



## SBW Series

### AC. Automatic Voltage Regulator

#### FEATURES:

- Giant power for industrial machine
- Three phase combined/average control and individual/independent control optional
- Reliable bypass
- Phase failure and wrong phase sequence protection
- Full protection: over voltage, under voltage, overheat, overload, sag, surge, spike and short circuit
- Delay Time to protect the equipment from rapid fluctuations



SBW-50KVA  
SBW-60KVA



SBW-150KVA  
SBW-200KVA



#### SPECIFICATIONS:

Model	SBW-20KVA SBW-30KVA SBW-50KVA SBW-80KVA SBW-100KVA SBW-150KVA SBW-200KVA SBW-300KVA							
Power	20KVA 30KVA 50KVA 80KVA 100KVA 150KVA 200KVA 300KVA							
Technology	Three Phase + Combined control / Individual Control + Digital CPU Control							
Transformer	Servo Motor Type							
Input	Input voltage range	304-456V (260-430V Optional)						
	Input frequency	50/60Hz						
	Output voltage	380V (400V/415V Optional)						
Output	Output precision	± 3%						
	Respond Time	<1s, against 10% variation of input voltage						
Efficiency	≥ 95%							
Phase	Three phase							
	Input current	Phase Current: A, B, C						
Display	Output voltage	Line Voltage: AB, BC, CA Phase Voltage: A, B, C						
	Yellow LED	Working status of phase A						
LED indicators	Green LED	Working status of phase B						
	Red LED	Working status of phase C						
Protection	High voltage	Output cutoff by contactor						
	Low voltage	Output cutoff by contactor						
	Phase Failure	Output cutoff by contactor						
	Wrong Phase Sequence	Can't switch on regulator						
	Surge/Spike	Optional, replaceable SPD						
	Manual Bypass	Yes, isolated						
	Over load	Output cutoff by contactor						
	High temperature	Output cutoff by contactor						
	Short circuit	Input cutoff by air breaker						
	Insulation Voltage	2,000V / 60s						
Safety standards	Insulation Resistance	>5MΩ						
	Creepage Distance	>8mm						
	Grounding Resistance	<0.1mΩ						
	Insulation Class of Coil	Class F (155℃)						
	Cooling Mode	Smart Cooling Fan						
Environmental	IP Level	IP20						
	Audible Noise	<65dB at 1m distance with full load						
Environmental	Operating temperature	-5℃ - 45℃						
	Storage temperature	-15℃ - 45℃						
	Operating relative humidity	10%-90%, non-condensing						

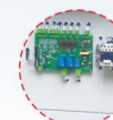


## SBW Series

### AC. Automatic Voltage Regulator

#### FEATURES:

- Giant power for industrial machine
- Three phase combined/average control and individual/independent control optional
- Reliable bypass
- Phase failure and wrong phase sequence protection
- Full protection: over voltage, under voltage, overheat, overload, sag, surge, spike and short circuit
- Delay Time to protect the equipment from rapid fluctuations



#### SPECIFICATIONS:

Model	SBW-400KVA							SBW-500KVA	SBW-600KVA	SBW-800KVA	SBW-1000KVA	SBW-1500KVA	SBW-2000KVA
Power	400KVA							500KVA	600KVA	800KVA	1000KVA	1500KVA	2000KVA
Technology	Three Phase + Combined control / Individual Control + Digital CPU Control												
Transformer	Servo Motor Type												
Input	Input voltage range							304-456V (260-430V Optional)					
	Input frequency							50/60Hz					
	Output voltage							380V (400V/415V Optional)					
Output	Output precision							± 3%					
	Respond Time												
<1s, against 10% variation of input voltage													
Efficiency	≥ 95%												
Phase	Three phase												
Display	Input current							Phase Current: A, B, C					
	Output voltage							Line Voltage: AB, BC, CA Phase Voltage: A, B, C					
LED indicators	Yellow LED							Working status of phase A					
	Green LED							Working status of phase B					
	Red LED							Working status of phase C					
Protection	High voltage							Output cutoff by contactor					
	Low voltage							Output cutoff by contactor					
	Phase Failure							Output cutoff by contactor					
	Wrong Phase Sequence							Can't switch on regulator					
	Surge/Spike							Optional, replaceable SPD					
	Manual Bypass							Yes, isolated					
	Over load							Output cutoff by contactor					
	High temperature							Output cutoff by contactor					
	Short circuit							Input cutoff by air breaker					
	Insulation Voltage							2,000V / 60s					
Safety standards	Insulation Resistance							>5MΩ					
	Creepage Distance							>8mm					
	Grounding Resistance							<0.1mΩ					
	Insulation Class of Coil							Class F (155℃)					
	Cooling Mode							Smart Cooling Fan					
Environmental	IP Level							IP20					
	Audible Noise							<65dB at 1m distance with full load					
Environmental	Operating temperature							-5℃ - 45℃					
	Storage temperature							-15℃ - 45℃					
	Operating relative humidity							10%-90%, non-condensing					

