

## Active Harmonic Filter / Static Var Generator / Active Voltage Conditioner



ZHEJIANG YIYEN HOLDING GROUP is a high-tech company that focuses on researching and manufacturing power electronic technology, integrating design, research and development, manufacturing, sales and service. YIYEN is dedicated to reducing electricity costs, improving electricity efficiency, and providing core power equipment and system solutions for the energy Internet of Things.With electrochemical energy storage and energy efficiency management as its core industry, YIYEN provides energy-saving service for power system, communication system, financial system, education system, medical system, and large industrial and mining enterprises.

Energy storage and energy efficiency management are critical reducing carbon emissions and promoting sustainable development. YIYEN's mission is to help make energy and ecology more harmonious by providing advanced energy storage and power quality solutions which improve efficiency, reduce costs, and promote clean energy.YIYEN will always continue to devote ourselves to the research and development and manufacturing of power electronic technology, and be committed to delivering cutting-edge solutions helping customers meet their energy management goals while contributing to a more sustainable future for all.

300+

Staff



30000m<sup>2</sup>+

Plant Area



15 year +

Years Experience



100,000+ /year

**Unit Shipments** 



## ENTERPRISE ARCHITECTURE



#### **ZHEJIANG YIYEN HOLDING GROUP**



Lishui Yiyen Technology CO.,LTD

**>>>** 

Factory



Wenzhou Yiyen Supply Chain Management CO.,LTD

**>>>** 

Marketing/Sales/Sourcing
Total Solutions and Technical Services



Investment Operation Wenzhou Yiyen Energy Development CO.,LTD

**>>>** 

EPC Service Provider for New Energy and Energy Storage Plants Contract Energy Management (Domestic Only)



R&D

Nanjing Branch Shenzhen Branch Hangzhou Branch

**>>>** 

R&D Center

**50+** R&D Staff



**130+**Export Countries



100+

Intellectual Properties



#### **Qualification Certification**







# ISO14001





KES





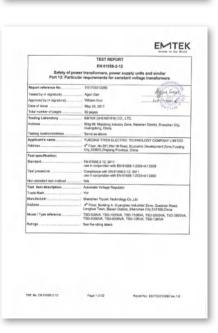




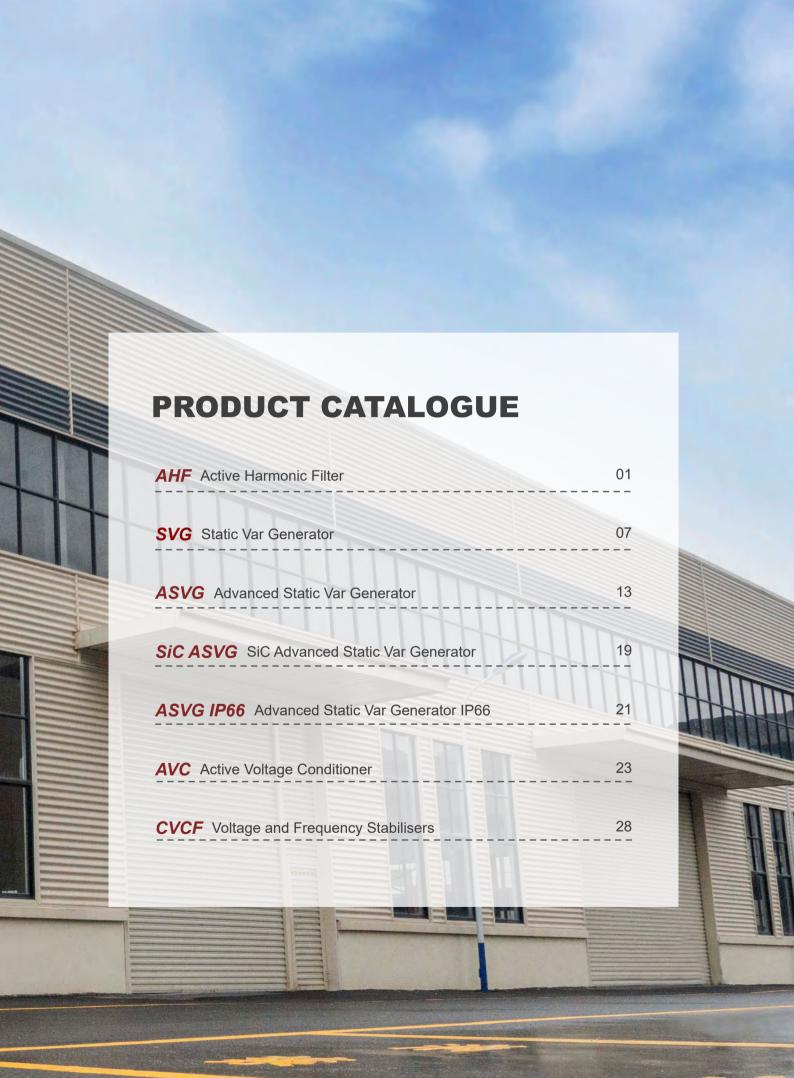














#### **Active Harmonic Filters**



**Active Harmonic Filter (AHF)** An active harmonic filter is a type of electronic device that is used to mitigate or eliminate harmonic distortions in electrical power systems. Harmonic distortion refers to the presence of unwanted frequencies in the power system that can lead to issues such as increased heating of equipment, reduced system efficiency, and even equipment failure.

AHF operates by sensing the harmonic currents in the system and generating a counter-current of the same magnitude and opposite phase. This counter-current cancels out the harmonic current and prevents it from being fed back into the power system. Active harmonic filters are designed to be fast and accurate in their response to changing harmonic conditions in the power system.

Active harmonic filters are commonly used in industrial and commercial settings where there are high levels of non-linear loads, such as variable frequency drives, uninterruptible power supplies, and computer equipment. They are also used in power quality improvement applications in residential and commercial buildings.

#### Product Features

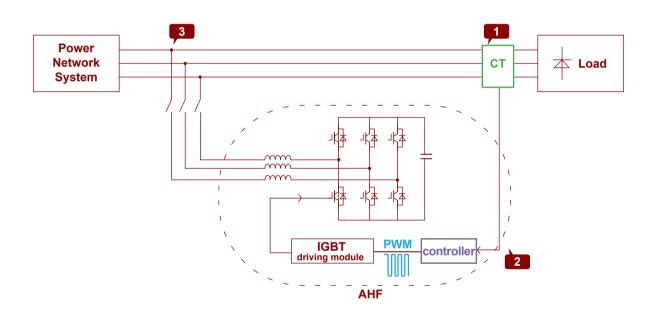
- 2nd to 50th harmonic mitigation
- Real-time compensation
- Modular design
- Protect equipment from being over heated or failure
- Improve working efficiency of equipment

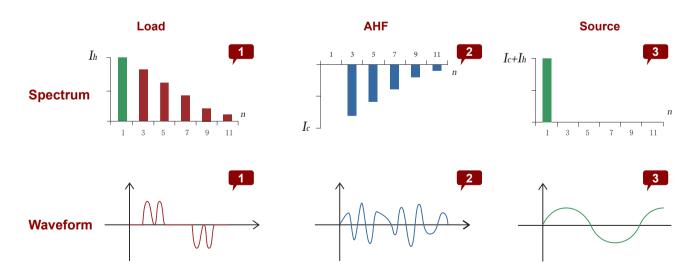


#### Working Principle

With the load current detected by external CT, DSP as CPU has advanced logic control arithmetic, could quickly track the instruction current, divide the load current into active power and reactive power by using the intelligent FFT, and calculate the harmonic content rapidly and accurately. Then it sends PWM signal to internal IGBT's driver board to control IGBT on and off at 20KHZ frequency. Finally, it generates opposite phase compensation current on inverter induction. In the meanwhile, CT also detects the output current and negative feedback goes to DSP. Then DSP proceeds the next logical control to achieve more accurate and stable system.

