



# SLC CUBE3+

Uninterruptible Power Supplies (UPS) from 7.5 to 200 kVA

salicru

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## Uninterruptible Power Supplies (UPS) from 7.5 to 200 kVA

### Energy efficiency with superior electrical protection

Salicru's **SLC CUBE3+** series is an Uninterruptible Power Supplies (UPS) range featuring high-performance, On-line double conversion technology (VFI) that provides a reliable, high-quality power supply while achieving significant energy and financial savings in terms of installation and operating costs.

Particularly noteworthy is its unity input power factor (PF=1) and its extremely input current 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 electricity mains.

And regarding its output performance, particularly noteworthy is its power factor (PF=0.9), which provides optimum electrical protection to existing IT systems and low output voltage harmonic distortion (THDv down to below 0.5%), capable of protecting any type of linear

load (resistive, inductive or capacitive), non-linear load (electronic equipment, servers, etc.) or combinations of these. In addition, the efficiency achieved (up to 95% in On-line mode or 98.4% in Smart Eco-mode) produces significant energy consumption savings and reduces air conditioning needs.

To achieve a full optimum solution, **SLC CUBE3+** series devices provide maximum adaptability, including, 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 the footprint is minimal.

## 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%).<sup>(1)</sup>
- Total flexibility in input/output voltage.<sup>(1)</sup>
- Designed to withstand any type of load.
- Batt-Watch function for monitoring and battery care if required.
- High output power factor (PF=0.9).<sup>(2)</sup>
- 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.<sup>(3)</sup>
- Very compact design with minimal footprint.
- Can be integrated into the most advanced IT environments.
- Parallel-redundant configuration (n + 1) for a critical installations.<sup>(4)</sup>
- Built with 80% recyclable materials.
- SLC Greenergy solution.

(1) Single/single, single/three and three/single phase 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.

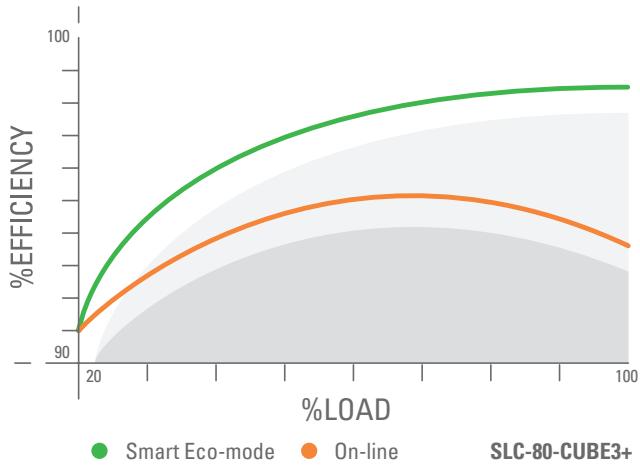


# TCO - Total Cost of Ownership

## Up to 95% efficiency in On-line double-conversion mode

The technology used enables maximum use of the energy consumed in any power range demanded.

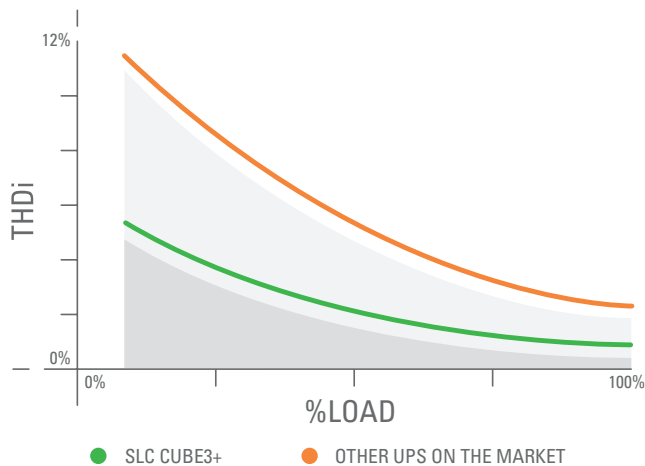
*This contributes to significant savings in energy consumption and reduces the need for installation and air conditioning.*



## The lowest input current distortion THDi in the market

Input current distortion THDi < 1.5% at full load, and even THDi < 5% with only 10% load.

