

USER'S MANUAL



UNINTERRUPTIBLE POWER SUPPLY (UPS)

SPS.HOME

SALICRU

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1. INTRODUCTION.

1.1. THANK YOU LETTER.

We thank you in advance for the trust placed in us in the purchasing of this product. Read this instruction manual carefully in order to familiarize yourself with its content, since the more you know and understand the equipment the greater your satisfaction, level of safety and optimization of its functionalities will be.

We remain at your disposal for any additional information or queries that you may wish to make.

Yours sincerely.

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- The equipment described here **is capable of causing significant physical damage in the event of incorrect connection and/or operation**. For this reason its installation, maintenance and/or repair must be carried out exclusively by our personnel or by **qualified personnel**.
- Although no effort has been spared to ensure that the information in this user manual is complete and accurate, we are not responsible for any errors or omissions that may exist.

The images included in this document are for illustrative purposes and may not represent exactly the parts of the equipment shown, therefore they are not contractual. However, any divergence that may arise will be remedied or solved with the correct labelling on the unit.

- Following our policy of constant evolution, **we reserve the right to modify the characteristics, operations or actions described in this document without prior notice**.
- **Reproduction, copying, assignment to third parties, modification or total or partial translation** of this manual or document, in any form or by any means, **without previous written authorization by our firm is prohibited**, with the full and exclusive property rights over the same being reserved by our firm.

2. SAFETY INFORMATION.

2.1. USING THIS MANUAL.

The documentation of any standard equipment is available to the customer on our website for download:

(www.salicru.com).

- For devices "powered by socket", this is the website for obtaining the user manual and **"Safety Instructions"** EK266*08.
- For devices with "permanent connection" via terminals, a CD-ROM or pen drive containing all necessary information for connection and commissioning, including **"Safety Instructions"** EK266*08, may be supplied with it.

Before carrying out any action on the equipment relating to its installation or commissioning, change of location, configuration or manipulation of any kind, you must read the safety instructions carefully.

The purpose of the user manual is to provide information regarding safety and explanations of the procedures for installation and operation of the equipment. Read them carefully and follow the steps indicated in the order established.



Compliance with the "Safety Instructions" is mandatory and the user is legally responsible for compliance and enforcement.

The equipment is delivered properly labelled for the correct identification of each of the parts, which together with the instructions described in this user manual allows the operations of installation and commissioning to be performed in a simple and orderly manner without having any doubts whatsoever.

Finally, once the equipment is installed and operating, it is recommended to save the documentation downloaded from the website, CD-ROM or Pen Drive in a safe and easy-to-access place, for any future queries or doubts that may arise.

The following terms are used interchangeably in the document to refer to:

- **'SPS HOME, SPS, device, unit or UPS'** - Uninterruptible power supply.
Depending on the context of the phrase, it can refer either to the actual UPS itself or to the UPS and the batteries, regardless of whether it is all contained in the same enclosure.
- **'Battery or accumulator'** - Element that stores the flow of electrons by electrochemical means.
- **'TSS'** - Technical Service and Support.
- **'Client, installer, operator or user'** - These are used interchangeably and by extension to refer to the installer and/or operator who will carry out the corresponding actions, and the same person may be responsible for carrying out the respective actions when acting on behalf of, or in representation of, same.

3. QUALITY ASSURANCE AND STANDARDS.

3.1. STATEMENT BY THE MANAGEMENT.

Our goal is customer satisfaction, therefore this Management has decided to establish a Quality and Environment Policy, through the implementation of a Quality and Environmental Management System that will enable us to comply with the requirements demanded in the **ISO 9001** and **ISO 14001** and also by our Customers and Stakeholders.

Likewise, the management of the company is committed to the development and improvement of the Quality and Environmental Management System, through:

- Communication to the entire company of the importance of satisfying both the client's requirements as well as legal and regulatory requirements.
- The dissemination of the Quality and Environment Policy and the setting of the Quality and Environment objectives.
- Conducting reviews by the Management.
- Providing the necessary resources.

