

SVEN®
YOU WANT – WE CAN

Automatic Voltage Regulator

OPERATION MANUAL



SOHO 1000
SOHO 2000

www.sven.fi

Congratulations on the purchase of Sven automatic voltage regulator!

Please read this Operation Manual before using the unit and retain this Operation Manual in a safe place for future reference.

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UNPACKING

Unpack the device carefully. Make sure there are no accessories left in the box. Check up the device for damage; if the product was damaged during transportation, address the firm which carried out the delivery; if the product functions incorrectly, address the dealer at once.

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1. APPLICATION

SOHO AVRs are intended for home use and combine two devices: an automatic voltage regulator and a surge protector. They are designed for protecting your electronic equipment from unstable mains voltage. The AVR is recommended for protecting any types of TVs, DVD players/recorders, audio and computer equipment, and other home electronics. SOHO AVRs provide power supply to the connected load within $220\text{ V} \pm 10\%$ at mains voltage ranging from 140 to 270 V. If input voltage rises above 270 V or falls below 140 V, the protection system will provide safe switching. The built-in surge protector provides protection from pulse interferences.

There are 2 bypass sockets designed for providing constant safe connection of home and computer equipment to the power mains and protecting it from pulse and high-frequency interferences. The bypass sockets are also equipped with integrated overload and short circuit protection for the connected devices.

2. SAFETY PRECAUTIONS

- Do not connect the AVR to 380 V power mains.
 - It is strongly forbidden to open the cover of the device, there is high voltage inside. Do not make any repairs by yourself. If any problems occur, please read the operation manual carefully or address an authorized service center. For the list of authorized service centers please go to www.sven.fi.
 - Do not operate the AVR in the environment with temperature other than allowed in Technical Specifications.
 - The case heats up during operation. Operate the AVR in the environment with good air convection only.
 - In case of emergency, switch off the AVR and unplug the power cord.
 - Using the device with mechanically damaged case or power cord is prohibited.
 - The mains socket for connection should be located close to the device and be easily accessible.
 - Do not connect household appliances with power higher than allowed.
- ⚠ Connecting electric heating devices is prohibited.



Caution! High voltage inside! To avoid the risk of electric shock do not open or touch elements inside.

3. PACKAGE CONTENTS

- Automatic voltage regulator – 1 pc
- Operation Manual – 1 pc
- Warranty card – 1 pc

4. SPECIAL FEATURES

- Automatic voltage regulator and surge protector combined
- Microprocessor control
- Toroidal transformer with built-in thermal protection
- Protection from over-/undervoltage, overload and short circuit, pulse and high-frequency interferences
- LED indication of operating modes
- Non-flammable shockproof plastic case

Operation Manual

SOHO 1000 SOHO 2000

5. DESCRIPTION

- ① Bimetal circuit breaker. Activates in case of short circuit in devices connected to the regulated sockets
- ② БАЙПАС (bypass) group sockets. Designed for connecting devices not requiring voltage regulation
- ③ СТАБИЛИЗАТОР (regulator) LED. Shows that the mains voltage is above/below normal
- ④ ЗАЩИТА (protection) LED. Shows that the voltage goes beyond the operating range or that the device is out of order
- ⑤ AVR on/off switch
- ⑥ СЕТЬ (mains) LED. Constantly on if there is voltage in the mains
- ⑦ СТАБИЛИЗАТОР (regulator) group sockets. Designed for connecting devices requiring voltage regulation

6. INSTALLATION

Warning! Before making any connections, make sure that all consumer devices you are going to connect to the AVR are off.

• Before installing the AVR, please make sure that total power of all voltage consumers, both in bypass sockets and in regulated sockets, is within the AVR power-handling capacity. Taking into account the starting load and power factor of voltage consumer, it is necessary to apply power margin factor of 1.2–1.5; for such equipment as air conditioners, fridges, etc. it should be 1.5–2.