*This prevents contamination of upstream mains supply, enables use of smaller power generators, cabling, protections, etc., and contributes to improving the quality of the electricity mains.*



## Unity input power factor

Unity power factor, independently of the load percentage (from 10% load).

*This results in less reactive power consumption and reduces operating and installation costs.*

## Smart Eco-mode with efficiency of up to 98.4%

Loads powered directly from the mains with the inverter in stand by and operating only if a power failure occurs.

*This achieves significant energy savings and high system efficiency (up to 98.4%).*

## Compact design

Maximum power density in the smallest space, including, up to the 40 kVA model, backup batteries in the same cabinet.

*Up to 60% space savings.*



# Availability

## Fourth generation trench gate IGBT technology

Fourth generation insulated-gate bipolar transistors (IGBTs) that allow higher switching frequencies with lower losses.

*This reduces acoustic noise while increasing performance.*

## Control DSP (Digital Signal Processor)

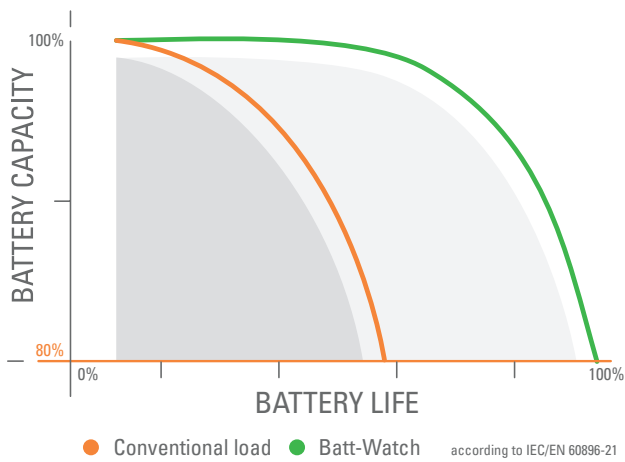
This provides excellent computing power for complex digital control loops, which are responsible for high system performance.

*Excellent output current distribution in UPS connected in parallel and high reliability due to current control providing greater immunity.*

## Battery care and monitoring (Batt-Watch)

Improvement of battery charging functions and monitoring of essential parameters, such as the critical voltage at the end of backup and charging depending on the ambient temperature, connected loads or battery type.

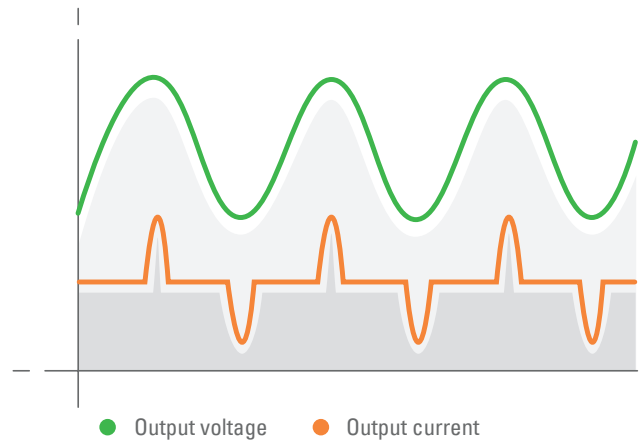
*This extends battery life, reduces maintenance costs and recharges batteries quickly.*



## Excellent THDv output distortion

THDv < 0.5 % at full linear load and THDv < 1.5 % with non-linear load. This provides a perfect sinusoidal supply voltage for high crest factor critical loads with a resultant improvement in functioning and greater longevity.