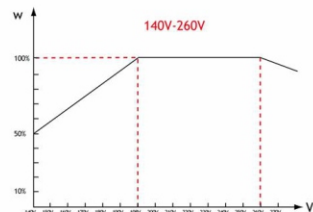


## SVC Series

### AC. Automatic Voltage Regulator

#### FEATURES:

- Single phase servo motor control
- High precision regulation output
- Fully automatic MCU controlled circuit
- Full protection: over voltage, under voltage, overheat, overload, sag, surge, spike and short circuit, Delay Time to protect the equipment from rapid fluctuations



#### SPECIFICATIONS:

Model	SVC-500VA	SVC-1000VA	SVC-1500VA	SVC-2000VA	SVC-3000VA	SVC-5000VA
Power	500VA	1000VA	1500VA	2000VA	3000VA	5000VA
Technology	Fully automatic MCU controlled circuit + toroidal transformer					
Transformer	Copper Servo Motor Type Transformer					
Input	150-250V AC / 100-250V AC					
	50Hz					
	220V AC / 220V+110V					
Output	± 3%					
	6s / 180s selectable					
Delay Time	≥ 95%					
Efficiency	Single phase					
Phase	Input voltage & Output voltage separately					
Display	Analog meter/Digital meter					
	Green LED					
	Indicating power ON/OFF					
LED indicators	Yellow LED					
	During delay, this LED flashes, delay finished, goes off					
	Red LED					
Protection	Output suppressed, indicating the machine is executing protection, when protection finished, goes off					
	High voltage					
	Output cutoff + red LED					
	Low voltage					
	Output cutoff + red LED					
Cooling system	Over load					
	Output cutoff					
	High temperature					
Safety standards	Short circuit					
	Circuit breaker trip off					
	Smart Fan (Automatic Startup at 65°C)					
Operating conditions	CE (LVD + EMC), EN60950, EN55024					
	Operating temperature					
	-5°C ~ 45°C					
Storage temperature	-15°C ~ 45°C					
	Operating relative humidity					
	10%RH - 90%RH, Non-condensing					

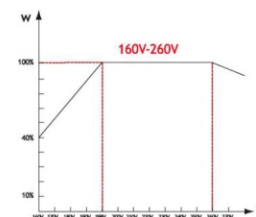


## SVC Series

### AC. Automatic Voltage Regulator

#### FEATURES:

- Single phase servo motor control
- High precision regulation output
- Fully automatic MCU controlled circuit
- Full protection: over voltage, under voltage, overheat, overload, sag, surge, spike and short circuit, Delay Time to protect the equipment from rapid fluctuations



