS
	Monitoring software	ViewPower
OPERATING MODES	On-line double-conversion	Yes
	Eco-mode	Yes
	Frequency converter (CVCF)	Yes(1)
GENERAL	Operating temperature	0° C ÷ +40° C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2,400 masl (power degradation up to 5,000 m)
	Acoustic noise at 1 metre	< 49 dB (100 % charge) / < 41 dB (60 % charge)
STANDARDS	Safety	IEC 62040-1 / UL1778 5th edition / CSA C22.2
	Electromagnetic compatibility (EMC)	IEC 62040-2 / CFR47 FCC Part15, Subpart B, Class A
	Operation	VFI-SS-11 (EN-62040-3)
	Quality and environmental management	ISO 9001, ISO 14001, ISO 45001

(1) up to 60% of the load

SLC TWIN PRO2 T UL

On-line double conversion UPS 6 and 10 kVA with PF=1

SLC TWIN PRO2 T UL: Enhanced protection for mid-range systems with single-phase power supply

Salicru's **SLC TWIN PRO2 T UL** series UPS systems feature on-line double conversion technology, currently the most advanced for the protection of critical systems as it provides a fully stabilised and filtered sinusoidal supply voltage. The systems come in a tower format and are available in power ratings of 6 and 10 kVA.

The Salicru **SLC TWIN PRO2 T UL**'s with monophasic or biphasic input, it has an output transformer with a medium socket (220/120 VAC). They provide a unit output power factor, the most optimal for systems and environments with high energy needs. Adaptability is another important feature thanks to the numerous operating modes available: On-line, Batteries, Eco-mode, Bypass, Frequency converter and Parallel redundant.

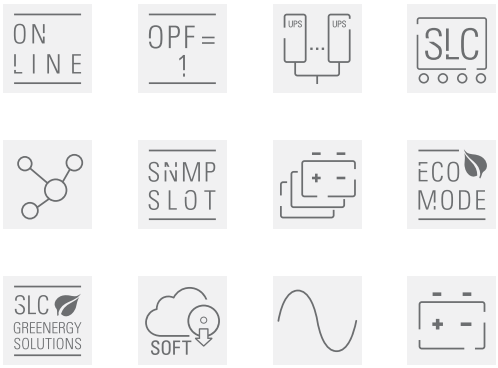
The possibilities of control and monitoring are varied: on the one hand, an LCD display + keypad for local operation of the device, and, on the other, various communication options (USB and RS-232 interfaces, and slot for SNMP, RS-485 and AS-400 cards) that enable the UPS to be integrated into standard or virtualised platforms for management, incident notification and remote maintenance.

Applications: Maximum continuity protection for sensitive and critical systems

Salicru's **SLC TWIN PRO2 T UL** series is the best option for providing a secure power supply to ERP systems, Business Intelligence, CRM solutions, intranets/extranets and corporate networks in the event of a wide range of possible disturbances (micro power outages, voltage fluctuations, frequency variations, harmonics, transients, etc.), which can cause irreparable damage or incur high costs in all of these critical systems.

Performances

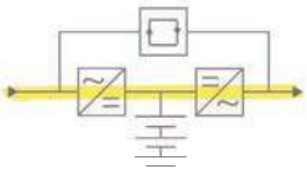
· On-line double conversion and DSP control technology.
· Output power factor PF=1.
· Compact tower format for space saving.
· Active power factor corrector for all input phases.
· Multiple operating modes for better adaptability.
· Equipped for parallel operation as standard, up to 3 devices.
· USB and RS-232 interface for all models as standard.
· Monitoring software for Windows, Linux, Unix and Mac (downloadable).
· Intelligent slot for SNMP/RS-485/optocoupler cards.
· Eco-mode operation for increased efficiency.
· Backup extensions available for all power ratings.
· EPO – emergency power off.
· Manual and/or automatic programmable battery test.
· SLC Greenergy solution.



Operating modes

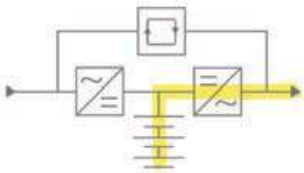
On-line double-conversion

Double voltage conversion (AC/DC + DC/AC), providing the best degree of safety to loads.



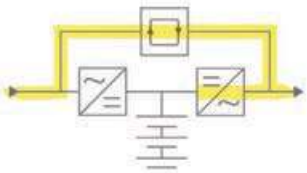
Batteries

In the event of power failure, the loads continue to be powered by means of batteries.



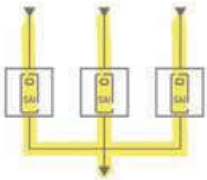
Eco-mode

Increased efficiency up to 99%, with immediate availability of full power.



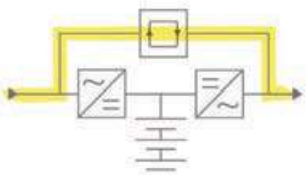
Parallel redundant

Increased safety (N+1) or capacity, with configurations of up to 3 devices.



Bypass

In the event of any eventuality (incident, overload, etc.), the loads continue to be powered by the input voltage.



UL and FCC certifications

SLC TWIN PRO2 T UL series are certified for CANADA and USA markets.

c UL us
LISTED
UPS
E519374

FC

Range

MODEL	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)	INPUT /OUTPUT
SLC-6000-TWIN PRO2 T UL	699CB000017	6000 / 6000	631 × 250 × 826	117	I / I
SLC-10000-TWIN PRO2 T UL	699CB000018	10000 / 10000	631 × 250 × 826	142	I / I

Dimensions

SLC 6000/10000 TWIN PRO2 T UL

Connections

SLC 6000/10000 TWIN PRO2 T UL

1. USB interface.
2. RS-232 interface.
3. Emergency stop (EPO).
4. Intelligent slot.
5. Manual Bypass.
6. Input protector.
7. Parallel ports.
8. Connection for battery module .
9. Terminal cover.

Technical specifications

MODEL		SLC TWIN PRO2 T UL
TECHNOLOGY		On-line, double conversion, PFC with double DC bus
FORMAT		Tower
INPUT	Rated voltage	208 / 220 / 230 / 240 V AC(1)
	Voltage range	110 ÷ 300 V AC(2)
	Rated frequency	50 / 60 Hz (auto-detection)
	Frequency range	± 10%
	Total harmonic distortion (THDi)	<4%
	Power factor	≥ 0.99
OUTPUT	Power factor	1
	Rated voltage	120 - 0 - 120 V AC±1%
	Voltage accuracy	± 1 %
	Total harmonic distortion (THDv) Linerar load	< 1 %
	Total harmonic distortion (THDv) Non linear load	< 4 %
	Synchronised frequency	±4 Hz
	Free running frequency	±0,1 Hz
	On-line performance	> 90 %
	Admissible overloads in-line mode	Up to 110% for 10 min; 130% for 1 min
	Crest factor	2,6 a 1
	Parallel	Yes, up to 3 units
BYPASS	Type	Static
	Transfer time	Nil
MANUAL BYPASS	Type	No breaks
BATTERY	Protection	Against power surges, undervoltages and alternating current components
	Battery type	Pb-Ca sealed, AGM, maintenance-free
	Charge type	I/U (constant current/constant voltage)
	Recharge time	7 ÷ 9 hours to 90%
CHARGER	Temperature voltage compensation	Yes
COMMUNICATION	Ports	USB and RS-232
	Intelligent slot	Yes
	Monitoring software	Downloadable for Windows, Unix, Linux and Mac
OTHER FUNCTIONS	Cold start (start-up from batteries)	Yes
OPERATING MODES	Eco-mode	Yes
	Frequency converter (CVCF)	Yes (3)
GENERAL	Operating temperature	0º C ÷ 40º C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2,400 masl (power degradation up to 5,000 m)
	Acoustic noise at 1 metre	<55 dB ÷ <58 dB
STANDARDS	Safety	IEC 62040-1 / UL1778 5th edition / CSA C22.2
	Electromagnetic compatibility (EMC)	IEC 62040-2 / CFR47 FCC Part 15, Subpart B, Class A
	Operation	VFI-SS-11 (EN-62040-3)
	Quality and environmental management	ISO-9001, ISO-14001, ISO 45001

(1) Power reduction to 90% for 208 V input
(2) At 110Vac at 50% load
(3) Up to 60% charge

SLC TWIN RT2 A

On-line double-conversion tower/rack UPS from 1,000 VA to 3,000 VA with PF=1

SLC TWIN RT2 A: High-performance On-line security for priority systems

Salicru's **SLC TWIN RT2 A** UPS range is a highly advanced continuity solution for the electrical protection of critical systems. It combines the most reliable double-conversion technology (AC/DC-DC/AC) on the market and boasts a unity output power factor (VA=W) to enable it to power systems with high energy requirements, while offering high operating efficiency.

With a range of power ratings from 1,000 VA(W) to 3,000 VA(W), it comes in a 2U, convertible to tower format, with a swivel mount LCD display, according to the needs of the facility. Also available are solutions with an extra charger and additional battery modules for applications that require greater backup.

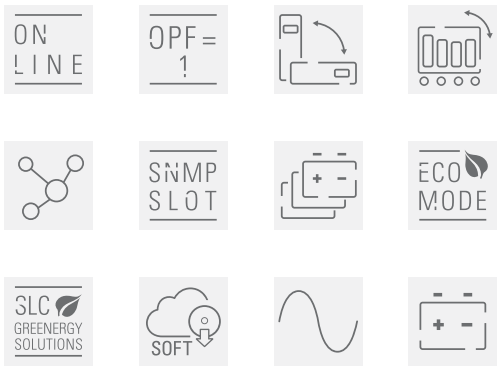
In terms of communications, it features an RS-232/USB HID interface and a smart slot that can optionally hold an SNMP card, MODBUS or potential free contacts; also available are software packages for local or virtual monitoring and management of protected devices. Other outstanding features include: 50/60 or 60/50 Hz frequency converter, emergency stop (EPO), programmable outputs for critical/non-critical loads.

Applications: Continuous protection for critical systems

Salicru's **SLC TWIN RT2 A** series offers, in a compact format, all of the necessary features for the protection of applications that require a high level of security in the event of any type of electrical disturbance, such as IT servers, voice and data networks, CAD/CAM, document management, unified communications (UC) and video streaming.

Performances

· On-line double-conversion technology.
· Output power factor PF=1.
· Convertible tower/rack format.
· Control panel with swivel mount LCD display and keypad.
· Includes pedestal (pedestal mount) and lugs (rack mount).
· Backup extensions available for all power ratings.
· UPS models with extra charger for backup extensions.
· RS-232 and USB-HID communication interfaces.
· Downloadable monitoring software for Windows, Linux and Mac.
· Smart slot for SNMP/potential-free contacts/MODBUS.
· ADSL/fax/modem line protection.
· Eco-mode operation.
· Programmable outputs for critical/non-critical loads.
· Frequency conversion function.
· SLC Greenergy solution.



Maximum performance in Eco mode

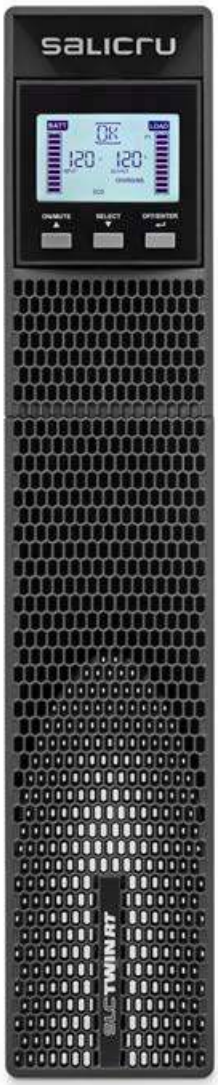
With performance of up to 99%, a significant energy saving can be achieved without reducing reliability and security in the protection of critical loads.

Higher power density

With a unity output power factor, maximum power in watts (W) is delivered, thereby optimising the always limited space in racks or server rooms.

Easy to install

Convertible tower/rack thanks to the accessories included (rack handles, tower pedestal), swivel mount display. Intuitive LCD for operation and configuration, with optical and audible warning devices. Easy segmentation of sockets between critical/non-critical loads.



UL and FCC certifications

SLC TWIN RT2 A series are certified for CANADA and USA markets.

c UL us
LISTED
UPS
E519374

Range

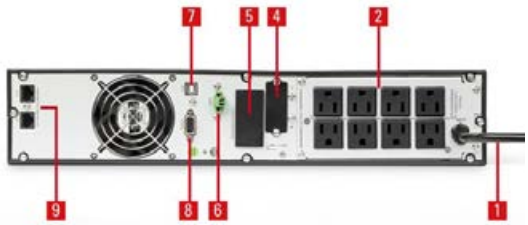
MODEL	CODE	POWER (VA / W)	NO. OF OUTPUT SOCKETS	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC-1000-TWIN RT2 A	698DA000001	1000 / 1000	8 × NEMA (10A)	410 × 438 × 88	13
SLC-2000-TWIN RT2 A	698DA000003	2000 / 1800	8 × NEMA (10A)	510 × 438 × 88	20.3
SLC-3000-TWIN RT2 A	698DA000005	3000 / 2700	8 × NEMA (10A) + 1 × NEMA (30A)	630 × 438 × 88	28

Frontal protuberance, from the fixing plane of the ears on the rack cabinet: 35mm. This distance is not included in the "Depth" total dimension.
Dimensions and weights for devices with standard backup.

Dimensions

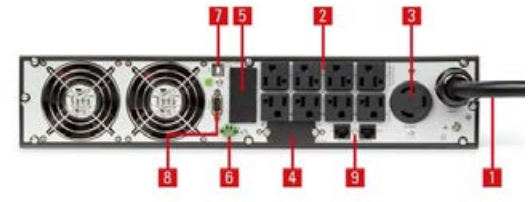
SLC 1000÷3000 TWIN RT2 A

Connections



SLC-1000-TWIN RT2 A

SLC-2000-TWIN RT2 A



SLC-3000-TWIN RT2 A

1. Input cable via integrated NEMA 5-15P plug for 1000VA model, NEMA 5-20P for 2000VA model and NEMA 5-30P for 3000VA model.
2. Output sockets (8xNEMA 10A), programmable critical (x4)/non-critical (x4).
3. NEMA 30A output socket (only for 3000 VA model).
4. Connection for battery module (only in models with extra charger).
5. Smart slot for SNMP/potential-free contacts/ MODBUS.
6. Emergency stop (EPO).
7. USB interface.
8. RS-232 interface.
9. ADSL/fax/modem transient protector.

Technical specifications

MODEL		SLC TWIN RT2 A
TECHNOLOGY		On-line double-conversion
FORMAT		Convertible tower/rack
INPUT	Rated voltage	100[1] / 110 / 115 / 120 / 127 V AC
	Voltage range	80 ÷ 150 V
	Rated frequency	50 / 60 Hz (auto-detection)
	Frequency range	±10 Hz
	Total harmonic distortion (THDi)	≤ 5%
OUTPUT	Power factor	1 (1000 VA) / 0,9 (2000/3000 VA)
	Rated voltage	100 / 110 / 115 / 120 / 127 V AC
	Voltage accuracy (battery mode)	±1%
	Total harmonic distortion (THDv)	< 2% linear load
	Synchronised frequency	±3 Hz
	Free running frequency	±0.1 Hz
	On-line performance	> 90%
	Eco-mode performance	96 % con baterías cargadas
	Admissible overloads in-line mode	< 130 % 5 min ; > 130-140 %, 30 sec.; > 150 %, 1,5 sec.
	Programmable sockets	4
BATTERY	Protection	Against power surges, undervoltages and alternating current components
	Battery type	Pb-Ca sealed, AGM, maintenance-free
	Charge type	I/U (constant current/constant voltage)
	Recharge time	4 hours to 90 %.
CHARGER	Temperature voltage compensation	Yes
COMMUNICATION	Ports	2 (RS232 -DB9- y USB, mutually exclusive).
	Intelligent slot	Slot for SNMP/potential-free contacts/ MODBUS
	Monitoring software	ViewPower
OTHER FUNCTIONS	Cold start (start-up from batteries)	Yes
	Emergency stop (EPO)	Yes
	ADSL/fax/modem transient protector	Yes
OPERATING MODES	Frequency converter (CVCF)	Yes
GENERAL	Operating temperature	0º C ÷ +40º C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2,400 masl (power degradation up to 5,000 m)
	Acoustic noise at 1 metre	< 50 dB
STANDARDS	Safety	IEC 62040-1 / UL1778 5th edition / CSA C22.2
	Electromagnetic compatibility (EMC)	IEC 62040-2 / CFR47 FCC Part15, Subpart B, Class A
	Operation	VFI-SS-11 (EN-62040-3)
	Quality and environmental management	ISO 9001, ISO 14001, ISO 45001

(1) Power derating of 20% when the output voltage is set to 100V.

SLC TWIN RT2 T UL

On-line double-conversion tower/rack UPS from 6 and 10 kVA with PF=1

SLC TWIN RT2 T UL: High-performance On-line security for priority systems

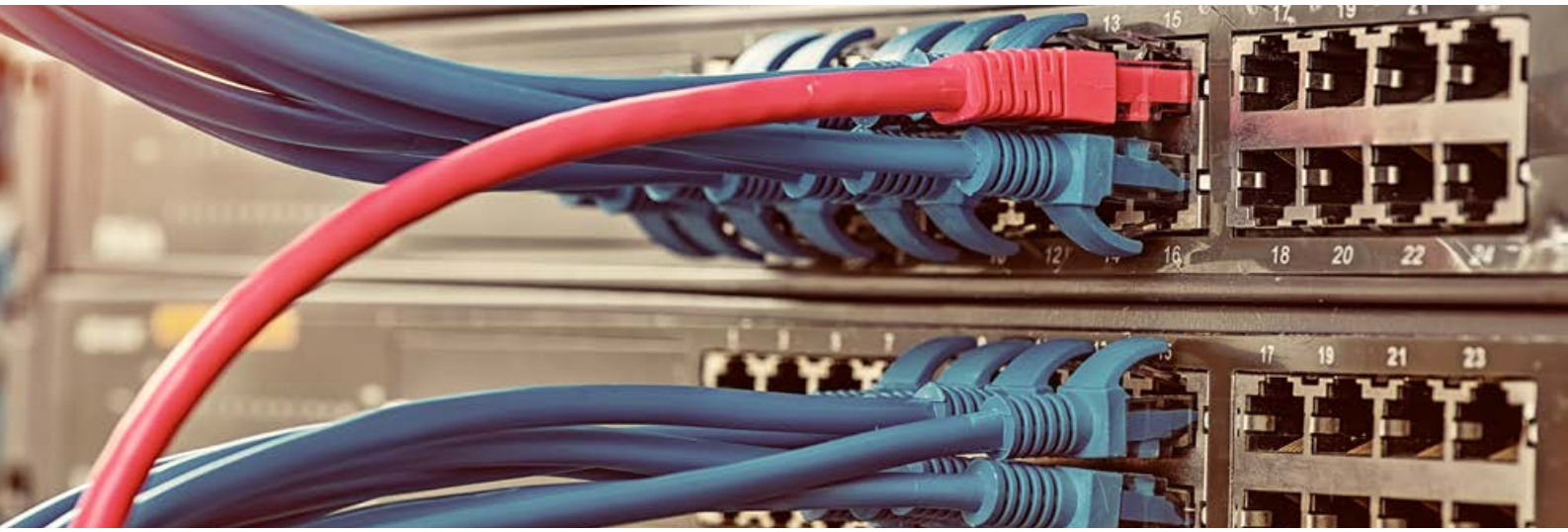
Salicru's **SLC TWIN RT2 T UL** series models are uninterruptible power supplies with unrivalled electrical protection features for critical server environments. Their dual tower/rack format offers physical adaptability to any site and, The available powers are 6 and 10 kVA. In addition, their unity output power factor (VA=W) increases the power density delivered and reduces the space required for the installation of the UPS.

The LCD screen is swivel-mounted according to the mounting format chosen for ease of handling. In terms of serial communications, they feature USB and RS-232 interfaces, as well as a smart slot to optionally accommodate an SNMP card, MODBUS or potential-free contacts; also available are software packages for local or virtual monitoring and management of the protected devices.

For applications that require extended backup, additional battery modules and/or solutions with extra charger can be installed. And for applications that require redundant protection or increase the need for power, there is the option of connecting up to 3 devices in parallel.

Applications: Guaranteed operability for IT environments

Numerous environments can be protected by Salicru's **SLC TWIN RT2 T UL** series UPSs, such as virtualised or non-virtualised server systems, voice and data networks, ERP systems, CRM solutions, document management, etc., all of whose operability depends on the reliability of the electrical supply that powers them.



Performances

· On-line double-conversion technology.
· Output power factor PF=1.
· Convertible tower/rack format.
· Control panel with swivel mount LCD display and keypad.
· Includes pedestal (pedestal mount) and lugs (rack mount).
· Backup extensions available for all power ratings.
· UPS models with extra charger for backup extensions.
· RS-232 and USB communication interfaces.
· Downloadable monitoring software for Windows, Linux and Mac.
· Smart slot for SNMP/potential-free contacts/MODBUS.
· Eco-mode operation.
· Parallelable up to 3 units.
· Frequency conversion function.
· SLC Greenergy solution.

Maximum performance in Eco mode

With performance of up to 99%, a significant energy saving can be achieved without reducing reliability and security in the protection of critical loads.

Higher power density

With a unity output power factor, maximum power in watts (W) is delivered, thereby optimising the always limited space in racks or server rooms.

Easy to install

Convertible tower/rack thanks to the accessories included (rack handles, tower pedestal), swivel mount display. Intuitive LCD for operation and configuration, with optical and audible warning devices.

UL and FCC certifications

SLC TWIN RT2 T UL series are certified for CANADA and USA markets.

c UL us LISTED UPS E519374

Range

MODEL	CODE	POWER (VA / W)	NO. OF OUTPUT SOCKETS	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
KIT SLC-6000-TWIN RT2 T UL	698RQ000023	6000 / 6000	Terminals	610 × 438 × 304	126
KIT SLC-10000-TWIN RT2 T UL	698RQ000025	10000 / 10000	Terminals	610 × 438 × 304	166

Frontal protuberance, from the fixing plane of the ears on the rack cabinet: 35mm. This distance is not included in the "Depth" total dimension.
Dimensions and weights for devices with standard backup.

Dimensions

KIT SLC 6000/10000 TWIN RT2 T UL

Connections

KIT SLC 6000/10000 TWIN RT2 T UL

1. Input/output terminals.
2. USB interface.
3. RS-232 interface.
4. Smart slot for SNMP/potential-free contacts/MODBUS.
5. Emergency stop (EPO).
6. Connection for battery module (only in models with extra charger).
7. Circuit breaker.
8. Parallel port.
9. Current distribution port.
10. Digital input/output.

Technical specifications

MODEL		SLC TWIN RT2 T UL
TECHNOLOGY		On-line double-conversion
FORMAT		Convertible tower/rack
INPUT	Rated voltage	200 / 208 / 220 / 230 / 240V(1)
	Voltage range	110 ÷ 300 V up to 50% load
	Rated frequency	50 / 60 Hz
	Frequency range	±4 Hz
	Total harmonic distortion (THDi)	≤4%
OUTPUT	Power factor	1 (2)
	Rated voltage	104 / 110 / 115 / 120 o 208 / 220 / 230 / 240V
	Voltage accuracy (battery mode)	±1%
	Total harmonic distortion (THDv) Linerar load	<1%
	Total harmonic distortion (THDv) Non linear load	<4%
	Synchronised frequency	±4 Hz
	Free running frequency	±0,1 Hz
	On-line performance	>90%
	Eco-mode performance	≥99%
	Admissible overloads in-line mode	< 110% for 10 min / < 130% for 1 min
	Parallel	Yes, up to 3 units(3)
BATTERY	Protection	Against power surges, undervoltages and alternating current components
	Battery type	Pb-Ca sealed, AGM, maintenance-free
	Charge type	I/U (constant current/constant voltage)
	Recharge time	7 ÷ 9 hours to 90%
CHARGER	Temperature voltage compensation	Yes
COMMUNICATION	Ports	USB / RS-232
	Intelligent slot	For SNMP / potential-free contacts / MODBUS
	Monitoring software	Yes, for Windows, Linux and Mac
OTHER FUNCTIONS	Cold start (start-up from batteries)	Yes
	Emergency stop (EPO)	Yes
OPERATING MODES	Frequency converter (CVCF)	Yes(4)
GENERAL	Operating temperature	0º C ÷ +40º C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2,400 masl (power degradation up to 5,000 m)
	Acoustic noise at 1 metre	<55-58 dB
STANDARDS	Safety	IEC 62040-1 / UL1778 5th edition / CSA C22.2
	Electromagnetic compatibility (EMC)	IEC 62040-2 / CFR47 FCC Part 15, Subpart B, Class A
	Operation	VFI-SS-11 (EN-62040-3)
	Quality and environmental management	ISO 9001, ISO 14001, ISO 45001

(1) 90% power reduction for 200 V devices
(2) Except for devices with extended backup
(3) 90% power reduction
(4) 60% power reduction

SLC CUBE3+ A

Uninterruptible power supply system from 5 to 100 kVA

SLC CUBE3+ A: Energy efficiency with superior electrical protection

Salicru's **SLC CUBE3+ A** series is a UPS range featuring high-performance, On-line double conversion (VFI) technology that provides a reliable, high-quality power supply and, at the same time, achieves significant energy and financial savings in terms of installation and operating costs.

Particularly noteworthy is the unit's input power factor (PF=1) and its extremely low distortion rate (THDi even lower than 1.5%), which help to reduce installation and operating costs, and contribute to improving the quality of the electrical grid.

The output power factor (PF=0.9) also stands out, providing optimum electrical protection for computer systems and low harmonic output distortion (THDv even lower than 0.5%), enabling it to protect any type of load (inductive, resistive, capacitive or mixed). In addition, the performance achieved (up to 95% in On-line mode and 98.4% in Smart Eco-mode) produces significant energy consumption savings and reduces air conditioning needs.

For a full optimum solution, the **SLC CUBE3+ A** provides maximum adaptability (even with the standard model), the possibility of parallel redundant expansion and extensive communication options. Finally, also worth noting is the unit's lightweight design and reduced dimensions, enabling it to be easily installed and ensuring that footprint is minimal.

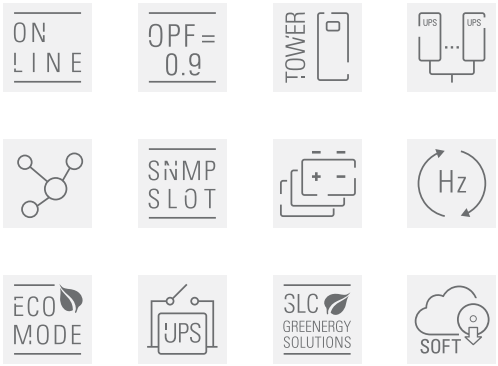
Applications: Designed to protect any type of environment

High-end design features plus great flexibility capacity (options, power upgrading, communications...) make **SLC CUBE3+ A** series the best option to protect and secure a wide range of environments: data-centres, hosting, housing, IT-networks, server farms, voice and data networks...

Performances

· On-line double conversion (VFI) technology with DSP control.
· Input power factor 1, for better performance.
· Very low input current harmonic distortion (THDi as low as <1.5%).
· Total flexibility in input/output voltage. (1)
· Designed to withstand any type of load.
· Batt-Watch function for monitoring and battery care.
· High output power factor (PF=0.9)(2).
· Very low output voltage distortion rate (THDv even lower than 0.5%).
· On-line mode efficiency of up to 95%.
· Smart Eco-mode efficiency of up to 98.4%.
· Touch screen 7" color. (3)
· Very compact design with minimal footprint.
· Can be integrated into the most advanced IT environments.
· Parallel redundant configuration (N+1) for critical installations. (4)
· Built with 80% recyclable materials.
· SLC Greenergy solution.

(1) Single/single, single/three and three/single configurations up to 100 kVA
(2) Only for three-phase input / output models. PF = 0.8 for other configurations
(3) According to model
(4) Up to 4 units.

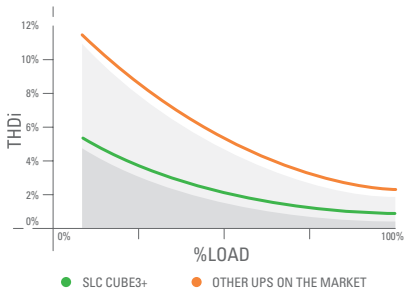


High efficiency

High performance in On-line and Smart Eco-mode operation.

Low harmonic distortion

The lowest harmonic distortion in the market.



Technical support and service

· Pre and post-sales advice.
· Start-up.
· Telephone technical support.
· Preventative/corrective intervention.
· Maintenance contracts.
· Remote maintenance contracts.
· Training courses.

Options

· Ethernet/SNMP adapter.
· Adapter for remote management.
· Monitoring, management and shutdown software.
· 1 x additional RS-232/485 serial port.
· Extended backup times.
· Common battery set for parallel systems.
· BACS II, battery monitoring, regulation and alarms.
· Dual-level charger for NiCd batteries.
· Separate bypass line.
· Touch screen 7" color.(1)
· Single/single, single/three and three/single configurations.(1)
· External manual bypass.
· Temperature and humidity sensors.
· External display.
· Frequency converter function.