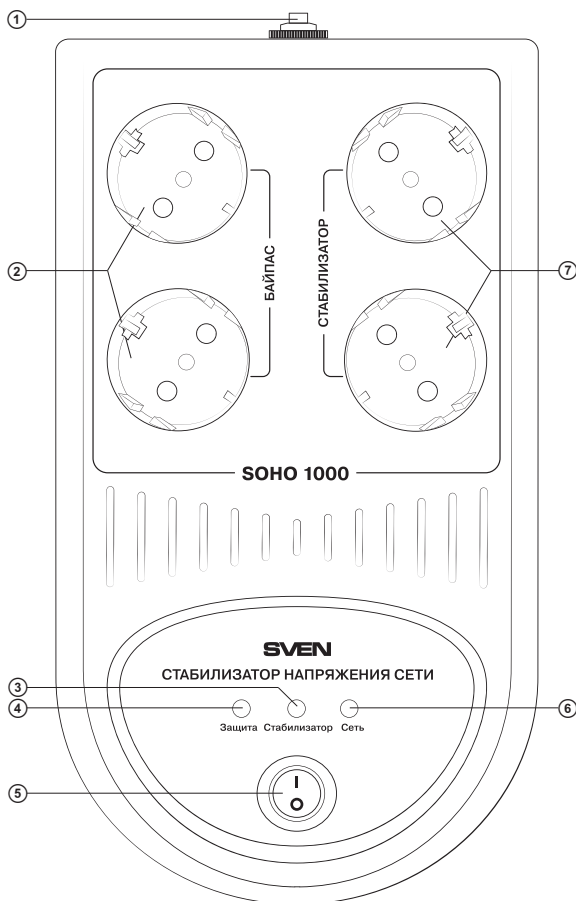
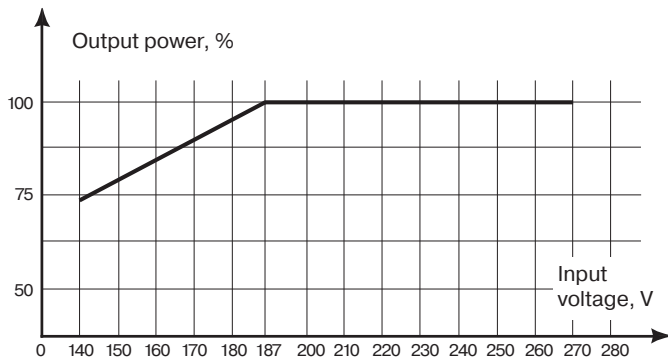


Fig. 1. Top view

Attention! When choosing an AVR, it is necessary to know that reduction of input voltage increases value of input current, which means that maximum power of AVR is reduced too! Such dependence is shown in the graph below:



Note. When choosing or operating an AVR, always adhere strictly to such dependence. If this is not adhered to, the protection may be activated!

- Connect the necessary equipment to the СТАБИЛИЗАТОР group ⑦ or БАЙПАС group ② sockets (the AVR is off).

- Connect the AVR to the 220 V mains and turn it on using the power switch ⑤. The connected consuming devices can be switched on one-by-one after this only.

- When the AVR is being connected, all the LEDs will light up for a short time. The СЕТЬ LED ⑥ will light continuously as long as there is voltage in the mains. The ЗАЩИТА LED ④ blinking is over after 6 seconds self-testing; the stabilized voltage will be available on the СТАБИЛИЗАТОР group output sockets after that. In case the mains input voltage goes beyond the allowable rate ($220 \pm 10\%$), the СТАБИЛИЗАТОР LED ③ will light up continuously showing that the AVR is boosting/ bucking the input voltage and goes off when the voltage normalizes again.

Attention! If the ЗАЩИТА and СТАБИЛИЗАТОР LEDs (④ and ③) light continuously, it is recommended not to connect consuming devices to the БАЙПАС group sockets.

- In case the load connected to the СТАБИЛИЗАТОР sockets ⑦ is too high, the transformer may be overloaded (overheated). The AVR will disconnect the voltage supply to these sockets (in case of the transformer overheating), in this case the ЗАЩИТА LED ④ will light. After the power of the connected load is brought in compliance with the AVR specifications and the transformer cools down, the AVR will switch on automatically (the ЗАЩИТА LED ④ blinking is over after 6 seconds self-testing).

- If the input voltage goes beyond normal rate (140 – 270 V), the AVR will cut off the voltage supply to the СТАБИЛИЗАТОР ⑦ group sockets, the ЗАЩИТА LED ④ will light up. After the voltage supply is restored, the AVR switches on automatically (the ЗАЩИТА LED ④ blinking is over after 6 seconds self-testing).