#### SPECIFICATIONS:

Model	SVC-7500VA	SVC-10KVA	SVC-15KVA	SVC-20KVA	SVC-30KVA
Power	7500VA	10KVA	15KVA	20KVA	30KVA
Technology	Fully automatic MCU controlled circuit + toroidal transformer				
Transformer	Copper Servo Motor Type Transformer				
Input	150-250V AC / 100-250V AC				
	50Hz				
	220V AC / 220V+110V				
Output	± 3%				
	6s / 180s selectable				
Delay Time	≥ 95%				
Efficiency	Single phase				
Phase	Input voltage & Output voltage separately				
Display	Analog meter/Digital meter				
	Green LED				
	Indicating power ON/OFF				
LED indicators	Yellow LED				
	During delay, this LED flashes, delay finished, goes off				
	Red LED				
Protection	Output suppressed, indicating the machine is executing protection, when protection finished, goes off				
	High voltage				
	Output cutoff + red LED				
	Low voltage				
	Output cutoff + red LED				
Cooling system	Over load				
	Output cutoff				
	High temperature				
Safety standards	Short circuit				
	Circuit breaker trip off				
	Smart Fan (Automatic Startup at 65°C)				
Operating conditions	CE (LVD + EMC), EN60950, EN55024				
	Operating temperature				
	-5°C ~ 45°C				
Storage temperature	-15°C ~ 45°C				
	Operating relative humidity				
	10%RH - 90%RH, Non-condensing				

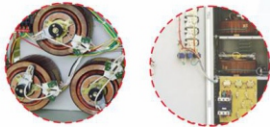


## TNS Series

### AC. Automatic Voltage Regulator

#### FEATURES:

- Servo motor type
- Three phase individual control
- High precision regulation output
- Phase failure and wrong phase sequence protection
- Full protection: over voltage, under voltage, overheat, overload, sag, surge, spike and short circuit
- Delay Time to protect the equipment from rapid fluctuations



TNS-6KVA  
TNS-9KVA  
TNS-15KVA



TNS-1.5KVA  
TNS-3KVA  
TNS-4.5KVA



TNS-20KVA

#### SPECIFICATIONS:

Model	TNS-1.9KVA	TNS-3KVA	TNS-4.5KVA	TNS-6KVA	TNS-9KVA	TNS-19KVA
Power	1500VA	3000VA	4500VA	6000VA	9000VA	15000VA
Technology	Three Phase AVR + Individual Phase Control + Digital CPU Control					
Transformer	Servo Motor Type					
Input	Input voltage range: 304-456V (260-430V Optional)					
	Input frequency: 50/60Hz					
Output	Output voltage: 380V (400V/415V Optional)					
	Output precision: ± 3%					
Delay Time	6s/180s selectable					
Respond Time	<1s, against 10% variation of input voltage					
Efficiency	≥ 95%					
Phase	Three phase					
Display	Input current: Phase Current: A, B, C					
	Output voltage: Line Voltage: AB, BC, CA					
	Phase Voltage: A, B, C					
LED indicators	Red LED: Working status of phase A, B, C					
	High voltage: Output cutoff by contactor					
	Low voltage: Output cutoff by contactor					
	Phase Failure: Output cutoff by contactor					
	Wrong Phase Sequence: Can't switch on regulator					
Protection	Surge/Spike: Optional, replaceable SPD					
	Manual Bypass: Yes, isolated					
	Over load: Output cutoff by contactor					
	High temperature: Output cutoff by contactor					
	Short circuit: Input cutoff by air breaker					
Safety standards	Insulation Voltage: 2,000V / 60s					
	Insulation Resistance: >5MΩ					
	Creepage Distance: >8mm					
	Grounding Resistance: <0.1mΩ					
	Insulation Class of Coil: Class F (155 °C)					
	Cooling Mode: Smart Cooling Fan					
	IP Level: IP20					
Environmental	Audible Noise: <65dB at 1m distance with full load					
	Operating temperature: -5 °C - 45 °C					
	Storage temperature: -15 °C - 45 °C					
	Operating relative humidity: 10%RH - 90%RH, Non-condensing					



## TNS Series

### AC. Automatic Voltage Regulator

#### FEATURES:

- Servo motor type
- Three phase individual control
- High precision regulation output
- Phase failure and wrong phase sequence protection
- Full protection: over voltage, under voltage, overheat, overload, sag, surge, spike and short circuit
- Delay Time to protect the equipment from rapid fluctuations