(1) Up to 30 kVA

Range

MODEL	CODE	POWER (VA / W)	Nº CABINETS (UPS + BAT)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)	BAT DIMENSIONS (D × W × H mm)	BAT WEIGHT (Kg)
SLC-5-CUBE3+ A	681LF000022	5/4,5	1+0	775 × 450 × 1100	166	-	-
SLC-7,5-CUBE3+ A	681LF000011	7,5/6,75	1+0	775 × 450 × 1100	166	-	-
SLC-10-CUBE3+ A	681LF000009	10/9	1+0	775 × 450 × 1100	167	-	-
SLC-15-CUBE3+ A	681LF000049	15/13,5	1+0	775 × 450 × 1100	237	-	-
SLC-20-CUBE3+ A	681LF000050	20/18	1+0	775 × 450 × 1100	323	-	-
SLC-30-CUBE3+ A	681LG000001	30/27	1+1	775 × 450 × 1100	185	1050 × 650 × 1325	424
SLC-40-CUBE3+ A	681TG000001	40/36	1+1	880 × 590 × 1325	265	1050 × 650 × 1325	501
SLC-50-CUBE3+ A	681TG000002	50/45	1+1	880 × 590 × 1325	290	1050 × 650 × 1325	594
SLC-60-CUBE3+ A	681TG000003	60/54	1+1	880 × 590 × 1320	290	1050 × 650 × 1325	594
SLC-80-CUBE3+ A	681TG000004	80/72	1+1	850 × 900 × 1905	540	850 × 1305 × 1905	1096
SLC-100-CUBE3+ A	681TG000005	100/90	1+1	850 × 900 × 1905	550	850 × 1305 × 1905	1096

Nomenclature, dimensions and weights for units with input voltage 3 x 220 V, output voltage 3 x 220 V and standard backup time.

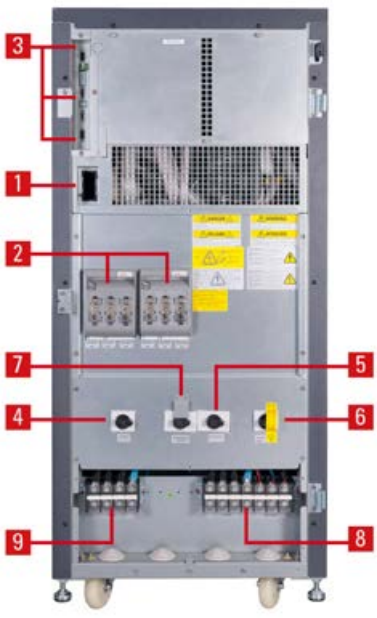
Dimensions

SLC-7,5÷60-CUBE3+ A

SLC-80÷120-CUBE3+ A

SLC-160/200-CUBE3+ A

Connections



SLC-7,5÷200-CUBE3+ A

1. Slot for card (option).
2. Internal protection fuses. 80 kVA equipments only.
3. Communication interfaces.
4. Circuit breaker switch / Input switch.
5. Output switch.
6. Fuse holder / switch power.
7. Manual bypass.
8. Output terminals.
9. Input and output terminals.

Technical specifications

MODEL		SLC CUBE3+ A
TECHNOLOGY		On-line, double conversion, HF, DSP control
INPUT	Rated voltage	Single-phase 115 / 120 / 127 / 133 V (1) / Three-phase 3 × 200 / 3 × 208 / 3 × 220 / 3 × 230 (3F + N)
	Voltage range	+15% / -20% (configurable)
	Rated frequency	50 / 60 Hz
	Total harmonic distortion (THDi)	100% load: <1.5% / 50% load: <2.5% / 10% load: <6.0%
	Power factor	1 from 10% load
	Rectifier topology	Three-phase IGBT full wave, soft start, PFC, transformerless
OUTPUT	Power factor	0.9(2)
	Rated voltage	Single-phase 115 / 120 / 127 / 133 V (1) / Three-phase 3 × 200 / 3 × 208 / 3 × 220 / 3 × 230 (3F + N)
	Dynamic accuracy	± 2% dynamic
	Static accuracy	± 1% steady
	Response time accuracy	20 ms for load steps 0% ÷ 100% and voltage drop up to -5%
	Total harmonic distortion (THDv)	<0.5% linear load / <1.5% (EN-62040-3)non-linear load
	Synchronised frequency	50/60 Hz ±5 Hz (selectable)
	Free running frequency	50/60 Hz ±0,05%
	Synchronous speed	From 1 Hz/s to 10 Hz/s (programmable)
	Total performance in On-line mode	7.5÷60 kVA: 92.0%÷93.0% / 80÷200 kVA: 94.0%÷95.0%
	Performance in Smart Eco-mode	Up to 98.4%
	Admissible overloads	125% for 10 min / 150% for 60 s / >150% for 20ms
	Crest factor	>3:1
MANUAL BYPASS	Type	No breaks
STATIC BYPASS	Type and activation criteria	Solid state, controlled by microprocessor
	Transfer times in Smart Eco-mode (ms)	4 ms (typical)
	Transfer times in On-line	Nil
	Transfer to bypass	Immediate, for overloads exceeding 150%
	Retransfer	Automatic, after alarm deactivation
BATTERY	Battery type	Lead acid, sealed, maintenance free
	Charging voltage regulation	Batt-Watch
COMMUNICATION	Ports	1 × RS232/RS485 + 1xUSB,with Modbus protocol
	Relay interface	4 × AC failure, bypass, low battery and general
	Intelligent slot	1, for SNMP
	Display from 80 kVA	Touch screen 7" color
	Display up to 60 kVA	LCD display, LEDs and keyboard
GENERAL	Operating temperature	0° C ÷ +40° C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2,400 masl (3)
	Acoustic noise at 1 metre	<52 dB(A)(4)
STANDARDS	Safety	EN-IEC 62040-1
	Electromagnetic compatibility (EMC)	EN-62040-2
	Operation	VFI-SS-11 (EN-62040-3)
	Seismic (Optional)	IEC 60068-3-3:2019/COR1:2021 / UBC1997 Zone3 & Zone 4 Ip 1.5
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Up to 30 kVA.
(2) <65 dB(A) for 40 to 60 kVA models / <70 dB(A) for 80 to 100 kVA models

SLC ADAPT2 A

On-line double-conversion modular rack UPS and modules 6 and 9 kVA

SLC ADAPT2 A: Modularity, optimisation and efficiency in electrical safety for data centres

Salicru's **SLC ADAPT2 A** series UPSs are on-line double-conversion modular solutions for superior electrical protection, featuring DSP control and three-level IGBT technology.

Modularity: The range of modules available -6 and 9 kW- together with the different configurable systems -2, 3, 4 and 6 modules per system- enables adaptation to any environment, with the option of paralleling systems to achieve greater protection or increased power.

Optimisation: High power density, modules occupying only 2U of height require less space in data centres and reduce installation costs (TCO). Moreover, expenditure can be optimised by simply adding new modules in line with the pace of growth of the data centre.

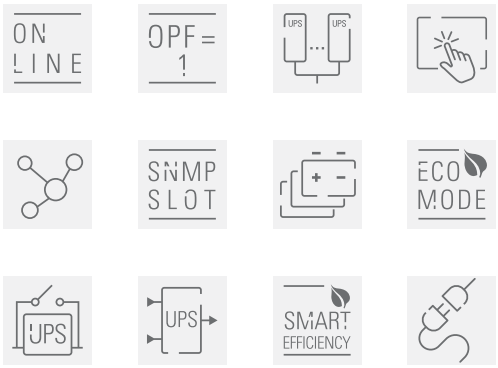
Efficiency: The modules with a unity output power factor (kVA = kW) operate with an efficiency > 96% and a very flat performance curve for all working modes. They also feature various operating modes (Eco-mode, Hibernation, Smart-Efficiency, etc.), which further increase the performance and efficiency of the system.

Applications: Scalable protection for better adaptation to growing needs

Salicru's **SLC ADAPT2 A** series modular solutions ensure reliability, quality and continuity and provide improved protection for small and medium-power data centres, both modular and virtualised, as well as IT infrastructures and applications for associated critical processes, avoiding the enormous costs resulting from interruptions in the operation of data centres.

Performances

- Modular on-line double-conversion UPS solutions.
- Output power factor PF=1 (kVA=kW).
- High power density with 6 and 9 kVA modules occupying only 2U of height.
- Maximum flexibility with 2, 3, 4 and 6 module systems.
- Parallel growth, up to 270 kVA.
- Hot-pluggable and swappable plug & play modules.
- Input power factor >0.99.
- Flexible configurations 1/1, 1/3, 3/1 and 3/3.(1)
- Optional Nimbus IoT connection for monitoring.
- 7" LCD colour touchscreen and LEDs.
- Over 96% efficiency of modules in Online mode.
- Eco-mode operation for improved efficiency.
- Cold start function for start-up without mains, optional.
- Smart Efficiency mode to extend the life of the modules.
- Smart charger of up to 20% of the power of the system.
- USB, RS-232, RS-485 and potential-free contact communication channels.
- SNMP/ Ethernet, relays and parallel kit, as options.
- Multi-platform management and monitoring software.



(1) For systems with 6 kW modules.

Display

- 7" colour touchscreen.
- Large touchpanel display that provides status information and useful records.

Built-in cabinet

Possibility of assembling the module systems in 1100/1600/2000 mm high cabinets with or without batteries included. Batteries can also be installed in additional cabinets.

Continuous surveillance

By integrating the equipment, optional, feature of Salicru's Nimbus-cloud, it is permanently monitored and provides a continuous analysis of the level of protection provided.

Remote maintenance

There are multiple remote maintenance options through the Nimbus Services connections, both in modalities and response, allowing immediate actions in case of incidents or advances on anomalous situations.

Range

MODULES	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC ADAPT2 6 A	694AB000013	6000 / 6000	590 × 436 × 85	15.3
SLC ADAPT2 9 A	694AB000014	9000 / 9000	590 × 436 × 85	15.5

SYSTEMS	CODE	NO. MODULES (#)	MAX. POWER PER SYSTEM (kVA)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC-#/2 ADAPT2 18 A	694RA000246	1 a 2 × 6 kVA / 1 a 2 × 9 kVA	12/18	612 × 485 × 309	57
SLC-#/4 ADAPT2 27 A	694RA000247	1 a 4 × 6 kVA / 1 a 3 × 9 kVA	24/27	612 × 485 × 485	66
SLC-#/6 ADAPT2 54 A	694RA000248	1 a 6 × 6 kVA / 1 a 6 × 9 kVA	36/54	751 × 485 × 1033	100

Nomenclature, dimensions and weights for devices with input voltage 3 x 220 V, output voltage 3 x 220 V.
Replace # with the number of system modules.
19'' rack format for 2, 3 and 4 slot systems.
Batteries located in additional cabinets.
The weight shown corresponds only to the system, without modules.

Dimensions

SLC ADAPT2 6 A
SLC ADAPT2 9 A

SLC-#/2 ADAPT2 18 A

SLC-#/4 ADAPT2 27 A

SLC-#/6 ADAPT2 54 A

Technical specifications

MODEL		SLC ADAPT2 A	
Module power (VA/W)		6000 / 6000	9000 / 9000
TECHNOLOGY		On-line double-conversion, HF, DSP control	
INPUT	Rated single phase voltage	120 / 127 V	Not available
	Rated three-phase voltage (3P+N)	3 × 208 / 220 V	
	Voltage range	-40% +25% (Depending on charge)(1)	
	Frequency range	40 - 70 Hz	
	Total harmonic distortion (THDi)	≤3%	
	Power factor	>0.99	
OUTPUT	Power factor	1	
	Single phase rated voltage	120 / 127 V	Not available
	Rated three-phase voltage (3P+N)	3 × 208 / 220 V	
	Static accuracy	±1%	
	Total harmonic distortion (THDv)	≤1% linear load; <5.5% non-linear load	
	Frequency	50 / 60 Hz	
	Module performance (On-line)	> 96%	
	Performance in Smart Eco-mode	99%	
	Admissible overloads	<110% for 1 hour / <125% for 10 min / <150% for 1 min / >150% for 200 ms	
	Crest factor	3:1	
MANUAL BYPASS	Type	Uninterrupted (optional)(2)	
STATIC BYPASS	Type	Static thyristor	
	Transfer time	0 ms	
	Admissible overloads	≤110% constant / ≤130% for 1 hour / ≤150% for 1 minute / >150% for 5 seconds	
BATTERY	Battery type	Pb-Ca, VRLA, lead acid, gel, Ni-Cd, Li-Ion	
	Charger bus voltage	Configurable between +/-96 and +/-132 Vdc	
	Charger maximum power (W)	20% of total system power	
COMMUNICATION	Display	7" touchscreen and LEDs	
	Ports	USB, RS-232, RS-485 and relays	
	Intelligent slot	1 × Nimbus SNMP/1 × Nimbus extended relays	
GENERAL	Operating temperature	0° C ÷ +55° C (3)	
	Relative humidity	Up to 95%, non-condensing	
	Maxium operating altitude	2,400 masl(4)	
	Acoustic noise at 1 metre	<54 dB(A) (According to number of modules)	
SYSTEMS	Maximum no. modules per system	2, 4, or 6	2, 3, or 6
	Maximum power per system	12, 24, 36 kW	18, 27, 54 kW
	Maximum no. modules systems	30	
	Maximum power per parallel system	180 kW	270 kW
STANDARDS	Safety	EN IEC 62040-1	
	Railway	EN 50121-4 / EN 50121-5	
	Electromagnetic compatibility (EMC)	EN IEC 62040-2	
	Operation	VFI-SS-11 (EN 62040-3)	
	Seismic	IEC 60068-3-3:2019/COR1:2021 / UBC1997 Zone3 & Zone 4 Ip 1.5	
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001	

(1) Linear % load derating from -20% to -40%.
(2) Not included in subracks. Excellent for cabinet systems.
(3) Power derating for higher altitudes up to +40°C.
(4) Power degradation for higher altitudes, up to a maximum of 5,000 masl.

SLC ADAPT2 A

Modular On-line double conversion UPS and modules 14 and 30 kVA

SLC ADAPT2 A: Flexibility, availability and reliability in superior electrical protection

Salicru's **SLC ADAPT2 A** series consists of modular On-line double conversion uninterruptible power supply (UPS) solutions with DSP control and three-level IGBT inverter technology.

Flexibility: It enables solutions to be configured from 14 kVA to 900 kVA, thanks to the range of modules available (14 and 30 kVA), different configurable systems (8, 10 or 12 modules) and the parallel/redundant option of up to three 300 kVA systems. It also provides increased protection as needs grow - pay as you grow - thereby improving total cost of ownership (TCO).

Availability: Its hot-swap modules can be added or replaced during operation, thereby improving mean time to repair (MTTR) and reducing maintenance costs. In addition, the system's remote management, which can be integrated into any platform, also facilitates operation. And the extensive back-up options available, along with intelligent battery charging, ensure continuous operation of the protected critical loads.

Reliability: Its DSP control, based on three-level PWM technology, improves response effectiveness and, along with shared load redundancy, significantly extends the mean time between failures (MTBF).

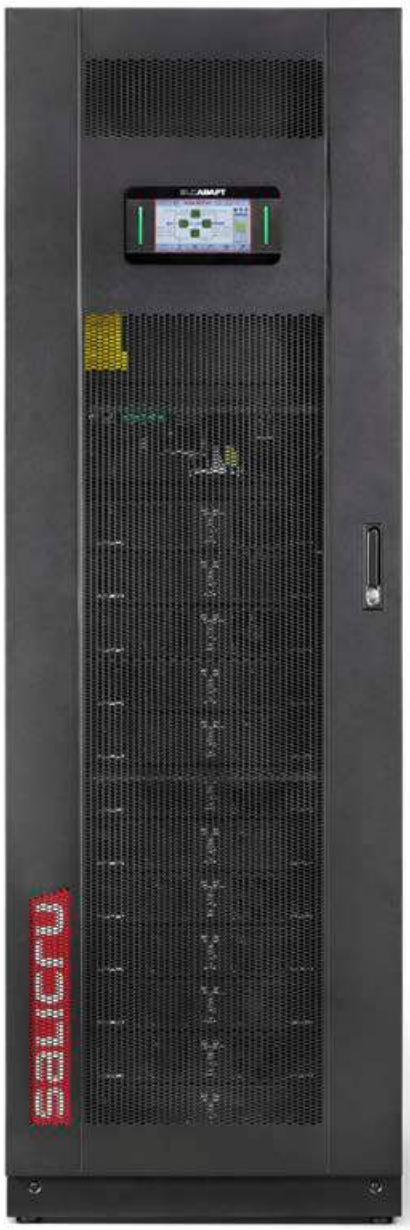
Applications: Redundant protection for critical applications

Data centres with all capacities, IT infrastructures, modular and virtualised data centres and applications for critical processes are some of the services that require high-level electrical protection to ensure reliable, continuous and high-quality operation, such as that provided by Salicru's **SLC ADAPT2 A** series systems.

Performances

· On-line double conversion technology with modular architecture.
· 14 and 30 kVA modules with DSP control and three-level PWM technology.
· 8, 10 or 12-module systems (up to 300 kVA per system).
· Possibility of parallel/redundant operation up to 900 kVA.
· Hot-pluggable and swappable plug & play modules.
· Input power factor >0.99.
· Input current distortion (THDi) <3%.
· Three-phase input / output voltages.(1)
· Output power factor = 1.
· Control and management by means of LCD display, LEDs and keypad.
· Over 96% efficiency of modules in Online mode.
· 99% performance in Eco-mode operation.
· RS-232, RS-485, relays and USB communication channels.
· Smart slots for extended relays and SNMP/Nimbus.
· Smart-efficiency mode to optimize system performance.
· Improved return on investment (ROI).
· Compact design to save space in server rooms.
· SLC Greenergy solution.

(1) 1/1, 1/3 and 3/1 options with power derating (under request).



Display

Display consisting of operation keys, status LEDs and touch screen detailing all functions, measurements and alarms.

Options

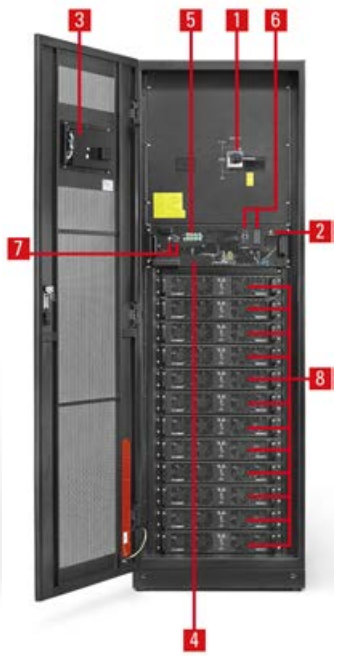
· Extended relays and SNMP/Nimbus adapter.
· Extended back-up times.
· Kit for parallel systems.
· Frequency converter operation.

Technical support and service

· Pre-sales and after-sales advice.
· Start-up. (1)
· Technical support by telephone.
· Preventive/corrective services.
· Maintenance contracts. (1)
· Training courses.

(1) Ask for local conditions

Connections



1. Manual bypass.
2. Start-up from batteries (Cold Start).
3. LCD display.
4. Bypass module.
5. Dry contacts.
6. Extended relays and SNMP/Nimbus slot.
7. RS-232, RS-485 and USB interfaces.
8. Power modules.

Range

MODULES	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC ADAPT2 14 A	694AB100010	14000 / 14000	671 × 436 × 85	18
SLC ADAPT2 30 A	694AB100016	30000 / 30000	700 × 510 × 178	45

SYSTEMS	CODE	NO. MODULES (#)	MODULE POWER (VA / W)	MAX. POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC-#/8 ADAPT2 112 A	694RA100249	1 to 8	14000 / 14000	112000 / 112000	916 × 482 × 1550	178
SLC-#/12 ADAPT2 168 A	694RA100250	1 to 12	14000 / 14000	168000 / 168000	960 × 650 × 2000	230
SLC-#/10 ADAPT2 300 A	694RA100251	1 to 10	30000 / 30000	300000 / 300000	1100 × 1300 × 2000	945

Nomenclature, dimensions and weights for devices with input voltage 3 x 220 V, output voltage 3 x 220 V.
Replace # with the number of system modules.
Batteries located in additional cabinets.
The weight shown corresponds only to the system, without modules.

Dimensions

SLC ADAPT2 14 A

SLC ADAPT2 30 A

SLC-#/8 ADAPT2 112 A

SLC-#/12 ADAPT2 168 A

SLC-#/10 ADAPT2 300 A

Technical specifications

MODEL		SLC ADAPT2 A	
Module power (VA/W)		14000 / 14000	30000 / 30000
TECHNOLOGY		On-line double conversion, three-level PWM, DSP control	
INPUT	Rated three-phase voltage (3P+N)	3 × 200 / 208 V	
	Voltage range	-27% +25% (Depending on charge)(1)	-40% +25% (Depending on charge)(1)
	Rated frequency	50 / 60 Hz	
	Frequency range	40 - 70 Hz	
	Total harmonic distortion (THDi)	≤3%	
	Power factor	>0,99	
OUTPUT	Power factor	1	
	Rated three-phase voltage (3P+N)	3 × 200 / 208 V	
	Accuracy	±1%	
	Total harmonic distortion (THDv)	≤1%	
	Frequency	50 / 60 Hz	
	Module performance (On-line)	>96%	
	Performance in Smart Eco-mode	99%	
	Admissible overloads	125% for 10 mins / 150% for 1 min	
	Crest factor	2,6:1	
MANUAL BYPASS	Type	Uninterrupted	
STATIC BYPASS	Type	Static thyristor	
	Three-phase voltage (V)	3 × 200 / 208 (3P + N)	
	Admissible overloads	≤110% constant / ≤130% for 1 hour / ≤150% for 1 minute / >150% for 5 seconds	
BATTERY	Battery type	Pb-Ca, VRLA, lead acid, gel, Ni-Cd, Li-Ion	
	Charging voltage regulation	Batt-watch	
	Charger maximum power (W)	20% of total system power	
COMMUNICATION	Display	7" touchscreen and LEDs	
	Ports	RS-232, RS-485, relays and USB	
	Intelligent slot	1 × Nimbus SNMP/1 × Nimbus extended relays	
GENERAL	Operating temperature	0º C ÷ +55º C (2)	
	Relative humidity	Up to 95%, non-condensing	
	Maxium operating altitude	2,400 masl(3)	
	Acoustic noise at 1 metre	<65 dB(A)	<72 dB(A)
SYSTEMS	Maximum no. modules per system	8 or 12	10
	Maximum power per system	112 / 168 kVA	300 kVA
	Maximum no. modules systems	30	
	Maximum power per parallel system	420 kVA	900 kVA
STANDARDS	Safety	EN IEC 62040-1	
	Railway	EN 50121-4 / EN 50121-5	
	Electromagnetic compatibility (EMC)	EN IEC 62040-2	
	Operation	VFI-SS-11 (EN 62040-3)	
	Seismic	IEC 60068-3-3:2019/COR1:2021 / UBC1997 Zone3 & Zone 4 Ip 1.5	
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001	

(1) Linear % load derating: For 14 kVA from -20% to -27% and for 30 kVA from -20% to -40%.
(2) Power derating for higher altitudes up to +40ºC.
(3) Power degradation for higher altitudes, up to a maximum of 5,000 masl.

SLC ADAPT2 H

Modular On-line double conversion UPS 40-1200 kVA

SLC ADAPT2 H: Maximum flexibility, high availability and advanced reliability in power protection

The **SLC ADAPT2 H** series by Salicru consists of modular on-line double-conversion Uninterruptible Power Supply (UPS) solutions, featuring DSP control and a three-level IGBT inverter. It is based on 40 kW/kVA modules and designed to operate on 3x480 V networks.

Scalable modular system from 40 to 1200 kW/kVA, built around configurable 40 kW/kVA modules (2, 4, 6, 8 or 10 modules), with the possibility of parallel or redundant operation of up to three 400 kW/kVA systems. Its pay-as-you-grow architecture enables power expansion in line with demand, optimising investment and reducing total cost of ownership (TCO.

DSP control combined with three-level PWM technology ensures high precision and operational efficiency, while balanced load sharing and redundancy options significantly increase MTBF, enhancing power continuity and electrical security.

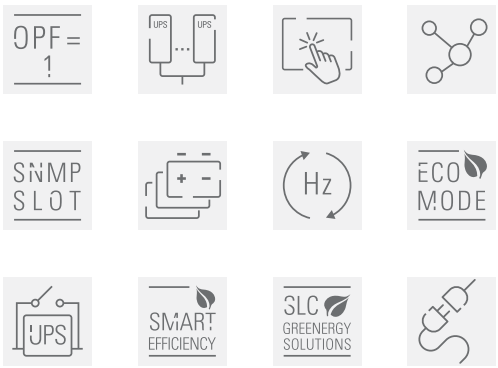
Hot-swappable modules can be replaced without shutting down the system, reducing MTTR and maintenance costs. Remote management compatible with standard monitoring platforms, together with multiple back-up options and intelligent battery management, ensures continuity of critical load.

Applications: Advanced redundant protection for critical environments

Data centres of all sizes, IT infrastructures, modular or virtualised environments, and mission-critical industrial applications require high-level power protection solutions that guarantee operational continuity, stability and power quality. The **SLC ADAPT2 H** Series has been specifically designed to deliver this level of energy security, ensuring reliable and continuous operation even in the most demanding environments.

Performances

- On-line double conversion technology with modular architecture.
- 40 kVA modules with DSP control and three-level PWM technology.
- 2, 4, 6, 8 or 10-module systems (up to 400 kVA per system).
- Possibility of parallel/redundant operation up to 1200 kVA.
- Hot-pluggable and swappable plug & play modules.
- Input power factor >0.99.
- Input current distortion (THDi) <3%.
- Three-phase input / output voltages.
- Output power factor = 1.
- Control and management by means of LCD display, LEDs and keypad.
- Efficiency in On-line mode >96%.
- 99% performance in Eco-mode operation.
- RS-232, RS-485, relays and USB communication channels.
- Smart slots for extended relays and SNMP.
- Smart-efficiency mode to optimize system performance.
- Improved return on investment (ROI).
- Compact design to save space in server rooms.
- SLC Greenergy solution.



Display

Display consisting of operation keys, status LEDs and touch screen detailing all functions, measurements and alarms.

Cable entry

- 2/4 slots: front - internal.
- 6 slots: rear - top.
- 8/10 slots: rear - top or rear - internal.

Technical support and service

- Pre-sales and after-sales advice.
- Start-up.
- Technical support by telephone.
- Preventive/corrective services.
- Maintenance contracts.
- Training courses.

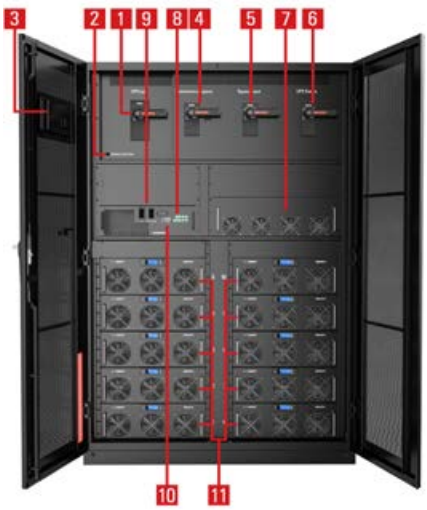
Switches

- 2 slots: input, static bypass, maintenance bypass and output.
- 4 slots: maintenance bypass.
- 6 slots: maintenance bypass.
- 8 slots: input, static bypass, maintenance bypass and output.
- 10 slots: input, static bypass, maintenance bypass and output.

Options

- Extended relays and SNMP adapter.
- Extended back-up times.
- Kit for parallel systems.
- Frequency converter operation.

Connections



1. UPS input.
2. Cold start from batteries.
3. LCD display.
4. Manual bypass.
5. Bypass input.
6. UPS output.
7. Bypass module.
8. Potential-free contacts.
9. SNMP slots and extended relays.
10. RS-232, RS-485 and USB interfaces.
11. Power modules.

Range

MODULES	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC ADAPT2 40 H	694AB000015	40000 / 40000	700 × 510 × 178	45

SYSTEMS	CODE	NO. MODULES (#)	MODULE POWER (VA / W)	MAX. POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC-#/40-ADAPT2 80 H	694OQ000063	1 to 2	40000 / 40000	80000 / 80000	960 × 600 × 1150	165
SLC-#/40-ADAPT2 160 H	694OQ000064	1 to 4	40000 / 40000	160000 / 160000	960 × 650 × 1600	215
SLC-#/40-ADAPT2 240 H	694OQ000065	1 to 6	40000 / 40000	240000 / 240000	1095 × 650 × 2000	265
SLC-#/40-ADAPT2 320 H	694OQ000066	1 to 8	40000 / 40000	320000 / 320000	1100 × 1050 × 2000	380
SLC-#/40-ADAPT2 400 H	694OQ000067	1 to 10	40000 / 40000	400000 / 400000	1100 × 1300 × 2000	495

Nomenclature, dimensions and weights for devices with input voltage 3 x 480 + N V, output voltage 3 x 480 + N V.
Replace # with the number of system modules.
Batteries located in additional cabinets.
The weight shown corresponds only to the system, without modules.