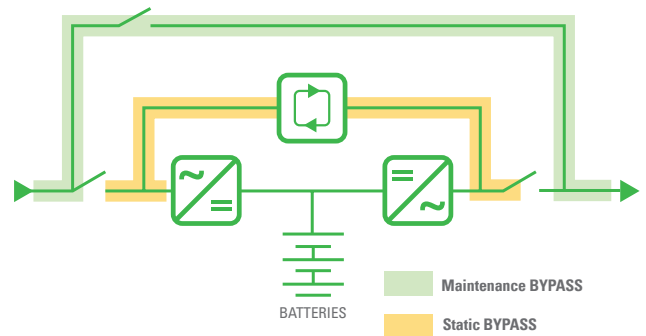
*Fully flexible and adaptable to any work environment.*



## Static and maintenance bypass

Enabling loads to be transferred without interruption directly to the mains in the event of severe overload or for maintenance work.

*This provides greater availability of service in abnormal situations (severe overload, short circuit, malfunction, etc.)*

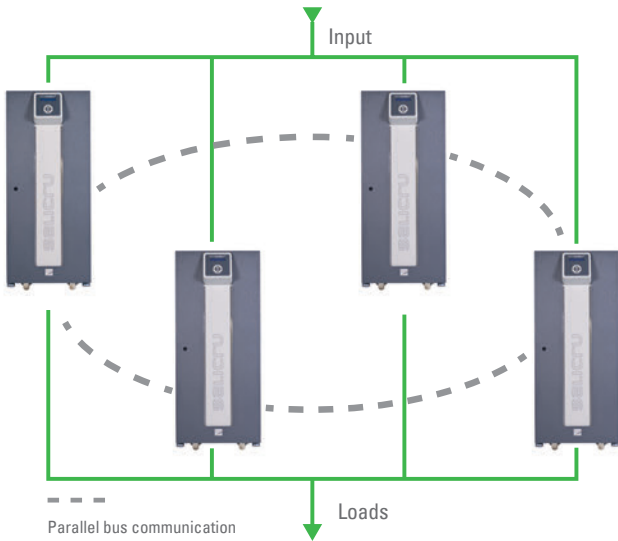


# Flexibility and adaptability

## Parallel-redundant configuration (N+1)

Designed to connect up to 4 UPS without additional hardware for installations with redundancy objectives and for power increases.

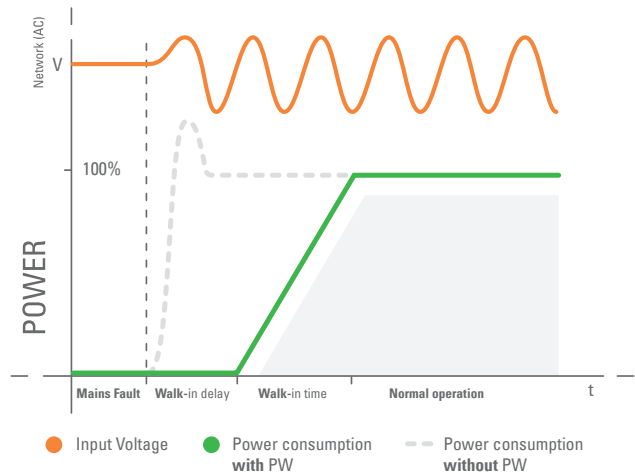
*This provides the loads with greater safety and improves system reliability in critical installations.*



## Soft start for power walk-in rectifier

Progressive rectifier start-up based on a pre-set time when the UPS is in battery discharge and the mains is restored.

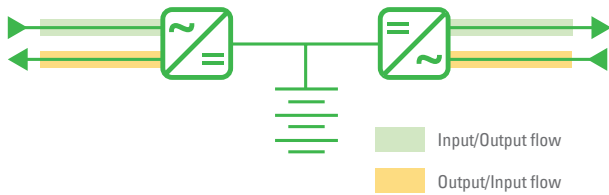
*Greater compatibility with power generators.*



## Bidirectionality

Reversible power electronics platform, allowing bidirectional power flows between input / output or output / input.

