



# THE SOLLATEK VOLTAGE STABILISER (SVS) RANGE

Microprocessor controlled Stabilisers

Instruction manual



**IMPORTANT:** This manual contains important safety instructions.  
Keep this manual handy for reference.

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- **Before using the SVS please read all instructions carefully.**
- **Keep these instructions for future reference.**
- **All specifications are subject to change without prior notice.**

## Safety

- All equipment designed and manufactured by Sollatek (UK) Ltd complies with the latest safety codes of practice. You should still follow all safety instructions and use caution when installing and operating electrical equipment.
- To avoid the risk of shock, DO NOT expose this equipment to rain, moisture or liquid spillage.
- Before attempting to use the SVS (Sollatek Voltage Stabiliser) ensure that the total loading of your equipment does not exceed the maximum rating of the SVS. To check the rating of your SVS, refer to the label on the back of the unit.
- For your own safety, do not insert any object into the ventilation slots.
- Do not attempt to dismantle the SVS, to do so will invalidate the guarantee. There are no user serviceable parts inside.

## Description

As both high and low mains voltage can damage your electrical equipment, the Sollatek SVS is designed to monitor and correct the incoming supply continuously.

If the voltage rises or drops, the SVS will stabilise the output to ensure that the voltage reaching your equipment remains constant at 230V ( $\pm 6\%$ ) or 110V ( $\pm 6\%$ ) for US voltage systems, within the operating range of the unit. See table below.

The Sollatek SVS has a modern state of the art 7 LED display to indicate accurately the state of the input at all times and 5 LEDs to indicate the output voltage supplied to your load.

The Sollatek SVS is unique in having a built-in Sollatek AVS™ (Automatic Voltage Switcher). This adds the following protective functions;

- a) Provides a start-up delay which prevents rapid switching ON and OFF of the appliance in serious fluctuations. This is especially important for loads that use compressors (e.g. Fridges, Freezers, Coolers, Air conditioners) and vital for sensitive electronic equipment like computers, photocopiers, fax machines, lab equipment, medical instruments etc. The delay varies between 10 seconds to 6 minutes depends on the model purchased. Please check with your dealer.
- b) Provides a shutdown and disconnect function whereby it will disconnect switch off your equipment in cases where the fluctuations are extremely BAD and the SVS can not safely correct the voltage.
- c) The Sollatek SVS has a built-in microprocessor which adds the advanced feature TimeSave™. TimeSave™ means that when the mains return to normal from a brown-out, the SVS checks the duration of the OFF time. For example for models that have 3 minute delay; If the unit has been off for more than 3 minutes then it will reconnect the mains within 30 seconds rather than the standard 3 minutes. This means the Sollatek SVS will give you more vital working time than any other stabiliser!

The SVS also protects your electrical equipment against power spikes and surges. By using the SVS you will ensure a stable, and clean voltage supply to your equipment.

Depending on the rating of the SVS, it is suitable for all electrical and electronic appliances, including:

Air conditioners	Fax Machines	Ink & Bubble Jet Printers
Fridges	Photocopiers	Domestic pumps
Freezers	Laser printers	Any electrical appliance
Coolers	Television	Satellite Equipment
Computers	Video Equipment	Hi-fi

The Sollatek range of SVS Stabilisers includes sizes from 250VA and up to 18kVA.


# Specifications

**SINGLE PHASE SVS SELECTION** (Other sizes available, refer to Sollatek for more details)

MODEL	Amps	VA@230V	VA@240V	Socket	Weight	Dims	Case	type	Wall mountable	AVS/Timesave	Time delay
SVS02-22	2	460	480	UK EU UK5	2.0	190 x 100 x 124	A	plastic	No	Yes	Yes
SVS04-22	4	920	960	UK EU UK5	3.6	190 x 100 x 124	A	plastic	No	Yes	Yes
SVS08-22	8	1840	1920	UK EU UK15	7.2	162 x 132 x 275	B	plastic	No	Yes	Yes
SVS15-22	15	3450	3600	EU UK15	9.0	162 x 132 x 275	B	plastic	No	Yes	Yes
SVS16-22	16	3680	3840	EU	9.0	162 x 132 x 275	B	plastic	No	Yes	Yes
SVS20-22 / cable	20	4600	4800	Cable	15.0	162 x 132 x 275	B	plastic	No	Yes	Yes
SVS20-22 / terminal	20	4600	4800	Terminal	15.0	162 x 132 x 275	B	plastic	No	Yes	Yes
SVS20-22WM	20	4600	4800	Terminal	20	300 x 200 x 280	C	metal	Yes	Yes	Yes
SVS35-22WM	35	8050	8400	Terminal	29.0	330 x 330 x 440	D	metal	Yes	Yes	Yes
SVS50-22WM	50	11500	12000	Direct wiring	29.0	330 x 330 x 440	D	metal	Yes	Yes	Yes
SVS75-22WM	75	17250	18000	Direct wiring	45.0	330 x 330 x 440	D	metal	Yes	Yes	Yes