Dimensions

SLC ADAPT2 40 H

SLC-#/40-ADAPT2 80 H

SLC-#/40-ADAPT2 160 H

SLC-#/40-ADAPT2 240 H

SLC-#/40-ADAPT2 320 H

SLC-#/40-ADAPT2 400 H

Technical specifications

MODEL		SLC ADAPT2 H
Module power (VA/W)		40000 / 40000
TECHNOLOGY		On-line double conversion, three-level PWM, DSP control
INPUT	Rated three-phase voltage (3P+N)	3 × 480 V (3F + N + T)
	Voltage range	-40% +10% (1)
	Rated frequency	50 / 60 Hz
	Frequency range	40 - 70 Hz
	Total harmonic distortion (THDi)	≤3%
	Power factor	>0.99
OUTPUT	Power factor	1
	Rated voltage	3 × 480 V (3F + N + T)
	Accuracy	±1% (Static) / +/- 1.5% (Dynamic)
	Total harmonic distortion (THDv)	≤1%
	Frequency	50 / 60 Hz
	Total performance in On-line mode	>96%
	Performance in Smart Eco-mode	99%
	Total performance in batteries mode	>96%
	Admissible overloads	>150% for 200ms / 150% for 1 min / 125% for 10 mins / 110% for 1 hora
	Crest factor	3:1
MANUAL BYPASS	Type	Uninterrupted
STATIC BYPASS	Type	Static thyristor
	Three-phase voltage (V)	3 × 480 V (3F + N + T)
BATTERY	Battery type	SLA maintenance-free, NiCd, gel, Li-Ion
	Charging voltage regulation	Batt-watch
	Charger maximum power (W)	20% of total system power
COMMUNICATION	Display	Touch panel 7"
	Ports	RS-232, RS-485, relays and USB
	Intelligent slot	1 × SNMP/1 × extended relays
GENERAL	Operating temperature	0º C ÷ +40º C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2,400 masl(2)
	Acoustic noise at 1 metre	<72 dB(A)
SYSTEMS	Maximum no. modules per system	10
	Maximum power per system (kVA)	400
	Maximum no parallel systems	3
STANDARDS	Safety	EN-IEC 62040-1
	Seismic	IEC 60068-3-3:2019/COR1:2021 / UBC1997 Zone3 & Zone 4 Ip 1.5
	Electromagnetic compatibility (EMC)	EN-IEC 62040-2
	Operation	VFI-SS-11 (EN-62040-3)
	Quality and environmental management	ISO 9001, ISO 14001, ISO 45001

(1) Depending on load percentage.
(2) Power degradation for higher altitudes, up to a maximum of 5,000 masl.

SLC X-PERT

Uninterruptible power supplies 80 to 400 kVA

SLC X-PERT: High critical power facilities protected by high functionalities

Salicru's **SLC X-PERT** series consists of three-phase UPSs that combine very low total cost of ownership (TCO) with very high efficiency and compact design, providing high-quality uninterruptible power for all critical applications. The technology incorporated offers one of the highest efficiencies on the market in VFI mode and 100% of expected battery life.

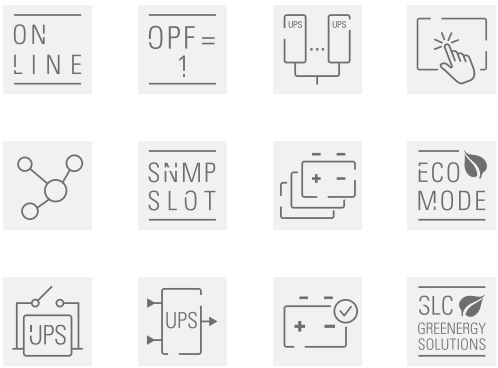
The **SLC X-PERT** series maximises the use of the surface occupied thanks to its high power density design. Models from 200 kVA have complete front access, precluding the need for side or rear space, making them easy to maintain and installable side by side, back to back or against a wall. The common battery option further enhances the ability of the **SLC X-PERT** series to deliver low footprint solutions, freeing space for other equipment.

Applications: Guaranteed energy for all environments

Data centres: Ensures the functionality of environments and prevents losses caused by net failures.
IT-Networks: Prevent costs due to service interruptions or loss of information.
Financial services: Maintains online operability of financial transactions and operations.
Industrial processes: Protects productivity in electrically complicated environments.
Telecommunications: Prevents supply failures that can suspend communication between subscribers.
Infrastructures: Safeguards the instruments/equipment and ensures the proper management of the systems.

Performances

- On-line, double-conversion and DSP control technology.
- Output power factor 1 (VA=W).
- Input current distortion rate (THDi) <3%.
- Double input connection to increase availability.
- Input power factor >0.99.
- High energy efficiency, between 95% and 96% in normal mode and up to 97% in high-efficiency mode.
- No transformer in the inverter, compact design and less weight.
- Parallel system for redundancy or capacity purposes.
- Monitoring and care of batteries with Batt-Watch and longer life in high-efficiency mode.
- Compatible with power generators.
- 10" touch screen for all models.
- Selectable on-line/eco-mode operation.
- Calculation of the backup available in the event of lengthy power cuts.
- Extended life for consumables.
- Wide range of options available.
- SLC Greenergy solution.



High-efficiency mode

High-efficiency operating mode disconnects the DC bus battery when it is fully charged, enabling the DC voltage to be lowered to achieve performance of up to 97% working in on-line mode and in turn protecting and extending the life of the batteries.

Parallel systems featuring UPSs with different powers

For cases in which there is only one UPS and, due to expansion needs, it is necessary to install another device in parallel, the **SLC X-PERT** series enables two devices with different powers to parallel each other in parallel systems of 2 units. For example, a power of 125 kVA with a 100 kVA device.

Technical support and service

- Pre- and after-sales service.
- Commissioning.
- Telephone technical support.
- Preventative/corrective intervention.
- Maintenance contracts.
- Remote maintenance contracts.
- Training courses.

Options

- Parallel/redundant kit.
- Extended backup times.
- Common rectifier/bypass input.
- SNMP adapter.
- NIMBUS adapter for remote management.
- External output voltage synchronism.
- Backfeed protection.
- Transformer.
- Battery temperature sensor.
- Top cable entry.
- External maintenance bypass.
- Modbus protocol.

Heat loss

MODEL	HEAT LOSS 100% LOAD	COOLING
SLC-80-XPERT	4.20 kW	1000 m^3 /h
SLC-100-XPERT	5.30 kW	1200 m^3 /h
SLC-125-XPERT	6.60 kW	1200 m^3 /h
SLC-160-XPERT	8.40 kW	1500 m^3 /h
SLC-200-XPERT	9.40 kW	1800 m^3 /h
SLC-250-XPERT	11.80 kW	2200 m^3 /h
SLC-300-XPERT	14.10 kW	2300 m^3 /h
SLC-400-XPERT	17.50 kW	4500 m^3 /h

Range

MODEL	CODE	POWER (VA / W)	Nº CABINETS (UPS + BAT)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)	BAT DIMENSIONS (D × W × H mm)	BAT WEIGHT (Kg)
SLC-80-XPERT	695KA000023	80000/80000	1+0	940 × 560 × 1500	300	-	-
SLC-100-XPERT	695KA000012	100000/100000	1+1	940 × 560 × 1800	320	855 × 1305 × 1905	829
SLC-125-XPERT	695KA000013	125000/125000	1+1	940 × 560 × 1800	360	855 × 1305 × 1905	829
SLC-160-XPERT	695KA000014	160000/160000	1+1	940 × 560 × 1800	380	855 × 1305 × 1905	1550
SLC-200-XPERT	695KA000006	200000/200000	1+1	970 × 880 × 1978	720	855 × 1305 × 1905	1862

Batteries located in cabinets.
Nomenclature, dimensions and weights for devices with input voltage 3 x 400 V, output voltage 3 x 400 V and standard backup.
This code corresponds olny to the UPS module. Consult code for battery module.

MODEL	CODE	POWER (VA / W)	Nº CABINETS (UPS + BAT)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)	BAT DIMENSIONS (D × W × H mm)	BAT WEIGHT (Kg)
SLC-250-XPERT	695KA000007	250000/250000	1+1	970 × 880 × 1978	850	695 × 2500 × 2285	2171
SLC-300-XPERT	695KA000008	300000/300000	1+1	970 × 880 × 1978	930	695 × 2500 × 2285	2879
SLC-400-XPERT	695KA000009	400000/400000	1+1	970 × 1430 × 1978	1000	695 × 2500 × 2285	3414

Batteries located in banks.
Nomenclature, dimensions and weights for devices with input voltage 3 x 400 V, output voltage 3 x 400 V and standard backup.
This code corresponds olny to the UPS module. Consult code for battery module.

Dimensions

SLC-80÷160-XPERT

SLC-200÷300-XPERT

SLC-400-XPERT

Technical specifications

MODEL		SLC X-PERT
TECHNOLOGY		On-line, double-conversion, DSP control
INPUT	Rated voltage	Three-phase 3 × 380 V / 3 × 400 V / 3 × 415 V (3P+N)
	Voltage range	+15% / -20% (@ 3 × 400 V)
	Rated frequency	50 / 60 Hz (45-65 Hz)
	Frequency range	±10%
	Total harmonic distortion (THDi)	<3%
	Power factor	>0.99
OUTPUT	Power factor	1
	Rated voltage	Three-phase 3 × 380 V / 3 × 400 V / 3 × 415 V (3P+N)
	Total harmonic distortion (THDv) Non linear load	<5%
	Synchronised frequency	±2 Hz
	Frequency	50 / 60 Hz
	High-efficiency performance	Up to 97%
	Eco-mode performance	≥98%
	Admissible overloads	125% for 10 min / 150% for 1 min
	Crest factor	3 a 1
STATIC BYPASS	Type and activation criteria	Solid state, microprocessor controlled
	Voltage (V)	Three-phase 3 × 380 V / 3 × 400 V / 3 × 415 V (3P+N)
	Transfer time	Nil
	Transfer to bypass	Immediate, for overloads exceeding 150%
	Retransfer	Automatic after alarm discontinuation
	Frequency range	±10% (selectable)
	Voltage range	±10% (selectable)
	Input	Independent
	Frequency	50 / 60 Hz
	Admissible overloads	1000% for 1 cycle
BATTERY	Battery type	Lead acid, sealed, maintenance free(1)
	Charge type	Type of charge IU (DIN 41773)
COMMUNICATION	Ports	RS-232, USB
	Backlit LCD display	10" touch screen
GENERAL	Operating temperature	0 ÷ +40°C
	Relative humidity	95% non-condensing
	Maxium operating altitude	2400 m.a.s.l.(2)
	Acoustic noise at 1 metre	<60dB up to 160kVA; <65dB up to 300kVA; <72dB for 400kVA
STANDARDS	Safety	EN-IEC 62040-1
	Electromagnetic compatibility (EMC)	EN-62040-2
	Operation	VFI-SS-11 (EN-62040-3)
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Ni-Cd, Li-Ion and other types of battery available on request.
(2) Power degradation up to 5,000 masl.

SLC X-TRA

Uninterruptible Power Supplies from 100 to 800 kVA

SLC X-TRA: High performance protection for major critical applications

The **SLC X-TRA** series is one of the most reliable, high-performance three-phase Uninterruptible Power Supply system (UPS) on the market, and provides protection and quality energy for a wide range of applications. Based on the Voltage and Frequency Independent (VFI) mode of operation, it has been developed using double conversion IGBT technology with DSP control, which gives considerable savings in the costs of operation and installation while it offers maximum protection for the connected loads.

This series has been conceived to offer the best guarantees in meeting customers' requirements and needs and has been designed in full respect of the most demanding environmental regulations.

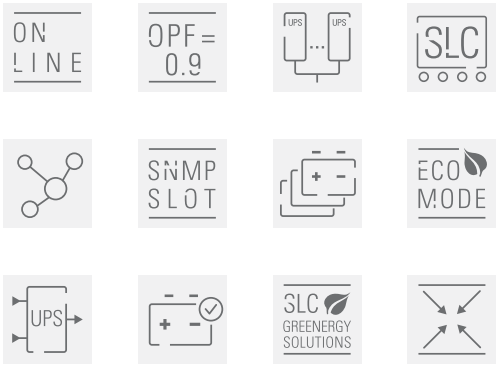
The **SLC X-TRA** series features power range from 100 to 800 kVA in a very compact format for easier installation. Plus, the reliability of the system can be increased with the installation of several redundant units or it can grow in parallel based on the needs of the installation.

Applications: Guaranteed energy for all environments

Data centres: Ensures the functionality of environments and prevents losses caused by net failures.
IT-Networks: Prevent costs due to service interruptions or loss of information.
Financial services: Maintains online operability of financial transactions and operations.
Industrial processes: Protects productivity in electrically complicated environments.
Telecommunications: Prevents supply failures that can suspend communication between subscribers.
Infrastructures: Safeguards the instruments/equipment and ensures the proper management of the systems

Performances

· On-line, double conversion, DSP control.
· Double input connection to increase the availability.
· Input power factor >0.99.
· Total harmonic distortion of input current (THDi) < 3%.
· Efficiency between 95% and 96%.
· Zig-zag transformer on the output inverter.
· Parallel for redundancy or increase the power capacity.
· Compatible with generating sets.
· Inverter manual operation/Smart Eco-mode.
· Prepared to bear computer loads with FP <0.9.
· Batt-Watch battery monitoring and care.
· Calculates available back-up time in a long-term failure.
· Compact format to save on installation space.
· Easy installation, operation and maintenance.
· A wide range of control and monitoring options.
· Large variety of options available.
· SLC Greenergy solution.



Options

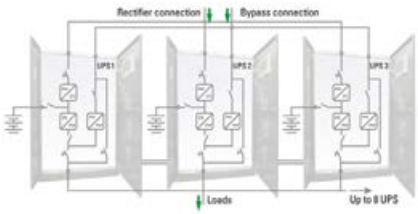
· Parallel/redundant kit.
· Extended autonomies.
· NiCd Batteries.
· BACS II.
· MODBUS protocol + RS-485 interface.
· Platform for remote telemanagement.
· Ethernet / SNMP adapter or GPRS modem.
· Monitoring, management and shutdown software.
· Common input connection.
· Top cable input.
· External manual bypass.

Technical support and service

· Advisory service before and after the sale.
· Start up.
· Telephone technical support.
· Preventive/corrective interventions.
· Maintenance contracts.
· Telemaintenance contracts.
· Training courses.

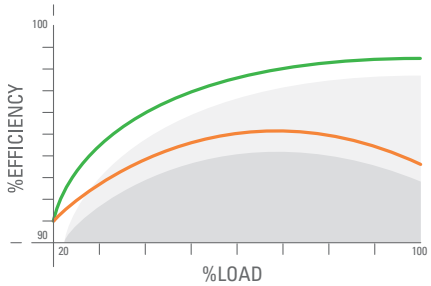
Parallel growth

The parallel UPS can be configured to achieve redundancy or increase the power capacity of the system. Parallel control is fully digital and works for active as well as reactive power in each phase, achieving an exact load distribution between the UPS units in transitory conditionsrs, y compris dans des conditions transitoires.



High efficiency

High performance both On-line mode (between 95% and 96%) and Smart Eco-mode (>98%), reducing operating costs, implementation costs (no need to oversize the wiring), air conditioning costs (without increasing cooling requirements) and working costs (saving energy consumed).



Range

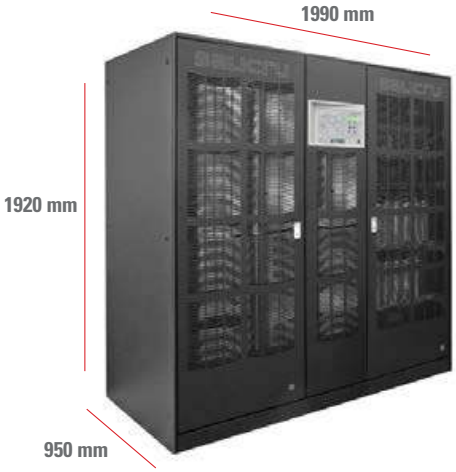
MODEL	CODE	POWER (VA / W)	Nº CABINETS (UPS + BAT)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)	BAT DIMENSIONS (D × W × H mm)	BAT WEIGHT (Kg)
SLC-100-XTRA	695AA000002	100000 / 90000	1 + 1	825 × 815 × 1670	630	855 × 1305 × 1905	875
SLC-125-XTRA	695AA000003	125000 / 112500	1 + 1	825 × 815 × 1670	662	855 × 1305 × 1905	1370
SLC-160-XTRA	695AA000004	160000 / 144000	1 + 1	825 × 815 × 1670	720	855 × 1305 × 1905	1370
SLC-200-XTRA	695AA000005	200000 / 180000	1 + 1	855 × 1220 × 1905	870	855 × 1305 × 1905	1550
SLC-250-XTRA	695AA000006	250000 / 225000	1 + 1	855 × 1220 × 1905	1020	855 × 1305 × 1905	1800
SLC-300-XTRA	695AA000007	300000 / 270000	1 + 2	855 × 1220 × 1905	1200	855 × 1305 × 1905	1370
SLC-400-XTRA	695AB000001	400000 / 360000	1 + 2	950 × 1990 × 1920	1820	855 × 1305 × 1905	1800
SLC-500-XTRA	695AB000002	500000 / 450000	1 + 2	950 × 2440 × 2020	2220	855 × 1305 × 1905	1800
SLC-600-XTRA	695AB000003	600000 / 540000	1 + 2	950 × 2440 × 2020	2400	855 × 1305 × 1905	2125
SLC-800-XTRA	695AB000004	800000 / 720000	1 + 3	950 × 3640 × 1920	3600	855 × 1305 × 1905	1925

Nomenclature, dimensions and weights for units with input voltage 3 x 400 V, output voltage 3 x 400 V and standard backup time.
This code corresponds olny to the UPS module. Consult code for battery module.

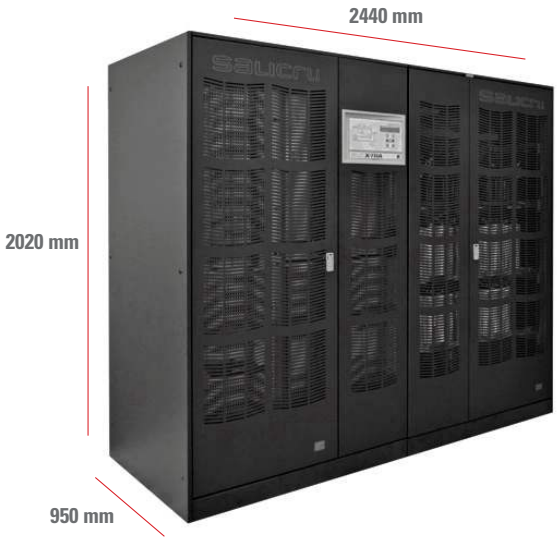
Dimensions

SLC-100÷160-XTRA

SLC-200÷300-XTRA



SLC-400-XTRA



SLC-500/600-XTRA

SLC-800-XTRA

Technical specifications

MODEL		SLC X-TRA
TECHNOLOGY		On-line, double conversion, DSP control
INPUT	Rated voltage	Three-phase 3 × 380 V / 3 × 400 V / 3 × 415 V (3Ph+N)
	Voltage range	+15% / -20% (@ 3 × 400 V)
	Rated frequency	50 / 60 Hz (45-65 Hz)
	Total harmonic distortion (THDi)	<3%
	Power factor	>0.99
OUTPUT	Rated voltage	Three-phase 3 × 380 V / 3 × 400 V / 3 × 415 V (3Ph+N)
	Accuracy	±1% Steady state; ±5% Dynamic state (100% unbalanced) < 20 ms recovery time
	Total harmonic distortion (THDv) Linerar load	<1%
	Total harmonic distortion (THDv) Non linear load	<5%
	Frequency	50 / 60 Hz
	On-line performance	95% - 96%
	Eco-mode performance	>98%
	Admissible overloads	125% for 10 min. / 150% for 1 min / 200% for 10 s />200% for 100ms
MANUAL BYPASS	Type	Without interruption
	100–300 kVA	Seriell
STATIC BYPASS	Type and activation criteria	Solid state, control by microprocessor
	Voltage (V)	Three-phase 3 × 380 / 3 × 400 / 3 × 415 V (3Ph + N)
	Transfer time	Nil
	Transfer to bypass	Immediate for overloads of over 150%
	Retransfer	Automatic after alarm disappearance
	Input	Independent
	Frequency	50 / 60 Hz
	Admissible overloads	1000% for 1 cycle
RECTIFIER	Structure	Three-phase IGBT complete wave, soft start and PFC
	Protection	Against transitory overvoltages
BATTERY	Battery type	Lead acid, sealed, maintenance free(1)
	Recharge time	4 hours, @ 80% of capacity
	Charging voltage regulation	Batt-Watch
	Battery test	Manual + Automatic
COMMUNICATION	Ports	RS-232, USB, Emergency Power Off (EPO), Port for monitoring battery switch
	Backlit LCD display	LCD + LED block diagram
GENERAL	Operating temperature	0º C ÷ +40º C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	< 2,400 m.s.n.m.
	Acoustic noise at 1 metre	< 60 dB
STANDARDS	Safety	EN-IEC 62040-1
	Electromagnetic compatibility (EMC)	EN-62040-2
	Operation	VFI-SS-11 (EN-62040-3)
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Ni-Cd under request.

CF CUBE3+ A

Frequency converter from 5 to 100 kVA

CF CUBE3+ A: Energy efficiency with superior electrical protection

Salicru's **CF CUBE3+ A** series is a Frequency Converters range featuring high-performance, On-line double conversion (VFI) technology that provides a reliable, high-quality power supply and, at the same time, achieves significant energy and financial savings in terms of installation and operating costs.

Particularly noteworthy is the unit's input power factor (PF=1) and its extremely low distortion rate (THDi even lower than 1%), which help to reduce installation and operating costs, and contribute to improving the quality of the electrical grid.

The output power factor (PF=0.9) also stands out, providing optimum electrical protection for computer systems and low harmonic output distortion (THDv even lower than 0.5%), enabling it to protect any type of load (inductive, resistive, capacitive or mixed). In addition, the performance achieved (up to 95%) produces significant energy consumption savings and reduces air conditioning needs.

For a full optimum solution, the **CF CUBE3+ A** provides maximum adaptability with extensive communication options. Finally, also worth noting is the unit's lightweight design and reduced dimensions, enabling it to be easily installed and ensuring that footprint is minimal.

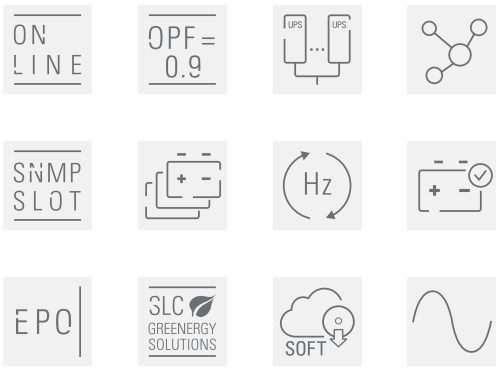
Applications: Designed to protect any type of environment

High-end design features plus great flexibility capacity (options, communications,…) make **CF CUBE3+ A** series the best option to protect and secure a wide range of environments: data-centres, hosting, housing, IT-networks, server farms, voice and data networks,…

Performances

· On-line double conversion (VFI) technology with DSP control.
· Input power factor 1, for better performance.
· Very low input current harmonic distortion (THDi as low as <1%).
· Total flexibility in input/output voltage. (1)
· Designed to withstand any type of load.
· Batt-Watch function for monitoring and battery care if required.
· High output power factor (PF=0.9).(2)
· Very low output voltage distortion rate (THDv even lower than 0.5%).
· Efficiency of up to 95%.
· Touch screen 7" color.(3)
· Very compact design with minimal footprint.
· Can be integrated into the most advanced IT environments
· Built with 80% recyclable materials.
· SLC Greenergy solution.

(1) Single/single, single/three and three/single configurations up to 60 kVA
(2) Depending on the input and output voltage settings
(3) According to model



Technical support and service

· Pre and post-sales advice.
· Start-up.
· Telephone technical support.
· Preventative/corrective intervention.
· Maintenance contracts.
· Remote maintenance contracts.
· Training courses.

Options

· Ethernet/SNMP adapter.
· Adapter for remote management.
· Monitoring, management and shutdown software.
· 1 x additional RS-232/485 serial port.
· Extended backup times.
· BACS II, battery monitoring, regulation and alarms.
· Single/single, single/three and three/single configurations.(1)
· Touch screen 7" color.(1)
· External manual bypass.
· Temperature and humidity sensors.
· External display.

(1) Up to 60 kVA

Range

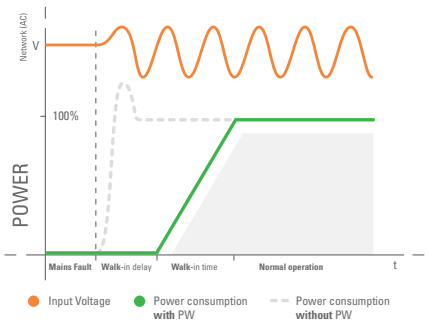
MODEL	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC-5-CUBE3+ A 50/60Hz	681LM000051	5000 / 4500	775 × 450 × 1100	100
SLC-7,5-CUBE3+ A 50/60Hz	681LM000069	7500 / 6750	775 × 450 × 1100	102
SLC-10-CUBE3+ A 50/60Hz	681LM000070	10000 / 9000	775 × 450 × 1100	105
SLC-15-CUBE3+ A 50/60Hz	681LM000071	15000 / 13500	775 × 450 × 1100	150
SLC-20-CUBE3+ A 50/60Hz	681LM000072	20000 / 18000	775 × 450 × 1100	175
SLC-30-CUBE3+ A 50/60Hz	681LM000073	30000 / 27000	775 × 450 × 1100	185
SLC-40-CUBE3+ A 50/60Hz	681LM000074	40000 / 36000	880 × 590 × 1325	265
SLC-50-CUBE3+ A 50/60Hz	681LM000075	50000 / 45000	880 × 590 × 1325	290
SLC-60-CUBE3+ A 50/60Hz	681LM000076	60000 / 54000	880 × 590 × 1325	290
SLC-80-CUBE3+ A 50/60Hz	681LM000077	80000 / 72000	850 × 900 × 1905	540
SLC-100-CUBE3+ A 50/60Hz	681LM000078	100000 / 90000	850 × 900 × 1905	550

Nomenclature, dimensions and weights for units with input voltage 3 x 220 V or 3 x 208 V, output voltage 3 x 220 V or 3 x 208 V and standard backup time.

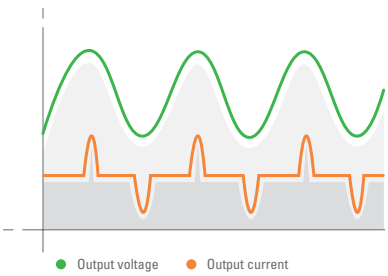
MODEL	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
SLC-5-CUBE3+ A 60/50Hz	681LM000079	5000 / 4500	775 × 450 × 1100	100
SLC-7,5-CUBE3+ A 60/50Hz	681LM000080	7500 / 6750	775 × 450 × 1100	102
SLC-10-CUBE3+ A 60/50Hz	681LM000081	10000 / 9000	775 × 450 × 1100	105
SLC-15-CUBE3+ A 60/50Hz	681LM000082	15000 / 13500	775 × 450 × 1100	150
SLC-20-CUBE3+ A 60/50Hz	681LM000083	20000 / 18000	775 × 450 × 1100	175
SLC-30-CUBE3+ A 60/50Hz	681LM000027	30000 / 27000	775 × 450 × 1100	185
SLC-40-CUBE3+ A 60/50Hz	681LM000084	40000 / 36000	880 × 590 × 1325	265
SLC-50-CUBE3+ A 60/50Hz	681LM000085	50000 / 45000	880 × 590 × 1325	290
SLC-60-CUBE3+ A 60/50Hz	681LM000086	60000 / 54000	880 × 590 × 1325	290
SLC-80-CUBE3+ A 60/50Hz	681LM000087	80000 / 72000	850 × 900 × 1905	540
SLC-100-CUBE3+ A 60/50Hz	681LM000088	100000 / 90000	850 × 900 × 1905	550

Nomenclature, dimensions and weights for units with input voltage 3 x 220 V or 3 x 208 V, output voltage 3 x 220 V or 3 x 208 V and standard backup time.

Power walk-in

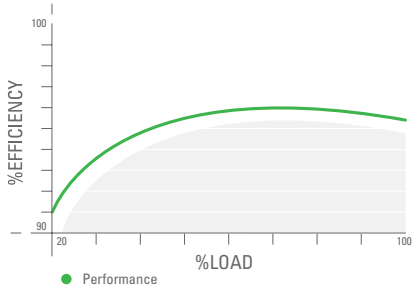


Excellent THDv output distortion



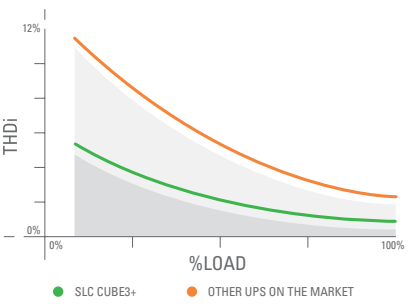
High efficiency

High performance.



Low harmonic distortion

The lowest harmonic distortion in the market.