*Perfect operation against regenerative loads, such as motors (upstream current generators).*



## Input/output configuration flexibility

All voltage input and output combinations (three/three, three/single, single/single, single/three)

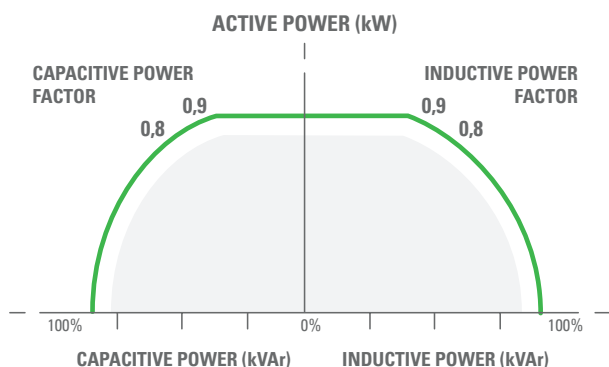
*Adaptable to electrical and load requirements*



## Output power factor = 0,9

Optimum energy protection for existing IT equipment with active power supplies.

*This provides a greater power protection capability and versatility for the type of loads to be protected.*



## Professional Frequency Converters

We also incorporate frequency converters featuring online technology that ensure a stable and efficient power supply, enabling us to deliver solutions tailored to each application while optimising performance, efficiency and operating costs.

*A versatile solution that ensures seamless integration within the environment to be protected.*



## Easy installation and service

### Incorporation of wheels

On models up to 120 kVA, the UPS systems are equipped with wheels as standard.

*This makes the device easier to move when installing and during maintenance.*

### Front access for connections and operations

All electrical and communication connections and operations are carried out from the front of the device.

*This facilitates operability, eliminating the need for side or rear access.*



## Management and communication

### Backup calculation

Estimation of remaining backup time in the event of a prolonged mains voltage outage.

*Valuable information for decision making in the event of lengthy power outages.*

### Communication software

Monitoring, management and shutdown software for closure files / applications, for Windows, Linux / Unix, Mac and virtualized.

*Integration of the team in the environment in which it operates.*

### Extensive control and monitoring options

Touch screen 7 "color (standard from 80 kVA, optionally up to 60 kVA) and multiple communication options.

*This creates multiple communication channels for efficient and intelligent management.*



### Communications channels

The communication elements that **SLC CUBE3+** incorporate as standard make them completely autonomous systems that can report on the status of the system and enable it to carry out pre-set actions:

- Relay interface.
- RS-232/485 port.
- 1 x free slot.
- MODBUS/SEC protocol: To facilitate communication with network management systems.
- 2 x connectors for parallel connection: No need for additional hardware for parallel/redundant operation.

## Looking after the environment

### More than 80% recyclable materials

Once the UPS life cycle is completed, it is possible to recycle the majority of its components.

*Environmentally friendly.*

### SLC Greenergy solution

A solution designed with criteria of maximum efficiency and energy savings.

*Energy efficiency manifested as financial and CO<sub>2</sub> emission savings.*

MODEL	HEAT LOSSES 100% load (kW)
SLC-7.5-CUBE3+	0.608
SLC-10-CUBE3+	0.810
SLC-15-CUBE3+	1.148
SLC-20-CUBE3+	1.440
SLC-30-CUBE3+	1.890
SLC-40-CUBE3+	2.340
SLC-50-CUBE3+	2.925
SLC-60-CUBE3+	3.240
SLC-80-CUBE3+	3.600
SLC-100-CUBE3+	4.950
SLC-120-CUBE3+	6.480
SLC-160-CUBE3+	7.200
SLC-200-CUBE3+	9.000



### SLC Smart Solution

Designed under parameters of full integration and continuous adaptation to the environments in which it operates.