Attention! In case of a mains power outage, it is recommended that you switch off the AVR and all voltage consumers and switch them back on only after power supply has fully restored.

- A short circuit in the devices connected to the СТАБИЛИЗАТОР sockets ⑦ triggers the bimetal circuit breaker ①. After the cause of the short circuit has been eliminated, press the circuit breaker button ① on the regulator to restore the AVR's operation.
- A short circuit in the devices connected to the БАЙПАС sockets ② triggers the thermal fuse inside the AVR, and the regulator will cut off the voltage supply to these sockets. To replace the fuse, address a service center.

Attention! If the ЗАЩИТА LED ④ is on, it's recommended that the connected consuming devices be switched off.

7. TROUBLESHOOTING

Problem	Cause	Solution
The AVR does not start.	<ol style="list-style-type: none"> 1. The switch is off. 2. There is no voltage in the socket. 3. The bimetal circuit breaker has activated. 4. The load connected is too powerful. 	<ol style="list-style-type: none"> 1. Press the switch once again. 2. Make sure there is voltage supply. 3. Disconnect part of the load and switch on the AVR again. 4. Disconnect part of the load.
The AVR switches on, but there is no output voltage.	The AVR is faulty.	If the fault is not eliminated, please address an authorized service center.
The AVR has switched off, the ЗАЩИТА LED ④ is on.	Short circuit in the devices connected to the sockets.	Eliminate the cause of the short circuit and switch the AVR on again.
The AVR has cut off the load. The ЗАЩИТА LED ④ is on.	Input voltage is beyond allowed regulation range of 140-270 V.	When input voltage restores within 140–270 V, the AVR switches on automatically.

If none of the above methods can solve the problem, please seek professional advice at your nearest service center. Never attempt to repair the product yourself.

8. TECHNICAL SPECIFICATIONS

Parameter/Models	SOHO 1000	SOHO 2000
Regulated outputs:		
Load carrying capacity, W	400	800
Automatic fuse, A	4	7
Input voltage, V	140 – 270	
Output voltage, V	220 ± 8%	
Frequency, Hz	50	
Output sockets, pc	2 × CEE7/4	
Protection	over-/undervoltage, high-voltage pulses, short circuit, overload, built-in thermal protection	
Bypass outputs:		
Load carrying capacity, W	1300	
Maximum current, A	6	
Nominal voltage, V/Hz	~220/50	
Output sockets, pc	2 × CEE7/4	
Protection	overload, short circuit; pulse and high-frequency interferences	
General specifications:		
Input plug, pc	1 × CEE7/7	
Indicators	on-line operation, protection, regulation mode	
Maximum energy absorption, J	125	
Operating environment	0–40 °C, 10–90 % humidity, non-condensing	
Cord length, m	1.5	
Dimensions, mm	140 × 100 × 250	

* The AVR output power is rated for the input voltage of 187 V (220 V – 15 %) (according to the requirements of GOST 27699–88).

Notes:

- **Technical specifications given in this table are supplemental information and cannot give occasion to claims.**
- **Technical specifications are subject to change without notice due to the improvement of SVEN production.**

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Модели: **SOHO 1000/2000**

Импортер в России: ООО «СКАНДИТРЕЛ»,
111024, РФ, г. Москва, ул. Авиамоторная, д. 65, стр. 1.
Уполномоченная организация в России: ООО «РТ-Ф»,
105082, г. Москва, ул. Фридриха Энгельса, д. 75, стр. 5.
Условия гарантийного обслуживания смотрите

в гарантийном талоне или на сайте www.sven.fi.

Гарантийный срок: 24 мес.

Срок службы: 5 лет.

Производитель: «СВЕН ПТЕ. Лимитед», 176 Джу Чиат Роуд,
№ 02-02, Сингапур, 427447. Произведено под контролем
«Свен Скандинавия Лимитед», 48310, Финляндия, Котка,
Котлахдентие, 15. Сделано в Китае.

Manufacturer: SVEN PTE. LTD, 176 Joo Chiat Road,
№ 02-02, Singapore, 427447. Produced under the
control of Oy Sven Scandinavia Ltd. 15, Kotolahdentie,
Kotka, Finland, 48310. Made in China.

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