Technical specifications

MODEL		CF CUBE3+ A
TECHNOLOGY		On-line, double conversion, HF, DSP control
INPUT	Rated voltage	Single-phase 120 / 127 V(1) / Three-phase 3 × 208 / 3 × 220 V (3P + N)(1)
	Voltage range	+15% / -20% (configurable)
	Rated frequency	50 / 60 Hz
	Total harmonic distortion (THDi)	100% load: <1.5% / 50% load: <2.5% / 10% load: <6.0%
	Power factor	1 from 10% load
	Rectifier topology	Three-phase IGBT full wave, soft start, PFC, transformerless
OUTPUT	Power factor	0.9
	Rated voltage	Single-phase 120 / 127 V(1) / Three-phase 3 × 208 / 3 × 220 V (3P + N)(1)
	Dynamic accuracy	± 2% dynamic
	Static accuracy	± 1% steady
	Response time accuracy	20 ms for load steps 0% ÷ 100% and voltage drop up to -5%
	Total harmonic distortion (THDv) Linerar load	<0.5%
	Total harmonic distortion (THDv) Non~linear load	<1.5% (EN-62040-3)
	Frequency	50/60 Hz ±0.05%
	Total performance in On-line mode	7.5÷60 kVA: 92.0%÷93.0% / 80÷200 kVA: 94.0%÷95.0%
	Admissible overloads	125% for 10 min / 150% for 60 s / >150% for 20ms
	Crest factor	>3:1
BATTERY (OPTION)	Battery type	Lead acid, sealed, maintenance free
	Charging voltage regulation	Batt-Watch
COMMUNICATION	Ports	1 × RS232/RS485 + 1xUSB,with Modbus protocol
	Relay interface	4 × AC failure, bypass, low battery and general
	Intelligent slot	1, for SNMP
	Monitoring software	For Windows, Linux and Mac
GENERAL	Operating temperature	0° C ÷ +40° C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2,400 masl (3)
	Acoustic noise at 1 metre	52 dB(A)(2)
STANDARDS	Safety	EN-IEC 62040-1
	Electromagnetic compatibility (EMC)	EN-62040-2
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Single-phase 120 / 127 V available up to 30 kVA inclusive and three-phase 3 x 208 / 3 x 220 V available up to 100 kVA inclusive.
(2) <65 dB(A) for 40 to 60 kVA models / <70 dB(A) for 80 and 100 kVA models.
(3) Power derating for higher altitudes up to 5000 masl.

SOFTWARE USB/RS-232

Management, monitoring and ordered closure

SOFTWARE USB/RS-232: UPS-PC communication

The main function that we require from an Uninterruptible Power Supply (UPS) to protect a computer, is that in case of any electrical problem, power cut, peak voltage or line drop, the UPS protects us and continues to supply power to our computer either from the batteries or by voltage regulation.

However, the autonomy of the batteries is limited in time, so our computer will shut down abruptly when battery storage capacity has run out. This autonomy will depend on the power of our UPS and the load that supports it, therefore, we need to shut down/suspend our computer correctly before this occurs. The complete discharge of the batteries can occur at 8 minutes or 2 hours depending on the load that supports the UPS or battery capacity that we have.

What do we have to do and how do we turn our computer off/suspend it before the batteries run out?

First, connect the USB cable between UPS and Computer. If our UPS has a USB UPSHID function, this will recognise the UPS as if our computer had a battery fully integrated with the operating system, enabling its power functions without requiring any type of software. Therefore, if we only need the computer to be shut down/suspended according to the power configuration of our operating system, this is the best choice.

However, if we want to have additional features, such as sending alerts via e-mail, having an event log, or recording measurements, adjusting UPS parameters, etc., software must be installed for our particular UPS model.

FEATURES	USB UPSHID	VIEWPOWER
Graphic monitoring of the UPS status	–	●
Recording of events and measures	–	●
WEB application	–	●
Ordered closure/suspension of the UPS due to battery time	●	●
Ordered closure/suspension of the UPS due to remaining battery level %	●	●
Scheduled on/off of the UPS	–	●
Sending of alerts and notifications by e-mail (or SMS via GSM modem)	–	●
Network computers switched off (master/slave)	–	●
Multi-language	●	●
Support for virtual environments	–	●

(•) Included (–) Not included

Software Viewpower

Viewpower is an advanced software for the administration and management of the UPS. It allows remote monitoring and remote administration of one to several UPS devices in a network environment, either LAN or internet. It also provides statistical information on events and measures. **Viewpower** is the solution for managing the controlled shutdown of our computer system and preventing the loss of data.

Series: SPS ONE A UL / SLC TWIN PRO2 A / SLC TWIN PRO2/RT2 T UL / SLC TWIN RT2 A / SLC CUBE3+ A
Available operating systems: MAC/Windows/Linux/VMware

VIEWPOWER

USB UPSHID

This function is incorporated in the operating system and detects the UPS as an additional battery to our computer system, allowing management from the operating system's power menu. Allowing you to turn off the computer or hibernate it after x minutes if you are working in battery mode.

Series: SPS ONE A UL / SLC TWIN PRO2 A / SLC TWIN PRO2 T UL / SLC TWIN RT2 T UL / SLC TWIN RT2 A / SLC CUBE3+ A
Available operating systems: MAC / Windows / Linux

USB UPSHID

ETHERNET/SNMP/NIMBUS CLOUD NETWORK CARDS

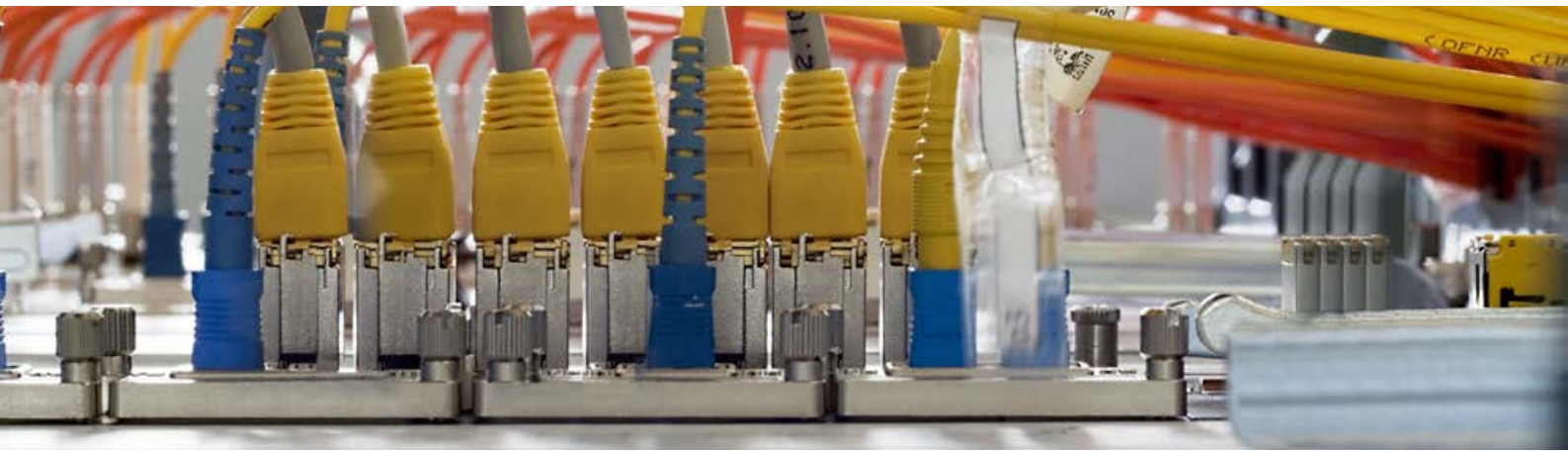
Ordered closure of servers / MQTT IOT

NIMBUS cloud / Ethernet / SNMP Network Cards: The best add-ons to protect your computer network

In case of any electrical problem - supply cut, voltage peak or line drop - the main function of an Uninterruptible Power Supply (UPS) is to protect the connected loads and continue supplying power to your computer network, either from the batteries or by voltage regulation. New IoT technologies, based on communications through MQTT channels, allow us to have a WEB application in the CLOUD so we can manage our equipment from anywhere with an Internet connection.

It is very important to monitor the UPS to see whether it is working properly at all times, so that it can notify us of its correct operation and/or manage the complete and ordered closure of our private computer network. This is why the installation of a local Ethernet Network card in the UPS or a NIMBUS Card is necessary, so that it can autonomously manage the different functions required by our computer network.

Salicru offers a complete range of Ethernet/SNMP/NIMBUS network cards to meet our customers' requirements.



Nimbus Ethernet Adapter / SNMP web adapter

Salicru's **NIMBUS** cards are designed and developed to offer different communication services to Salicru's customers. Its Linux Embedded operating system allows simultaneous management of 'Panel Web, Telemonitoring, SNMP, Modbus TCP and Server Shutdown' services.

It includes the following features:

- **Remote upgrade:** to manage new UPS models and additional services. (IoT connection required for all models)
- **Panel Web:** visualisation of the available measurements, variables and alarms using a block diagram.
- **Telemonitoring: Salicru's** cloud connection functionality.
- **SNMP:** compatibility with UPS in accordance with the RFC1628 standard, for monitoring via Nagios software, Zabbix, etc.
- **MODBUS TCP:** display of measurements, variables and alarms for connection to PLC or SCADA software.
- **Server shutdown:** sending shutdown orders, using RCCMD`(optional) software.

NIMBUS STANDARD

NIMBUS2 MINI

NIMBUS

Download on the App Store

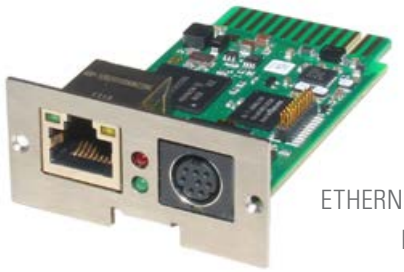
Available on the Google Play

Ethernet Adapter / SNMP WEB Adapter

The functions incorporated in these cards will be able to satisfy the most demanding requirements of IT administrators. They are quick to configure, which facilitates your work, have extensive options for monitoring and personalisation of events, complete off/on options (wake on lan) of our physical or virtual server farm, SNMP (v2, v3) and MODBUS gateway (tcp), special mention in the field of security allowing the use of SSL through digital certificates belonging to the client.

They also allow the connection and management of temperature / humidity probes, SMS sending via a GSM modem, and management of voltage-free contacts.

ETHERNET ADAPTER STANDARD



ETHERNET ADAPTER MINI

Nimbus Cloud, remote monitoring system, with 24/7 availability

Modern companies run their systems 365 days a year, and therefore require total electrical protection. **Salicru** equipment featuring the **NIMBUS** remote monitoring service offers a perfect complement to the service of the most demanding customers.

The **NIMBUS** remote monitoring system is comprised of 3 systems: the Nimbus Card (Embedded Linux Systems) housed inside the **Salicru** equipment and connected to the Internet either via the customer's corporate network or optionally via 3G/4G router; the Nimbus Cloud, a system that collects, organises and distributes the sensors and alarms sent by the **Salicru** equipment; and **Salicru's** team of Technical Support Service engineers who offer a 24/7 service providing answers to any questions that the customer may have.

The Nimbus Card is based on the latest IoT technologies, featuring channel connection via MQTT and historical data collection via InfluxDB.

UNMS II: Unlimited Salicru's UPS management

Software for centralised monitoring of a large fleet of UPS installed in our company. The **UNMS II** is installed as a WEB service to facilitate monitoring and management. The **UNMS II** is a scalable software that has different licensing levels according to the equipment to be monitored, from the basic and free level, of 9 UPS devices, to installations of more than 2,500.

RCCMD: Remote shutdown application

Software agent for most physical/virtual operating systems. The different actions (shutdown, message, action) are executed by customisable scripts, after receiving the order from the Ethernet Adapter / SNMP WEB Adapter. Compatible with most operating systems, including virtual systems (vmware, citrix and hyperv).

Software licensed by a physical server to be managed. Each adapter includes a license. For more servers, additional licenses must be purchased. It offers the SSL security option.

DESCRIPTION	NIMBUS ETHERNET ADAPTER/ SNMP WEB ADAPTER	ETHERNET ADAPTER / SNMP WEB ADAPTER
Compatible with all series featuring Salicru slots	According to the lower compatibility list	Yes
Easy configuration assistant	Self configurable	Yes
Data visualisation	Graph, block diagram	Graph, block diagram
Connection to the Salicru Cloud (IoT – MQTT)	Yes, for all compatibles series (1)	No
Ordered shutdown of servers	Yes, due to power failure and low battery alarm via RCCMD (optional) Software, for most physical / virtual Operating Systems	Yes, event activation by RCCMD software for most physical / virtual operating systems
SMTP configuration	Yes	Configurable, enables encryption, port customisation
Email notifications	Automatic, non-customizable text / message	Automatic and/or allows for customisation of alerts to be sent, and at what time
SMS notifications	Yes (SMS sending via the cloud)	Yes (via optional modem)
Push notifications	Yes (Webserver)	No
Customisable events according to UPS values / measurements	No	Yes
SNMP compatibility	SNMP V2	SNMP V2 and V3
MIB file compatibility	RFC1628, and private MIBs	RFC1628, and private extensions
History of events and measurements	Events and measures in graphical table, exportable to excel for DC power-S	Customisable, viewing of text and graphs, allows export to Excel
API REST protocol	Yes	Yes
MODBUS protocol	TCP and RS232	TCP and RS232
BACnet protocol	No	Yes
IEC61850 protocol	Yes (DCS only)	No
LonWork, ProfiBus protocol	No	Yes, requires optional
Remote SysLog	No	Yes
Secure access	2 levels of access, Engineer, Guest, SSH secure access	Via Configurable Login and Password
Manageable relays option	No	Yes
Optional Temperature / Humidity Probe	No	Yes
Firmware Upgrade	Yes	Yes
Remote Firmware Upgrade	Yes (IoT connection required)	No

(1) Check for SLC TWIN PRO2 0-3 kVA models

COMPATIBILITY BY SERIES	MODEL	NIMBUS ETHERNET ADAPTER/ SNMP WEB ADAPTER	ETHERNET ADAPTER / SNMP WEB ADAPTER
SLC TWIN PRO2 T UL	MINI	●	●
SLC TWIN RT2 T UL	MINI	●	●
SLC TWIN PRO2 A	MINI	●	●
SLC TWIN RT2 A	MINI	●	●
SLC ADAPT2 A	MINI	●	●
SLC CUBE3+ A	STANDARD	●	●
DC POWER -S	STANDARD	●	–
DC POWER -L	STANDARD	●	–
RE3 A	STANDARD	●	–
EMi3 A	STANDARD	●	–
SLC X-PERT	STANDARD	●	●
SLC X-TRA	STANDARD	●	●

● Compatible – No compatible

(1) Optional RS485 required

UBT

Rechargeable AGM battery 4.5 Ah - 100 Ah / 12 V

UBT: Powerful and reliable back-up storage

Salicru's **UBT** series batteries are extremely powerful and compact rechargeable lead-lead dioxide energy accumulators particularly suitable for UPSs and other security systems that require reliable and high-quality energy back-up.

Salicru's **UBT** battery range includes 4.5 Ah, 7 Ah, 9 Ah, 12 Ah, 17 Ah, 24 Ah, 45 Ah, 55 Ah, 65 Ah, 90 Ah and 100 Ah models, all at 12 V.

The sulphuric acid electrolyte is absorbed by the separators and plates. And these in turn immobilised. They are designed using gas recombination technology which eliminates the need for the regular addition of water by controlling the evolution of hydrogen and oxygen during charging. The battery is completely sealed and watertight and therefore maintenance free, enabling it to be used in any position. If the battery is accidentally overcharged, resulting in the production of hydrogen and oxygen, a number of special one-way valves allow the gases to escape to avoid interior overpressure.

Applications:

Uninterruptible power supply systems (UPS), emergency lighting systems, signalling systems, communications and electrical equipment, broadcasting systems, lift automation panels, electronic cash registers, etc.

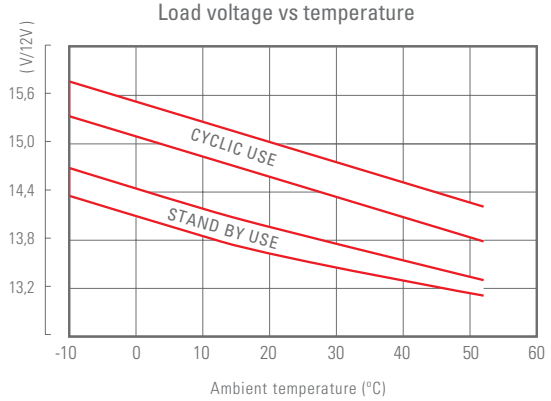
Performances

- AGM technology for efficient gas recombination of up to 99% and free of maintenance or adding water.
- 10/12 years of long life. (1)
- No restrictions for air transport, compliance with IATA/ICAO Special Provision A67.
- Can be mounted in any position.
- Lead designed by computer with calcium/tin alloy rack for high energy density.
- Long service life in both float and cyclic applications.
- Maintenance-free.
- Low self-discharge.

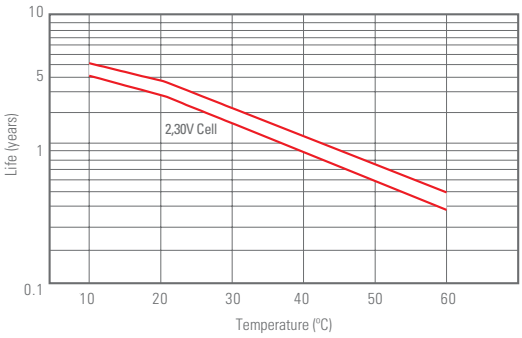
(1) Only for models ≥ 45Ah

Behaviour charts

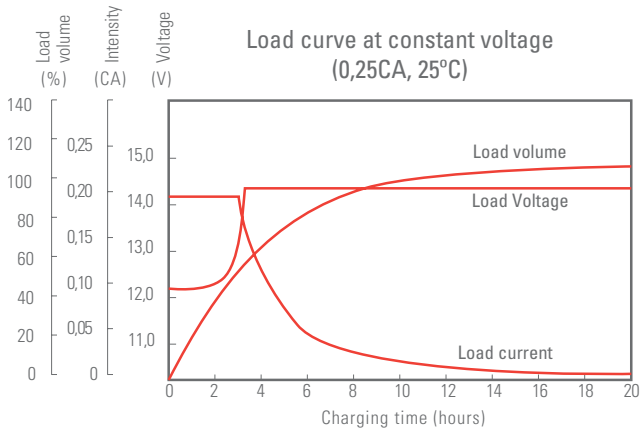
Load voltage vs temperature



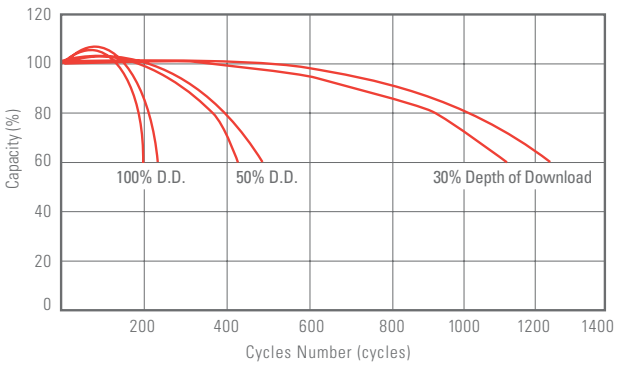
Temperature vs life design



Load curve at constant voltage (0,25CA, 25°C)



Cycles number vs load depth



Battery construction

COMPONENT	RAW MATERIAL
Positive plate	Lead dioxide
Negative plate	Lead
Container	ABS
Lid	ABS
Safety valve	Rubber
Terminal	Copper
Separator	AGM
Electrolyte	Sulphuric acid

Range

MODEL	RATED CAPACITY AT 25 °C				INTERNAL RESISTANCE	MAXIMUM DICHARGE CURRENT	DIMENSIONS (mm)			WEIGHT (Kg)
	20 HOURS	10 HOURS	5 HOURS	1 HOUR			DEPTH	WIDTH	HEIGHT	
UBT 12/4,5	4,5 Ah (0,23 A, 10,5 V)	4,2 Ah (0,42 A, 10,5 V)	3,85 Ah (0,77 A, 10,5 V)	2,7 Ah (2,95 A, 10,5 V)	≤30 mΩ	68 A (5s)	70 ±1	90 ±1	101 ±1	1,5
UBT 12/7	7,0 Ah (0,35 A, 10,5 V)	6,5 Ah (0,65 A, 10,5 V)	6 Ah (1,2 A, 10,5 V)	4,2 Ah (4,59 A, 9,6 V)	≤25 mΩ	105 A (5s)	65 ±1	151 ±1	94 ±1	2,1
UBT 12/9	9,0 Ah (0,45 A, 10,5 V)	8,4 Ah (0,84 A, 10,5 V)	7,7 Ah (1,54 A, 10,5 V)	5,4 Ah (5,9 A, 9,6 V)	≤19 mΩ	135 A (3s)	65 ±1	151 ±1	94 ±1	2,5
UBT 12/12	12 Ah (0,6 A, 10,5 V)	11 Ah (1,12 A, 10,5 V)	10,25 Ah (2,05 A, 10,5 V)	7,2 Ah (7,86 A, 9,6 V)	≤19 mΩ	180 A (5s)	98 ±1	151±1	95 ±1	3,4
UBT 12/17	17 Ah (0,85 A, 10,5 V)	16 Ah (1,59 A, 10,5 V)	14,55 Ah (2,91 A, 10,5 V)	10,5 Ah (11,1 A, 9,6 V)	≤17 mΩ	225 A (5s)	77 ±1	181 ±1	167 ±1	5
UBT 12/24	24 Ah (1,20 A, 10,5 V)	22 Ah (2,24 A, 10,5 V)	20,50 Ah (4,10 A, 10,5 V)	15 Ah (15,40 A, 9,6 V)	≤14 mΩ	360 A (5s)	166 ±2	175 ±2	125 ±2	7,4
UBT 12/45	47,80 Ah (2,39 A, 10,8 V)	45 Ah (4,50 A, 10,8 V)	38,40 Ah (7,68 A, 10,8 V)	25 Ah (25,00 A, 10,8 V)	≤7,5 mΩ	400 A (5s)	197 ±2	165 ±2	170 ±2	13,8
UBT 12/55	58,40 Ah (2,92 A, 10,8 V)	55 Ah (5,50 A, 10,8 V)	47 Ah (9,39 A, 10,8 V)	30,60 Ah (30,60 A, 10,8 V)	≤6,5 mΩ	550 A (5s)	230 ±2	138 ±2	211 ±2	17,3
UBT 12/65	69 Ah (3,45 A, 10,8 V)	65 Ah (6,50 A, 10,8 V)	55,50 Ah (9,39 A, 10,8 V)	36,20 Ah (36,20 A, 10,8 V)	≤6,5 mΩ	650 A (5s)	350 ±2	166 ±2	179 ±2	20,4
UBT 12/90	95,40 Ah (4,77 A, 10,8 V)	90 Ah (2,24 A, 10,8 V)	77 Ah (4,10 A, 10,8 V)	50,10 Ah (15,40 A, 10,8 V)	≤5 mΩ	800 A (5s)	306 ±2	169 ±2	211 ±2	27
UBT 12/100	106 Ah (5,30 A, 10,8 V)	100 Ah (10,00 A, 10,8 V)	85,50 Ah (17,10 A, 10,8 V)	55,60 Ah (55,60 A, 10,8 V)	≤4,5 mΩ	800 A (5s)	330 ±2	171 ±2	214 ±2	29,5

Résistance interne: Batterie entièrement chargée à 25°C

Technical specifications

MODEL		UBT
Nominal voltage (V)		12
Number of cells		6
Life Clasification		Long Life(1)
Self-discharge		3% (2)
Operating temperature range	Discharge	-15°C ÷ +50°C
	Charge	-10°C ÷ +50°C
	Storage	-20°C ÷ +50°C

(1) Only for models ≥ 45Ah
(2) Reduction of capacity per month at 20°C (average)

Battery compatibility vs series

	UBT 12/4,5	UBT 12/7	UBT 12/9	UBT 12/12	UBT 12/17	UBT 12/24	UBT 12/45	UBT 12/55	UBT 12/65	UBT 12/90	UBT 12/100
SPS PC	●	-	-	-	-	-	-	-	-	-	-
SPS ONE A UL	-	●	●	-	-	-	-	-	-	-	-
SLC TWIN PRO2 A	-	●	●	-	-	-	-	-	-	-	-
SLC TWIN PRO2 T UL	-	●	●	-	-	-	-	-	-	-	-
SLC TWIN RT2 A	-	●	●	-	-	-	-	-	-	-	-
SLC TWIN RT2 T UL	-	●	●	-	-	-	-	-	-	-	-
SLC CUBE3+ A	●	●	●	●	-	●	●	●	●	●	●
SLC ADAPT2 A	●	●	●	●	●	●	●	●	●	●	●
SLC X-PERT	-	-	-	-	-	●	●	●	●	●	●
SLC X-TRA	-	-	-	-	-	●	●	●	●	●	●

BACS

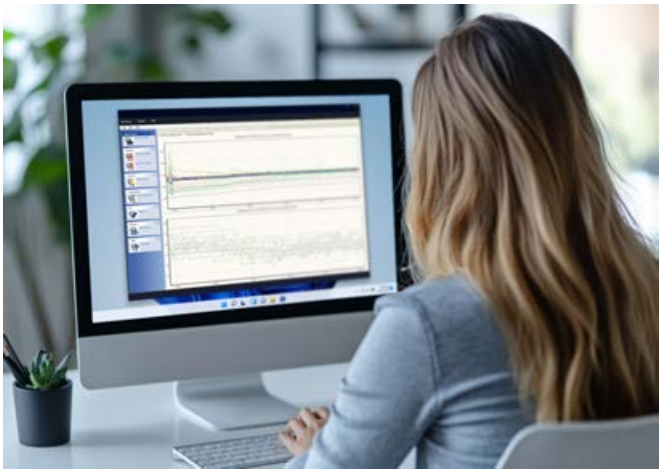
Battery analysis and care system

BACS: the 3rd generation of the battery management system

Monitoring, regulation and alarm system for lead-acid batteries. Ensuring full battery system operability, preventing unexpected or unnoticed faults caused by defective batteries, extending the lifetime of the batteries and helping to presence system reliabitily.

The 3rd generation of the Battery Analysis and Care System, **BACS**, is a network-integrated battery monitoring and management system. It regularly checks the internal resistance, temperature and voltage of each individual battery. It is also possible to adjust the charging voltage of each battery and manage environmental measurements (temperature, humidity, hydrogen gas content) and applications (UPS systems, rectifiers, DC systems, inverters and other devices). This ensures that the batteries always remain in optimum operating conditions. The system's ability to constantly monitor and individually control the charging voltages for each battery ensures battery availability at all times - making the so-called Achilles heel of UPS systems (or any other power device) a thing of the past.

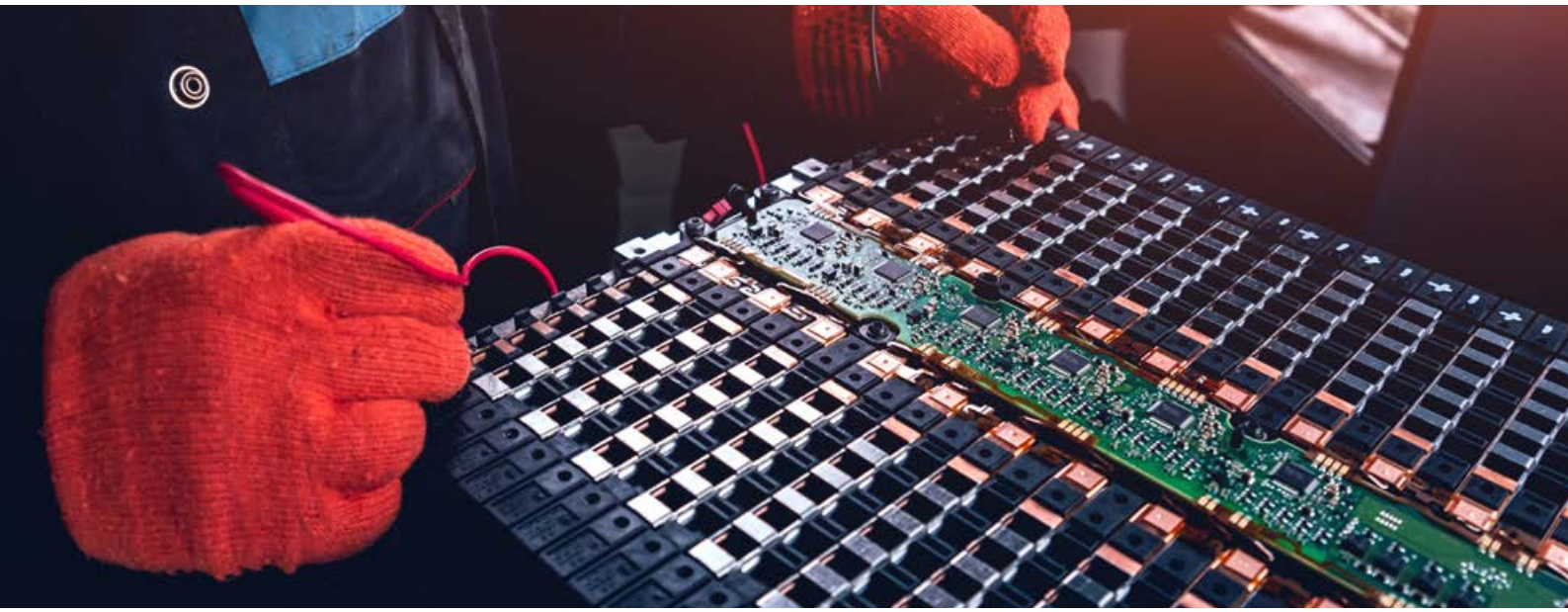
BACS is suitable for all lead-based (AGM, gel, sealed and open lead-acid), nickel-based and lithium-ion batteries.



