

## Electro-mechanical Voltage Regulator, Indoor

### Servo Motor type, SPS Series 1KVA~400KVA



### Application

- CNC Machines, SMT
- Laser Cutting Machine
- Process Control System
- Military Research & Defense Weapons
- Auto-testing Equipment.
- Medical Monitoring System
- Precise Measuring & Testing Equipment
- Generator
- Communication Receiver
- Medical Equipment
- TV & Radio Broadcasting Stations



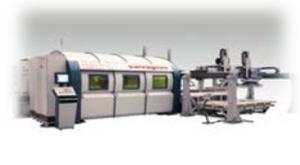
**CNC Machine**



**Power Industries**



**Production Line**



**Laser Cutting Machine**



**Medical System**



**GSM Base Station**



**Transportation System**



**Generator**

# SATECH POWER

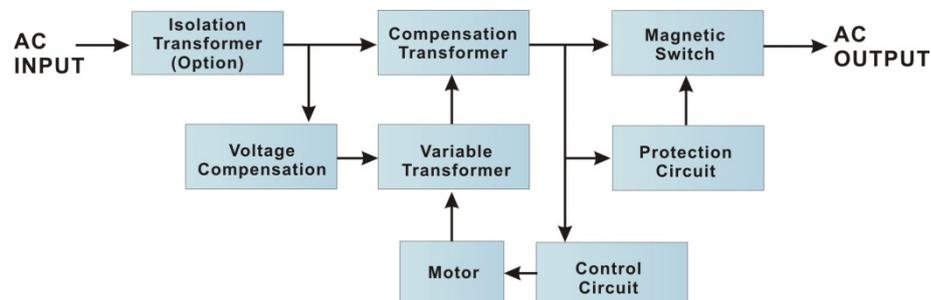
Industrial Grade Power System

## SPS Series Electro-mechanical Voltage Regulator, Servo Motor

The SPS series Electro-mechanical Voltage Regulator is available from 1 to 400 KVA as standard, in single or three-phase output configurations and may be customized to reach up to 500KVA.

### Introduction

The SPS series AVR's are designed to maintain the mains voltage constant all the time. Their electromechanical design will electronically correct the mains voltage constant should the mains voltage goes high or low. They are characterized by the high efficiency and are completely unaffected by power factor, load and frequency variations. They can withstand high instantaneous overload and does not create any magnetic interference. Compact in size, quiet in operation, these voltage stabilizers are very suitable for indoor use and can be located near to equipment without causing any magnetic disturbances to the equipment.



### Features

- **±15% Input Voltage Range.** Option: ±20%, ±25%. +25%/-30%, ±40% or on request
- **±1% ~ ±2% Precise Voltage Regulation Rate**
- **≥98% VA Efficiency, from 0 to 100% load**
- **Independent Phase Control:** Every phase remains ±2% precise output voltage when AC power encounters 30% phase unbalanced, non-linear load or heavy load
- **Soft Start Load Protection:** Ensure the output voltage startup from the lowest voltage when it starts for full stabilization
- **Auto Restore while AC Recovery (Option)**
- Easy-to-Read LED Display Real State to AVR
- **Full Protection:** Under / Over voltage, Open Phase, Phase Reverse, Overload, Short Circuit protection
- **Manual Maintenance Bypass Switch:** For routine maintenance and service. Not affect machinery running in any ways
- **H-Grade Isolation Transformer (Option):** Used to protect against electric shock, to suppress electrical noise in sensitive devices.
- **Compliance with International Standards:**
  - BS EN50081-1;2 / IEC 61000-4-3;4
  - BS EN5490 / IEC 60529
- **CE Conformity:** EN55022,EN50082-2,ENV50140-1

# Technical Specification (1-Phase Input / 1-Phase Output)

## Revolutionary Design



- Shielded Cover VARIAC
- Molded VARIAC W/ Even Surface
- Japan-made Refine Carbon Brush