3.2. STANDARDS.

SPS HOME is designed, manufactured and sold in accordance with Quality Management Standard **EN ISO 9001**. The mark **CE** indicates conformity to the EEC Directives through the application of the following standards:

- **2014/35/EU**. - Low voltage safety.
- **2014/30/EU**. - Electromagnetic Compatibility (EMC).
- **2011/65/EU**. - Restriction of the use of hazardous substances in electrical and electronic equipment (RoHS).

According to the specifications of the harmonized standards. Reference standards:

- **EN-IEC 62040-1**. Uninterruptible power supplies (UPS). Part 1-1: General and safety requirements for UPS used in user access areas.
- **EN-IEC 62040-2**. Uninterruptible power supplies (UPS). Part 2: EMC requirements.



The manufacturer accepts no liability in the event of modification of or intervention on the device by the user.



WARNING!:

The SPS.HOME is a category C1 UPS. It is not appropriate to use this device with basic life support applications, where a failure of the former can render vital equipment out of service or significantly affect its safety or effectiveness. It is also not recommended in medical applications, commercial transport, nuclear installations, or other applications or loads, where a failure of the product can lead to personal or material damages.



The EC declaration of conformity of the product is available to the customer upon express request to our headquarters.

3.3. UKCA PRODUCT MARK AND UK AUTHORIZED REPRESENTATIVE.

UK CA product marking indicates that this UPS has been evaluated by Salicru and is deemed to comply with safety, health and environmental protection requirements.

The UK CA Declaration of Conformity is available upon request. For copies of the UKCA Declaration of Conformity, please contact Salicru or check our website: www.salicru.com

UK Authorised Representative
Indele Limited
7 Bell Yard,
WC2A 2JR,
London

3.4. ENVIRONMENT.

This product has been designed to respect the environment and manufactured according to **ISO 14001**.

Recycling of the equipment at the end of its useful life:

Our company undertakes to use the services of authorized and regulatory companies to treat the set of products recovered at the end of their useful life (contact your distributor).

Packaging:

For the recycling of the packaging there must be compliance with the legal requirements in force, according to the specific regulations of the country where the equipment is installed.

Batteries:

Batteries pose a serious danger to health and the environment. The disposal of them shall be carried out in accordance with the laws in force.

4. PRESENTATION.

4.1. VIEWS OF THE DEVICE.

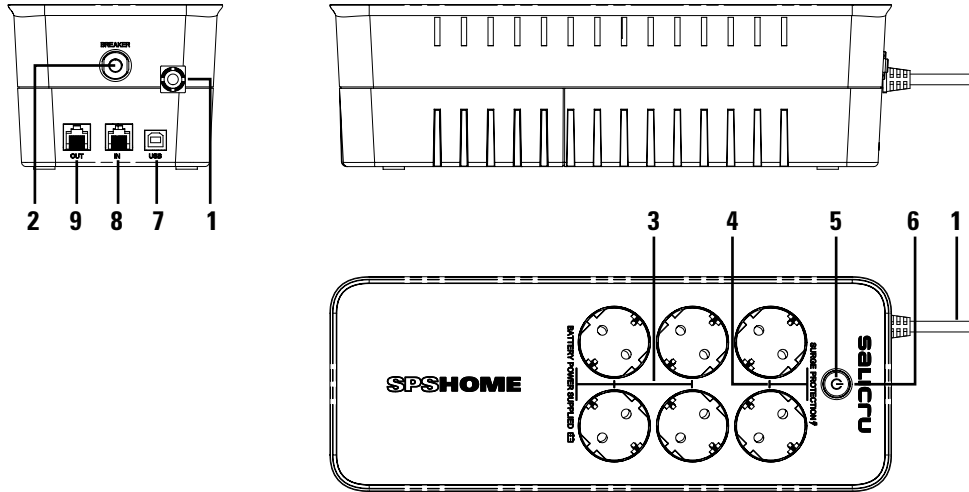


Fig. 1. Common views for all models.