Monitoring software

Technology

· The system is designed to monitor and control batteries individually or in battery blocks, providing a symmetrical charging process.
· Individual voltage regulation: even distribution of the voltage supplied by the charger.
· Protection against any unexpected individual overcharging (gassing), drying out or full discharge of batteries.
· Sulphation problems are prevented through visualisation and communication of sulphation levels.
· Protection for nearby batteries against charging voltage faults in one battery.
· Through its equalising system, it ensures optimum capacity for battery systems throughout their lifetimes.
· Intensive and comprehensive analysis in one battery of the power supply system.
· Available for sealed lead batteries (2, 6, 12 and 16 V) and Ni-Cd, Ni-MH, lithium-ion batteries (1.2 to 3 V) with capacities ranging from 7 Ah to 5000 Ah.



Advantages

· Increased durability and battery pack capacity.
· Replacement of full battery packs as a precautionary measure is not necessary.
· Batteries can be used up until the end of their useful lives.
. Costly monitoring and maintenance routines are no longer required.
· Unexpected or unnoticed battery faults are avoided.
· Optimisation of battery capacity.
· Cheaper monitoring per battery.

Technical specifications

MODEL	WEBMANAGER
PROCESSOR AND MEMORY	32-Bit RISC processor, 32 MB storage / 64 MB RAM
POWER CONSUMPTION	At 24 V / 100 mA for BACS module +10 mA
INTERFACE	3 x RS-232 interfaces, including 1 for the battery bus 1 x RJ10 for the battery bus converter 1 battery bus converter included 1 x RJ45, 10/100 Mbit Ethernet connector
DIMENSIONS	Housing: 69 x 30 x 126 mm (L x W x H) Card: 60 x 20 x 130 mm (L x W x H) (slot format)
WEIGHT	Housing: 110 g Card: 90 g
TEMPERATURE	0-60°C, maximum humidity 90% non-condensing

MODEL	BATTERY MODULE
POWER CONSUMPTION	30 mA en modo normal < 8 mA en Modo Sleep (Rev 1.4) < 1 mA en Modo Sleep (Rev 1.6)
MEASUREMENT TOLERANCE	Internal resistance <10% Voltage <0.1% Temperature <5%
INTERFACES	2 x RJ10 for BACS battery bus Internal RS-232 interface 1 x button for addressing Temperature sensor -10 to 100°C Measurement value (depending on type) 1.3V - 16V LED display (green LED)
HOUSING	ABS housing (UL certified, cooling by non-flammable fins)
DIMENSIONS	80 x 55 x 27 mm (L x W x H)
WEIGHT	75 g
TEMPERATURE	0-60°C, maximum humidity 90% non-condensing
PROTECTION DEGREE	IP30

Webmanager

- **BACS** WEBMANAGER manages up to 330 BACS modules in 10 series/strings of batteries.
- Each battery is managed individually.
- The power supply voltage range is 9-30 V.
- It fully replaces the UPS' SNMP adapter.
- Simple DIN rail installation.
- Relay alarms for use in the network.

Battery modules

- Individual monitoring of batteries in a 7 to 5000 Ah range.
- Pb-Ca batteries: 2, 6, 12 and 16V.
- Ni-Cd, Ni-MH, Litium- Ion batteries: 1.2 to 3V.
- "Equalising" principle: even distribution of charging voltage across all batteries, up to 150 mA for each one.
- Efficient uniformity of voltage levels in batteries of up to 300 Ah.
- Minimal heat dissipation at the highest voltage regulation.

Technical specifications

MODELO	BUS CONVERTER 2 (standard)
CONSTRUCTION	Conversion and galvanic separation of the BACS battery bus to the WEBMANAGER
POWER CONSUMPTION	Wall wart 12 V/ 800 mA (default for up to 160 modules) Optional 12 V/ 1400 mA for up to 256 modules
INTERFACES	2 x RJ10 for BACS battery bus 1 x RJ12 for COM3 of the WEBMANAGER 1 x MiniDin8 interface/RS-232 for serial connection to PC For CONVERTER 3, an adapter is required (see below) 1 x DC connector for mains power supply

MODEL	BUS CONVERTER 3 (optional)
CONSTRUCTION	The same as CONVERTER 2, but with an additional LED display, acoustic alarm with acknowledge button and potential-free contacts (2-pole screw terminals for maximum 1 mm² cross section, 125 Vac, 60 Vdc and 1 A). Also included is a second RJ10 bus for the BACS battery bus (ring)
OPCIONAL	Adapter from mini-8 to RS-232 with 1.5 m mini-8 connection cable
HOUSING	Grey polystyrene housing
DIMENSIONS	Measurements: 91.5 x 67 x 25 mm (L x W x H)
WEIGHT	120 g
TEMPERATURE	0-60°C, maximum humidity 90% non-condensing

Bus coupling

- Easy installation through rapid connection of bus cables with Velcro fastening.
- Cables with special crimping are not necessary.
- Pre-assembly of the measurement cables prior to the installation of the batteries.
- Easy and rapid reinstallation of modules.

Bus cable

Measurement cable

EQUINOX APP AND WEB PORTAL

Comprehensive 24-hour monitoring

EQUINOX2 offers the ability to monitor all operating parameters 24 hours a day (see optional features) through our **EQUINOX App**, available for iOS and Android, as well as through the Web Portal, both developed by our Connected Software Department.

A single user can view and manage multiple inverters or plants, while one plant can be monitored by several users. The application has been specifically designed with professional installers in mind, providing an easy, intuitive, and secure experience. This allows them to maintain control over authorised installations, access key information promptly, and offer more efficient and responsive maintenance and support services.

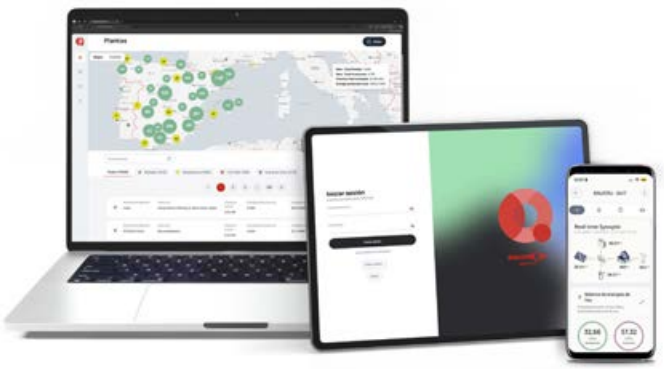
The monitoring kit supplied free of charge with our on-grid **EQUINOX2 S/SX** units enables users to check generation, consumption, and grid export data (in cases of compensation or surplus sale) during photovoltaic production hours, when the panels are supplying voltage. The system also offers the option of zero injection, thereby preventing surplus energy from being exported to the grid.

With regard to the **EQUINOX2 T** inverter, the data obtained with the standard kit is limited to generation. However, it can be expanded to provide full 24-hour monitoring through the use of the **SLC Energy Manager**.

Meanwhile, **EQUINOX2** hybrid units include 24-hour monitoring as standard, with records of generation, consumption, and export, as well as zero-injection functionality, without the need for additional devices.

Furthermore, for advanced projects or customised integrations, **EQUINOX2** can be connected to SCADA systems, either proprietary or via API, offering flexible integration with external platforms. The system's versatility is further enhanced by its compatibility with inverters from other brands, enabling centralised supervision of multiple devices within a single installation.

Overall, **EQUINOX2** and its advanced monitoring ecosystem provide a comprehensive solution for the efficient management of solar energy. Combining accessibility, security, and precision, it offers both users and installers a powerful and versatile tool for optimising the performance and efficiency of their photovoltaic systems.



EQUINOX APP UI

EQUINOX

https://equinox.salicru.com

Performances

- Real-time data consultation
- Historical data groups (by day, month, or year)
- Information on economic savings achieved
- Total CO_2 reduction achieved and its equivalent in trees planted
- Self-consumption quota (which gives us an idea of how well our solar installation is being used)
- Autarky quota (which indicates how independent our installation is from the grid)
- Installation management/visualization
- Simultaneous management of multiple installations (especially for installers)
- Integrations available via API and SCADA
- Compatibility with other brands of inverters

Facilitates maintenance and technical support

Installers and technical service personnel can access information in real-time, allowing them to efficiently diagnose and resolve incidents without unnecessary travel. This translates to significant time and cost savings for users.

Customisation options and regular updates

The **EQUINOX APP** and **web portal** allow users not only to monitor their system but also to configure the operating parameters according to their needs. Additionally, thanks to remote connectivity, the software automatically updates with the latest improvements and features without requiring manual intervention.

Total accessibility from any device

With the **EQUINOX APP** and **web portal**, users can access the status of their installation at any time, using a mobile phone, tablet, or computer. This enables continuous monitoring and ensures a swift response to any incidents.

Monthly reports on plant performance

This option allows you to generate automatic summaries of plant performance, facilitating efficiency analysis, incident detection, and energy saving monitoring over time.

Safety and control of discharge to the grid

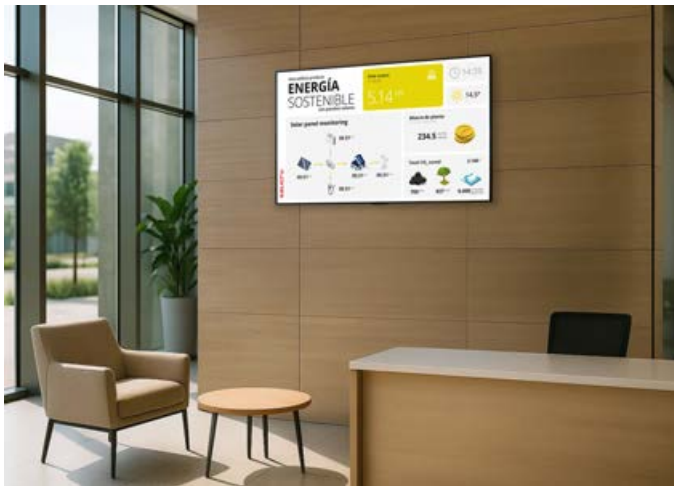
The ability to configure zero feed-in ensures that excess energy is not fed into the grid, complying with current regulations and allowing users to maximise their self-consumption without risk. Furthermore, with the addition of the **SLC Energy Manager**, the management possibilities expand even further, allowing for a more precise control of energy consumption, storage and distribution and further optimising the performance of the installation.

Early detection of incidents

The platform can detect any anomaly in the system's performance, alerting the user or the authorised installer to implement corrective measures before the problem affects the energy supply.

Shared monitoring for viewing on any display

The **EQUINOX APP** and **web portal** also include the option to share a public display page. This feature allows third parties to consult the status of the plant from any device with a web browser, which is ideal for businesses and companies looking to showcase their energy generation, sustainability measures, and consumption data to the public.



SLC ENERGY MANAGER

Smart energy meter

SLC ENERGY MANAGER: Efficient energy management

The **SLC ENERGY MANAGER** stands out for its straightforward installation process and user-friendly method of configuring the system's basic parameters via cable or WiFi, ensuring no unnecessary time is wasted during the system startup. Additionally, the Energy Manager includes a range of advanced features that optimise performance and efficiency in solar photovoltaic installations, making it an invaluable ally for your solar projects.

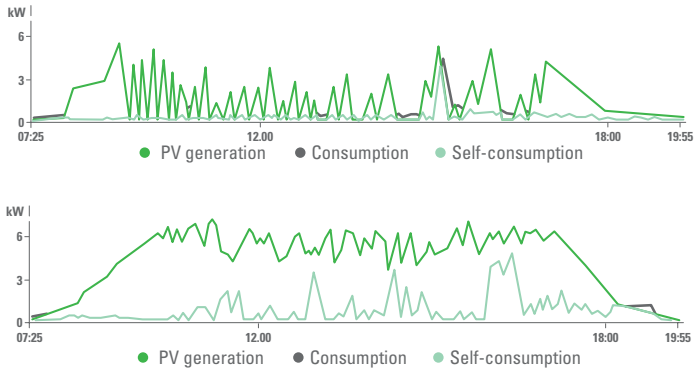
One of the most recently integrated functions simplifies the installation process to avert potential complications when aligning the phase supply with the toroidal in three-phase equipment while verifying the orientation of the clamp meter in single-phase installations. It is the only device on the market that offers **automatic current transformer configuration**, enabling faster connections without metering errors.

Performances

- Autoconfiguration of current transformers.
- Dynamic injection control.
- Programmable dry contact.
- Measurement capacity and Wi-Fi connectivity integrated in a single device.
- Access to the **EQUINOX APP** and web portal.
- Zero-injection management of surplus energy.
- Savings achieved through smart management of generation devices and loads.
- High degree of compatibility with existing systems.
- Complete solution option with current transformers included.

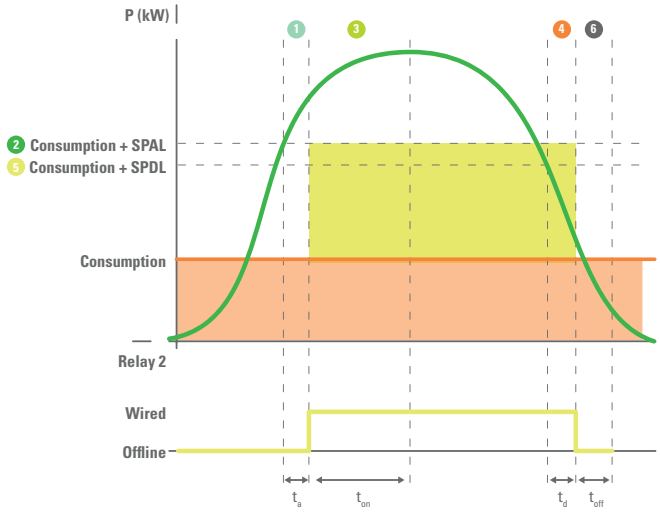
Dynamic feed-in control

Say goodbye to issues with inverter line surges caused by inadequate grid installations. Our device features dynamic feed-in control, which continuously regulates the energy fed into the grid, generating up to 80% more energy. This ensures safe and stable operation while preventing the system from exceeding safety thresholds. This is essential for working within the safe voltage range of the indoor installation and extending the lifetime of the electronic devices.



Programmable dry contact

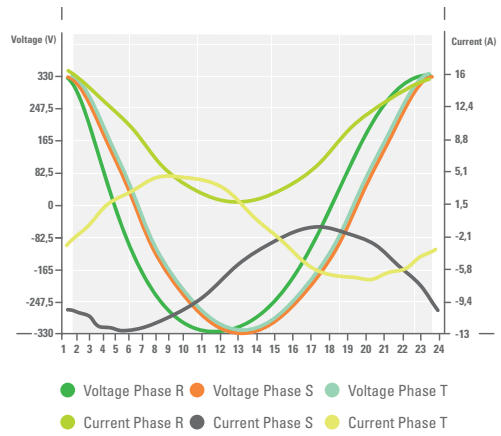
An integrated programmable dry contact allows surplus energy to be redirected to systems such as air-source heat pumps or resistive loads. This not only maximises the utilisation of the energy generated but also enhances the overall efficiency of the installation.



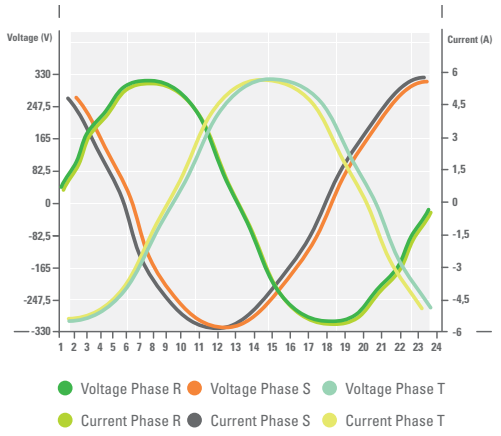
Energy community

An energy community can be created by installing and integrating different **SLC Energy Manager** devices in the homes or at the consumption points that form the community. Each user can view their energy consumption alongside their proportional share of the community's energy generation as if it were an individual photovoltaic system.

You can also configure up to ten weather probes to collect precise data on solar radiation, ambient temperature, and cell temperature. This allows for more accurate control of the plant and improved management of the generated energy.



Reading before applying automatic phase rotation



Reading after application of automatic phase rotation

Up to 30 devices in parallel

The system can handle up to 30 devices simultaneously for grid inverters and up to 4 devices for hybrid inverters, including zero feed-in capability. This feature is crucial for complying with specific regulations and ensuring that no excess power is released into the grid.

For more advanced users, it supports the connection of any transformer with a secondary current of 5 A, offers full configuration options for grid-related issues, and enables interaction with the device via API for integration into existing proprietary systems.

European servers

All data is stored on European servers, and the device is compatible with inverter equipment from other brands.

Additionally, it can be fully upgraded remotely, allowing you to continuously receive updates and enjoy new features without needing to replace the equipment.

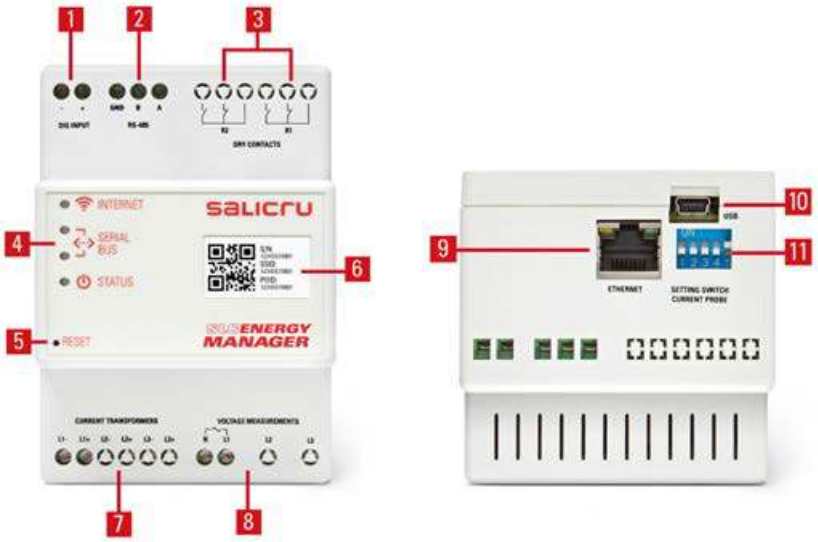
Together, these features make the **SLC ENERGY MANAGER** an intelligent and efficient solution for advanced solar energy management, optimising both the performance and profitability of installations.

SLC ENERGY MANAGER Range

MODEL	CODE	EAN CODE	DESCRIPTION
SLC ENERGY MANAGER 80D16	6B2OR000001	8436584874829	Single-phase Energy Manager with 80 A(1) transformer and with relay output
SLC ENERGY MANAGER ../5	6B2OQ000035	8436584874799	Single-phase Energy Manager without transformer and with relay output
SLC ENERGY MANAGER T 80D16	6B2OR000003	8436584874843	Three-phase Energy Manager with 80 A(1) transformer and with relay output
SLC ENERGY MANAGER T 300D50	6B2OR000004	8436584874850	Three-phase Energy Manager with 300 A(2) transformer and with relay output
SLC ENERGY MANAGER T ../5	6B2OQ000036	8436584874805	Three-phase Energy Manager without transformer and with relay output

(1) Current measuring transformer 80 A/100 mA clamp type for cables with a maximum diameter of 16 mm. included (x1 for single-phase / x3 for three-phase).
(2) Current measuring transformer 300 A/100 mA clamp type for cables with a maximum diameter of 50 mm. included (x1 for single-phase / x3 for three-phase).
For codes 6B2OQ000035 / 6B2OQ000036 the current transformer is not included. Compatible with CT for the following primary currents: 100/300/400/600/1000/1500/2000 A.

Connections



1. Digital signal input.
2. RS-485 output.
3. Relay outputs.
4. LED status indicators.
5. Hidden reset button.
6. Device configuration code.
7. Terminals for current transformers.
8. Device supply and voltage measurement.
9. Ethernet port.
10. USB port.
11. DIP switch for configuration.

Technical specifications

MODEL		SLC ENERGY MANAGER Single-phase	SLC ENERGY MANAGER Three-phase
INPUT	Rated voltage	110 - 240 Vac	
	Voltage range	± 10%	
	Rated frequency	50/60 Hz	
	Rated current	0,05 A	
VOLTAGE MEASUREMENT	Voltage range	110 - 265 Vac	3 × (190 - 458 Vac) + N
	Frequency range	50/60 Hz	
	Accuracy	1%	
CURRENT MEASUREMENT	Output current	100 mA(1) o 5 A(2)	
	Overcurrent	120% In	
	Accuracy	1%	
COMMUNICATION	Ports	RS-485 / Voltage sensor / CT sensor / LAN / Wifi	
	Interface	Embedded URL	
	Protocol	Modbus	
RELAYS	Amount	2(3)	
	Rated voltage	250 Vac	
	Rated current	6 A	
INPUT SIGNALS	Digital	5 Vdc	
GENERAL	Operating temperature	0 - 50 °C	
	Relative humidity	95% (without condensation)	
	Maxium operating altitude	3,000 masl	
	Degree of protection	IP20	
STANDARDS	Safety	UNE EN IEC 61010-1:2011/A1:2020, 61010-2-030	
	Electromagnetic compatibility (EMC)	UNE EN IEC 61326-1	
	Zero-injection	UNE 217001:2020	
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001	
DIMENSIONS	Depth × Width × Height (mm)	70.5 × 70 × 101	

(1) Compatible with CT with the following primary currents: 80/200/300/400/600/1000/2000 A.
(2) Compatible with CT with the following primary currents: 100/300/400/600/1000/1500/2000 A. Check for other currents.
(3) One relay is for a zero-injection contactor, and the other is fully programmable.

EQUINOX2 T A

On-grid three-phase solar inverters from 2.2 to 55 kW low voltage

EQUINOX2 T / T-RV: Energy at the service of productivity

EQUINOX2 T A solar inverters offer a comprehensive range of three-phase models with high performance and reasonable cost, without sacrificing the slightest bit of quality.

The exceptional design, focused above all on functionality and reducing the thermal stress on the equipment, guarantees ease of assembly, minimal space requirements, durability and consistent performance. Aesthetically, the design follows the Salicru family of inverters, with well-defined shapes and neutral colours, applied with a level of finish in keeping with the high quality of the product. The control panel has a large integrated OLED display, offering optimal visibility

Salicru's primary objective is to always offer cutting-edge technology in all its equipment. Consequently, the selection of components features the most advanced technology (SiC) and the seal of guarantee from the best manufacturers on the planet. The **EQUINOX2 T A** series also offers monitoring of the photovoltaic installation via the WEB portal and the free **EQUINOX** app for smartphones and tablets.

With a complete and consistent power scaling and a selection of MPPTs suitable for the most common use cases, the **EQUINOX2 T A** series is suitable for the vast majority of projects where the grid is low-voltage three-phase.

Applications: Self-consumption for small and medium businesses

The **EQUINOX2 T A** series is generally designed to be used both in small (such as small shops or offices) and in larger premises (workshops, supermarkets, medium-sized companies) that decide to take a big step towards green energy thus gaining autonomy of electricity supply, reducing in turn the cost of energy.

Performances

- Reduced dimensions and weight.
- Wide operating temperature.
- Optimum resistance to corrosion.
- Layout of components oriented to thermal optimization, ensuring longer equipment life.
- Integrated surge protection for DC and AC.
- High-tech components made of Silicon Carbide.
- Scaling of fourteen powers. Adaptable to any type of project.
- From 2 to 10 MPPT trackers (depending on power) with a wide voltage range, adaptable to most roofs and/or surfaces.
- High conversion efficiency and input current adapted to high-performance panels.
- Low start-up voltage: 180 Vdc.(1)
- Function to limit surpluses to the integrated network.
- Admits 30% of input power in DC, above the nominal voltage.
- Possibility of delivering 10% more power in addition to the nominal.
- Supervision of the installation via the web and the free EQUINOX app.(2)
- 10-year warranty, extendable to 20 years.

(1) 200V for 100kW model.
(2) To obtain 24-hour data (generation, grid and consumption), the optional communication device SLC Energy Manager is required.

Quad Core

Quad Core processing, offering a 200 MHz frequency main module and a high-frequency communication module, with embedded high-speed access memories; all high end features at the heart of our three-phase inverters.

Communication modules

The standard inverter includes a module for monitoring generation hours only. If you wish to monitor consumption 24 hours a day, you must purchase the optional SLC Energy Manager communications device.

High Flexibility

As the power in a photovoltaic installation increases, the number of panels required also increases. Faced with this greater need for space, the lack of availability gives rise to a multitude of variables that complicate the configuration of the strings (differences in orientation, projected shadows, uneven slopes, etc).

The resulting diversity requires greater definition for the differentiated management of each panel group in order to get the most out of the installation.

Accordingly, our **EQUINOX2 T A** series offers a greater number of MPPTs (Maximum Power Point Tracker) in relation to the power of the equipment. Reaching up to 10 MMPTs in the 100kW model.

Monitoring from app and website

The free **EQUINOX** app and the website allow monitoring of the current status of the photovoltaic installation to consult log data and monitor in real time the photovoltaic power produced: consumed by load, consumed by the mains, or injected into it. The app also provides data regarding the cost savings achieved as well as the total reduction in CO2. Having the required options, **EQUINOX** allows you to activate the zero reinjection mode in your installation.

Range

MODEL	CODE	MAXIMUM DC INPUT POWER (kW)	RATED POWER (kW)	MAXIMUM APPARENT OUTPUT POWER (kVA)	OUTPUT CURRENT (A)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
EQX2 2202-T-A	6B2RO000018	3,5	2,2	2,4	6,7	175 × 550 × 410	23
EQX2 2752-T-A	6B2RO000019	4,4	2,75	5,5	8,4	175 × 550 × 410	23
EQX2 3302-T-A	6B2RO000020	5,3	3,3	6,6	10	175 × 550 × 410	23
EQX2 4402-T-A	6B2RO000021	7	4,4	8,8	13,3	175 × 550 × 410	23
EQX2 5502-T-A	6B2RO000022	8,8	5,5	11	16,5	175 × 550 × 410	23
EQX2 6602-T-A	6B2RO000023	10,56	6,6	13,2	20	175 × 550 × 410	23
EQX2 8252-T-A	6B2RO000024	13,2	8,25	16,5	25	175 × 550 × 410	26
EQX2 9352-T-A	6B2RO000025	14,9	9,35	18,7	28,4	175 × 550 × 410	29
EQX2 11002-T-A	6B2RO000026	17,6	11	22	31,9	175 × 550 × 410	29
EQX2 13752-T-A	6B2RO000027	22	13,75	27,5	39	175 × 550 × 410	29
EQX2 18154-T-A	6B2RO000028	29	18,15	19,9	47,8	270 × 600 × 400	42
EQX2 22004-T-A	6B2RO000029	35,2	22	24,2	58	270 × 600 × 400	42
EQX2 27504-T-A	6B2RO000030	44	27,5	30,2	72,5	270 × 600 × 400	42
EQX2 33004-T-A	6B2RO000031	52,8	33	33	87	270 × 600 × 400	42
EQX2 550010-T-A	6B2RO000032	88	55	60,5	158,8	290 × 975 × 680	82

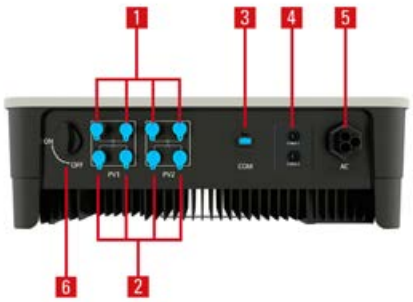
Dimensions

EQX2 2202÷9352-T-A

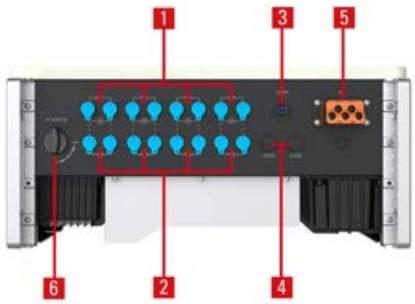
EQX2 18154÷33004-T-A

EQX2 550010-T-A

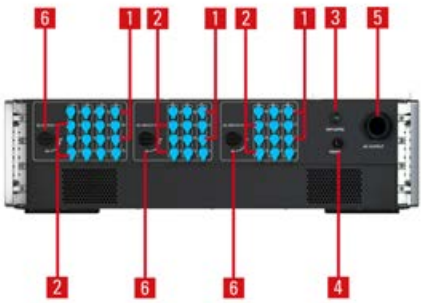
Connections



EQX2 2202÷9352-T-A



EQX2 18154÷33004-T-A



EQX2 550010-T-A

1. Positive photovoltaic input terminals
2. Negative photovoltaic input terminals
3. Main communication port (communication module connection).
4. Auxiliary communication port (optional).
5. AC / mains output terminal.
6. DC isolator switch.