#### **Working Principle**



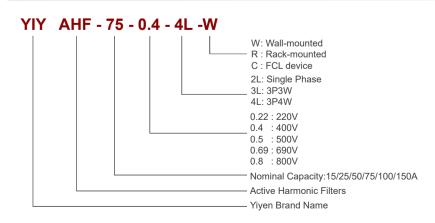




#### • Technical Specifications

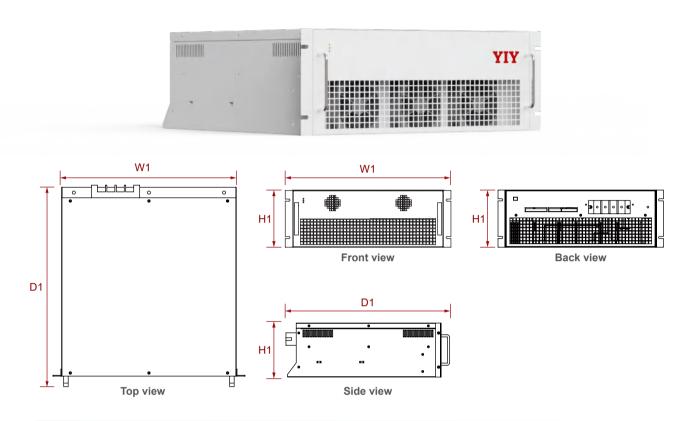
TYPE	220V Series	400V/220V Series	500V Series	690V Series	800V Series	
Rated Compensation Current	23A	15/25/50/ 75/100/150A	100A	100A	100A	
Nominal Voltage	AC220V (-20%~+20%)	AC400V (-20%~+15%) / 220V(-20%~+20%)	AC500V (-20%~+20%)	AC690V (-20%~+15%)	AC800V (-20%~850VAC)	
Rated Frequency			50/60Hz(45Hz~63Hz)			
Network	Single phase	3 pł	nase 3 wire/3 phase 4	wire	3 Phase 3 Wire	
Response Time			<10ms			
Harmonics Filtering	2nd to 50th Harmonic	s,The number of compe	ensation can be selecte be adjusted	ed, and the range of sin	gle compensation can	
Harmonic Compensation Rate			≥95%			
Neutral Line Filtering Capability	1	The filtering capacity of 3 phase 4 wire neutral line is 1.5 times of that of phase filtering(3 times customized)				
Machine Efficiency		≥97%				
Switching Frequency	32kHz	32kHz 16kHz 12.8kHz				
Function	Harmonics filter	Harmon	ics filter / Three phase	balance	Harmonics filter	
Numbers In Parallel	No limitation.	A single centralized mor	nitoring module can be	equipped with up to 8 p	oower modules	
Communication Methods	Two-chann	el RS485 communicatio	n interface (support GF	PRS/WIFI wireless com	munication)	
Altitude Without Derating			<2000m			
Operating Temperature		-20~+	·50°C (derating above	40°C)		
Humidity	<90% RH,the	average monthly minim	um temperature is 25°0	without condensation	on the surface	
Pollution Level			Below level Ⅲ			
Protection Function		nardware/software over- nperature protection, fre				
Noise	≤60dB ≤65dB					
Installation		Rack/Wall-mounted				
Wiring		Back entry (rack-mounted type), top entry (wall-mounted type)				
Protection Grade			IP20			

#### • Type Code





#### **Rack-Mount**



Model	Capacity	System Voltage	Size(W1*D1*H1)	Cooling Mode
YIY AHF-23-0.22-2L-R	23A	220V	220*375*167mm	Forced air cooling
YIY AHF-15-0.4-4L-R	15A	400V	500*535*89mm	Forced air cooling
YIY AHF-25-0.4-4L-R	25A	400V	500*535*89mm	Forced air cooling
YIY AHF-50-0.4-4L-R	50A	400V	500*535*89mm	Forced air cooling
YIY AHF-75-0.4-4L-R	75A	400V	550*584*190mm	Forced air cooling
YIY AHF-100-0.4-4L-R	100A	400V	550*624*240mm	Forced air cooling
YIY AHF-150-0.4-4L-R	150A	400V	550*624*240mm	Forced air cooling
YIY AHF-100-0.5-4L-R	100A	500V	550*722*275mm	Forced air cooling
YIY AHF-100-0.69-4L-R	100A	690V	550*752.5*275mm	Forced air cooling
YIY AHF-100-0.8-3L-R	100A	800V	550*752.5*275mm	Forced air cooling

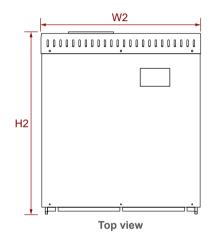
Model	Capacity	System Voltage	Size(W1*D1*H1)	Cooling Mode
YIY AHF-15-0.22-4L-R	15A	220V	500*535*89mm	Forced air cooling
YIY AHF-25-0.22-4L-R	25A	220V	500*535*89mm	Forced air cooling
YIY AHF-50-0.22-4L-R	50A	220V	500*535*89mm	Forced air cooling
YIY AHF-75-0.22-4L-R	75A	220V	550*584*190mm	Forced air cooling
YIY AHF-100-0.22-4L-R	100A	220V	550*624*240mm	Forced air cooling
YIY AHF-150-0.22-4L-R	150A	220V	550*624*240mm	Forced air cooling

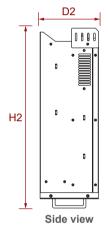
<sup>\*</sup>If you need any other sizes, please contact us for customization.

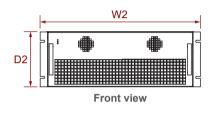


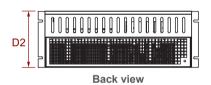
#### Wall-Mounted











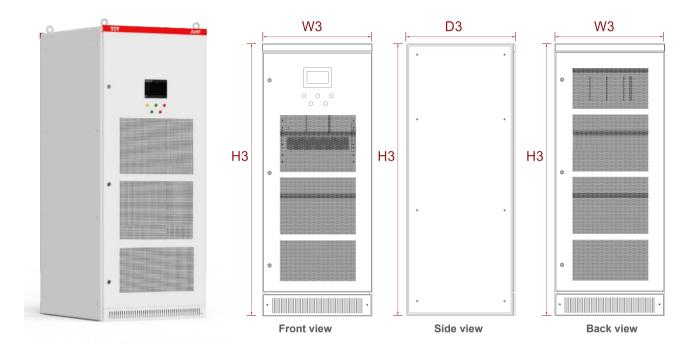
Model	Capacity	System Voltage	Size(W2*D2*H2)	Cooling Mode
YIY AHF-23-0.22-2L-W	23A	220V	220*167*375mm	Forced air cooling
YIY AHF-15-0.4-4L-W	15A	400V	500*89*535mm	Forced air cooling
YIY AHF-25-0.4-4L-W	25A	400V	500*89*535mm	Forced air cooling
YIY AHF-50-0.4-4L-W	50A	400V	500*89*535mm	Forced air cooling
YIY AHF-75-0.4-4L-W	75A	400V	550*190*584mm	Forced air cooling
YIY AHF-100-0.4-4L-W	100A	400V	550*240*624mm	Forced air cooling
YIY AHF-150-0.4-4L-W	150A	400V	550*240*624mm	Forced air cooling
YIY AHF-100-0.5-4L-W	100A	500V	550*275*722mm	Forced air cooling
YIY AHF-100-0.69-4L-W	100A	690V	550*275*752.5mm	Forced air cooling
YIY AHF-100-0.8-3L-W	100A	800V	550*275*752.5mm	Forced air cooling

Model	Capacity	System Voltage	Size(W2*D2*H2)	Cooling Mode
YIY AHF-15-0.22-4L-W	15A	220V	500*89*535mm	Forced air cooling
YIY AHF-25-0.22-4L-W	25A	220V	500*89*535mm	Forced air cooling
YIY AHF-50-0.22-4L-W	50A	220V	500*89*535mm	Forced air cooling
YIY AHF-75-0.22-4L-W	75A	220V	550*190*584mm	Forced air cooling
YIY AHF-100-0.22-4L-W	100A	220V	550*240*624mm	Forced air cooling
YIY AHF-150-0.22-4L-W	150A	220V	550*240*624mm	Forced air cooling

<sup>\*</sup>If you need any other sizes, please contact us for customization.