MODEL	Amps	VA@115V	Socket	Weight	Dims	Case	type	Wall mountable	AVS/Timesave	Time delay
SVS02-11	2	230	US	3.6	187 x 115 x 95	A	plastic	No	Yes	Yes
SVS04-11	4	460	US	5.0	187 x 115 x 95	A	plastic	No	Yes	Yes
SVS08-11	8	920	US	5.0	187 x 115 x 95	A	plastic	No	Yes	Yes
SVS15-11	15	1725	US	5.0	162 x 132 x 275	B	plastic	No	Yes	Yes
SVS20-11	20	2300	US	7.0	162 x 132 x 275	B	plastic	No	Yes	Yes



**Case type A**  
 Dims (unpacked):  
 190 x 100 x 124 mm  
 Dims (packed):  
 240 x 178 x 150 mm



**Case type B**  
 Dims (unpacked):  
 162 x 132 x 275 mm  
 Dims (packed):  
 270 x 387 x 160 mm



**Case Type C**  
 Dims (unpacked):  
 300 x 200 x 280 mm  
 Dims (packed):  
 320 x 220 x 300 mm

**Case type D**  
 Dims (unpacked):  
 330 x 330 x 440 mm  
 Dims (packed):  
 370 x 360 x 460 mm

Wall mountable: *dimension may vary*

## Specifications

**SPECIAL VOLTAGES** The following models of SVS provide dual voltage (input and output) for countries where 110V & 220V are used.

MODEL	Input Voltages	Output Voltages	Output Power		Socket	Weight	Dims	Case	Type	AVS	
			@220V	@110V							
SVS02-29	220	110 and 220	230VA	and	230VA	UK US	3.0	240 x 178 x 150	A	plastic	No
or	220	110 and 220	650VA	and	0VA	UK US	3.0	240 x 178 x 150	A	plastic	No
or	220	110 and 220	0VA	and	300VA	UK US	3.0	240 x 178 x 150	A	plastic	No
SVS04-29	220	110 and 220	500VA		500VA	Sch US	5.0	270 x 387 x 160	B	plastic	No
or			1000VA		0VA	Sch US	5.0	270 x 387 x 160	B	plastic	No
or			0VA		450VA	Sch US	5.0	270 x 387 x 160	B	plastic	No
SVS08-29	220	110 and 220	1000VA		1000VA	Sch US	9.0	270 x 387 x 160	B	plastic	No
or			2000VA		0VA	Sch US	9.0	270 x 387 x 160	B	plastic	No
or			0VA		900VA	Sch US	9.0	270 x 387 x 160	B	plastic	No
SVS1000-27 Dual I/O	127/220	127 and 220	@220V		@110V	US / EU	4.0	270 x 387 x 160	B	plastic	No
or	Input Voltage 220V		1000VA		0VA						
or	Input Voltage 220V		0VA		400VA						
or	Input Voltage 127V			max total 400VA							
SVS2000-27 Dual I/O	127/220	127 and 220	@220V		@110V	US / EU	9.0	270 x 387 x 160	B	plastic	No
or	Input Voltage 220V		2000VA		0VA						
or	Input Voltage 220V		0VA		800VA						
or	Input Voltage 127V			max total 800VA							
SVS1413-21WM	127/220	15 and 220	@220V		@115V	US/EU	23	340 x 320 x 380	D	Metal	Yes
or	Input Voltage 220V		3000VA		0VA						
or	Input Voltage 220V		0VA		1500VA						
or	Input Voltage 127V			max total 1500VA							