4.2. KEY FOR THE VIEWS.

- 1 AC power cable with plug on end.
- 2 Input breaker.
- 3 AC output sockets with autonomy in case of mains failure.
- 4 AC output sockets with protection for peripherals.
- 5 Start and stop button, inverter 'On-Off'.
- 6 Multifunctional LED light.
- 7 USB communication port.
- 8 RJ45 input socket, telephone line/ASDL/modem.
- 9 RJ45 output socket, telephone line/ASDL/modem.

4.3. NOMENCLATURE.



4.4. DESCRIPTION.

The SPS.HOME series Off-Line UPS is designed for total adaptation to single-user environments.

With the attractive appearance of a power distribution unit, it features six output power sockets, four derived from an efficient UPS capable of providing varying degrees of backup depending on the connected load level at output and two auxiliary for the most commonly used peripherals (modems, telephone lines, etc.). All of the sockets are supplied with power surge protection. The main function of the UPS is to provide power, in the event of mains failure, to the devices connected to the output sockets through its internal battery for a limited time.

Off-Line UPS systems perform this task of protection against mains failures by providing a similar voltage for a period of time.

Under normal conditions, the output of the UPS is the same as the input of the AC power mains. By means of a real-time detection circuit, mains power outages can be quickly detected and the system switched to battery mode in less than 6 ms, ensuring that its loads remain powered with a modified sine wave.

The device's communication and control functionalities are available through a USB port and monitoring and management software.

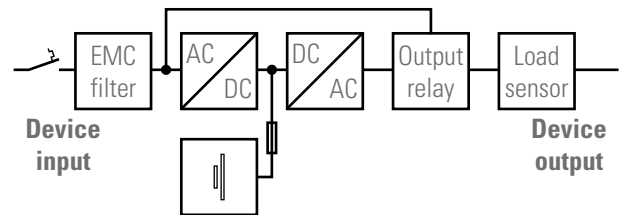




Fig. 2. Structural block diagram.

4.4.1. Main features.

- Off-Line technology.
 - Compatibility with APFC loads.
- The vast majority of power supplies for electronic devices are switched-mode (SMPS) and they are increasingly being equipped with active power factor correction (APFC) to minimise distortion caused to the electrical line. SPS HOME UPSs are compatible with all devices that incorporate these functionalities.
- USB interface with HID protocol.
 - USB for software monitoring and closing files.
 - Downloadable software for Windows, Linux and Mac.
 - Auto-detection with 50 / 60 Hz input frequency.
 - ColdStart function.
 - Automatic restart after mains outage and end of backup.
 - Overload protection through accessible breaker.
 - Battery protection through internal fuse.
 - Fixings for wall mounting.

5. INSTALLATION AND OPERATION.

-  Read and respect the Safety Information, described in chapter 2 of this document. Failure to obey some of the instructions described in this manual can result in a serious or very serious accident to persons in direct contact or in the vicinity, as well as faults in the equipment and/or loads connected to it.
-  During discharge, the equipment operates in IT (isolated earth) neutral mode. This means that the neutral is not directly connected to earth, providing an additional layer of safety and stability in critical situations. To ensure optimal and safe operation, follow the guidelines in the user manual and contact your distributor if you have any questions.

5.1. RECEPTION OF THE DEVICE.

5.1.1. Reception, unpacking and contents.

- Reception.
 - Check that the information on the label affixed to the packaging matches that specified on the order. Remove the packing unit and check the above information against that on the nameplate of the SPS.HOME. If there are any discrepancies, report them, quoting the references on the delivery note.
 - Check that no mishaps have occurred during transportation.
- Unpacking.
 - The packaging consists of a full-colour cardboard box with two moulded pieces of expanded polystyrene (EPS) to protect the SPS.HOME from impacts.
- Content.
 - Device.
 - Quick guide.
 - Warranty information.
 - Particular terms and conditions of warranty.
 - 1 USB cable.
 - 1 telephone/ASDL/modem cable.
- After reception, it is advisable to store the device in its original packaging as a preventative measure if installation is not to be carried out immediately.
- When the packaging needs to be disposed of, it must be carried out in accordance with current laws. We advise keeping it for at least 1 year.