*Greater adaptability to any operating environment.*



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**SMART**  
SOLUTIONS



## Range

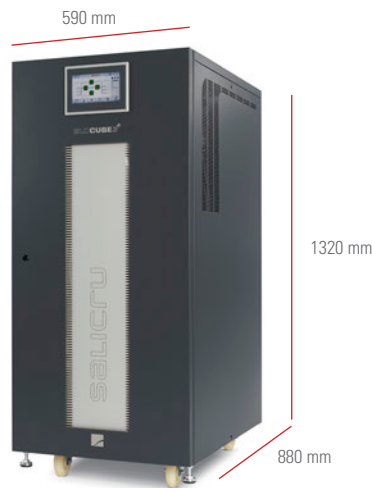
MODEL	CODE	POWER (VA / W)	N° CABINETS (UPS + BAT)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)	BAT DIMENSIONS (D × W × H mm)	BAT WEIGHT (Kg)
SLC-7.5-CUBE3+	681LA000339	7500 / 6750	1 + 0	770 × 450 × 1100	203	-	-
SLC-10-CUBE3+	681LA000340	10000 / 9000	1 + 0	770 × 450 × 1100	203	-	-
SLC-15-CUBE3+	681LA000341	15000 / 13500	1 + 0	770 × 450 × 1100	205	-	-
SLC-20-CUBE3+	681LA000342	20000 / 18000	1 + 0	770 × 450 × 1100	254	-	-
SLC-30-CUBE3+	681LB000006	30000 / 27000	1 + 0	770 × 450 × 1100	305	-	-
SLC-40-CUBE3+	681LB000137	40000 / 36000	1 + 0	770 × 450 × 1100	403	-	-
SLC-50-CUBE3+	681LC000001	50000 / 45000	1 + 1	770 × 450 × 1100	185	775 × 450 × 1100	295
SLC-60-CUBE3+	681LC000002	60000 / 54000	1 + 1	770 × 450 × 1100	185	775 × 450 × 1100	523
SLC-80-CUBE3+	681TD000001	80000 / 72000	1 + 1	880 × 590 × 1320	265	1050 × 650 × 1325	624
SLC-100-CUBE3+	681TD000002	100000 / 90000	1 + 1	880 × 590 × 1320	290	1050 × 650 × 1325	624
SLC-120-CUBE3+	681TD000003	120000 / 108000	1 + 1	880 × 590 × 1320	290	1050 × 650 × 1325	750
SLC-160-CUBE3+	681TE000001	160000 / 140000	1 + 1	850 × 900 × 1900	540	850 × 1305 × 1905	1595
SLC-200-CUBE3+	681TE000002	200000 / 180000	1 + 1	850 × 900 × 1900	550	850 × 1305 × 1905	1918

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 only to the UPS module. Consult code for battery module.

## Dimensions



SLC-7.5-60-CUBE3+

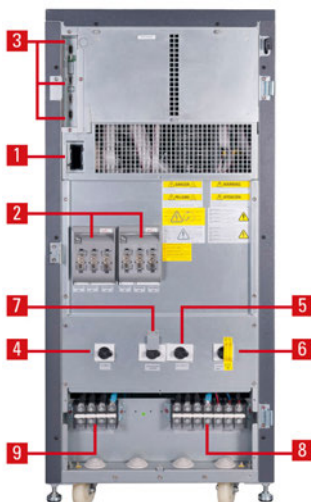


SLC-80-120-CUBE3+



SLC-160-200-CUBE3+

## Connections



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 terminals.