TNS-40KVA  
TNS-60KVA  
TNS-90KVA



TNS-30KVA

#### SPECIFICATIONS:

Model	TNS-20KVA	TNS-30KVA	TNS-40KVA	TNS-60KVA	TNS-75KVA	TNS-100KVA
Power	20KVA	30KVA	40KVA	60KVA	75KVA	100KVA
Technology	Three Phase AVR + Individual Phase Control + Digital CPU Control					
Transformer	Servo Motor Type					
Input	Input voltage range: 304-456V (260-430V Optional)					
	Input frequency: 50/60Hz					
Output	Output voltage: 380V (400V/415V Optional)					
	Output precision: ± 3%					
Delay Time	6s/180s selectable					
Respond Time	<1s, against 10% variation of input voltage					
Efficiency	≥ 95%					
Phase	Three phase					
Display	Input current: Phase Current: A, B, C					
	Output voltage: Line Voltage: AB, BC, CA					
	Phase Voltage: A, B, C					
LED indicators	Red LED: Working status of phase A, B, C					
	High voltage: Output cutoff by contactor					
	Low voltage: Output cutoff by contactor					
	Phase Failure: Output cutoff by contactor					
	Wrong Phase Sequence: Can't switch on regulator					
Protection	Surge/Spike: Optional, replaceable SPD					
	Manual Bypass: Yes, isolated					
	Over load: Output cutoff by contactor					
	High temperature: Output cutoff by contactor					
	Short circuit: Input cutoff by air breaker					
Safety standards	Insulation Voltage: 2,000V / 60s					
	Insulation Resistance: >5MΩ					
	Creepage Distance: >8mm					
	Grounding Resistance: <0.1mΩ					
	Insulation Class of Coil: Class F (155 °C)					
	Cooling Mode: Smart Cooling Fan					
	IP Level: IP20					
Environmental	Audible Noise: <65dB at 1m distance with full load					
	Operating temperature: -5 °C - 45 °C					
	Storage temperature: -15 °C - 45 °C					
	Operating relative humidity: 10%RH - 90%RH, Non-condensing					





## TDGC<sub>2</sub>/TSGC<sub>2</sub> Series

Variac, Variable transformer, Voltage Regulator

### FEATURES:

- Single phase and three phase available
- Manual control
- Copper winding coil
- Regulating the input liner voltage 220V to 0-250V variable
- If input 380V (3 phase, 4 wire) , then output voltage vary from 0-430V
- Power ranges: TDGC2 Single Phase: 0.2KVA-60KVA
- TSGC2 Three Phase: 1.5KVA-100KVA
- Insulation resistance:  $\geq 5\text{M}\Omega$
- Working frequency: 50Hz
- Efficiency:  $>90\%$
- Wave distortion: no waveform distortion
- Ambient Temperature:  $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$



### SPECIFICATIONS:

Model	Rated power	Phase No.	Frequency	Input voltage	Output voltage	Output current
Specification	(KVA)		(Hz)	(Volt)	(Volt)	(Amp)
TDGC2-0.2	0.2	1	50	220	0-250	0.8
TDGC2-0.3	0.5	1	50	220	0-250	2
TDGC2-1	1	1	50	220	0-250	4
TDGC2-2	2	1	50	220	0-250	8
TDGC2-3	3	1	50	220	0-250	12
TDGC2-5	5	1	50	220	0-255	20
TDGC2-7	7	1	50	220	0-250	28
TDGC2-10	10	1	50	220	0-250	40
TDGC2-15	15	1	50	220	0-250	60
TDGC2-20	20	1	50	220	0-250	80
TDGC2-30	30	1	50	220	0-250	120
TDGC2-40	40	1	50	220	0-250	160
TDGC2-50	50	1	50	220	0-250	200
TDGC2-60	60	1	50	220	0-250	240
TSGC2-1.5	1.5	3	50	380	0-430	2
TSGC2-3	3	3	50	380	0-430	4
TSGC2-6	6	3	50	380	0-430	8
TSGC2-9	9	3	50	380	0-430	12
TSGC2-12	12	3	50	380	0-430	16
TSGC2-15	15	3	50	380	0-430	20
TSGC2-20	20	3	50	380	0-430	27
TSGC2-30	30	3	50	380	0-430	40
TSGC2-40	40	3	50	380	0-430	54
TSGC2-50	50	3	50	380	0-430	67
TSGC2-60	60	3	50	380	0-430	80
TSGC2-80	80	3	50	380	0-430	107
TSGC2-100	100	3	50	380	0-430	134