5.2. SITING AND CONSIDERATIONS.

5.2.1. Siting.

- Install the unit in a location which takes into consideration and complies with the Safety Instructions of document EK266*08.
- The UPS can be placed on a flat surface (on a table) or mounted on a wall using the system located on the base of the device.

5.2.2. Considerations.



5.2.2.1. Battery charging.

- Although the unit's internal battery is charged at the factory, it may run down during transportation and/or storage, so it should be charged for a minimum of 8 hours to ensure a full charge before using the device with complete assurance. Although the device can operate correctly without charging the battery for the specified time, the risk of a prolonged mains outage during the first hours of operation and the UPS's available backup time should be assessed.
- To recharge the battery, simply leave the unit plugged into an AC socket. The battery will charge irrespective of whether the SPS.HOME is switched on or off.

5.2.2.2. Power connected to the SPS.HOME.




- Check that the loads connected to the power sockets do not exceed the power rating of the unit (see Section 7 of this document). If the rated capacities are exceeded, an overload condition will occur. If mains power is present, the input breaker will trip and, in battery mode, the device's inverter will be blocked. Either way, the end result will be an unwanted stoppage of the device and loads.
- For optimum performance, keep the load connected to the SPS below 80% of rated capacity.

5.3. CONNECTION AND COMMISSIONING.

-  All of the device's connections, including those related to control, will be made with all of the switches in standby and without mains power present (UPS power supply line selector set to 'Off').
-  It should never be forgotten that a UPS is a generator of electrical energy, so the user must take the necessary precautions against direct or indirect contact when it is part of the facility.

5.3.1. Procedure to follow.

Observe the following order of operation and instructions:

1. Plug the PC, screen and sensitive devices into the unit's output sockets **3**. Plug the modem and other non-sensitive and low-consumption peripherals into the SPS.HOME's output sockets **4**.
 -  **Do not plug** laser printers, paper shredders or other high-consumption electrical devices or high current probes into output sockets **4** and especially not into output sockets **3** with backup. The power demand of any of these devices will overload the SPS and possibly damage the unit.
2. Take power cable **1** and insert the plug into a properly connected AC socket with an earth connection. The socket that supplies power to the device must have a properly connected earth cable ().
-  The SPS.HOME's power socket will be protected by a fuse or circuit breaker limiter. This line must not power machines with large electrical demands such as air conditioning units, refrigerators, etc.).

Avoid the use of extension cables, since the SPS itself could be considered as a PDU.

3. Press start-stop button **5** to start the unit. Its surrounding LED will light up and the unit will emit a beep.



It is possible to start the unit without the presence of mains power (Coldstart function) by pressing on start-stop button **5**. This, however, is not recommended because if a mains failure extends beyond the available backup, it will be necessary to carry out a forced stop.

In the event of a mains failure and the battery's backup reaching its end, the device will be automatically blocked, leaving the loads unpowered.



Similarly, when mains voltage returns, the device will start automatically.

4. If an overload is detected, an audible alarm consisting of a long beep will sound. To correct it, it is necessary to switch the UPS off and disconnect the load that exceeds the rated power of output sockets **3** with backup. Wait 10 seconds. Check that the fuse or circuit breaker of the line that supplies the SPS is correct or set to 'On' and then restart the UPS by pressing button **5**.
5. To keep the battery fully charged, always leave the SPS plugged into a live AC power outlet.
6. If the UPS is stored or put away for a prolonged period of time, protect it from dust, knocks, etc., and keep the battery fully charged. Recharge the battery according to the time set in Table 2 of the EK266*08 Safety Instructions document and in correlation with the ambient temperature to which the SPS.HOME is subject. That way, a longer battery life will be ensured.