## Technical specifications

MODEL		SLC CUBE3+
TECHNOLOGY		On-line, double conversion, HF, DSP control
INPUT	Rated voltage	Single-phase 220 / 230 / 240 V <sup>(1)</sup> / Three-phase 3 × 380 / 3 × 400 / 3 × 415 V (3P + 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 <sup>(2)</sup>
	Rated voltage	Single-phase 220 / 230 / 240 V <sup>(1)</sup> / Three-phase 3 × 380 / 3 × 400 / 3 × 415 V (3P + 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
BYPASS	Type	Without interruption
STATIC BYPASS	Type and activation criteria	Solid state
	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	1x 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 <sup>(3)</sup>
	Acoustic noise at 1 metre	<52 dB(A) <sup>(4)</sup>
STANDARDS	Safety	EN-IEC 62040-1
	Electromagnetic compatibility (EMC)	EN-62040-2
	Operation	VFI-SS-11 (EN-62040-3)
	Quality and Environmental Management	ISO 9001 & ISO 14001

(1) Up to 100 kVA.

(2) Only for three-phase input / output models. FP = 0.8 for other configurations.

(3) Power degradation for higher altitudes up to a maximum of 5000 masl.

(4) <65 dB(A) for 80 to 120 kVA models / <70 dB(A) for 160 to 200 kVA models.

## Optionals

**Extended backup times:** For cases in which greater backup is required, additional battery cabinets are available.



**Separate bypass line:** For facilities with dual power supply, enabling the separation of inverter and bypass line power supplies.

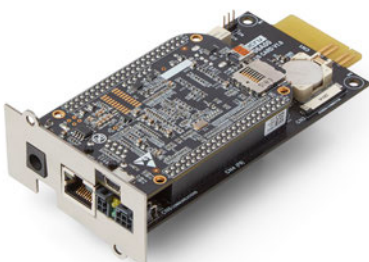
**Backfeed protection:** Provides additional protection to the input in the event that the bypass thyristors suffer a short circuit.



Temperature and humidity sensors.

1 x additional RS-232/485 serial port.

**Nimbus / Ethernet / SNMP adapter:** Ethernet adapter for the SNMP network management protocol to integrate the UPS into the IT network completely independently.



**Isolation transformer and autotransformer:** Electrical device that allows you to adapt the equipment to the voltage of the facility (autotransformer) or which has galvanic isolation between the input and output (isolation transformer).

**External manual bypass board:** Enables maintenance operations with the UPS fully disconnected.

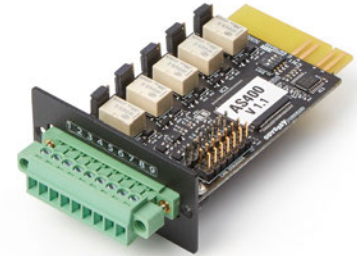


**Parallel installation cable:** Communications cable for simple or redundant parallel installations.



**Tropicalised electronic cards:** Treated against external agents such as condensation, humidity and marine environments.

**Nimbus AS-400 extended relay card:** Relay card.



**Other levels of protection:** Covers with levels of protection tailored to meet particular specifications.

**Earthquake-proof feet:** Covers with levels of protection tailored to meet particular specifications.

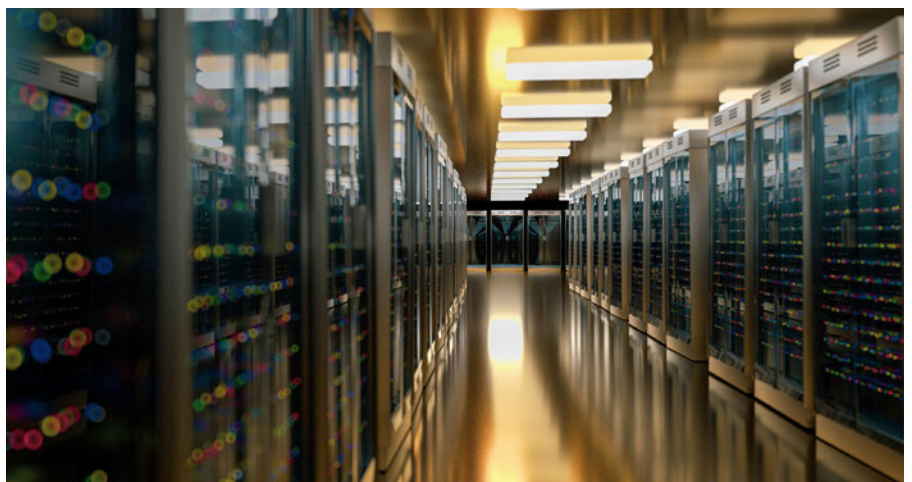
**BACS II:** Monitoring, regulation and alarm system for lead batteries.