#### **FCL**



Model	Capacity	System Voltage	Size(W3*D3*H3)	Cooling Mode
YIY AHF-100-0.4-4L-C	100A	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY AHF-150-0.4-4L-C	150A	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY AHF-200-0.4-4L-C	200A	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY AHF-250-0.4-4L-C	250A	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY AHF-300-0.4-4L-C	300A	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY AHF-400-0.4-4L-C	400A	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY AHF-300-0.5-4L-C	300A	500V	800*1000*2200mm	Forced air cooling
YIY AHF-300-0.69-4L-C	300A	690V	800*1000*2200mm	Forced air cooling
YIY AHF-300-0.8-3L-C	300A	800V	800*1000*2200mm	Forced air cooling

<sup>\*</sup>Cabinet 1 can accommodate 5 modules. Cabinet 2 can accommodate 3 modules.

<sup>\*</sup>If you need any other sizes, please contact us for customization.

## **SVG**

#### **Static Var Generator**



**Static Var Generator(SVG)** Static Var Generators (SVGs) are devices used in electrical power systems to control voltage, power factor and stabilize the system. They are a type of Static Synchronous Compensator (STATCOM) that use a voltage source converter to inject reactive power into the grid. SVGs are able to provide fast-acting reactive power compensation, which improve power quality and help to prevent voltage instability. SVGs are commonly used in industrial plants, wind farms and other applications where reactive power compensation is required. It is a reliable and efficient solution for maintaining the stability and quality of electrical power systems.

#### Product Features

- No over compensation, no under compensation, no resonance
- Reactive power compensation effect
- PF0.99 level reactive power compensation
- Three-phase unbalance compensation
- Capacitive inductive load-1~1
- Real-time compensation
- Dynamic response time less than 50us
- Modular design

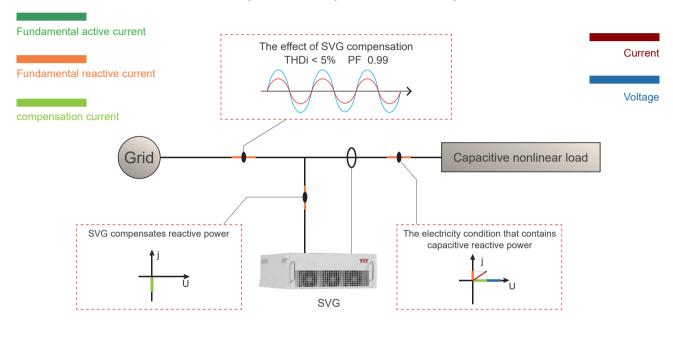


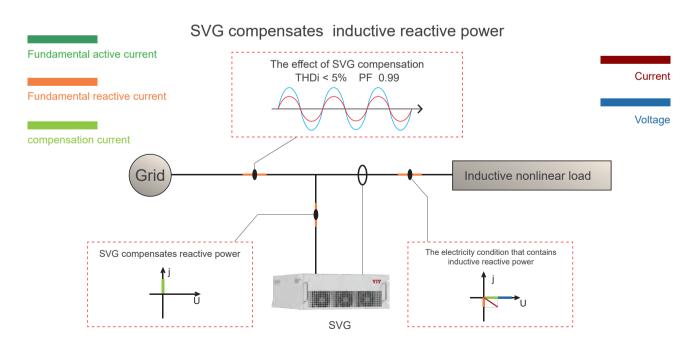


#### Working Principle

The principle of the SVG is very similar to that of Active harmonic Filter, When the load is generating inductive or capacitive current, it makes load current lagging or leading the voltage. SVG detects the phase angle difference and generates leading or lagging current into the grid, making the phase angle of current almost the same as that of voltage on the transformer side, which means fundamental power factor is unit. YIY-SVG is also capable of correcting load imbalance.

#### SVG compensates capacitive reactive power



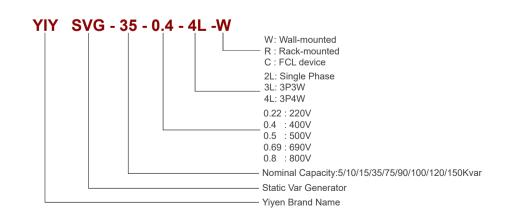




#### • Technical Specifications

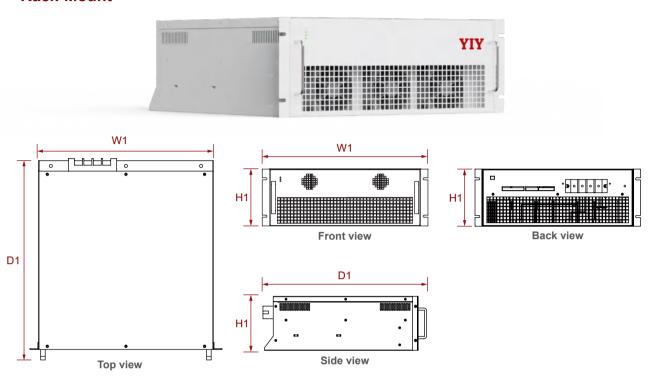
TYPE	220V Series	220V Series	400V Series	500V Series	690V Series	800V Series
Rated Compensation Capacity	5Kvar	5/7/10/17/25/ 37/50Kvar	10/15/20/35/ 50/75/100Kvar	90Kvar	100/120Kvar	150Kvar
Nominal Voltage	AC220V (-20%~+20%)	AC220V (-20%~+20%)	AC400V (-20%~+15%)	AC500V (-20%~+20%)	AC690V (-20%~+15%)	AC800V (-20%~850VAC)
Rated Frequency			50/60Hz(4	5Hz~63Hz)		
Network	Single phase		3 phase 3 wire	/3 phase 4 wire		3 Phase 3 Wire
Response Time			<10	)ms		
Reactive Power Compensation Rate			≥9	8%		
Machine Efficiency			≥9	7%		
Switching Frequency	32kHz	161	kHz		12.8kHz	
Function	Reactive power compensation					
Numbers In Parallel	No limitation	No limitation. A single centralized monitoring module can be equipped with up to 8 power modules.				
Communication Methods	Two-cha	annel RS485 comm	nunication interface	(support GPRS/WI	FI wireless commu	nication)
Altitude Without Derating			<20	00m		
Operating Temperature			-20~+50°C (dera	ting above 40°C)		
Humidity	<90% RH,	The average month	nly minimum temper	ature is 25°C witho	ut condensation on	the surface
Pollution Level			Below	level III		
Protection Function	Overload protection, hardware/software over-current protection,over-voltage protection,power grid voltage protection, power failure protection,over-temperature protection,frequency anomaly protection, short circuit protection, etc					
Noise	≤60dB ≤65dB					
Installation	Rack/Wall-mounted					
Wiring	Back entry (rack-mounted type), top entry (wall-mounted type)					
Protection Grade		IP20				