5.3.1.1. Optical and audible indications.

LED	Audible alarm	Input breaker 2	Conditions
On	Not active	Normal	Normal
Flashing	Slow modulated beep (every 30 sec)	Normal	Mains failure - The UPS supplies power to sockets 3.
Flashing	Rapid modulated beep (every 2 sec.)	Normal	Mains failure - The UPS supplies power to sockets 3. With low battery voltage (end of backup), the audible alarm modulates every 2 sec
On / Flashing	Rapid modulated beep (every 0.5 sec) for moderate overload or continuous for excessive	Normal / Tripped	Overload - Activated by excessive load connected to the device's output sockets. Stop the UPS, disconnect the load. Activate the breaker if necessary. Switch on the UPS.

Tab. 1. Optical and audible indications guide.

5.3.2. Modem/telephone line connection.

Use the cable supplied for the telephone line to extend the line from the wall socket to RJ45 input connector **8** of the SPS. Connect the telephone, modem or fax to RJ45 output connector **9**. This connection provides the connected device with protection from possible voltage peaks.

5.3.3. Communications connection.

Connect the communications cable supplied with the device to the UPS's USB port and the other end to the computer. With the Power Master software installed on the PC, both the status of the UPS can be monitored and a shutdown/automatic start can be performed remotely.

5.3.3.1. Software.

- **Free Power Master software download.**

Power Master is a UPS monitoring software which provides a user-friendly interface for monitoring and control. It features an auto shutdown function for systems consisting of several PCs in case of power failure. The software enables users to monitor and control any UPS in the same LAN through an RS232 or USB communications port, regardless of how far away they are from each other.

- **Installation procedure:**

- Go to the web page: <http://support.salicru.com>
- Select the required operating system and follow the instructions described on the web page to download the software.

6. MAINTENANCE, WARRANTY AND SERVICE.

6.1. TROUBLESHOOTING GUIDE.

- If the UPS is not working properly, before calling **T.S.S.**, try to resolve the issue using the information in Tab. 2.

Issue.	Possible cause.	Solution.
UPS backup time not as expected.	Battery not charged.	Connect UPS to power socket and allow to charge for at least 8 hours.
	Battery slightly damaged.	Contact distributor or seller and, failing that, T.S.S.
UPS does not start.	The 'On-Off' button is designed to prevent damage when performing quick stop and run operations	With the device on, press button 5 to switch it off. After 10 seconds, press button 5 to switch it back on.
	SPS not connected to an AC power socket.	Connect it to a 220..240 V 50/60 Hz socket.
	Battery has reached the end.	Contact distributor or seller and, failing that, T.S.S.
	Mechanical problem.	
The SPS's output sockets do not supply voltage.	Breaker tripped by an overload	If an overload is detected, an audible alarm consisting of a long beep will sound. To correct it, it is necessary to switch the UPS off and disconnect the load that exceeds the rated power of output sockets 3 with backup. Wait 10 seconds. Check that the fuse or circuit breaker of the line that supplies the SPS is correct or set to 'On' and then restart the UPS by pressing button 5
	Battery discharged.	Connect the SPS to a power socket for at least 4 hours, preferably with no load connected to prevent a mains failure from discharging the battery and leaving the loads unpowered
	Unit has been damaged by a repetition of voltage peaks.	Contact distributor or seller and, failing that, T.S.S.
Power Master is inactive	Serial port/USB cable not connected	Connect serial port/USB cable between SPS and computer. Use cable supplied with unit.
	SPS.HOME does not provide battery power.	Switch on PC and UPS. Wait 10 seconds and restart SPS.HOME. When restarting unit, fault should be resolved.

Tab. 2. Troubleshooting guide.