**Common battery set for parallel systems.**

**Dual-level charger** for NiCd and gel batteries.

**Batteries in rack:** Specific mounting of batteries in racks.

**Frequency converter:** For 50 to 60 Hz or 60 to 50 Hz conversion.

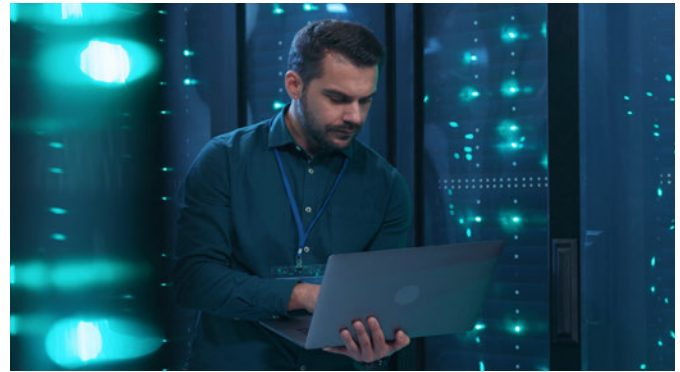


## Salicru Services

The day-to-day running of your business must not be allowed to be interrupted by an incident in your uninterruptible power supply (UPS). That is why **Salicru** places its **Salicru Services** department at your disposal, offering an extensive network of qualified technicians who can provide assistance with any eventuality or incident that may arise with your device, regardless of location, day or time.

The services offered by our extensive network of qualified technicians include:

- Pre-sales support.
- Startup.
- Maintenance contracts.
- Remote maintenance contracts.
- Preventative actions.
- Corrective actions.
- Telephone support.
- Monitoring of battery service life.



## Applications

**Data centres:** Ensuring the operability of facilities and preventing losses caused by power outages, whether in modular or virtualised data centres for hosting, housing, computer centres, supercomputers, etc.

**Financial services:** Maintaining the online functionality of financial transactions in centralised payment authorisation systems, continued listing, intercommunication between banking networks, etc.

**Health:** Electromedical equipment for analysis, laboratories, operating theatres and vital instruments for ICUs, as well as administration systems, security, medical records, etc.

**Telecommunications systems:** Preventing power outages that can cause the suspension of services between subscribers in fixed telephone, mobile, GSM, DCS and UMTS infrastructure, as well as transmission equipment, microwave, fibre optics, etc.

**Transport systems:** Protecting productivity in complex electrical systems related to control, communication and operation.

**Infrastructure:** Safeguarding instruments and ensuring proper management of systems in airports, tunnels, roads, railways, ports, etc.

**IT applications:** Preventing costs caused by interruptions in availability or loss of information in IT networks, server farms, voice and data networks, CAD/CAM, document management, etc.

# SALICRU

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## DELEGATIONS AND TECHNICAL SUPPORT & SERVICE CENTRES (TSS)

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

## SUBSIDIARIES

AUSTRALIA	FRANCE	PERU
BRAZIL	MOROCCO	PORTUGAL
CHINA	MEXICO	UNITED ARAB EMIRATES

## REST OF THE WORLD

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

## Product Range

Uninterruptible Power Supplies (UPS)  
Solar Inverters  
Variable Frequency Drives  
DC Systems  
Transformers and Autotransformers  
Voltage Stabilisers  
Electric Active Protectors  
Batteries