Refer to page 12 for more information on SVS1413-21WM

# General specifications

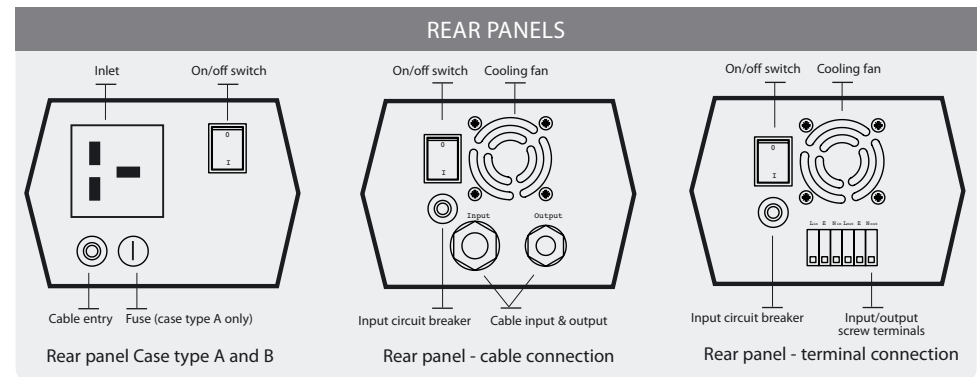
<b>Input/output range</b>	
Input range	-26% to +19%.
Output accuracy	± 6%.
Frequency range	45Hz to 75Hz.
Regulator range @ 230V	171-274V ±6% (For input voltage beyond this range, output accuracy is +-10%. Refer to table below).
Regulator range @ 115V	86 -137V ±6% (For input voltage beyond this range, output accuracy is +-10%. Refer to table below).
<b>General</b>	
Derating factor	10% to 15% per 10°C above 40°C.
Synchronization	Output synchronized to input.
Permissible overload	1000% for 100ms, 150% for 4 minutes, 110% for 15 minutes.
Load types	Designed to run lighting, motors, battery chargers, communications equipment, office equipment, SMPS, air-conditioners, compressors, industrial machines, medical equipment and others. Suitable for all domestic, commercial and industrial sites.
Technology	Transformer tap switching using relay based.
Efficiency	>97% (at 100% linear load).
Control	Microcontroller based control system provides self checks, system integrity monitoring and diagnostic indicators.
Control protection	Internal surge arrestors and filters in control circuit protect against disturbances. Filtering algorithms and fault tolerant software protect against disturbances and false measurements.
Ambient temperature range	0 to +55°C.
Relative humidity	<95%, non condensing.
Acoustic noise	< 45 dB (A).
Expected service life	> 10 years.
Standards	Manufactured to comply with :- ISO9001:2000, CE, EN 50081-1:1992, EN 50082-1:1998, EN 55022:1998, EN 61000-4-2:1995/1998, EN 61000-4-3:1996, EN 61000-4-4:1995, EN 61000-4-5:1995, EN 61000-4-6:1996, EN 61000-4-11:1994, DD ENV 50204, BS EN 61558-1, EN 60065, EN 60555.
Correction speed	750 Volts per sec.
Response	Within 0.1 second .
kVA rating	The Sollatek SVS range is wide and covers units from 480VA to 18kVA in single phase and 13kVA to 52kVA in three phase.
Wait time on start up	Standard delay is 10 secs. For refrigeration equipment: 3 mins delay (available on certain models only).
Efficiency	88% at 25% load, 94% at 50% load, 96% at 75% load, 97% at 100% load.
Power factors	Unaffected by load power factor.
AVS™ function	Automatic voltage switcher: output is switched off to protect device against over and under voltage (available on certain models only).
TimeSave™ function	Reduced startup delay if unit was off for more than the standard delay period to 10 seconds. Available on models with AVS function.

## INPUT AND OUTPUT VOLTAGE RESPONSE FOR STANDARD MODELS

		230V																		
INPUT	0-144	145	155	165	175	185	195	205	210	215	225	235	240	245	255	265	275	285	290	291
OUTPUT	off	182	196	208	221	233	221	232	237	215	225	235	240	218	228	237	248	255	259	off

		115V																		
INPUT	0-72	73	78	83	88	93	98	103	105	108	113	118	120	123	128	133	138	143	145	146
OUTPUT	off	91	98	104	111	117	111	116	119	108	113	118	120	109	114	119	124	128	130	off



## Unpacking & Inspection

After removing the polystyrene protective packaging from the SVS unit, inspect the ventilation slots to ensure that they are free from all obstruction. Use a vacuum cleaner to dislodge any obstructions.