#### • Type Code





#### **Rack-Mount**



Model	Capacity	System Voltage	Size(W1*D1*H1)	Cooling Mode
YIY SVG-5-0.22-2L-R	5Kvar	220V	220*375*167mm	Forced air cooling
YIY SVG-10-0.4-4L-R	10Kvar	400V	500*535*89mm	Forced air cooling
YIY SVG-15-0.4-4L-R	15Kvar	400V	500*535*89mm	Forced air cooling
YIY SVG-20-0.4-4L-R	20Kvar	400V	500*535*89mm	Forced air cooling
YIY SVG-35-0.4-4L-R	35Kvar	400V	500*535*89mm	Forced air cooling
YIY SVG-50-0.4-4L-R	50Kvar	400V	550*584*190mm	Forced air cooling
YIY SVG-75-0.4-4L-R	75Kvar	400V	550*624*240mm	Forced air cooling
YIY SVG-100-0.4-4L-R	100Kvar	400V	550*624*240mm	Forced air cooling
YIY SVG-90-0.5-4L-R	90Kvar	500V	550*722*275mm	Forced air cooling
YIY SVG-100-0.69-4L-R	100Kvar	690V	550*752.5*275mm	Forced air cooling
YIY SVG-120-0.69-4L-R	120Kvar	690V	550*752.5*275mm	Forced air cooling
YIY SVG-150-0.8-3L-R	150Kvar	800V	550*752.5*275mm	Forced air cooling

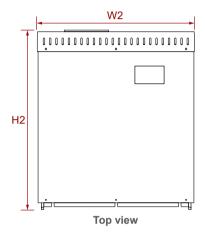
Model	Capacity	System Voltage	Size(W1*D1*H1)	Cooling Mode
YIY SVG-5-0.22-4L-R	5Kvar	220V	500*535*89mm	Forced air cooling
YIY SVG-7-0.22-4L-R	7Kvar	220V	500*535*89mm	Forced air cooling
YIY SVG-10-0.22-4L-R	10Kvar	220V	500*535*89mm	Forced air cooling
YIY SVG-17-0.22-4L-R	17Kvar	220V	500*535*89mm	Forced air cooling
YIY SVG-25-0.22-4L-R	25Kvar	220V	550*584*190mm	Forced air cooling
YIY SVG-37-0.22-4L-R	37Kvar	220V	550*624*240mm	Forced air cooling
YIY SVG-50-0.22-4L-R	50Kvar	220V	550*624*240mm	Forced air cooling

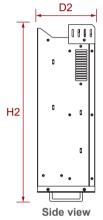
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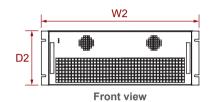


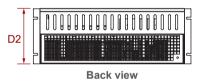
#### **Wall-Mounted**











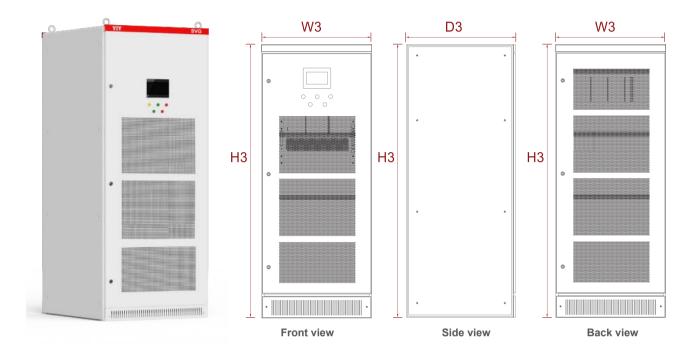
Model	Capacity	System Voltage	Size(W2*D2*H2)	Cooling Mode
YIY SVG-5-0.22-2L-W	5Kvar	220V	220*167*375mm	Forced air cooling
YIY SVG-10-0.4-4L-W	10Kvar	400V	500*89*535mm	Forced air cooling
YIY SVG-15-0.4-4L-W	15Kvar	400V	500*89*535mm	Forced air cooling
YIY SVG-20-0.4-4L-W	20Kvar	400V	500*89*535mm	Forced air cooling
YIY SVG-35-0.4-4L-W	35Kvar	400V	500*89*535mm	Forced air cooling
YIY SVG-50-0.4-4L-W	50Kvar	400V	550*190*584mm	Forced air cooling
YIY SVG-75-0.4-4L-W	75Kvar	400V	550*240*624mm	Forced air cooling
YIY SVG-100-0.4-4L-W	100Kvar	400V	550*240*624mm	Forced air cooling
YIY SVG-90-0.5-4L-W	90Kvar	500V	550*275*722mm	Forced air cooling
YIY SVG-100-0.69-4L-W	100Kvar	690V	550*275*752.5mm	Forced air cooling
YIY SVG-120-0.69-4L-W	120Kvar	690V	550*275*752.5mm	Forced air cooling
YIY SVG-150-0.8-3L-W	150Kvar	800V	550*275*752.5mm	Forced air cooling

Model	Capacity	System Voltage	Size(W1*D1*H1)	Cooling Mode
YIY SVG-5-0.22-4L-W	5Kvar	220V	500*535*89mm	Forced air cooling
YIY SVG-7-0.22-4L-W	7Kvar	220V	500*535*89mm	Forced air cooling
YIY SVG-10-0.22-4L-W	10Kvar	220V	500*535*89mm	Forced air cooling
YIY SVG-17-0.22-4L-W	17Kvar	220V	500*535*89mm	Forced air cooling
YIY SVG-25-0.22-4L-W	25Kvar	220V	550*584*190mm	Forced air cooling
YIY SVG-37-0.22-4L-W	37Kvar	220V	550*624*240mm	Forced air cooling
YIY SVG-50-0.22-4L-W	50Kvar	220V	550*624*240mm	Forced air cooling

<sup>\*</sup>If you need any other sizes, please contact us for customization.



#### **FCL**



Model	Capacity	System Voltage (V)	Size(W3*D3*H3)	Cooling Mode
YIY SVG-50-0.4-4L-C	50Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY SVG-100-0.4-4L-C	100Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY SVG-200-0.4-4L-C	200Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY SVG-250-0.4-4L-C	250Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY SVG-300-0.4-4L-C	300Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY SVG-400-0.4-4L-C	400Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY SVG-270-0.5-4L-C	270Kvar	500V	800*1000*2200mm	Forced air cooling
YIY SVG-360-0.69-4L-C	360Kvar	690V	800*1000*2200mm	Forced air cooling
YIY SVG-450-0.8-3L-C	450Kvar	800V	800*1000*2200mm	Forced air cooling

<sup>\*</sup>Cabinet 1 can accommodate 5 modules. Cabinet 2 can accommodate 3 modules.

<sup>\*</sup>If you need any other sizes, please contact us for customization.

## **ASVG**

#### **Advanced Static Var Generator**

Reactive Power Compensation, Harmonic Control, Three Phase Balance



Advanced Static Var Generator (ASVG) is a new type of dynamic reactive power compensation product, combining power factor correction harmonic mitigation and three phase balance in one unit. It provides the same dynamic performance for compensating reactive power as the SVG with the added benefit of combining harmonic mitigation and controlling three phase unbalance. Advanced static var generators (ASVGs) are high-performance, compact, flexible, modular, and cost-effective to provide immediate and efficient responses to power quality problems in high and low voltage power systems.