## Specifications (1-Phase)

Model	SPS 1102	SPS 1103	SPS 1105	SPS 1107	SPS 1110	SPS 1115	SPS 1120	SPS 1125	SPS 1130	SPS 1135
<b>Capacity (KVA)</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>7.5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>
<b>INPUT</b>										
Phase & Wire	1Phase 2Wire+G or 1Phase 3Wire+G									
Input Voltage	<b>A:</b> 110V System: 1Phase 2Wire+G, 100/110/115/120V; <b>B:</b> 220V System: 1Phase 2Wire+G, 200/220/230/240V; <b>C:</b> c/w Isolation Transformer or 1Phase 3Wire+G or other specific voltage (as client demand)									
Input Voltage Range	±15% (option: ±10%, ±20%, ±25%, ±30% or others)									
Frequency	50Hz/60Hz ±5%									
Power Factor	0.95~1									
<b>OUTPUT</b>										
Output Voltage	<b>A:</b> 110V System: 1Phase 2Wire+G, 100/110/115/120V; <b>B:</b> 220V System: 1Phase 2Wire+G, 200/220/230/240V; <b>C:</b> c/w Isolation Transformer or 1Phase 3Wire+G or other specific voltage (as client demand)									
Voltage Regulation Rate	±1%~±2%									
Output Voltage Adjustable	±1%~±5%									
Frequency	50Hz/60Hz ±5%									
Efficiency	≥ 98% (AC to AC)									
Distortion	Less than 1% adds									
Response Time	0.1 seconds when input voltage starts voltage regulation									
Overload Capacity	150% for 10 seconds; 200% for 2 seconds									
Auto Restart	Auto Restart while AC is recovery									
<b>PROTECTION</b>										
Over Voltage	Option									
Under Voltage	Option									
Manual Bypass	Switch to Mains Supply for Service / Maintenance									
Over Load	Auto Cut off when overload									
Lighting	Standard Feature									
<b>INDICATORS</b>										
Output Voltmeter	Analog Voltmeter or Digital Display									
Power On/Off	Standard Feature									
Working Environment	0°C ~ 45°C / 0% ~ 95% (non-condensing)									
A & B Type (W*D*H / cm)	20.5*37*21	26.6*44*21	30*51*48				30*51*48		36*54*57	
C Type (W*H*D / cm)	30*51*48			47*50*87			55*55*98		41*120*79	
Weight- A & B (Kgs)	16	18	21	30	42	52	58	63	70	95
Weight- C (Kgs)	48	55	68	97	103	155	173	216	260	272

- All specifications are subject to change without prior notice.

# Technical Specification (3-Phase Input / 3-Phase Output)

## Outlooks (1-Phase & 3-Phase)



## Specifications (3-Phase)

Model	SPS 3310	SPS 3315	SPS 3320	SPS 3330	SPS 3340	SPS 3360	SPS 3380	SPS 33100	SPS 33150	SPS 33200	SPS 33225	SPS 33300	
<b>Capacity (KVA)</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>30</b>	<b>40</b>	<b>60</b>	<b>80</b>	<b>100</b>	<b>150</b>	<b>200</b>	<b>225</b>	<b>300</b>	
<b>INPUT</b>													
Phase & Wire	3Phase 3Wire+G (Delta Connection) or 3Phase+3Wire+N+G (Star / Y Connection)												
Voltage	200/220/230/240/254/380/400/415/440/460/480V or other specific voltage (as client demand)												
Voltage Range	±15% (option: ±20%, ±25%, +25%/-30%, ±30%, ±40% or on request)												
Frequency	50Hz/60Hz ±5%												
Power Factor	0.95~1												
<b>OUTPUT</b>													
Voltage Accuracy	±1%~±5% adjustable												
Frequency	50Hz/60Hz ±5%												
Efficiency	≥ 98% (AC to AC)												
Distortion	Less than 1% adds												
Response Time	Input voltage starting alteration within 0.1 seconds start adjusting												
Overload Capacity	150% for 10 seconds; 200% for 2 seconds												
Phase Unbalance	Capable to correct balance within 2% under 30% phase unbalance state												
<b>PROTECTION</b>													
Over Voltage	Auto cut off when over range, auto restore when return to normal												
Under Voltage	Auto cut off when over range, auto restore when return to normal												
Phase Failure	Auto cut off + LED Indicator + Buzzer												
Manual Bypass	Switch to Mains Power Supply for Service / Maintenance												
Soft Start	Circuit Control, always starts from the low voltage												
Over Load	Magnetic Contactor Cutoff Automatically												
Lighting	Standard Feature												
<b>INDICATOR</b>													
Output Voltmeter	Analog Voltmeter or Digital Display												
Power On/Off	LED Indicator is lit												
O/P Voltage Status	LED Indicator is lit												
Working Environment	0°C ~ 45°C; 0% ~ 95% (non-condensing)												
Size (W*D*H/cm)	220/380V System	36*54*57				41*79*71		52*102*82			60*120*117		80*120*116
	c/w ISO-TX	36*57*97				41*79*120		60*120*132			75*120*137		105*95*90
Weight (Kgs)	220/380V System	66	75	86	96	125	151	225	235	250	600	780	950
	c/w ISO-Tx	126	136	210	290	395	480	600	620	800	1000	1150	1200

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