Retain the box and packaging material to return the SVS unit in the unlikely event of its operational failure.

## Installation

**WARNING:** This appliance must be earthed.

Ensure the rating of the load doesn't exceed the capacity of the SVS. If in doubt consult your electrician.

### SVS01-22 up to SVS20-22

If your mains outlet only has a 2-pin socket, consult a qualified electrician.

If you are unfamiliar with installing electrical equipment consult a qualified electrician.

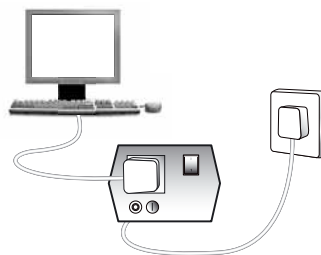
If a suitable electrical plug is not already fitted to the SVS unit, one should be fitted as follows. (The SVS15-22, SVS16-22 and SVS20-22 should not be fitted with a plug due to the current requirement. The trailing input lead of the SVS15-22, SVS16-22 and SVS20-22 should be wired directly to the mains supply and protected by suitable circuit breaker): Do not obstruct the fan on the SVS15-22, SVS16-22 and SVS20-22 units.

- The wire coloured BLUE must be connected to the terminal marked 'N' for Neutral.
- The wire coloured BROWN must be connected to the terminal marked 'L' for Live.
- The wire coloured YELLOW and GREEN must be connected to the Terminal marked 'E' (or  $\perp$ ) for Earth.

• Although the unit does not produce excessive heat, ensure that it is positioned so that a free flow of air allows the unit to cool.

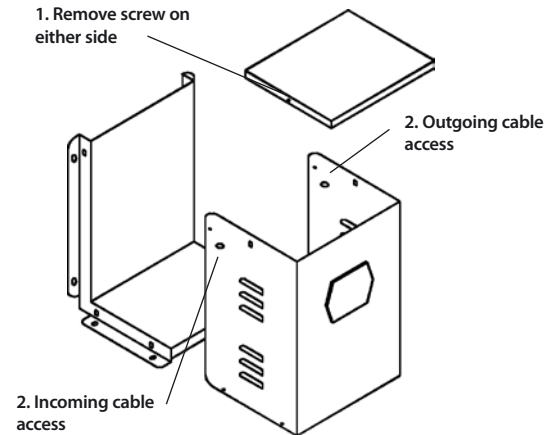
• Do not install inside a closed cupboard and do not allow papers or other materials to be piled on top.

• Do not obstruct the fan on the SVS15-22 and larger units.



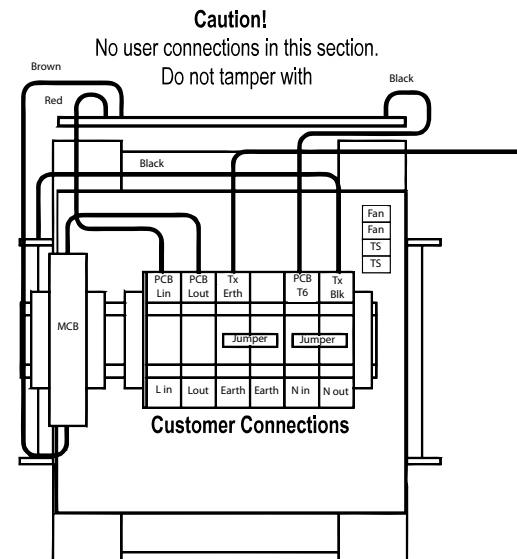
Connection diagram for case type A and B

## Connection diagram for SVS20-22WM, SVS35-22WM, SVS50-22WM, and SVS75-22WM



- (1) Ensure supply is isolated before making connections.
- (2) Connect Live In to the terminal indicated and take to mains supply via cable access hole in box.
- (3) Connect Live Out to the terminal indicated and take to Load via cable access hole in box.
- (4) Check all connections are tight and correctly wired before switching on.

- Please ensure that you use correctly rated cable. (see table)
- Input cable should be rated at 1.5 times the output current.
- Increase the cable size for better regulation.
- This unit must be earthed.
- The unit requires a neutral.
- A suitable circuit breaker (at least 1.5 times unit's rating in Amps) should be connected on the input.