#### Product Features

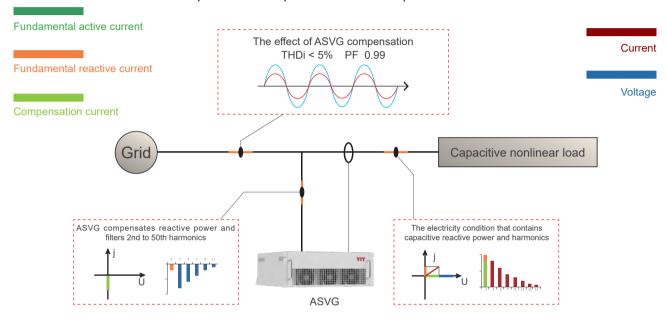
- Reactive power compensation: Cos  $\emptyset$  = 1.00
- Capacitive and Inductive compensation: -1 to +1
- All the features and benefits of the SVG.
- Mitigation of 2nd to 50th harmonic mitigation.
- Unit capacity can be selected in any proportion between power factor correction and harmonics correction.
- Capacitive inductive load-1~1.
- Current unbalance correction can correct for load unbalance across all three phases.



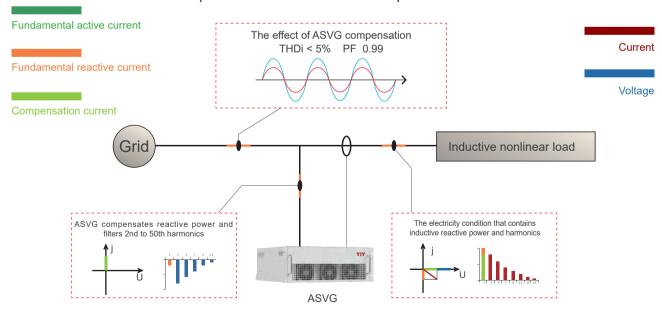
#### Working Principle

With external CT detecting the load current in real time, internal DSP calculate and abstract the reactive power and harmonic content of load current, then send the PWM signal to internal IGBT and adjust the phase and amplitude of the output voltage on the AC side of the inverter or directly control the phase and amplitude of the current on the AC side of the inverter, so as to quickly absorb or emit the required reactive power and harmonic current, and realize the purpose of fast dynamic adjustment of reactive power and harmonic compensation. Not only the reactive current of the load, but also the harmonic current can be tracked and compensated.

#### ASVG Compensates capacitive reactive power and harmonics



#### ASVG Compensates inductive reactive power and harmonics

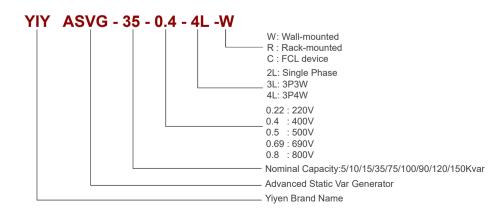




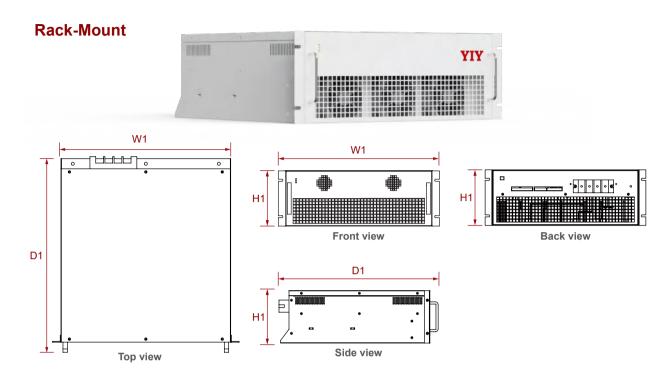
#### • Technical Specifications

TYPE	220V Series	220V Series	400V Series	500V Series	690V Series	800V Series
Rated Compensation Capacity	5Kvar	3/5/7/10/17/ 25/37/50Kvar	5/10/15/20/35/ 50/75/100Kvar	90Kvar	100/120Kvar	150Kvar
Nominal Voltage	AC220V (-20%~+20%)	AC220V (-20%~+20%)	AC400V (-20%~+15%)	AC500V (-20%~+20%)	AC690V (-20%~+15%)	AC800V (-20%~850VAC)
Rated Frequency			50/60Hz(4	5Hz~63Hz)		
Grid Structure	Single phase		3 phase 3 wire	/3 phase 4 wire		3 Phase 3 Wire
Number Of Parallel	No limitatio	n. A single centraliz	zed monitoring mod	lule can be equippe	ed with up to 8 pow	er modules.
Machine Efficiency			>9	7%		
Switching Efficiency	32kHz	161	кНz		12.8kHz	
Function	Reactive power compensation / Harmonics filter	Reactive power compensation / Harmonics filter / Three phase balance comp			Reactive power compensation / Harmonics filter	
Compensation Rate	React	ive power compens	sation ≥98%,Harmo	onics filter ≥95%,Th	ree phase balance	≥95%
Harmonic Compensation Times			2nd to 5	Oth times		
Response Time			<10	)ms		
Noise	≤60dB			≤65dB		
Communication Method	Two-cha	nnel RS485 comm	unication interface	(support GPRS/WI	FI wireless commu	nication)
Monitoring Method		4.3 inch LCD smal	l-sized screen / 7 ir	nch LCD centralized	d monitoring screer	1
Protection		power voltage imb	alance protection,	protection, over grice power failure prote n, short circuit prote	ction, over tempera	0 1
Altitude Without Derating	<2000m					
Operating Temperature	-20~+50°C (derating above 40°C)					
Relative Humidity	<90% ,The average monthly minimum temperature is 25°C without condensation on the surface					
Pollution Level	Below level Ⅲ					
Installation	Rack/Wall-mounted					
Wiring	Back entry (rack-mounted type),Top entry (wall-ounted type)					
Protection Grade	IP20					

#### • Type Code







Model	Capacity	System Voltage	Size(W1*D1*H1)	Cooling Mode
YIY ASVG-5-0.22-2L-R	5Kvar	220V	220*375*167mm	Forced air cooling
YIY ASVG-5-0.4-4L-R	5Kvar	400V	500*535*89mm	Forced air cooling
YIY ASVG-10-0.4-4L-R	10Kvar	400V	500*535*89mm	Forced air cooling
YIY ASVG-15-0.4-4L-R	15Kvar	400V	500*535*89mm	Forced air cooling
YIY ASVG-20-0.4-4L-R	20Kvar	400V	500*535*89mm	Forced air cooling
YIY ASVG-35-0.4-4L-R	35Kvar	400V	500*535*89mm	Forced air cooling
YIY ASVG-50-0.4-4L-R	50Kvar	400V	550*584*190mm	Forced air cooling
YIY ASVG-75-0.4-4L-R	75Kvar	400V	550*624*240mm	Forced air cooling
YIY ASVG-100-0.4-4L-R	100Kvar	400V	550*624*240mm	Forced air cooling
YIY ASVG-90-0.5-4L-R	90Kvar	500V	550*722*275mm	Forced air cooling
YIY ASVG-100-0.69-4L-R	100Kvar	690V	550*752.5*275mm	Forced air cooling
YIY ASVG-120-0.69-4L-R	120Kvar	690V	550*752.5*275mm	Forced air cooling
YIY ASVG-150-0.8-3L-R	150Kvar	800V	550*752.5*275mm	Forced air cooling