Technical specifications

MODEL		EQX2 2202÷6602-T-A	EQX2 8252-T-A	EQX2 9352÷13752-T-A	EQX2 18154÷33004-T-A	EQX2 55010-T-A
INPUT DC	Starting voltage (V)	180				200
	Max. short-circuit current - Isc PV (A)	20/20 A	20/40 A	40/40 A	4*40 A	10*40 A
	Inputs per MPPT	1/1	1/2	2/2	2	
	Inputs per MPPT	2			4	10
	MPPT voltage range (VDC)	160 ÷ 550			180 ÷ 550	200 ÷ 550
	Maximum input voltage (Vdc)	600				
	Input maximum current per tracker (A)	15/15(1)	15/30(1)	30/30(1)	4*26(1)	10*26(1)
	MPPT performance	99,9%				
OUTPUT	Power factor	0.8 inductive…0.8 capacitive				
	Network voltage	3x400 V Three-phase (3L, N, PE)(2)				
	Voltage ranges	195.5 ÷ 253 V (Ph-N) according to UNE 217002				
	Max. total harmonic distortion (THD)	<3%				
	Frequency	50 Hz (45.5 ÷ 55 Hz) / 60 Hz (55 ÷ 65 Hz)				
	Performance EU	97,9% ÷ 98,2%			98,3%	
	Maximum performance	98,1% ÷ 98,6%			98,8%	
COMMUNICATION	Ports	RS485, WiFi				
INDICATIONS	Type	2 LED states, OLED display				
PROTECTION	Input DC disconnector	Included				
	Integrated in the device	Inverse polarity DC, Residual Current, DC disconnector, Over-voltage, Over-temperature, Differential, Islanding operation, AC short-circuit, Over-voltage AC				
	Over-voltage protection category	PV: II / AC: II				
GENERAL	Contamination level	PD2/PD3				
	Self-consumption (at night)	<1 W				
	Operating temperature	-30°C ~ +60°C (de-rate for temperature >45°C)				
	Relative humidity	0 ~ 100%				
	Maxium operating altitude	3,000 masl (power degradation up to 4,000 m)				
	Degree of protection	IP65				
	Cooling	Natural convection (no fans)(3)				
	Acoustic noise at 1 metre	≤25 dB(3)				
	Terminal type	MC4				
	Installation	Indoor and outdoor installation / Wall support				
	Topology	Transformerless Non-isolated (On grid)				
STANDARDS	Safety / EMC	IEC 62109-1/2 / EN 61000-6-2/3				
	Energy efficiency	IEC EN UNE 61683				
	Environmental tests	IEC EN UNE 60068-2-1/2/14/30				
	Operation / Protection	UNE EN 62116:2014, IEC 61727:2004, UNE 217002:2020, UNE 217001:2020				
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001ww				

(1) For PV inverters with more than 1 string per MPPT, please enquire about potential current restrictions
(2) For three-phase voltages without a neutral (triangle), ask
(3) For models from EQX2 17002-T (inclusive) Smart fan cooling and ≤ 72 dB
(4) Consult available regulations for other countries
(5) The single MPPT is distributed across the 10 inputs of the inverter.

EQUINOX2 T

100 kW three-phase grid-connected solar inverter high voltage

EQUINOX2 T: Maximum performance for demanding projects

The **EQUINOX2 T** 100 kW high-voltage three-phase solar inverter combines high performance, maximum efficiency and competitive cost, without compromising on the quality and reliability demanded by the professional sector.

Its exceptional design is specially focused on functionality and reducing the thermal stress on the equipment, ensuring ease of installation, minimal space requirements, high durability and constant performance stability. Aesthetically, it follows the line of the SALICRU family of inverters, with defined shapes and high-quality finishes in line with its technological positioning. It incorporates a control panel with a large-format OLED display, which provides a clear and intuitive view of all operating parameters.

True to its commitment to innovation, the equipment integrates state-of-the-art technology based on SiC (silicon carbide) components, selected from the world's most renowned manufacturers. This technology improves conversion efficiency, reduces losses and optimises thermal management, key aspects in high-power installations.

EQUINOX2 T offers advanced monitoring of the photovoltaic installation via a web portal and the free **EQUINOX** app for smartphones and tablets, allowing real-time supervision of production, performance and critical system parameters.

Applications: Industrial self-consumption and the high-demand tertiary sector

The **EQUINOX2 T** inverter is specially designed for self-consumption projects in industrial environments and tertiary sector companies with high energy demands, as well as for installations aimed at selling energy to the grid.

It is an ideal solution for factories, logistics centres, industrial warehouses, large workshops, agro-industrial farms, large supermarkets and corporate buildings that want to take a decisive step towards energy efficiency and sustainability.

Range

MODEL	CODE	MAXIMUM DC INPUT POWER (kW)	RATED POWER (kW)	MAXIMUM APPARENT OUTPUT POWER (kVA)	OUTPUT CURRENT (A)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
EQX2 100010-T	6B2AB000033	88	55	60,5	158,8	290 × 975 × 680	82

Technical specifications

MODEL		EQX2 100010-T
INPUT DC	Starting voltage (V)	200
	Max. short-circuit current - Isc PV (A)	10*40 A
	Inputs per MPPT	2
	Inputs per MPPT	10
	MPPT voltage range (VDC)	200 ÷ 550
	Maximum input voltage (Vdc)	600
	Input maximum current per tracker (A)	10*26(1)
	MPPT performance	99,9%
OUTPUT	Power factor	0.8 inductive…0.8 capacitive
	Network voltage	3x277/480V Three-phase (3L, N, PE)(2)
	Max. total harmonic distortion (THD)	<3%
	Frequency	50 Hz (45.5 ÷ 55 Hz) / 60 Hz (55 ÷ 65 Hz)
	Performance EU	98,3%
	Maximum performance	98,8%
COMMUNICATION	Ports	RS485, WiFi
INDICATIONS	Type	2 LED states, OLED display
PROTECTION	Input DC disconnector	Included
	Integrated in the device	Inverse polarity DC, Residual Current, DC disconnector, Over-voltage, Over-temperature, Differential, Islanding operation, AC short-circuit, Over-voltage AC
	Over-voltage protection category	PV: II / AC: II
GENERAL	Contamination level	PD2/PD3
	Self-consumption (at night)	<1 W
	Operating temperature	-30°C ~ +60°C (de-rate for temperature >45°C)
	Relative humidity	0 ~ 100%
	Maxium operating altitude	3,000 masl (power degradation up to 4,000 m)
	Degree of protection	IP65
	Cooling	Natural convection (no fans)(3)
	Acoustic noise at 1 metre	≤25 dB(3)
	Terminal type	MC4
	Installation	Indoor and outdoor installation / Wall support
	Topology	Transformerless Non-isolated (On grid)
STANDARDS	Safety / EMC	IEC 62109-1/2 / EN 61000-6-2/3
	Energy efficiency	IEC EN UNE 61683
	Environmental tests	IEC EN UNE 60068-2-1/2/14/30
	Operation / Protection	UNE EN 62116:2014, IEC 61727:2004, UNE 217002:2020, UNE 217001:2020
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) For PV inverters with more than 1 string per MPPT, please enquire about potential current restrictions
(2) For three-phase voltages without a neutral (triangle), ask
(3) For models from EQX2 17002-T (inclusive) Smart fan cooling and ≤ 72 dB

DC POWER-S

DC power systems

DC POWER-S: Compact, flexible and modular DC power supply systems

Salicru's **DC power-S** energy systems feature the following components: DC-S rectifier modules, subracks, a control and monitoring system, a communications module and a DC distribution unit, all situated in a closed cabinet with the possibility of including batteries.

DC power-S system rectifier modules are available in power ratings of 1000, 2000 and 2700 W and output voltages of 24, 48, 60, 110, 125 and 220 Vdc. Its modular design enables up to 4 modules to be installed in a 19" 2U subrack, achieving very high power density.

The control and monitoring system manages the entire system: input and output measurements, battery charging currents (Batteries are not supported for 60V output voltage option), control of priority and non-priority loads and communication channels with the outside. The maximum number of rectifiers controlled by a control system is 30, enabling systems to achieve power ratings of up to 81 kW with N+n redundant configuration options.

The basic version of the communications module has: three programmable relays, a battery temperature sensor and an RS-232/485 channel. Extended version features a slot for an Ethernet/SNMP Nimbus adapter, an NiCd electrolyte level detection input and six additional relays.

Applications: Redundant protection for critical applications

Salicru's **DC power-S** energy systems provide a high-level power supply to always critical telecommunications systems,ensuring excellent operation without unexpected outages. Because of its modular nature, it can also be expanded according to needs, thereby optimising the investment. Typical applications include: fixed and mobile communications networks, broadband access networks, data and telecommunications networks and railway infrastructures,...

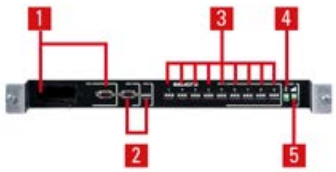
Performances

- Maximum power per system up to 81 kW.
- Flexible, scalable and N+n redundant systems, configurable for current demand and future expansion.
- High power density in the modules, up to 27 W/in3.
- High efficiency, up to 95% even with low load.
- Option of single or three-phase power supply.
- DC systems with output voltages of 24, 48, 60, 110, 125 or 220 Vdc.
- Wide operating temperature range from -20º C to +55º C.
- Wide input voltage range from 90 Vac to 290 Vac with power derating.
- Input power factor 1 for better performance.
- Modular design of the rectifiers and control system.
- Output current sharing between rectifiers.
- Front access for easy installation and maintenance.
- Hot-swap and hot-plug functions with automatic adjustment for module connection/disconnection.
- LLVD and BLVD - disconnection of non-priority loads and for low battery voltage.
- Full local control and monitoring system with LCD backlit (4x40 characters).
- Communication unit for remote monitoring.
- Monitoring software via Ethernet/Nimbus SNMP.
- Smart-mode to maximise MTBF (Mean Time Between Failures).

Communications

1. Slot for the telemagement or RS-232 interface.
2. RS-485 serial ports. MODBUS communication protocol.
3. Programmable relay (x6) interface.
4. Battery temperature measurement input.
5. NiCd electrolyte level detection input. (1)

(1) Only extended version.



SMART mode

Load sharing in normal operation.

Load sharing and cycling of rectifiers in Smart-mode operation.

Options

- Surge protector.
- Output voltage dropping diodes.
- Positive, negative or isolated output voltages.
- Sealed or open PbCa batteries, NiCd, etc.
- Extended communications module.
- Other degrees of IP protection.
- Wireless-link communication.
- Non priority loads diconnector.

Range

MODEL	POWER (W)	CURRENT (A)	OUTPUT VOLTAGE (VDC)	CURRENT PER SYSTEM (A)	POWER PER SYSTEM MODEL (kW)
DC-36-S	1000	36	24	36 ÷ 1080	1 ÷ 30
DC-18-S	1000	18	48	18 ÷ 540	1 ÷ 30
DC-16-S	1000	16	60	16 ÷ 480	1 ÷ 30
DC-8-S	1000	8	110	8 ÷ 240	1 ÷ 30
DC-7-S	1000	7	125	7 ÷ 210	1 ÷ 30
DC-4-S	1000	4	220	4 ÷ 120	1 ÷ 30
DC-70-S	2000	70	24	70 ÷ 2100	2 ÷ 60
DC-33-S	2000	33	60	33 ÷ 990	2 ÷ 60
DC-36-S	2000	36	48	36 ÷ 1080	2 ÷ 60
DC-16-S	2000	16	110	16 ÷ 480	2 ÷ 60
DC-15-S	2000	15	125	15 ÷ 450	2 ÷ 60
DC-8-S	2000	8	220	8 ÷ 240	2 ÷ 60
DC-50-S	2700	50	48	50 ÷ 1500	2,7 ÷ 81
DC-45-S	2700	45	60	45 ÷ 1350	2,7 ÷ 81
DC-22-S	2700	22	110	22 ÷ 660	2,7 ÷ 81
DC-20-S	2700	20	125	20 ÷ 600	2,7 ÷ 81
DC-10-S	2400	10	220	10 ÷ 300	2,4 ÷ 74

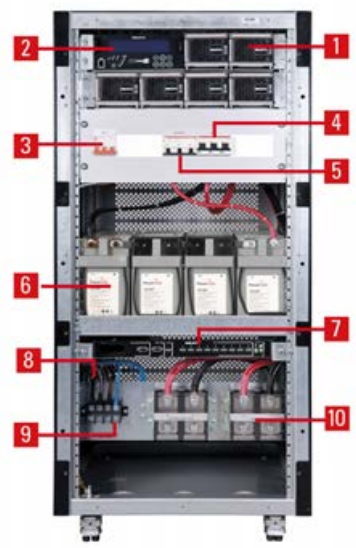
Dimensions

POWER MODULE

CONTROL MODULE

2 SUBRACK MODULES

Connections



1. Rectifier module
2. Centralised control
3. Input protection
4. Output distribution
5. Batteries protection (Batteries are not supported for 60 V output voltage option)
6. Batteries
7. Extended communication
8. Surge protector
9. Input terminals
10. Output terminals

Technical specifications

MODEL		DC POWER-S
INPUT	Rated voltage	120 / 127 / 220 / 230 / 240 V; 3x208 / 220 / 380 / 400 / 415 V (3F+PE)
	Voltage range	90 ÷ 290 Vac
	Rated frequency	50/60 Hz
	Total harmonic distortion (THDi)	<5%
	Power factor	>0.99 (PFC)
	Performance	Up to 95.5%
OUTPUT	DC nominal voltage	24, 48, 60, 110, 125, 220 V
	Accuracy	±1%
	Output voltage setting	-15% +25% (1)
	Maximum power (W)	30 / 60 / 81 kW
	Rectifier module power	1000 / 2000 / 2700 W
	Psophometric noise	<2 mV
	Load sharing between modules	Active parallel
	Maximum number of parallel modules	30
BATTERY	Protection	Against overvoltage, undervoltage and overload(2)
	Battery type	PbCa or NiCd
	Charge type	Constant I/U in accordance with DIN 41773
	Recharge time	Up to 80% in 4 hours (0.2C)
	Voltage/temperature compensation	Yes, customisable (mV/°C)
	Electrolyte level detection (NiCd battery)	Optional
COMMUNICATION	Ports	RS-232/485 - 7 relays
	Intelligent slot	Yes, one / Optional
PROTECTION	Input and output	Circuit breakers
	Battery	Fuses + switch(2)
GENERAL	Operating temperature	-20°C ÷ +55°C (2)
	Storage temperature	-40°C ÷ +70°C (3)
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	3,000 masl(4)
	Dielectric strength (Input - Output)	2000V @1 minuto para 24, 48 Vdc / 4000 V @ 1 minuto para 110, 125, 220 Vdc
	Degree of protection	IP20
	Cooling	Forced
	Acoustic noise at 1 metre	<55 dB(A)
	Mean time between failures (MTBF)	250,000 hours
	Mean time to repair (MTTR)	15 minutes
STANDARDS	Safety	EN IEC 61204-7
	Electromagnetic compatibility (EMC)	EN IEC 61204-3
	Seismic (Optional)	IEC 60068-3-3:2019/COR1:2021 / UBC1997 Zone3 & Zone 4 Ip 1.5
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) -9% + 25% for voltages 110 Vdc
(2) Batteries are not supported for 60 Vdc output
(3) Power degradation for temperatures higher than 45°C.
(4) Without batteries
(5) Power degradation from 2000 m.a.s.l.

DC POWER-SD

DC/DC power systems

DC POWER-SD: Power supply systems for stable direct current supply

Salicru's **DC power-SD** systems are supplied as an integrated solution housed in a closed cabinet, with the option of incorporating batteries. The system consists of rectifier modules, housing subracks, a DC distribution unit, a control and monitoring system, and a dedicated communications module.

The rectifiers are available in power ratings of 900, 1000, 1800, 2000 and 2700 W, and support output voltages of 24, 48, 60, 110 or 125 Vdc. Thanks to their modular architecture, it is possible to install 2 or 4 modules in a 19" 2U subrack, achieving high power density in a reduced footprint.

The control and monitoring system supervises input and output electrical parameters, controls battery charging currents, manages priority and non-priority loads, and handles the different external communication channels. This electronics platform allows systems of up to 21.6 kW to be configured, with the option of implementing N+n redundancy schemes.

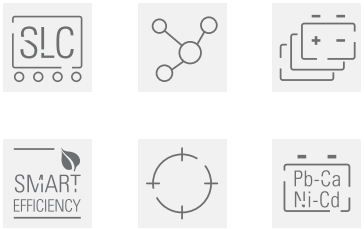
The communications module includes three programmable relays, a battery temperature sensor and an RS-232/485 channel. In the extended version, it also adds a slot for a Nimbus Ethernet/SNMP adapter, an input for detecting electrolyte level in Ni-Cd batteries, and six additional relays.

Applications: Redundant protection for critical applications

Designed for environments where direct current power supply is critical, **DC Power-SD** systems are an ideal solution for applications in railway infrastructure, power utilities and substations, as well as in signalling, control, telecommunications, protection and auxiliary service systems. Their ability to guarantee a stable, efficient and highly available power supply makes them a key element in industrial and energy installations that require maximum reliability, service continuity and adaptability to different DC voltage levels. They allow the use of a charger/rectifier with battery at the input to operate with different output voltages depending on the application.

Performances

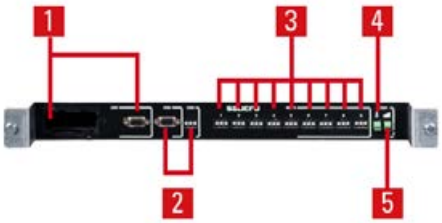
- Maximum power per system up to 21,6 kW.
- Flexible, scalable and N+n redundant systems, configurable for current demand and future expansion.
- High power density in the modules, up to 12 W/in3.
- High efficiency, up to 85% even with low load.
- Option of single or three-phase power supply.
- DC systems with output voltages of 24, 48, 60, 110 or 125 Vdc.
- Wide operating temperature range from -20º C to +55º C.
- Wide input voltage range from 90 Vdc to 290 Vdc with power derating.
- Modular design of the rectifiers and control system.
- Output current sharing between rectifiers.
- Front access for easy installation and maintenance.
- Hot-swap and hot-plug functions with automatic adjustment for module connection/disconnection.
- Full local control and monitoring system with LCD backlit (4x40 characters).
- Communication unit for remote monitoring.
- Monitoring software via Ethernet/Nimbus SNMP.
- Smart-mode to maximise MTBF (Mean Time Between Failures).



Communications

1. Slot for the telemagement or RS-232 interface.
2. RS-485 serial ports. MODBUS communication protocol.
3. Programmable relay (x9) interface.
4. Battery temperature measurement input.
5. NiCd electrolyte level detection input.(1)

(1) Extended version only.



SMART mode

Load sharing in normal operation.

Load sharing and cycling of rectifiers in Smart-mode operation.

Options

- Surge protector.
- Positive, negative or isolated output voltages.
- Sealed or open PbCa batteries, NiCd, etc.
- Extended communications module.
- Other degrees of IP protection.
- Conformal coating (tropicalization).
- Non priority loads disconnector.

Range

MODEL	CODE	POWER (W)	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (A)
DC-33-SD 24/90-290Vdc	6A2AG000003	900	90 ÷ 290	24	33
DC-41-SD 24/176-290Vdc	6A2AH000005	1000	200 ÷ 290	24	41
DC-66-SD 24/90-290Vdc	6A2AH000006	1800	90 ÷ 290	24	66
DC-70-SD 24/176-290Vdc	6A2AH000007	2000	200 ÷ 290	24	70
DC-18-SD 48/90-290Vdc	6A2AG000004	900	90 ÷ 290	48	18
DC-20-SD 48/176-290Vdc	6A2AH000008	1000	200 ÷ 290	48	20
DC-36-SD 48/90-290Vdc	6A2AH000009	1800	90 ÷ 290	48	36
DC-41-SD 48/176-290Vdc	6A2AH000010	2000	200 ÷ 290	48	41
DC-50-SD 48/176-290Vdc	6A2AH000011	2700	200 ÷ 290	48	50
DC-15-SD 60/90-290Vdc	6A2AH000012	900	90 ÷ 290	60	15
DC-16-SD 60/176-290Vdc	6A2AH000013	1000	200 ÷ 290	60	16
DC-30-SD 60/90-290Vdc	6A2AH000014	1800	90 ÷ 290	60	30
DC-32-SD 60/176-290Vdc	6A2AH000015	2000	200 ÷ 290	60	32
DC-45-SD 60/176-290Vdc	6A2AH000016	2700	200 ÷ 290	60	45
DC-9-SD 110/176-290Vdc	6A2AH000017	1000	200 ÷ 290	110	9
DC-18-SD 110/176-290Vdc	6A2AH000018	2000	200 ÷ 290	110	18
DC-22-SD 110/176-290Vdc	6A2AH000019	2700	200 ÷ 290	110	22
DC-8-SD 125/176-290Vdc	6A2AH000020	1000	200 ÷ 290	125	8
DC-16-SD 125/176-290Vdc	6A2AH000021	2000	200 ÷ 290	125	16
DC-20-SD 125/176-290Vdc	6A2AH000022	2700	200 ÷ 290	125	20

Dimensions

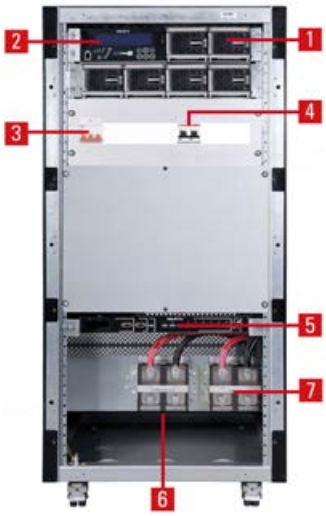
POWER MODULE 900/1000/2000/2700W

POWER MODULE 1800W

CONTROL MODULE

Connections

1. Power module
2. Centralised control
3. Input protection
4. Output distribution
5. Extended communication
6. Input terminals
7. Output terminals



Technical specifications

MODEL		DC POWER-SD
INPUT	Voltage range	90 ÷ 290 Vdc (depending on model)
	Performance	Up to 85%
OUTPUT	DC nominal voltage	24, 48, 60, 110, 125 V
	Accuracy	±1%
	Output voltage setting	-15% +25% (1)
	Maximum power (depending on model)	7,2kW ÷ 21,6 kW
	Rectifier module power	900 / 1000 / 1800 / 2000 / 2700 W
	Psophometric noise	<2 mV
	Load sharing between modules	Active parallel
	Maximum number of parallel modules	8 (2)
BATTERY (Optional)	Protection	Against overvoltage, undervoltage and overload
	Battery type	PbCa or NiCd (3)
	Charge type	Constant I/U in accordance with DIN 41773
	Recharge time	Up to 80% in 4 hours (0.2C)
	Voltage/temperature compensation	Yes, customisable (mV/°C)
	Electrolyte level detection (NiCd battery)	Optional
COMMUNICATION	Ports	RS-232/485 - 9 relays
	Intelligent slot	Yes, one / Optional
PROTECTION	Input and output	Circuit breakers
	Battery	Fuses + switch (3)
GENERAL	Operating temperature	-20°C ÷ +55°C (4)
	Storage temperature	-40°C ÷ +70°C (5)
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	3,000 masl (6)
	Dielectric strength (Input - Output)	3500 V for 1 minute (input-earth) / 2000 V for 1 minute (output-earth) / 4000 V for 1 minute (input-output)
	Degree of protection	IP20
	Cooling	Forced
	Acoustic noise at 1 metre	<60 dB(A)
	Mean time between failures (MTBF)	485.000 hours (power module)
	Mean time to repair (MTTR)	5 minutes
STANDARDS	Safety	EN IEC 61204-7
	Electromagnetic compatibility (EMC)	EN IEC 61204-3
	Seismic (Optional)	IEC 60068-3-3:2019/COR1:2021 / UBC1997 Zone3 & Zone 4 Ip 1.5
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Other margins for voltages of 60 Vdc and 110 Vdc
(2) Maximum of 5 modules for 1800W power
(3) Batteries are not supported for 60Vdc output
(4) Power degradation for temperatures higher than 45°C.
(5) Without batteries
(6) Power degradation from 2000 m.a.s.l.

DC POWER-L

Thyristor rectifiers 10 A - 800 A

DC POWER-L: Charging systems for stationary batteries

Salicru's **DC power-L** range of rectifiers/battery chargers, based on microprocessor-controlled thyristor technology, provides high-quality and reliable protection for critical DC loads.

The **DC power-L** series covers the range between 10 A and 800 A with outputs from 24 to 220 Vdc. The output accuracy is better than +/- 1% and the system is designed to charge open or sealed lead acid and nickel cadmium batteries.

All alarms, monitoring and status indicators (via display and LEDs) are managed through a digital control system. Each type of battery requires special charging characteristics, which are managed by the controller. The systems are completely customisable to the specific characteristics and needs of each client and application.

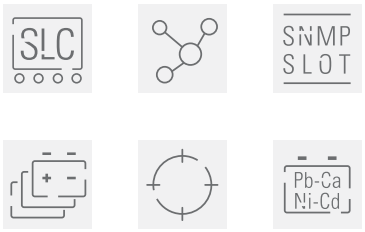
The robust design ensures that the installation requires low maintenance and can work for long periods without special attention.

Applications: Efficient, reliable and robust solutions

DC power-L systems are designed to protect DC loads of maximum criticality and to operate with nickel cadmium or lead acid batteries in harsh and demanding operating environments, such as power plants, electrical substations, oil and gas pipelines, petrochemical plants, mines, railways, telecommunications facilities, hospitals, industrial plants, etc.

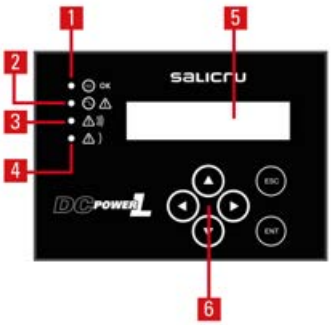
Performances

· Microprocessor-controlled thyristor technology.
· Galvanic isolation between input and output via transformer.
· Complete six-pulse bridge.
· Ventilation by natural convection.
· Standard DC output earth fault detection.
· Electrolyte level detection for NiCd batteries (optional).
· Charging states: floating, fast and exceptional.
· Robust and compact design.
· High power density.
· Monitoring of all equipment parameters through LCD display.
· Possibility of redundant parallel operation.
· Operation with lead acid or nickel cadmium batteries.
· Temperature-compensated float voltage.
· Automatic disconnection in the event of minimum battery voltage or temperature.
· Extensive configuration options.
· High MTBF and low MTTR.
· Easy installation, start-up and maintenance.



Display

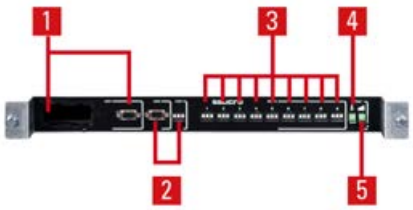
1. Output voltage indicator.
2. Input voltage fault indicator.
3. Urgent alarm indicator (customisable).
4. Non-urgent alarm indicator (customisable).
5. LCD display with multiple languages.
6. Navigation keys.



Communications

1. Slot for the telemagement or RS-232 interface.
2. RS-485 serial ports. MODBUS communication protocol.
3. Programmable relay (x6) interface.
4. Battery temperature measurement input.
5. NiCd electrolyte level detection input. (1)

(1) Only extended version.



Options

· 12-pulse rectifier with isolation transformer.
· Voltage drop diodes.
· TCP/IP interface.
· Heater.
· Output diodes for parallel operation.
· Different types of batteries (SLA, lead acid, nickel cadmium, etc.).
· Other degrees of protection.
· Other input voltages on request.
· Top cable entry.
· Schuko outlet socket.
· Colour cabinet RAL9005.

Technical support and service

· Pre and post-sales advice.
· Multiple maintenance and telemaintenance options.

Range

MODEL	OUTPUT CURRENT (A)	INPUT VOLTAGE (VAC)	OUTPUT VOLTAGE (VDC)
DC-10-L	10	120 / 230	24 / 48 / 110 / 120 / 125 / 220
DC-20-L	20	120 / 230	24 / 48 / 110 / 120 / 125 / 220
DC-30-L	30	120 / 230	24 / 48 / 110 / 120 / 125 / 220
DC-50-L	50	120 / 230	24 / 48 / 110 / 120 / 125 / 220
DC-25-L	25	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-50-L	50	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-75-L	75	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-100-L	100	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-150-L	150	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-200-L	200	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-250-L	250	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-300-L	300	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-350-L	350	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-400-L	400	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-450-L	450	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-500-L	500	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-600-L	600	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-700-L	700	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-800-L	800	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220

Check for other output currents.