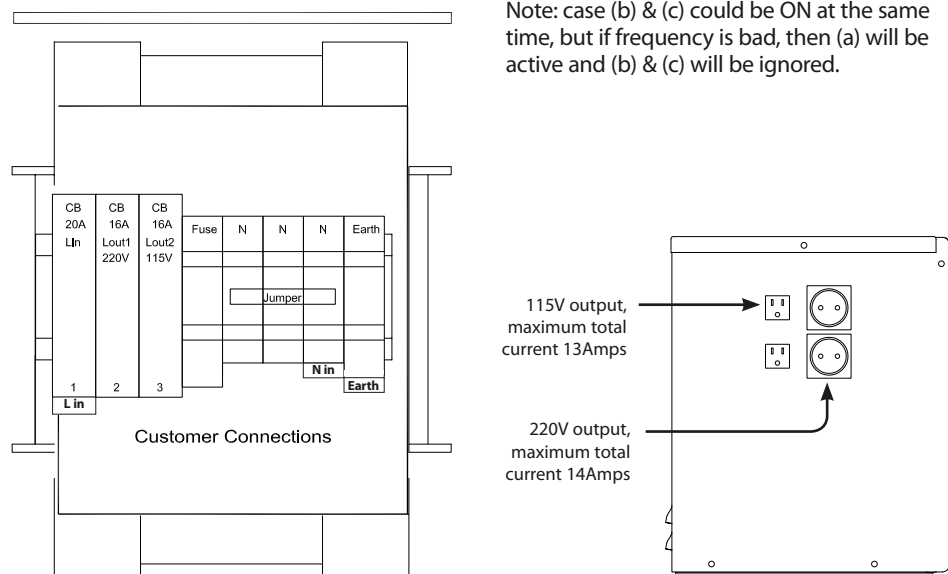
3 or 4 core PVC insulated cables current carrying capacity (amperes)@30°C ambient (conductor operating at 70°C)

mm <sup>2</sup> (cross section)	Amps
2.5	20
4	28
6	36
10	50

# Connection diagram for SVS1413-21WM

## LED description:

- 1) At power up all Status LEDs will be ON, and then
- 2) Wait Mode: Yellow ON, Red and Green are OFF, after 10 sec
- 3) ON-Mode: Green ON, Yellow & Red are OFF
- 4) Off Mode:
  - a) Frequency is bad -> Red & Yellow cycling @ 0.5 sec, Green OFF
  - b) Voltage is bad -> Red ON, Green OFF
  - c) Temperature bad -> Yellow flashing @ 0.5 sec, Green OFF



## INPUT AND OUTPUT CHARACTERISTICS OF THE SVS1413-21WM

INPUT VOLTAGE	80	90	100	110	120	130	140	150	160	180	200	220	240	260	270	280	290
O/P VOLTAGE FROM 220V OUTPUT	Off	197	219	215	208	225	216	231	202	227	225	220	214	231	240	off	off
O/P VOLTAGE FROM 115V OUTPUT	Off	103	115	111	109	118	111	119	106	119	116	115	111	120	124	129	off

MAX POWER OUTPUT	
FROM 220V OUTPUT ONLY	1500VA / 3000VA
FROM 115V OUTPUT ONLY	1500VA
TOTAL FROM BOTH 115V & 220V OUTPUTS	1500VA

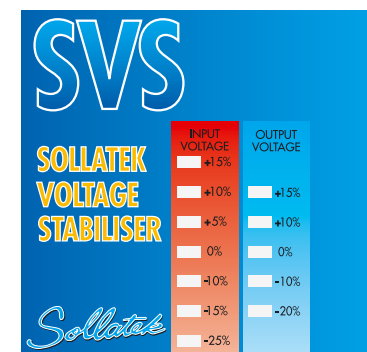
# Standard operation instructions

Please follow the procedure below to connect your SVS;

- 1 Turn your equipment OFF and unplug it from the wall socket.
- 2 Ensure that the switch on the SVS is OFF.
- 3 Plug the SVS into the wall socket or input and plug your equipment into the SVS.
- 4 Turn the power ON at the wall socket.
- 5 Turn the SVS switch ON.
- 6 Turn your equipment ON.
- 7 If the SVS model has a built-in AVS (Sollatek Automatic Voltage Switcher). This will ensure that that the load is not connected immediately. The delay will ensure that the mains is good before connecting the load and protects the equipment from rapid switching on and off.
- 8 Once the wait period (see specifications) has passed, the SVS will relay power to your equipment.
- 9 The LEDs give you a visual indication of the input and output voltage.
- 10 If the mains voltage is 230V (ie normal) the green 0% Input voltage and green 0% Output voltage LEDs will both be lit.
- 11 Any variation to the input power supply, up or down, will be monitored and adjusted by the SVS. For full details refer to the Operating Sequence.