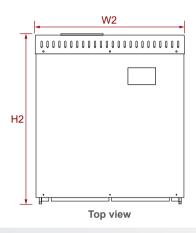
Model	Capacity	System Voltage	Size(W1*D1*H1)	Cooling Mode
YIY ASVG-3-0.22-4L-R	3Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-5-0.22-4L-R	5Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-7-0.22-4L-R	7Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-10-0.22-4L-R	10Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-17-0.22-4L-R	17Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-25-0.22-4L-R	25Kvar	220V	550*584*190mm	Forced air cooling
YIY ASVG-37-0.22-4L-R	37Kvar	220V	550*624*240mm	Forced air cooling
YIY ASVG-50-0.22-4L-R	50Kvar	220V	550*624*240mm	Forced air cooling

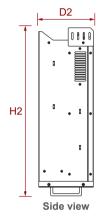
 $<sup>{}^{\</sup>star}\mbox{If you need any other sizes, please contact us for customization.}$ 

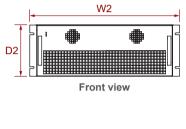


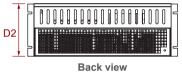
#### **Wall-Mounted**











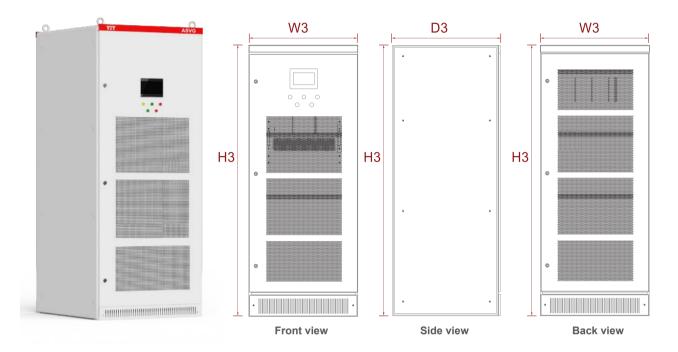
Model	Capacity	System Voltage	Size(W2*D2*H2)	Cooling Mode
YIY ASVG-5-0.22-2L-W	5Kvar	220V	220*167*375mm	Forced air cooling
YIY ASVG-5-0.4-4L-W	5Kvar	400V	500*89*535mm	Forced air cooling
YIY ASVG-10-0.4-4L-W	10Kvar	400V	500*89*535mm	Forced air cooling
YIY ASVG-15-0.4-4L-W	15Kvar	400V	500*89*535mm	Forced air cooling
YIY ASVG-20-0.4-4L-W	20Kvar	400V	500*89*535mm	Forced air cooling
YIY ASVG-35-0.4-4L-W	35Kvar	400V	500*89*535mm	Forced air cooling
YIY ASVG-50-0.4-4L-W	50Kvar	400V	550*190*584mm	Forced air cooling
YIY ASVG-75-0.4-4L-W	75Kvar	400V	550*240*624mm	Forced air cooling
YIY ASVG-100-0.4-4L-W	100Kvar	400V	550*240*624mm	Forced air cooling
YIY ASVG-90-0.5-4L-W	90Kvar	500V	550*275*722mm	Forced air cooling
YIY ASVG-100-0.69-4L-W	100Kvar	690V	550*275*752.5mm	Forced air cooling
YIY ASVG-120-0.69-4L-W	120Kvar	690V	550*275*752.5mm	Forced air cooling
YIY ASVG-150-0.8-3L-W	150Kvar	800V	550*275*752.5mm	Forced air cooling

Model	Capacity	System Voltage	Size(W1*D1*H1)	Cooling Mode
YIY ASVG-3-0.22-4L-W	3Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-5-0.22-4L-W	5Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-7-0.22-4L-W	7Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-10-0.22-4L-W	10Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-17-0.22-4L-W	17Kvar	220V	500*535*89mm	Forced air cooling
YIY ASVG-25-0.22-4L-W	25Kvar	220V	550*584*190mm	Forced air cooling
YIY ASVG-37-0.22-4L-W	37Kvar	220V	550*624*240mm	Forced air cooling
YIY ASVG-50-0.22-4L-W	50Kvar	220V	550*624*240mm	Forced air cooling

<sup>\*</sup>If you need any other sizes, please contact us for customization.



#### **FCL**



Model	Capacity	System Voltage (V)	Size(W3*D3*H3)	Cooling Mode
YIY ASVG-50-0.4-4L-C	50Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY ASVG-100-0.4-4L-C	100Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY ASVG-200-0.4-4L-C	200Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY ASVG-250-0.4-4L-C	250Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY ASVG-300-0.4-4L-C	300Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY ASVG-400-0.4-4L-C	400Kvar	400V	800*1000*2200mm 800*1000*1600mm optional	Forced air cooling
YIY ASVG-270-0.5-4L-C	270Kvar	500V	800*1000*2200mm	Forced air cooling
YIY ASVG-360-0.69-4L-C	360Kvar	690V	800*1000*2200mm	Forced air cooling
YIY ASVG-450-0.8-3L-C	450Kvar	800V	800*1000*2200mm	Forced air cooling

<sup>\*</sup>Cabinet 1 can accommodate 5 modules. Cabinet 2 can accommodate 3 modules.

<sup>\*</sup>If you need any other sizes, please contact us for customization.

## SiC ASVG

#### SiC Advanced Static Var Generator

Reactive Power Compensation, Harmonic Control, Three Phase Balance



Advanced Static VAR Generator (ASVG) with SiC technology offers high-efficiency power factory correction, harmonic mitigation, and three phase balance. Featuring SiC power devices, it achieves over 98.5% efficiency, higher power density, faster dynamic response, and enhanced reliability, ensuring comprehensive power quality management.

#### Product Features

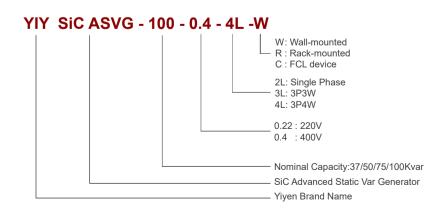
- >98.5% peak efficiency with lower losses from SiC.
- Triple neutral-line filtering capacity versus phase lines.
- Compact size enabled by high-density SiC power modules.
- Capacitive and Inductive compensation: -1 to +1
- Mitigation of 2nd to 50th harmonic mitigation.
- Unit capacity can be selected in any proportion between power factor correction and harmonics correction.
- Current unbalance correction can correct for load unbalance across all three phases.



#### • Technical Specifications

Technical Specification	220V Series	400V Series	
Rated Compensation Capacity	37KVar / 50Kvar	75KVar / 100Kvar	
Nominal Voltage	AC220V (-20%~+20%)	AC400V (-20%~+20%)	
Rated Frequency	50/60Hz (4	15Hz-63Hz)	
Grid Structure	3 phase 3 wire	/3 phase 4 wire	
Number of parallel		module can be equipped with up to 8 power ules.	
Machine Efficiency	>98	3.5%	
Switching Efficiency	304	kHz	
Function	Reactive power compensation / Ha	rmonics filter / Three phase balance	
Compensation Rate	Reactive power compensation ≥98%,Harmo	onics filter ≥95%,Three phase balance ≥95%	
Neutral Line Filtering Capability	The filtering capacity of 3 phase 4 wire new	utral line is 3 times of that of phase filtering	
Harmonic Compensation Times	2nd to 50th times		
Response Time	<40ms		
Noise	≤65dB		
Communication Method	Two-channel RS485 communication interface	(support GPRS/WIFI wireless communication)	
Monitoring Method	4.3 inch LCD small-sized screen / 7 ir	nch LCD centralized monitoring screen	
Protection	Over load protection, hardware/software over current protection, over grid power protection, under gridpower protection, grid power voltage imbalance protection, power fail protection, over temperature protection, frequency anomaly protection, short cirprotection, etc		
Altitude Without Derating	<20	00m	
Operating Temperature	-10°C ~+50°C (der	rating above 40°C)	
Relative Humidity	<90% ,The average monthly minimum temperature is 25°C without condensation on the surface		
Pollution Level	Below level Ⅲ		
Installation	Rack/Wall-mounted		
Wiring	Back entry (rack-mounted type),Top entry (wall-ounted type)		
Protection Grade	IP20		

#### • Type Code



## ASVG IP66

#### **Advanced Static Var Generator IP66**

Reactive Power Compensation, Harmonic Control, Three Phase Balance



The **Advanced Static VAR Generator (ASVG IP66)** is a new dynamic reactive power compensation product with IP66 protection and a self-cooling system, combining power factor correction, harmonic mitigation and three phase balance in one unit.