Dimensions

DC-10÷100-L

DC-150÷800-L

Technical specifications

MODEL		DC POWER-L
TECHNOLOGY		Thyristor
INPUT	Rated voltage	120 / 230 V (F + N); 3 × 208 / 3 × 220 / 3 × 400 V / 3 x 480 V (3F + PE)
	Voltage range	±15%
	Rated frequency	50/60 Hz
	Frequency range	±5%
	Power factor	0.85
	Performance	>85%
OUTPUT	DC nominal voltage	24 V, 48 V, 110 V, 120 V, 125 V, 220 V
	Float voltage	2.27 V/cell (Pb) / 1.4 ÷ 1.45 V/el (NiCd)
	Fast charging voltage	2.5 V/cell (Pb) / 1.5 V/el (NiCd)
	Exceptional charging voltage/formation	2.7 V/cell (Pb) / 1.65 V/el (NiCd)
	Accuracy	±1%
	Ripple	<1% (1)
	Single phase current	10 / 20 / 30 / 50 A(2)
	Three phase current	25 / 50 / 75 / 100 / 150 / 200 / 250 / 300 / 350 / 400 / 450 / 500 / 600 / 700 / 800 A(2)
BATTERY	Protection	Against overvoltage and undervoltage
	Battery type	PbCa (sealed or open) or NiCd
	Charge type	IU constant as per DIN 41773
	Recharge time	Up to 80% in 4 hours (0.2 C)
	Voltage/temperature compensation	Yes, customisable as per battery specifications (mV / °C)
	No. of cells Pb	12 (24 V) / 24 (48 V) / 55 (110 V) / 60 (120 V) / 62 (125 V) / 110 (220 V)
	No. of elements NiCd	19 (24 V) / 38 ÷ 39 (48 V) / 81 ÷ 86 (110 V) / 88 ÷ 94 (120 V) / 92 ÷ 96 (125 V) / 161 ÷ 173 (220 V)
COMMUNICATION	Ports	RS-232/485 - 6 Dry contacs
	Intelligent slot	Yes, one / Optional
	Protocol	MODBUS Yes
PROTECTION	Input and output	Circuit breaker
	Battery	Fuses
	Soft start	Yes
GENERAL	Operating temperature	-10º C ÷ +55º C (3)
	Storage temperature	-20º C ÷ +70º C (4)
	Relative humidity	Up to 95% non-condensing
	Maxium operating altitude	Up to 3000 m.a.s.l.(5)
	Colour	RAL7035
	Dielectric strength (Input - Output)	2500 V @1 min
	Degree of protection	IP20
	Cooling	Natural
STANDARDS	Safety	IEC/EN 61204-7, IEC 60146-1-1
	Electromagnetic compatibility (EMC)	IEC/EN 61204-3 class A
	Seismic (Optional)	IEC 60068-3-3:2019/COR1:2021 / UBC1997 Zone3 & Zone 4 Ip 1.5
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Premium version
(2) Includes battery charging current (Ibat). In Premium, Ibat version. can power loads
(3) Power degradation from +40ºC
(4) Without batteries
(5) Power degradation from 1000 m.a.s.l.

DC POWER-L 12P

Thyristor rectifiers 25 A - 800 A

DC POWER-L 12P: Charging systems for stationary batteries

Salicru's 12 pulse **DC power-L 12P** range of rectifiers/battery chargers are based on microprocessor-controlled thyristor technology and provides a renewed state-of-the-art digital processing platform with maximum care for the battery and maximum reliability and protection for critical DC loads. The 12-pulse **DC power-L 12P** series is environmentally friendly with low harmonic distortion and a high power factor, and is highly efficient in reducing its carbon footprint.

The 12 pulse **DC power-L 12P** series covers the range between 25 A and 800 A with outputs from 24 to 220 Vdc. The output accuracy is better than ± 1% and the system is designed to charge open or sealed lead acid and nickel cadmium batteries. The entire range is ventilated by natural convection. The advanced digital control system is responsible for applying charge algorithms adapted to the different battery charging stages. These, combined with battery temperature compensation and control of the maximum charge current, determine the specific charging process for each battery type.

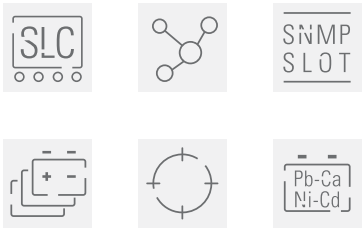
All alarms, monitoring and status indicators (via display and LEDs) are controlled by a microprocessor. The systems are completely customisable to the specific characteristics and needs of each client and application. The robust design of devices with natural ventilation allows parallel redundancy, master/slave, separate/shared battery, parallel capacity and other configurations, which results in a low-maintenance installation, being able to operate for long periods completely unattended.

Applications: Efficient, reliable and robust solutions

DC power-L 12P systems are designed to protect DC loads of maximum criticality and to operate with nickel cadmium or lead acid batteries in harsh and demanding operating environments, such as power plants, electrical substations, oil and gas pipelines, petrochemical plants, mines, railways, telecommunications facilities, hospitals, industrial plants, etc.

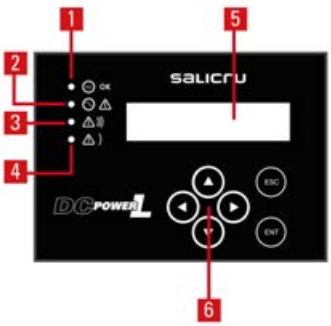
Performances

- Microprocessor-controlled thyristor technology.
- Galvanic isolation between input and output via transformer.
- Complete 12-pulse bridge.
- Ventilation by natural convection.
- Standard DC output earth fault detection.
- Electrolyte level detection for NiCd batteries (optional).
- Charging states: floating, fast and exceptional.
- Robust and compact design.
- High power density.
- Monitoring of all equipment parameters through LCD display.
- Possibility of parallel operation.
- Operation with lead acid or nickel cadmium batteries.
- Temperature-compensated float voltage.
- Automatic disconnection in the event of minimum battery voltage or temperature.
- Extensive configuration options.
- High MTBF and low MTTR.
- Easy installation, start-up and maintenance.



Display

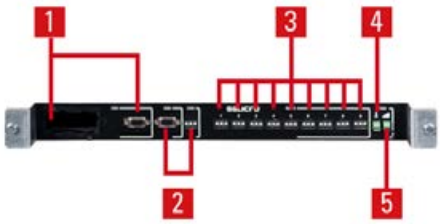
1. Correct input voltage indicator.
2. Charger in operation indicator.
3. Indications state of the battery
4. Correct output voltage indicator.
5. LCD display with multiple languages.
6. Navigation keys.



Communications

1. Slot for the telemagement or RS-232 interface.
2. RS-485 serial ports. MODBUS communication protocol.
3. Programmable relay (x4) interface.
4. Battery temperature measurement input.
5. NiCd electrolyte level detection input. (1)

(1) Only extended version.



Options

- Voltage drop diodes.
- TCP/IP interface.
- Heater.
- Output diodes for parallel operation.
- Different types of batteries (SLA, lead acid, nickel cadmium, etc.).
- Other degrees of protection.
- Other input voltages on request.
- Top cable entry.
- Schuko outlet socket.
- Board with 9 additional relays.

Technical support and service

- Pre and post-sales advice.
- Multiple maintenance and telemaintenance options.

Range

MODEL	OUTPUT CURRENT (A)	INPUT VOLTAGE (VAC)	OUTPUT VOLTAGE (VDC)
DC-25-L 12P	25	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-50-L 12P	50	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-75-L 12P	75	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-100-L 12P	100	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-150-L 12P	150	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-200-L 12P	200	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-250-L 12P	250	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-300-L 12P	300	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-350-L 12P	350	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-400-L 12P	400	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-450-L 12P	450	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-500-L 12P	500	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-600-L 12P	600	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-700-L 12P	700	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220
DC-800-L 12P	800	3 × 208 / 3 × 220 / 3 × 400	24 / 48 / 110 / 120 / 125 / 220

Check for other output currents.

Dimensions

DC-25/50-L 12P

DC-75÷800-L 12P

Technical specifications

MODEL		DC POWER-L 12P
TECHNOLOGY		Thyristor, 12-pulse
INPUT	Rated voltage	3 × 208 / 3 × 220 / 3 × 400 V / 3 × 480 V (3F + PE)
	Voltage range	±15%
	Rated frequency	50/60 Hz
	Frequency range	±15%
	Total harmonic distortion (THDi)	8%
	Power factor	0.96
	Performance	94%
OUTPUT	DC nominal voltage	24 V, 48 V, 110 V, 120 V, 125 V, 220 V
	Float voltage	2.27 V/cell (Pb) / 1.4 ÷ 1.45 V/el (NiCd)
	Fast charging voltage	2.5 V/cell (Pb) / 1.5 V/el (NiCd)
	Exceptional charging voltage/formation	2.5 V/cell (Pb) / 1.5 V/el (NiCd)
	Accuracy	<1%
	Ripple	<1%
	Three phase current	25 / 50 / 75 / 100 / 150 / 200 / 250 / 300 / 350 / 400 / 450 / 500 / 600 / 700 / 800 A (1)
BATTERY	Protection	Against overvoltage and undervoltage
	Battery type	PbCa (sealed or open) or NiCd
	Charge type	IU constant as per DIN 41773
	Recharge time	Up to 80% in 4 hours (0.2 C)
	Voltage/temperature compensation	Yes, customisable as per battery specifications (mV / °C)
	No. of cells Pb	12 (24 V) / 24 (48 V) / 55 (110 V) / 60 (120 V) / 62 (125 V) / 110 (220 V)
	No. of elements NiCd	19 (24 V) / 38 ÷ 39 (48 V) / 81 ÷ 86 (110 V) / 88 ÷ 94 (120 V) / 92 ÷ 96 (125 V) / 161 ÷ 173 (220 V)
COMMUNICATION	Ports	RS-232/485 - 4 Dry contacs
	Intelligent slot	Yes, one
	Protocol	Modbus
PROTECTION	Input and output	Circuit breaker
	Battery	Fuses
	Soft start	Yes
GENERAL	Operating temperature	-10° C ÷ +55° C (2)
	Storage temperature	-20° C ÷ +70° C (3)
	Relative humidity	Up to 95% non-condensing
	Maxium operating altitude	Up to 3000 m.a.s.l.(4)
	Dielectric strength (Input - Output)	2500 V @1 min
	Degree of protection	IP20
	Cooling	Natural
STANDARDS	Safety	IEC/EN 61204-7, IEC 60146-1-1
	Electromagnetic compatibility (EMC)	IEC/EN 61204-3 class A
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Includes battery charging current (Ibat). In Premium, Ibat version. can power loads
(2) Power degradation from +40°C
(3) Without batteries
(4) Power degradation from 1000 m.a.s.l.

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 20000 VA, with admissible continuous incoming voltage from 48 Vdc to 220 Vdc nominal input.

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..

Performances

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

Options

- Static bypass.
- EMI filters.
- Isolation transformer on the bypass line.
- Psofometric filter.
- Anti-harmonic filter.

Technical support and service

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

Range

MODEL	POWER (VA / W)	INPUT VOLTAGE (VDC)	DIMENSIONS (D × W × H mm)		WEIGHT (Kg)
			BOX	RACK	
CS 1000-IS	1000 / 1000	48,110,120,125,220	385 × 440 × 180	385 × 483 × 4U	28
CS 2000-IS	2000 / 2000	48,110,120,125,220	385 × 440 × 180	385 × 483 × 4U	30
CS 3000-IS	3000 / 3000	48,110,120,125,220	385 × 440 × 180	385 × 483 × 4U	32
CS 4000-IS	4000 / 4000	110,120,125,220	600 × 440 × 270	600 × 483 × 6U	63
CS 5000-IS	5000 / 5000	110,120,125,220	600 × 440 × 270	600 × 483 × 6U	68
CS 6000-IS	6000 / 6000	110,120,125,220	640 × 630 × 1310	-	84
CS 8000-IS	8000 / 8000	110,120,125,220	640 × 630 × 1310	-	120
CS 10000-IS	10000 / 10000	110,120,125,220	640 × 630 × 1310	-	135
CS 15000-IS	15000 / 15000	220	640 × 630 × 1310	-	150
CS 20000-IS	20000 / 20000	220	640 × 630 × 1310	-	170

Dimensions and weights for models without bypass nor filters and 230 Vac output voltage. Power factor 1. Ask for another power needs and/or configurations.
Dimensions for power models 1000, 2000 and 3000 with voltages ≥110 Vdc.

Technical specifications

MODEL		CS IS
INPUT	Rated voltage	48 V, 110 V, 120 V, 125 V, 220 V
	Voltage range	- 17%, + 20%
OUTPUT	Power factor	1
	AC nominal voltage	120 V, 220 V, 230 V, 240 V
	Accuracy	± 2%
	Synchronised frequency	0.1 Hz ÷ 9.9 Hz in increments of 0.1 Hz
	Free running frequency	± 0.05%
	Frequency	50 / 60 Hz
	Synchronous speed	1 Hz/s
	Performance	Up to 92%
	Admissible overloads	150% for 30 seconds / 125% for 45 seconds
GENERAL	Operating temperature	- 10° C ÷ + 40° C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2400 m.a.s.l
	Cooling	Forced
STANDARDS	Safety	EN IEC 61204-7
	Electromagnetic compatibility (EMC)	EN IEC 61204-3
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

IT

Electrical transformers and autotransformers

IT: Simple concepts, effective solutions

Salicru has been designing and manufacturing low voltage electrical transformers and autotransformers for more than 50 years, for use as **IT series** standalone solutions, or integrated within its wide range of power electronics solutions (uninterruptible power supplies, voltage stabilisers, rectifiers, etc.). At the same time, we have continuously improved our own production methods and processes in order to meet the needs of our customers and also for special requirements.

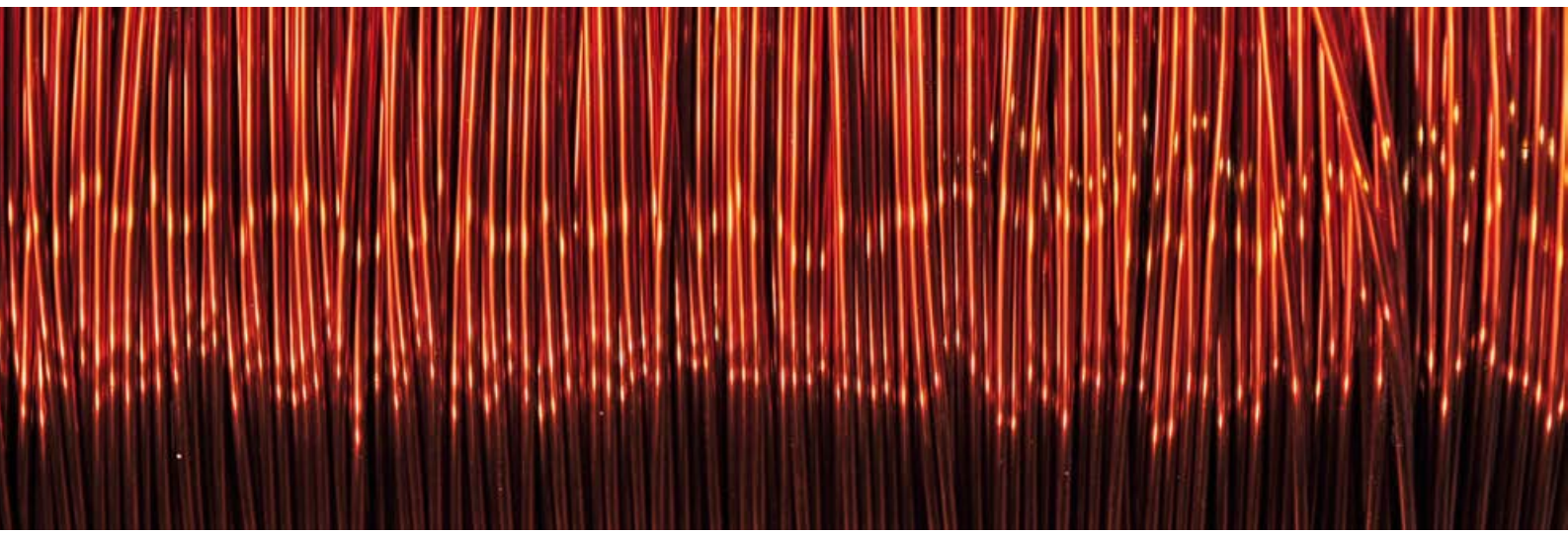
Single-phase and three-phase transformers are used as electrical isolation for reducing mains disturbances or adjusting the level of voltage coming from the grid. Autotransformers, on the other hand, with their serially-connected coils that do not provide galvanic isolation, have the function of converting one voltage to another, and, as such, are a more economical solution than transformers.

The transformers and autotransformers from Salicru's **IT series** are of the dry variety, made from low-loss magnetic plate and windings impregnated with class-H resin, and connected by means of clamp terminals or screws for pressure terminals. They can be manufactured with other voltages, regulation sockets, additional electrostatic screens, heat shields, etc., on request.

Applications: Adaptation and/or filtering of the supply voltage

Transformers are used in different types of industry, construction, energy technology and marine applications, such as electric motors, compressors, converters, cooling systems, UPSs and IT/TN networks. On the request of the customer, transformers can be manufactured for different voltages and frequencies, and feature, for example, an electrostatic screen between the primary and secondary windings, different finishes, wheels or other attachments.

And autotransformers are used for adapting the voltage of the mains supply to the voltage required to power all kinds of load and machinery.



Range

MODEL	TYPE	POWER (kVA / kW)	VOLTAGE	PRESENTATION
IT-T	Transformer	3,15 ÷ 20	Single-phase / Single-phase	Panel mounting
IT-T	Transformer	3,15 ÷ 20	Single-phase / Single-phase	Box
IT-T	Transformer	5 ÷ 200	Three-phase / Three-phase	Panel mounting
IT-T	Transformer	5 ÷ 200	Three-phase / Three-phase	Box
IT-ATR	Autotransformer	5 ÷ 40	Three-phase / Three-phase	Panel mounting
IT-ATR	Autotransformer	5 ÷ 40	Three-phase / Three-phase	Box

For other powers and versions, please enquire.

Technical specifications

MODEL		IT	
ELECTRICAL	Input/Output	Single-phase	Three-phase
	Power range	3,15 ÷ 20 kVA	5 ÷ 200 kVA
	Power factor	1	
	Connection group	Ii0	Dyn11 (1)
INPUT	Rated voltage	120 V (1)	3 x 208 / 3 x 220 V (1)
	Rated frequency	50 / 60 Hz	
	Magnetising current	< 6 In	
OUTPUT	Rated voltage	120 V (1)	3 x 208 / 3 x 220 V (1)
	Voltage drop (100% load)	< 4%	<5%
	Frequency	50 / 60 Hz	
	Performance	> 95%	
	Short-circuit voltage	< 2.6%	<3.1%
MANUFACTURE	Insulators	Class 155 (F)	
	Windings	Class 180 (H)	
	Windings material	Aluminium	
	Impregnation	Unsaturated polyester imide resin, low emission	
	Ventilation	ANAN	
GENERAL	Operating temperature	-25ºC ÷ +40ºC (climate class C2)	
	Storage temperature	-25ºC ÷ +75ºC	
	Relative humidity	Up to 95% non-condensing	
	Maxium operating altitude	2,400 masl	
	Version	Panel mounting or metal box	
	Colour (box version)	RAL 7035	
	Eye bolts for elevation	Yes, on units weighing more than 15 kg	
	Degree of protection	IP00 panel mounted version - IP23 boxed version	
	Heat loss (100% load)	<4.5%	<5%
	Vacuum heat loss	< 1.5%	
	Isolation voltage	3000 V input/output for 1 minute	
	Terminal type	Screw terminals	
OPTIONAL	K factor	K-4 / K-13 / K-20	
	Windings material	Copper	
	Wheels	For devices in box version	
	Isolation	Class 2 (Double isolation)	
STANDARDS	Safety	EN 61558-2-4 / EN 60076-11	
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001	

(1) Others available on request

RE3 A

Electronic voltage stabilisers from 15 kVA to 75 kVA

RE3: 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.

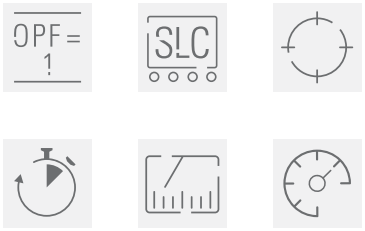
The Salicru **RE** series of electronic stabilisers, based on a completely static structure of high efficiency, fast reply speed and excellent output precision, are made in single phase or three phase configuration and in a range of powers from 15 kVA to 75 kVA.

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 to guarantee the power supply in the event of a possible fault.

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.

Performances



- Power range, single and three-phase, up to 75 kVA.
- Ultra-fast regulation: reply speed under 100 ms.
- Digital control and parameters setting independent per phase.
- Entirely static structure, without moving elements, greater reliability.
- Static bypass, 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%.
- Isolation transformer or ultra-isolation on unit output. (1)
- LCD Display, as standard, from 6 kVA single-phase or 15 kVA three-phase.
- Detection of voltage input or output (max/min) out of margins, as standard. (2)
- Comunication slot. (2)
- Overtemperature detection. (2)
- Do not introduce harmonics, or alter the power factor of the installation.
- Unaffected by line voltage harmonics; stabilisation based on true RMS.
- Stable operation in the event of load and/or voltage variations.
- Highly robust and reliable (high MTBF).
- Overvoltage surge supresion protection.
- Suitable for regenerative loads.

(1) Option
(2) For models with LCD display

Display

1. LCD 2x16 characters.
2. Navigation keys.
3. LEDs (alarm, bypass, normal operation and communications).

Options

- Relay interface.
- Manual maintenance bypass.(1)
- Protection of high-low voltage with manual or automatic reset (output voltage disconection when out of range).
- Isolation transformer (T).
- Ultra-isolation transformer (NS).
- Current transformers for measures of current, power (kVA / kW) and power factor.
- Overload protection. (1)
- Telemanagement card. (1)
- Extended communications module. (1)
- Extended ambient operating temperature from -20ºC.
- Input & output circuit breaker.

(1) Models with display

Technical support and service

- Pre-sale and after sales advisory service.
- Numerous maintenance and remote maintenance options.

Range

MODEL	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
RE3 T 15-2 3x220V	6A3BA000024	15000	905 x 460 x 705	88
RE3 T 20-2 3x220V	6A3BA000010	20000	905 x 460 x 705	192
RE3 T 30-2 3x220V	6A3BA000082	30000	905 x 460 x 705	197
RE3 T 45-2 3x220V	6A3BA000092	45000	905 x 460 x 705	307
RE3 T 60-2 3x220V	6A3BA000093	60000	905 x 460 x 705	312
RE3 T 75-2 3x220V	6A3BA000094	75000	905 x 460 x 705	381

3x220V (3Ph+N+PE) 60Hz input / 3x220V (3Ph+N+PE) 60Hz output and ±15% input range

Dimensions

RE3 T 15-2 ÷ 75-2

Technical specifications

MODEL		RE3 A
INPUT	Three-phase voltage	3 x 208 V / 3 x 220 V (3F + N) (1)
	Regulation range	±15% (2)
	Frequency range	48 ÷ 63 Hz
OUTPUT	Three-phase rated voltage	3 x 208 V / 3 x 220 V (3F + N) (1)
	Accuracy	Better than ± 2%
	Total harmonic distortion (THDv)	Nil
	Frequency	48 ÷ 63 Hz
	Response time	<100 ms
	Performance	> 97%
	Admissible overloads	200% for 1 minute
BYPASS	Type	Static
GENERAL	Ambient temperature	-10º C ÷ + 45º C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2400 m.a.s.l.
	Cooling	Forced
	Acoustic noise at 1 metre	< 65 dB
	Mean time between failures (MTBF)	60,000 hours
	Mean time to repair (MTTR)	30 minutes
	Electrical noise attenuation on common mode	With isolation transformer > 40 dB / With ultra-isolation transformer > 120 dB
STANDARDS	Safety	UNE EN IEC 61558-2-12; UNE EN IEC 61558-2-13
	Electromagnetic compatibility (EMC)	UNE EN IEC 62041
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Ask for other setting
(2) Other ranges under request

EMi3 A

Servomotor voltage stabiliser 15 kVA - 2.5 MVA

EMI3 A: Constant stabilisation and savings in overvoltages

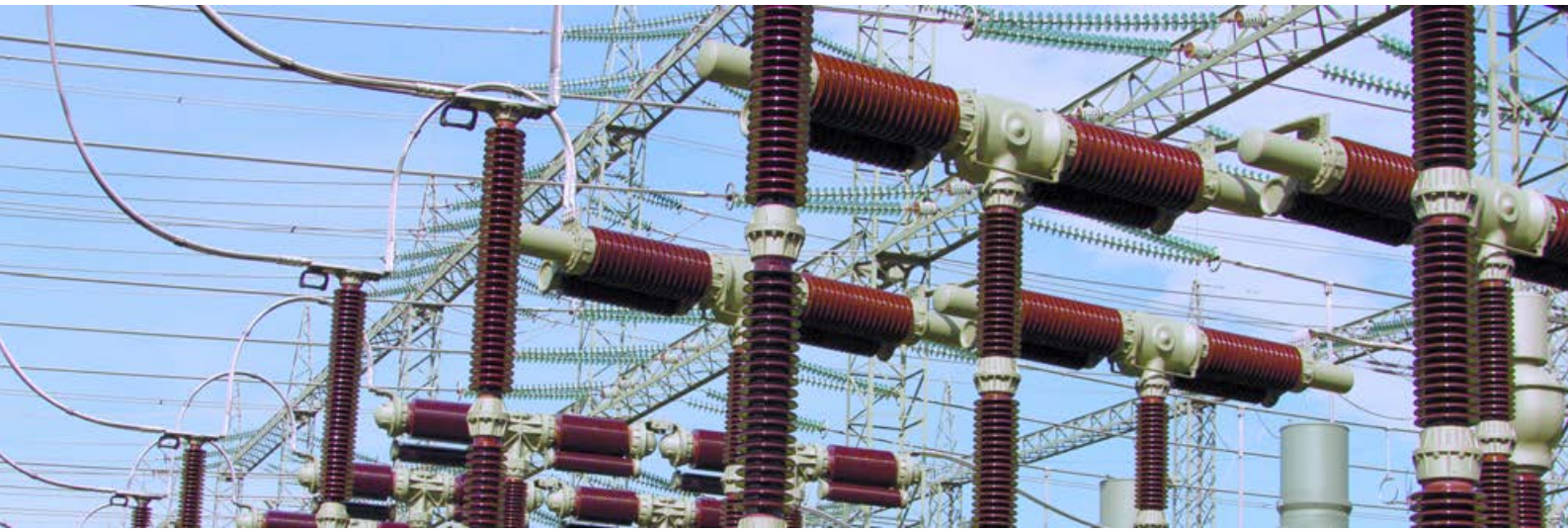
Issues such as the constant variation of loads connected to the mains, interference generated by the loads themselves, possible failures in distribution lines, voltage drops due to the length of the lines and problems caused by lightning make it impossible to have an electricity supply with a stable voltage. Salicru's **EMi3 A** servomotor voltage stabilisers are the ideal solution to protect sensitive equipment from constant voltage fluctuations in the power supply.

Moreover, in the event of drops in the total consumption of a power line, voltage tends to rise, causing overconsumption in the equipment that remains connected. By using a stabiliser, overconsumption can be eliminated, thereby producing significant cost savings and ensuring that connected loads function within the voltage range for which they were designed.

The operating principle is based on regulation, by means of a control circuit, of the variable autotransformer that supplies the voltage for the booster transformer in series, either in phase or in phase opposition, to achieve the rated value of the output voltage.

Applications: Effective protection for all types of critical load

Actions and operations in electrical substations, electric ovens, numerical controls, lifts, graphic printing equipment, production lines, medical equipment, TV repeater stations, machine tools (milling machines, trimming machines, presses, lathes, polishing machines, electrical discharge machines, etc.) are some of the applications, because of their power, extremely reactive nature and high sensitivity to voltage variations.

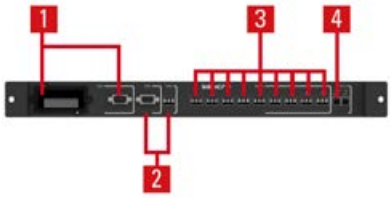


Performances

- Power range, single and three-phase, up to 2500 kVA.
- Fast and efficient toroidal autotransformers for the entire power range.
- Output accuracy better than 1% (adjustable).
- In three-phase units, independent regulation per phase, unaffected by imbalances.
- Input regulation range ±15% standard.
- High efficiency, up to 97.5%.
- High speed regulation, up to 70 V/s.
- Full LCD display for stabiliser control and monitoring.
- Guaranteed output stability through a MosFET servo control.
- Unaffected by line voltage harmonics; stabilisation based on true RMS.
- Stable operation in the event of load and/or voltage variations.
- Wide operating temperature range (-10°C to +55°C).
- Dry contact interface (2 standard and up to 11 optional).
- No harmonics injection.
- Mechanically-optimised design, easier maintenance.
- Transient overloads of up to 1000% of the rated admissible.
- Highly robust and reliable (high MTBF).
- Quiet operation.
- Overvoltage surge supresion protection.
- Suitable for regenerative loads.

Communications

1. Slot for remote management or RS-232 interface.
2. RS-485 serial ports. MODBUS communications protocol.
3. Programmable dry contact interface (x5).
4. Digital input.



Wide voltage regulation range

The range includes models with standard regulation (±15 %), as well as extended ±30 % versions for environments with greater voltage fluctuations.