## Operating Sequence

1. Input voltage increase is displayed in steps of +5%, +10% and +15% and input voltage decrease is displayed in steps of -10%, -15% and -25%.  
The SVS indicates the plus or minus voltage variation by lighting the relevant LED.
2. Within this range, the SVS will compensate by stepping up or stepping down the output voltage to maintain it's norm of 230V + 6%, which will be indicated by the green 0% LED.



- 3 If however the input voltage falls below -26%, the SVS will decrease the output voltage accordingly. The amount to which the voltage is lowered will be indicated by the yellow -10% or red -20% LED.
- 4 Equally, if the input voltage rises above +18% (272V) the SVS will increase the output voltage, indicated by the yellow +10% or red +15% LED.
- 5 In the models where the AVS functions is incorporated, If the incoming voltage supply drops below the operating range of the SVS (144V or 72V for 110V unit) or above its operating (291V or 145V for 110V unit) it will shut down the output and protect your equipment against the severe incoming voltage.
- 6 Power will be automatically reinstated to your appliance once the input voltage comes within the operating range of the SVS and the delay period has passed.

## Troubleshooting

Symptom	Possible Cause	Remedy
The unit does not switch on. None of the LEDs are lit.	1) The fuse has blown. 2) The mains switch is not on. 3) No power is available on the input.	Change the fuse for a fuse of the correct rating. Ensure that the load current does not exceed the capacity of the unit. If after changing the fuse the unit is still not functioning return the unit for repair. Ensure that you are using the correct voltage (i.e. 230V or 110V)
The unit appears to be functioning normally but the load is not being switched on.	Load is not plugged in. Load is not Switched on. Load fuse has blown.  Time delay is in progress	1) Check that the load is plugged in. 2) Check that the input voltage is within the input range of the SVS. 3) Check that the load is switched on. 4) Wait for the delay to end.
The unit appears to be functioning but the output voltage is persistently low.	The mains input is too low; 1) Due to continuous brown-out 2) The unit is rated at 230V and the incoming supply is 110V	
The SVS continuously performs self-test. If it finds a fault the LEDs will continuously light from top to bottom repeatedly in one of two patterns.	1) Possible internal fault.  The fault could be temporary or permanent.  2) Very bad mains waveform or frequency.	1) Ensure that the load current does not exceed the rating of the SVS.   2) Turn the appliance off then switch SVS off. Restart the unit as per operating instructions.  3) If the above doesn't solve the problem please return the unit to a Sollatek service centre.

- Please consult the above chart before contacting your supplier. Ensure that you have followed the operating instructions carefully.
- There are no user serviceable parts internally.
- Disassembling the unit, opening the lid or tampering with the unit is unsafe for unqualified users and will render the warranty invalid.

## Guarantee

Sollatek (UK) Ltd guarantee that if within 2 years of purchase this appliance fails due to faulty workmanship or materials we will repair or replace it free of charge provided that:

- The appliance has been correctly installed and used within the electrical range as specified on the appliance nameplate.
- The appliance has been used in accordance with the operating instructions.
- There has been no attempt to open the unit for any reason whatsoever.
- The unit is returned to Sollatek or Sollatek agent in good condition.
- Sollatek shall not be liable under the terms of this guarantee for any material fault or damage as a result of failure of this appliance.
- This guarantee does not affect your statutory or Common Law rights.

## Warranty & Returns

Should your SVS unit need repair, the quickest and simplest way is to return it to your dealer or to a Sollatek Service Centre or direct to the nearest Sollatek office.

**IMPORTANT :** Before returning a unit to a Sollatek Service Centre, contact the returns department to obtain a returns number. You will be asked for the following information which you should have ready;

Your Name, Address, Telephone, Fax (If Available), Email (If Available)  
Date Purchased, Where Purchased  
Serial Number, model number  
Local voltage and type of load.  
Description of Fault

Once you have the returns number, ensure that the unit is securely packed enclosing a short note with details as above and mark the unit clearly with the returns number. Remember also to add your name and address.

Complying with the above will ensure that your unit will be treated promptly and efficiently. Without a returns number it will not be possible to trace a unit or check progress of repair of the unit.

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