#### Product Features

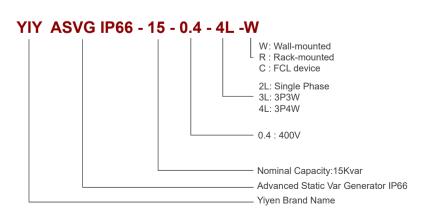
- Capacitive and Inductive compensation: -1 to +1
- Mitigation of 2nd to 50th harmonic mitigation
- Three-phase balance
- Built-in a set of grid side CT
- Self-cooling system
- IP66 outdoor



#### • Technical Specifications

<b>Technical Specification</b>	400V Series	
Rated Compensation Capacity	15Kvar	
Nominal Voltage	AC400V (-20%~+20%)	
Rated Frequency	50Hz/60Hz (45Hz-63Hz)	
Grid Structure	3 phase 3 wire/3 phase 4 wire	
Number Of Parallel	No limitation. A single centralized monitoring module can be equipped with up to 8 power modules.	
Machine Efficiency	>97%	
Switching Efficiency	16kHz	
Function	Reactive power compensation / Harmonics filter / Three phase balance	
Compensation Rate	Reactive power compensation ≥98%,Harmonics filter ≥95%,Three phase balance ≥95%	
Harmonic Compensation Times	2nd to 50th times	
Response Time	<10ms	
Noise	<60dB	
Communication Method	Two-channel RS485 communication interface (support GPRS/WIFI wireless communication)	
Monitoring Method	4.3 inch LCD small-sized screen / 7 inch LCD centralized monitoring screen	
Protection	Over load protection, hardware/software over current protection, over grid power protection /under grid power protection, grid power voltage imbalance protection, power failure protection, over temperature protection, frequency anomaly protection, short circuit protection, etc	
Altitude Without Derating	<2000m	
Operating Temperature	-20~+50°C (derating above 40°C)	
Cooling Method	Natural convection	
Relative Humidity	<90% ,The average monthly minimum temperature is 25°C without condensation on the surface	
Pollution Level	Below level Ⅲ	
Installation	Wall-mounted	
Wiring	Top entry (wall-ounted type)	
Protection Grade	IP66	

#### • Type Code





#### **Active Voltage Conditioner**

Voltage Sag Correction, Surge Correction, Continuous Voltage Regulation and Load Voltage Compensation.



**Active Voltage Conditioner (AVC)** is an electronic device that regulates and stabilizes the voltage of an electrical power system. AVC is used to control the reactive power in an electrical system, but it also provides additional functionality to regulate the system's voltage.

AVC uses advanced control algorithms and digital signal processing technology to detect voltage fluctuations and harmonics in the system and respond quickly to correct them. They can also provide voltage regulation and power factor correction, reducing energy consumption and improving the efficiency of the system.

AVC is commonly used in applications where a stable and reliable power supply is critical, such as data centers, hospitals, and industrial facilities. They can also be used in renewable energy systems to improve the stability and efficiency of the power supply.

Overall, an Active Voltage Conditioner is a high-performance solution for regulating and stabilizing the voltage of an electrical power system, providing several benefits such as improved voltage stability, reduced power losses, improved power factor, and harmonic filtering.

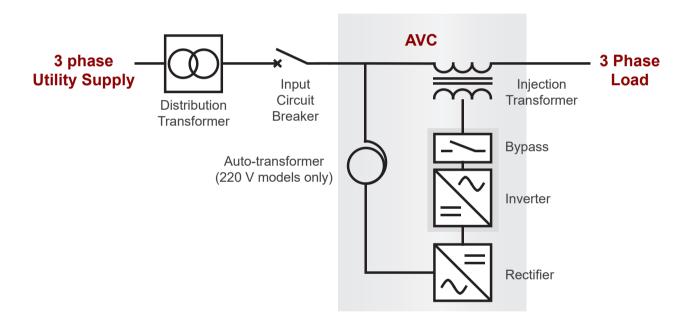


#### Working Principle

AVC consists of two converters that are not on the current path between the load and the utility. Instead, the corrective voltage injection is achieved by means of a transformer winding between the utility and the sensitive load. This configuration results in a very efficient and effective method to provide voltage correction with reduced risk of negative impacts on the load.

AVC requires no batteries as it draws the additional energy required during sag to make up the correction voltage from the utility supply. With no ongoing maintenance costs typically associated with batteries the cost of ownership for AVC systems is very small.

Furthermore, AVC contains a redundant internal bypass system that, in the event of overload or internal fault condition, ensures that the load is continued to be supplied from the utility.





#### • Technical Specifications (European Standard)

Item		Specification		
0 "	Single Phase	15-50KVA	60KVA-1800KVA (RND)	
Capacity	Three Phase	30KVA-500KVA	600KVA-3600KVA (RND)	
	Power System		0V+N(3 Phase 4 Wire) I referenced (TN-S)	
	Range	220V-application range 176-264V 380V-application range 304-456V		
Input	Max Supply Voltage	130%		
	Frequency	50Hz/	60Hz ±5Hz	
	Outage-Control Ride Through		10ms	
	Harmonics	THDv<3%		
	Voltage	220	0V/380V	
	Regulation Mode	Coi	ntactless	
	Equivalent Impedance	< 4%(m	odel specific)	
0 1 1	Control Model	independent co	ontrol on each phase	
Output	Partial Correction Derating Conditions	1.0 PF at 80% loa	ad,0.8 PF at 100% load	
	Power Factor	0 lagging	to 0.9 leading	
	Crest Factor		300%	
	Overload Capacity From 100% Supply Voltage	150% for 21s	s,once every 500s	
	Efficiency	Typic	ally > 95%	
	Sag Correction Response	Initial <250ps (	Complete <1/2 cycle	
Performance	Voltage Regulation Accuracy	<+0.5% ty	/pical,±2% max	
	Sag Correction Accuracy		±4%	
	Continuous Regulation Range	±10%		
	Sag Correction Performance	60% to 100% for 30s		
	Three Phase Sags	50% to 90% for 10s		
	Single Phase	-	100% for 10s	
	Partial Correction Derating Conditions		/ 0.8 PF at 100% load	
	Bypass	Manual bypass, Automatic bypass		
	Capacity	100% of model rating (Kva) 120% for 60 s		
Overload	Maximum Overload	150% for 15 s		
Protection	-	1500% for 1s		
	Transfer Time	To Bypass < 0.5 ms	/ To Bypass < 250 ms	
	Equivalent Series Impedance	Bypass ·	< 2.5% typical	
	Transformer Type		Dry	
Injection	Insulation	IEC 60085 T	hermal class 200	
Transformer	Frequency	50H	Hz / 60Hz	
	Vector Group	Diii (delta + 3 in	dependent windings)	
Protection	Input over/low voltage protection/output over/low voltage protection,input over current protection,TX over heat protection,overload protectcn	lı	nternal	
Display	7 inch Touch Screen	Parameter control, power info,d	isplay,fault log, history curve line, etc.	
	Operating Temperature Range	0°C to 50° C	(32° F to 122° F)	
	Temperature Derating	Above 40°C, derate at 2% lo	oad per °C to a maximum of 50°C	
	Operating Altitude	< 1000 m without derating		
	Derating With Altitude	1% every 100m ab	ove 1500m. 2000m max	
	Inverter Cooling	Forced	d ventilation	
Environment	Transformer Cooling	Natura	l convection	
LIMIOIIIIEM	Humidity	<95%, no	on-condensing	
	Pollution Degree Rating		200%	
	Noise	<750	dBA@1 m	
	Working Temperature	-25	5~+45°C	
	Storage Temperature	-30~+70°C		
	Protection Grade	IP54		