Display

1. LCD 2x16 characters.
2. Navigation keys.
3. LEDs (alarm, bypass, normal operation and communications).

Options

- Output current, power and overload measurement.
- Maximum and minimum output voltage protection.
- Manual and automatic bypass.
- Overload contactor.
- Communications and relay module.
- Other regulation ranges.
- Galvanic isolation transformer.
- Output circuit breaker.
- Extended ambient operating temperature from -20ºC.

Range

MODEL	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
EMI3 T 15-2F 3x220V	6A5FA000034	15000 / 15000	895 × 460 × 705	144
EMI3 T 20-2F 3x220V	6A5FA000067	20000 / 20000	895 × 460 × 705	161
EMI3 T 35-2F 3x220V	6A5FA000054	55000 / 55000	840 × 604 × 2115	370
EMI3 T 55-2F 3x220V	6A5FA000018	70000 / 70000	840 × 604 × 2115	527
EMI3 T 70-2F 3x220V	6A5FA000069	90000 / 90000	840 × 604 × 2115	463
EMI3 T 90-2F 3x220V	6A5FA000070	35000 / 35000	640 × 604 × 1315	313
EMI3 T 110-2F 3x220V	6A5FA000053	110000 / 110000	840 × 804 × 2115	473
EMI3 T 140-2F 3x220V	6A5FA000015	140000 / 140000	840 × 1204 × 2115	516
EMI3 T 175-2F 3x220V	6A5FA000047	175000 / 175000	840 × 1204 × 2115	755
EMI3 T 220-2F 3x220V	6A5FA000113	220000 / 220000	840 × 1204 × 2115	863
EMI3 T 275-2F 3x220V	6A5FA000114	275000 / 275000	840 × 1604 × 2240	891
EMI3 T 330-2F 3x220V	6A5FA000115	330000 / 330000	840 × 1604 × 2240	1223
EMI3 T 375-2F 3x220V	6A5FA000116	375000 / 375000	840 × 1604 × 2240	1275
EMI3 T 450-2F 3x220V	6A5FA000117	450000 / 450000	840 × 1604 × 2240	1503
EMI3 T 500-2F 3x220V	6A5FA000118	500000 / 500000	840 × 1604 × 2240	1628
EMi3 T 600-2F 3x220V	6A5FA000119	600000 / 600000	840 × 3204 × 2240	1946
EMi3 T 800-2F 3x220V	6A5FA000135	800000 / 800000	1225 x 5613 x 2240	3772
EMi3 T 1000-2F 3x220V	6A5FA000136	1000000 / 1000000	1225 x 5613 x 2240	4675
EMi3 T 1250-2F 3x220V	6A5FA000137	1250000 / 1250000	1225 x 5613 x 2240	5805
EMi3 T 1600-2F 3x220V	6A5FA000138	1600000 / 1600000	840 x 3204 x 2240	2400
EMi3 T 2000-2F 3x220V	6A5FA000139	2000000 / 2000000	840 x 3204 x 2240	3120
EMi3 T 2500-2F 3x220V	6A5FA000140	2500000 / 2500000	1225 x 5613 x 2240	3772

Range

MODEL	CODE	POWER (VA / W)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
EMi3 T 15-4F 3x480V	6A5FA000048	15000 / 15000	895 × 460 × 705	133
EMi3 T 20-4F 3x480V	6A5FA000120	20000 / 20000	895 × 460 × 705	166
EMi3 T 35-4F 3x480V	6A5FA000121	35000 / 35000	640 × 604 × 1315	185
EMi3 T 55-4F 3x480V	6A5FA000122	55000 / 55000	640 × 604 × 1315	360
EMi3 T 70-4F 3x480V	6A5FA000123	70000 / 70000	840 × 604 × 2115	416
EMi3 T 90-4F 3x480V	6A5FA000124	90000 / 90000	840 × 604 × 2115	599
EMi3 T 110-4F 3x480V	6A5FA000125	110000 / 110000	840 × 604 × 2115	500
EMi3 T 140-4F 3x480V	6A5FA000126	140000 / 140000	840 × 604 × 2115	532
EMi3 T 175-4F 3x480V	6A5FA000127	175000 / 175000	840 × 1204 × 2115	570
EMi3 T 220-4F 3x480V	6A5FA000128	220000 / 220000	840 × 1204 × 2115	840
EMi3 T 275-4F 3x480V	6A5FA000129	275000 / 275000	840 × 1204 × 2115	955
EMi3 T 330-4F 3x480V	6A5FA000130	330000 / 330000	840 × 1204 × 2115	1020
EMI3 T 375-4F 3x480V	6A5FA000131	375000 / 375000	840 × 1604 × 2240	1025
EMI3 T 450-4F 3x480V	6A5FA000132	450000 / 450000	840 × 1604 × 2240	1406
EMI3 T 500-4F 3x480V	6A5FA000133	500000 / 500000	840 × 1604 × 2240	1466
EMI3 T 600-4F 3x480V	6A5FA000134	600000 / 600000	840 × 1604 × 2240	1728

Technical specifications

MODEL		EMi3 A
INPUT	Three-phase voltage	3x208 / 3x220 / 3x480 V (3F+N) (1)
	Regulation range	±15%(2)
	Frequency range	47.5 ÷ 63 Hz
OUTPUT	Three-phase rated voltage	3x208 / 3x220 / 3x480 V (3F+N) (1)
	Accuracy	± 3% (adjustable between 1% ÷ 5%)
	Output voltage setting	± 10%
	Total harmonic distortion (THDv)	<0.2%
	Frequency	47,5 ÷ 63 Hz
	Regulation speed	Up to 70 V/s
	Performance	Between 96.5% and 97.5%
	Voltage disconnection value	Adjustable (3)
	Admissible overloads	Up to 200% for 20 s
	Possible load variation	0 ÷ 100%
	Power factor influence	Null
COMMUNICATION	Ports	2 Dry contacts / RS-232 (4)
	Intelligent slot	One (4)
INDICATIONS	Type	LCD display (2x16 characters) + 4 status LEDs
GENERAL	Ambient temperature	-10º C ÷ +55º C(2)
	Storage temperature	-20º C ÷ +85º C
	Relative humidity	Up to 95%, non-condensing
	Maxium operating altitude	2,400 m.a.s.l.
	Cooling	Natural or forced depending on power rate(5)
	Acoustic noise at 1 metre	<45 dB(A)(6)
	Mean time between failures (MTBF)	60,000 hours
	Mean time to repair (MTTR)	30 minutes
STANDARDS	Safety	IEC/EN 61558-2-14
	Electromagnetic compatibility (EMC)	IEC/EN 62041
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

(1) Ask for other settings
(2) Other ranges available on request
(3) With optional voltage maximum-minimum
(4) Mutually exclusive ports
(5) Forced from 20 kVA
(6) <65 dB(A) for models with forced ventilation

SCP50

Type 1 Surge Protective Device 50 kA

SCP50: SCP Series for high-performance UL ratings

The SCP Series is a high-performance UL 1449 Listed Type 1 SPD designed for critical panels located in the harshest environments. The Surge Protective Device (SPD) achieves the highest UL performance ratings for the Nominal Discharge Current (In) and High Current (SCCR) tests while providing a low Voltage Protection Rating (VPR).

It is ideally suited for all NEC compliant locations including a UL96A Master Label Lightning Protection System and thus can be deployed with complete confidence.

In addition to its rugged performance, the SCP Series has LED visual indicators includes a Green LED to indicate the exact condition of each phase.

Performances

- Imax 50 kA 8/20 per phase
- All single and three phase configurations from 120 to 600 Vac
- Hybrid Technology for enhanced TOV protection with no leakage current
- Real-time diagnostics include an LED per phase and audible alarm
- Indoor/Outdoor IP66/NEMA6 rated enclosure (NEMA6 exceeds NEMA4 or 4X)
- Panel mount via M22 or 1/2" NPT
- Mouting is avaiable on side, back or din rail
- Hardwired connection #12 AWG 36" leads
- 10-year free replacement warranty
- UL Type 1 SPD - Installed on line or load side of the main disconnect
- Meets requirements of UL96A Lightning Protection Master Label
- UL Type 2 SPD with UL 1283 EMI/RFI Filter option available (M50F Series)
- File #VZCA.E326289 (www.ul.com)

Range

MODEL	RATED VOLTAGE (V)	SYSTEM	MAXIMAL DISCHARGE CURRENT	MAXIMUM OPERATING VOLTAGE (V)				LET THROUGH VOLTAGE (V)				VOLTAGE PROTECTION LEVEL (V)			
				L-G	L-N	N-G	L-L	L-G	L-N	N-G	L-L	L-G	L-N	N-G	L-L
SCP50-120Y-X	120-208	4 W+G (Wye)	15 kA	140	140	120	240	1500	900	1500	1500	1200	700	1200	1200
SCP50-120T-X	120-240	3 W+G (Split Ph)	12 kA	140	140	120	280	1500	900	1500	1500	1200	700	1200	1200
SCP50-120S-X	120	2 W+G (Single)	8 kA	140	140	120	-	1500	900	1500	-	1200	700	1200	-
SCP50-230S-X	230	2 W+G (Single)	8 kA	270	270	230	-	1900	1500	1500	-	1500	1200	1200	-
SCP50-240T-X	240-280	3 W+G (Split Ph)	12 kA	280	280	240	480	1900	1500	1500	3100	1500	1200	1200	2500
SCP50-240D-X	240	3 W+G (Delta)	12 kA	280	-	-	280	1500	-	-	1500	1200	-	-	1200
SCP50-277Y-X	277-480	4 W+G (Wye)	15 kA	320	320	280	560	1900	1500	1500	3100	1500	1200	1200	2500
SCP50-347Y-X	347-600	4 W+G (Wye)	15 kA	400	400	350	690	2500	1800	1800	3300	2000	1400	1800	2600
SCP50-480D-X	480	3 W+G (Delta)	12 kA	550	-	-	560	1900	-	-	3100	1500	-	-	2500
SCP50-600D-X	600	3 W+G (Delta)	12 kA	690	-	-	690	2300	-	-	3800	1800	-	-	3000

Technical specifications

MODEL		SCP50
ELECTRICAL	Operating current	25 mA per line
	Short circuit current rating	200 kA
	Maximum Recommanded fuse	200 A / Class J
	Frequency	50/60 Hz
	Nominal discharge current	20 kA
	Maximum discharge current	L-G: 50 / N-G: 100
	Impulse discharge current per phase	4 kA
	Total maximal discharge current	100 kA
CONNECTIONS	Wiring type	AWG 12 wires
GENERAL	Operating temperature	-40 +185
	Maxium operating altitude	6500
	Degree of protection	IP66
	Location installation	Indoor / Outdoor
STANDARDS	Safety	UL 1449 5th edition / IEC 61643-11 2nd edition (Type 1)
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001
DIMENSIONS	Depth × Width × Height (mm)	60 × 85 × 100

SCP80

Surge Protective Device 80 kA

SCP80: SCP Series for high-performance UL ratings

SCP Series is a high-performance UL 1449 Listed Type 1 SPD designed for critical panels located in the harshest environments. The Surge Protective Device (SPD) achieves the highest UL performance ratings for the Nominal Discharge Current (In) and High Current (SCCR) tests while providing a low Voltage Protection Rating (VPR).

It is ideally suited for all NEC compliant locations including a UL96A Master Label Lightning Protection System and thus can be deployed with complete confidence.

In addition to its rugged performance, the SCP Series has LED visual indicators includes a Green LED to indicate the exact condition of each phase.

The SCP Series is available for all single & three phase configurations up to 600 Vac and is housed in a NEMA 4x rated plastic enclosure

Performances

- Imax 105 kA per phase
- Protects All Modes
- Real-Time Green LED indicators
- UL1449 5th Edition
- Listed UL Type 1 Surge Protector Device
- IP66 NEMA 4X
- File #VZCA.E326289 (www.ul.com)

Range

MODEL	RATED VOLTAGE (V)	SYSTEM	OPERATING CURRENT	MAXIMUM OPERATING VOLTAGE (V)				VOLTAGE PROTECTION LEVEL (V)			
				L-G	L-L	L-N	N-G	L-G	L-L	L-N	N-G
SCP80P-120T	120/240	Split 2 Ph+N+G	<10 mA	150	300	150	150	700	1000	700	700
SCP80P-120Y	120/208	Wye 3 Ph+N+G	<10 mA	150	300	150	150	700	1000	700	700
SCP80P-240Y	240/415	Wye 3 Ph+N+G	<10 mA	320	640	320	320	1200	1800	1000	1000
SCP80P-240DCT	120/120/240	Hi-Leg D 3 Ph+N+G	<30 mA	150/320	300/470	150/320	150	700	1800	700	700
SCP80P-240D	240	Delta 3 Ph+G	<30 mA	320	640	-	-	1200	1800	-	-
SCP80P-277Y	277/480	Wye 3 Ph+N+G	<10 mA	320	640	320	320	1200	1800	1000	1000
SCP80P-347Y	347/600	Wye 3 Ph+N+G	<10 mA	550	1100	550	550	1800	3000	1800	1800
SCP80P-480D	480	Delta 3 Ph+G	<30 mA	550	640	-	-	1800	3000	-	-
SCP80P-480DCT	320/580	Hi-Leg D 3 Ph+N+G	<30 mA	550/1100	550/1000	550	550	1200	1800	1000	1000

Technical specifications

MODEL		SCP80
ELECTRICAL	Maximum discharging current	12 kA
	Maximum Recommanded fuse	200 A
	Frequency	50/60 Hz
	Nominal discharge current	20 kA
	Maximum discharge current	105 kA
	Impulse discharge current per phase	4 kA
	Total maximal discharge current	210 kA
CONNECTIONS	Wiring type	NEMA 4X
GENERAL	Operating temperature	-40 +185ºF (-40/+85ºC)
	Degree of protection	IP66 / IP65
	Location installation	Indoor / Outdoor (Depending on Version)
STANDARDS	Safety	UL 1449 5th edition (UL Type 1 Listed SPD)
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001
DIMENSIONS	Depth × Width × Height (mm)	150 × 119 × 243.5

SCP100

Surge Protective Device 100 kA

SCP100: SCP Series for high-performance UL ratings

The SCP Series is a high-performance UL 1449 Listed Type 1 SPD designed for critical panels located in the harshest environments. The Surge Protective Device (SPD) achieves the highest UL performance ratings for the Nominal Discharge Current (In) and High Current (SCCR) tests while providing a low Voltage Protection Rating (VPR).

It is ideally suited for all NEC compliant locations including a UL96A Master Label Lightning Protection System and thus can be deployed with complete confidence.

In addition to its rugged performance, the SCP Series has LED visual indicators includes a Green LED to indicate the exact condition of each phase.

The SCP Series is available for all single & three phase configurations up to 600 Vac and is housed in a NEMA 4x rated plastic enclosure.

Performances

- Imax 132 kA per phase
- Protects All Modes
- Real-Time Green LED indicators
- UL1449 5th Edition
- Listed UL Type 1 Surge Protector Device
- IP66 NEMA 4X
- File #VZCA.E326289 (www.ul.com)

Range

MODEL	RATED VOLTAGE (V)	SYSTEM	OPERATING CURRENT	MAXIMUM OPERATING VOLTAGE (V)				VOLTAGE PROTECTION LEVEL (V)			
				L-G	L-L	L-N	N-G	L-G	L-L	L-N	N-G
SCP100P-120T	120/240	Split 2 Ph+N+G	<10 mA	150	300	150	150	700	1000	700	700
SCP100P-120Y	120/208	Wye 3 Ph+N+G	<10 mA	150	300	150	150	700	1000	700	700
SCP100P-240Y	240/415	Wye 3 Ph+N+G	<10 mA	320	640	320	320	1200	1800	1000	1000
SCP100P-240DCT	120/120/240	Hi-Leg D 3 Ph+N+G	<30 mA	150/320	300/470	150/320	150	700	1800	700	700
SCP100P-240D	240	Delta 3 Ph+G	<30 mA	320	640	-	-	1200	1800	-	-
SCP100P-277Y	277/480	Wye 3 Ph+N+G	<10 mA	320	640	320	320	1200	1800	1000	1000
SCP100P-347Y	347/600	Wye 3 Ph+N+G	<10 mA	550	1100	550	550	1800	3000	1800	1800
SCP100P-480D	480	Delta 3 Ph+G	<30 mA	550	640	-	-	1800	3000	-	-
SCP100P-480DCT	320/580	Hi-Leg D 3 Ph+N+G	<30 mA	550/1100	550/1100	550/1100	550	1200	1800	1000	1000

Technical specifications

MODEL		SCP100
ELECTRICAL	Maximum discharging current	19 kA
	Maximum Recommanded fuse	200 A
	Frequency	50/60 Hz
	Nominal discharge current	20 kA
	Maximum discharge current	132 kA
	Impulse discharge current per phase	6,25 kA
	Total maximal discharge current	265 kA
CONNECTIONS	Wiring type	NEMA 4X
GENERAL	Operating temperature	-40 +185°F (-40/+85°C)
	Degree of protection	IP66 / IP65
	Location installation	Indoor / Outdoor (Depending on Version)
STANDARDS	Safety	UL 1449 5th edition (UL Type 1 Listed SPD)
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001
DIMENSIONS	Depth × Width × Height (mm)	150 × 119 × 243.5

SCP160

Surge Protective Device 160 kA

SCP160: SCP Series for high-performance UL ratings

The SCP Series is a high-performance UL 1449 Listed Type 1 SPD designed for critical panels located in the harshest environments. The Surge Protective Device (SPD) achieves the highest UL performance ratings for the Nominal Discharge Current (In) and High Current (SCCR) tests while providing a low Voltage Protection Rating (VPR).

It is ideally suited for all NEC compliant locations including a UL96A Master Label Lightning Protection System and thus can be deployed with complete confidence.

In addition to its rugged performance, the SCP Series has LED visual indicators includes a Green LED to indicate the exact condition of each phase.

The SCP Series is available for all single & three phase configurations up to 600 Vac and is housed in a NEMA 4x rated plastic enclosure.

Performances

- Imax 192 kA per phase
- Protects All Modes
- Real-Time Green LED indicators
- UL1449 5th Edition
- Listed UL Type 1 Surge Protector Device
- IP66 NEMA 4X
- File #VZCA.E326289 (www.ul.com)

Range

MODEL	RATED VOLTAGE (V)	SYSTEM	OPERATING CURRENT	MAXIMUM OPERATING VOLTAGE (V)				VOLTAGE PROTECTION LEVEL (V)			
				L-G	L-L	L-N	N-G	L-G	L-L	L-N	N-G
SCP160P-120T	120/240	Split 2 Ph+N+G	<10 mA	150	300	150	150	700	1000	700	700
SCP160P-120Y	120/208	Wye 3 Ph+N+G	<10 mA	150	300	150	150	700	1000	700	700
SCP160P-240Y	240/415	Wye 3 Ph+N+G	<10 mA	320	640	320	320	1200	1800	1000	1000
SCP160P-240DCT	120/120/240	Hi-Leg D 3 Ph+N+G	<30 mA	150/320	300/470	150/320	150	700	1800	700	700
SCP160P-240D	240	Delta 3 Ph+G	<30 mA	320	640	-	-	1200	1800	-	-
SCP160P-277Y	277/480	Wye 3 Ph+N+G	<10 mA	320	640	320	320	1200	1800	1000	1000
SCP160P-347Y	347/600	Wye 3 Ph+N+G	<10 mA	550	1100	550	550	1800	3000	1800	1800
SCP160P-480D	480	Delta 3 Ph+G	<30 mA	550	640	-	-	1800	3000	-	-
SCP160P-480DCT	320/580	Hi-Leg D 3 Ph+N+G	<30 mA	550/1100	550/1000	550/1100	550	1200	1800	1000	1000

Technical specifications

MODEL		SCP160
ELECTRICAL	Maximum discharging current	24 kA
	Maximum Recommanded fuse	200 A
	Frequency	50/60 Hz
	Nominal discharge current	20 kA
	Maximum discharge current	192 kA
	Impulse discharge current per phase	8 kA
	Total maximal discharge current	384 kA
CONNECTIONS	Wiring type	NEMA 4X
GENERAL	Operating temperature	-40 +185ºF (-40/+85ºC)
	Degree of protection	IP66 / IP65
	Location installation	Indoor / Outdoor (Depending on Version)
STANDARDS	Safety	UL 1449 5th edition (UL Type 1 Listed SPD)
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001
DIMENSIONS	Depth × Width × Height (mm)	150 × 119 × 243.5

SCP200

Surge Protective Device 200 kA

SCP200: SCP Series for high-performance UL ratings

The SCP Series is a high-performance UL 1449 Listed Type 1 SPD designed for critical panels located in the harshest environments. The Surge Protective Device (SPD) achieves the highest UL performance ratings for the Nominal Discharge Current (In) and High Current (SCCR) tests while providing a low Voltage Protection Rating (VPR).

It is ideally suited for all NEC compliant locations including a UL96A Master Label Lightning Protection System and thus can be deployed with complete confidence.

In addition to its rugged performance, the SCP Series has LED visual indicators includes a Green LED to indicate the exact condition of each phase.

The SCP Series is available for all single & three phase configurations up to 600 Vac and is housed in a NEMA 4x rated plastic enclosure.

Performances

- Imax 220 kA per phase
- Protects All Modes
- Real-Time Green LED indicators
- UL1449 5th Edition
- Listed UL Type 1 Surge Protector Device
- IP66 NEMA 4X
- File #VZCA.E326289 (www.ul.com)

Range

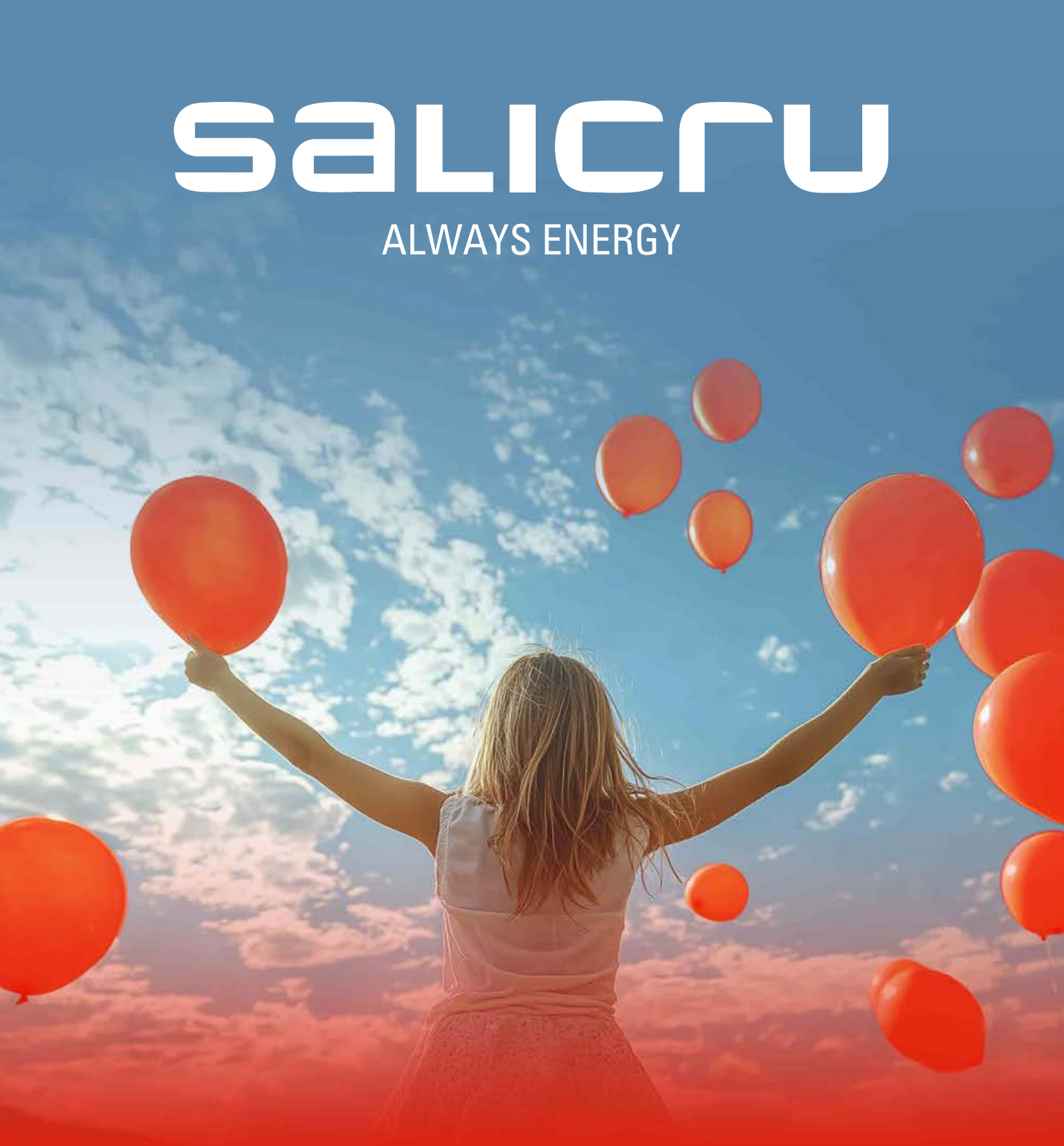
MODEL	RATED VOLTAGE (V)	SYSTEM	OPERATING CURRENT	MAXIMUM OPERATING VOLTAGE (V)				VOLTAGE PROTECTION LEVEL (V)			
				L-G	L-L	L-N	N-G	L-G	L-L	L-N	N-G
SCP200P-120T	120/240	Split 2 Ph+N+G	<10 mA	150	300	150	150	700	1000	700	700
SCP200P-120Y	120/208	Wye 3 Ph+N+G	<10 mA	150	300	150	150	700	1000	700	700
SCP200P-240Y	240/415	Wye 3 Ph+N+G	<10 mA	320	640	320	320	1200	1800	1000	1000
SCP200P-240DCT	120/120/240	Hi-Leg D 3 Ph+N+G	<30 mA	150/320	300/470	150/320	150	700	1800	700	700
SCP200P-240D	240	Delta 3 Ph+G	<30 mA	320	640	-	-	1200	1800	-	-
SCP200P-277Y	277/480	Wye 3 Ph+N+G	<10 mA	320	640	320	320	1200	1800	1000	1000
SCP200P-347Y	347/600	Wye 3 Ph+N+G	<10 mA	550	1100	550	550	1800	3000	1800	1800
SCP200P-480D	480	Delta 3 Ph+G	<30 mA	550	640	-	-	1800	3000	-	-
SCP200P-480DCT	320/580	Hi-Leg D 3 Ph+N+G	<30 mA	550/1100	550/1000	550/1100	550	1200	1800	1000	1000

Technical specifications

MODEL		SCP200
ELECTRICAL	Maximum discharging current	38 kA
	Maximum Recommanded fuse	200 A
	Frequency	50/60 Hz
	Nominal discharge current	20 kA
	Maximum discharge current	220 kA
	Impulse discharge current per phase	12,5 kA
	Total maximal discharge current	440 kA
CONNECTIONS	Wiring type	NEMA 4X
GENERAL	Operating temperature	-40 +185ºF (-40/+85ºC)
	Degree of protection	IP66 / IP65
	Location installation	Indoor / Outdoor (Depending on Version)
STANDARDS	Safety	UL 1449 5th edition (UL Type 1 Listed SPD)
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001
DIMENSIONS	Depth × Width × Height (mm)	150 × 119 × 243.5

salicru

ALWAYS ENERGY



60 years of ensuring a continuous, efficient and environmentally friendly power supply

www.salicru.com

Avda. de la Serra 100
08460 Palautordera
BARCELONA (Spain)
Tel. +34 93 848 24 00
salicru@salicru.com
SALICRU.COM

COMMERCIAL DELEGATIONS & SERVICES

ALICANTE
BARCELONA
BILBAO
CORUNNA
GIJÓN
LAS PALMAS DE G. CANARIA
MADRID
MÁLAGA
PALMA DE MALLORCA
SAN SEBASTIÁN
SANTA CRUZ DE TENERIFE
SEVILLE
VALENCIA
ZARAGOZA

SUBSIDIARIES

AUSTRALIA
BRAZIL
CHINA
FRANCE
MOROCCO
MEXICO
UNITED ARAB EMIRATES
PERU
PORTUGAL

REST OF WORLD

ANDORRA
ALGERIA
ARGENTINA
AUSTRIA
BELGIUM
BELARUS
BOLIVIA
BULGARIA
CHILE
CYPRUS
COLOMBIA
CUBA
CZECH REPUBLIC
DOMINICAN REPUBLIC
ECUADOR
EGYPT
EL SALVADOR
ESTONIA
GERMANY
GREECE
GUATEMALA
HUNGARY
INDONESIA
IRAN
IRELAND
ITALY
JAPAN
JORDAN
KUWAIT
LATVIA
LEBANON
LIBYA
LITHUANIA
MADAGASCAR
MALAYSIA
MALI
MALTA
MAURITANIA
NICARAGUA
NIGER
NORWAY
NEW ZEALAND
NETHERLANDS
PAKISTAN
PANAMA
PHILIPPINES
QATAR
ROMANIA
SAUDI ARABIA
SENEGAL
SINGAPORE
SLOVAKIA
SWEDEN
SWITZERLAND
TUNISIA
UKRAINE
UNITED KINGDOM
UNITED STATES
URUGUAY
VIETNAM

PRODUCT RANGE

Uninterruptible Power Supply Systems (UPS)
DC Systems
Transformers and Autotransformers
Voltage Stabilisers
Batteries