6.2. MAINTENANCE.

- This product does not require preventative maintenance.

6.3. WARRANTY CONDITIONS.

6.3.1. Terms of the warranty.

On our website you will find the warranty conditions for the product you have purchased where you can also register it. It is recommended to do so as soon as possible to include it in the database of our Technical Service and Support (**T.S.S.**). Among other advantages, it will streamline any regulatory procedures for the intervention of **T.S.S.** in the event of a fault.

6.3.2. Exclusions.

Our company will not be bound by the warranty if it notices that the defect in the product does not exist or was caused by improper use, negligence, improper installation and/or verification, attempts at unauthorized repair or modification, or any other cause beyond the intended use, or by accident, fire, lightning or other hazards. Nor shall it cover any compensation for damages.

6.4. TECHNICAL SERVICES NETWORK.

Information about our national and international Technical Service and Support (**T.S.S.**) centres can be found on our website.

7. ANNEXES.

7.1. TECHNICAL SPECIFICATIONS.

Models.	SPS.650.HOME	SPS.850.HOME
Power.	650 VA / 360 W	850 VA / 490 W
Technology.	Off-Line.	
Input.		
Voltage.	220.. 240 V AC single-phase.	
Voltage range.	180.. 270 V AC	
Frequency.	50 / 60 Hz auto-detectable.	
Number of power cables.	3 (phase + neutral and earth connection) with plugs.	
Output.		
Rated voltage.	230 V AC single-phase.	
Voltage accuracy.	±7 %	
Frequency.	50 (60) Hz	
Output frequency accuracy.	±1 %	
Waveform.	Pseudo sine wave.	
Typical transfer time.	4 ms	
Compatibility with APFC loads.	Yes	
Electronic protection.	Power overload, short circuit, battery overload and discharge.	
Overload in line mode.	> 110%, output voltage cut after 1 min; > 200%, output voltage cut immediately.	
Overload in battery mode.	> 100 %, output voltage cut after 1 min; > 120 %, output voltage cut immediately.	
Output sockets.	6 (4 for powering critical loads - battery mode - and 2 direct from mains with protection against power surges).	
Battery.		
Element rated voltage.	12 V DC (Pb-Ca sealed, maintenance-free battery).	
Number of elements / Capacity.	1 / 5 Ah	1 / 5.6 Ah
Typical recharge time.	8 hours to 90% charge.	
Optical and audible indication.		
Surrounding the On-Off button.	LED.	
Indications.	Normal operation mode, mains failure, end of backup, overload.	
Audible alarm.	Battery mode: beep every 30 sec. Low battery: beep every 0.5 sec. Overload: continuous beep. Failure: continuous beep.	
Physical.		
Maximum dimensions (depth × width × height).	316 (with power cable included 336) x 121 x 93 mm.	
Weight.	2.7 kg	3.0 kg
Protection rating.	IP20	
Total output sockets.	6	
Output sockets for critical loads + overvoltage protection.	4	
Output sockets with overvoltage protection.	2	
Environmental.		
Operating temperature.	0.. 40°C	
Relative humidity.	0.. 90% non-condensing.	
Interface, communication and management.		
USB (HID).	Yes	
Phone line/ADSL protector.	Yes	
Power Master software.	Windows 8 / 7 / Vista / XP / 2000 / Server 2003, Linux.	
Battery self-charging.	Yes	
Auto start after mains failure.	Yes	

Tab. 3. Technical specifications.

SALICRU

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08460 Palautordera

BARCELONA

Tel. +34 93 848 24 00

sst@salicru.com

SALICRU.COM



Information about the technical support and service network (TSS), the sales network and the warranty is available on our website:

www.salicru.com

Product range

Uninterruptible Power Supplies (UPS)

Power supplies

Variable frequency drives

Static inverters

Photovoltaic inverters

Voltage stabilisers



@salicru_SA



www.linkedin.com/company/salicru

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