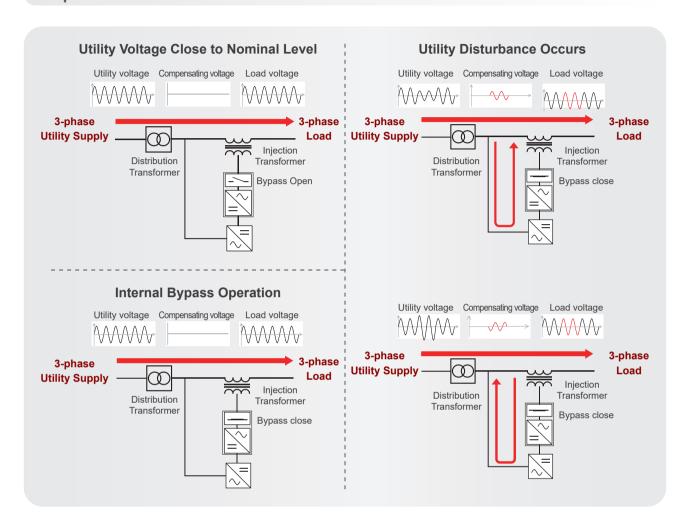
#### • Technical Specifications (American Standard)

Item	Specification			
Capacity		15KVA-100KVA		
. ,		Single Phase	127V	
	Power System	Dual Phase	120V/240V	
	,	Three Phase	220V	
	Range	±20°		
Input	Max Supply Voltage	130%		
	Frequency	50Hz/60Hz ±5Hz		
	Response Time	10ms		
	Harmonics	THDv<		
	Accuracy	±0.5°		
	Regulation Mode	Contact		
	Equivalent Impedance	< 4%(model		
	Control Model	independent contro	. ,	
Output	Partial Correction Derating conditions	1.0 PF at 80% load,0.	<u> </u>	
	Power Factor	0 lagging to 0		
	Crest Factor	3009		
	Overload Capacity From 100% Supply Voltage	150% for 21s,one	· · · · · · · · · · · · · · · · · · ·	
	Efficiency	Typically		
	Sag Correction Response	Initial <250ps Com	·	
-	Voltage Regulation Accuracy	<+0.5% typica	<u>′</u>	
	Sag Correction Accuracy	±4%		
Performance	Continuous Regulation Range	±10% 60% to 100% for 30s		
	Sag Correction Performance Three Phase Sags	50% to 100% for 30s		
	Single Phase	40% to 100% for 10s		
	Partial Correction Derating Conditions	1.0 PF at 80% load / 0.8 PF at 100% load		
	Bypass	Manual bypass,Automatic bypass		
	Capacity	100% of model	**	
	Maximum Overload	120% for 60 s		
Overload Protection	Maximum Overload	150% for 15 s		
Frotection	Transfer Time	To Bypass < 0.5 ms /	To Bypass < 250 ms	
	Equivalent Series Impedance	Bypass < 2.5	5% typical	
	Transformer Type	Dry		
Injection	Insulation	IEC 60085 There	nal class 200	
Transformer	Frequency	50Hz / 6	60Hz	
	Vector Group	Diii (delta + 3 indepe	endent windings)	
Protection	Input over/low voltage protection/output over/low voltage protection,input over current protection,TX over heat protection,overload protectcn	Interr	nal	
Display	7 inch Touch Screen	Parameter control, power info,displa	y,fault log, history curve line, etc.	
-	Operating Temperature Range	0°C to 50° C (32	° F to 122° F)	
	Temperature Derating	Above 40°C, derate at 2% load	per °C to a maximum of 50°C	
	Operating Altitude	< 1000 m without derating		
	Derating With Altitude	1% every 100m above 1500m. 2000m max		
	Inverter Cooling	Forced ver		
Fooding :	Transformer Cooling	Natural cor	nvection	
Environment	Humidity	<95%, non-co	ondensing	
	Pollution Degree Rating	2009		
	Noise	<75dBA(		
	Working Temperature	-25~+4		
	Storage Temperature	-25°+45 C		
	Protection Grade			
	i iotodioli Olade	IP54		





#### Operational Detail



#### Applications

#### Electronics industry



• Continuous process



Food and beverage



Pharmaceutical industry



Automotive



Medical industry



## **CVCF**

#### **IGBT Type Single Phase AVR**

Voltage and Frequency Stabilisers



#### Input voltage range:

♦ 85-270VAC,1Phase, 2Wire,+Earth

#### Input frequency range:

♦ 35-70Hz

#### Features:

- ◆ Correction time 10ms
- ♦ Output accuracy +/-0.5%
- ♦ Output wave form distortion THD<3%
- ◆ Effect of Power factor PF>0.99
- ◆ Frequency protection
- ◆ Compatible with generator



#### • Technical Parameter

Parameters	Power Rating	5KVA	10KVA	
	Nominal Voltage Rating	230VAC 1Phase, 2Wire,+Earth		
Input Voltage	Voltage Range	85-270VAC		
	Frequency	35-7	'0Hz	
	Voltage	220V/230V/2	240V ± 0.5%	
	Correction Time	10	ms	
Outrout Valtage	Voltage Regulation	±0.	5%	
Output Voltage	Output Wave Form Distortion	THD	<3%	
	Output Frequency	50/6	0Hz	
	Power Factor	PF>	0.99	
	Automatic Bypass	Ye	es	
	Manual Bypass	Ye	es	
	Input Under Voltage	80±1V		
	Input Over Voltage	280±3V		
Protection	Output Under Voltage	184V/@220V 192V/@230,201V/@240V		
	Output Over Voltage	246V/@220V,250V/@230V,260V/@240V		
	Over-temperature	Module: 80°C Protection/Recovery at 65°C		
	Outrout Overdeed	110%>&<120%-5S,(3 times) 120%>&<150%-2S (3 times)		
	Output Overload	>150% cut off immediately		
Disabou/Indisation	Display Mode	LCD/LED		
Display/Indication	Communication	RS	485	
	Efficiency	Better TI	nan 95%	
	Cooling Method	Forced	cooling	
	IP	IP.	20	
	Temperature	0-4	5°C	
Dhysical Darameter	Humidity	0-95%(RH-Non Condensing)		
Physical Parameter	Noise	<60	)dB	
	Product Size	501*328*128.5 mm	580*358*128.5 mm	
	Shipping Size	590*440*240 mm	670*470*240 mm	
	Product Weight	10KG	12KG	
	Shipping Weight	12KG	14KG	

### **Global Branches & Agents**

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#### SMone Energy sp. z o.o.

Main product: Power Quality

UI. Sikorskiego 72 43-100 Tychy, Poland

Contact person: Szymon Lubecki

Telephone:+48 538 328 899office@smone.pl

#### **Electro Zimbabwe**

Main product: Power Quality

Website: www.electro.co.zw Email: cecil@electro.co.zw Cellphone: +263 774 325 839

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#### KIARA GREENENERGY SDN BHD

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#### FRA.TE.L.S.R.L(Italy)

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