YIY

Active Harmonic Filter / Static Var Generator / Active Voltage Conditioner

May energy and ecology be more harmonious

YIYEN HOLDING GROUP

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

15+
Years Experience

30000m²+
Plant Areas

100,000+ / year
Unit Shipments

50+
R&D Staff

130+
Export Countries

100+
Intellectual Properties


YIY

PRODUCT CATALOGUE

AHF

Active Harmonic Filters

Active Harmonic Filters (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.

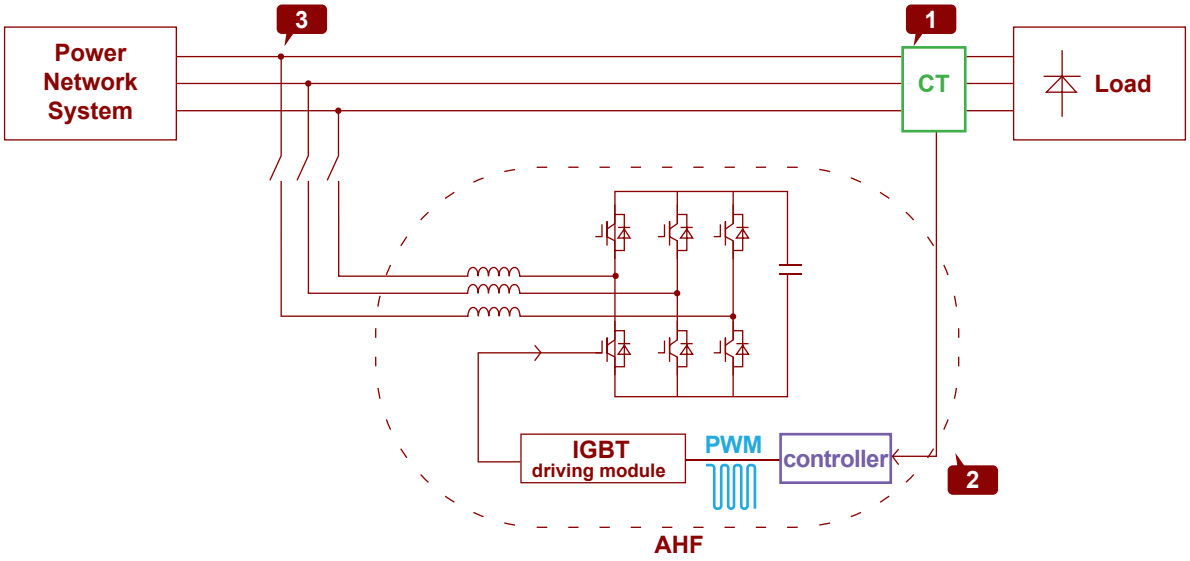
• Product Features

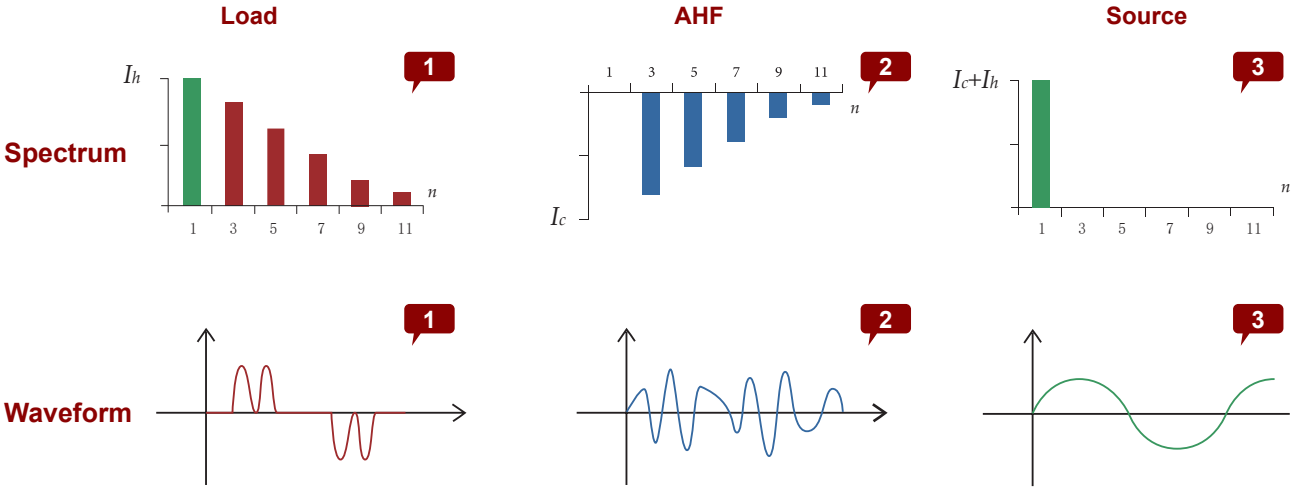
- 2nd to 50th harmonic mitigation
- Real-time compensation
- Modular design
- Protect equipement from being over heated or failure
- Improve working efficiency of equipment

• 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 Series	500V Series	690V Series
Rated compensation current	23A	15A、25A、50A、75A、100A、150A	100A	100A
Nominal voltage	AC220V(-20%~+15%)	AC400V(-40%~+15%)	AC500V(-20%~+15%)	AC690V(-20%~+15%)
Rated frequency	50/60Hz±5%			
Network	Single phase	3 phase 3 wire/3 phase 4 wire		
Response time	<40ms			
Harmonics filtering	2nd to 50th Harmonics,The number of compensation can be selected, and the range of single compensation can be adjusted			
Harmonic compensation rate	>92%			
Neutral line filtering capability	/	The filtering capacity of 3 phase 4 wire neutral line is 3 times of that of phase filtering		
Machine efficiency	>97%			
Switching frequency	32kHz	16kHz	12.8kHz	12.8kHz
Function	Deal with harmonics			
Numbers in parallel	No limitation. A single centralized monitoring module can be equipped with up to 8 power modules			
Communication methods	Two-channel RS485 communication interface (support GPRS/WIFI wireless communication)			
Altitude without derating	<2000m			
Temperature	-20~+50°C			
Humidity	<90% RH,The average monthly minimum temperature is 25°C without condensation on the surface			
Pollution level	Below level III			
Protection function	Overload protection, hardware over-current protection, over-voltage protection, power failure protection, over-temperature protection, frequency anomaly protection, short circuit protection, etc			
Noise	<50dB	<60dB	<65dB	
Installation	Rack/Wall-mounted			
Into the way of line	Back entry (rack type), top entry (wall-mounted type)			
Protection grade	IP20			

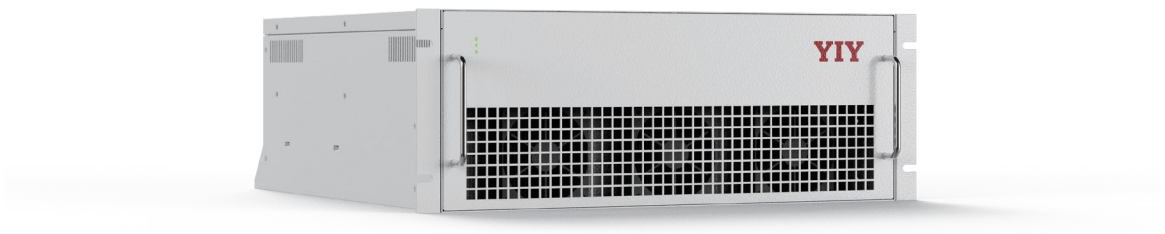
• Type Code

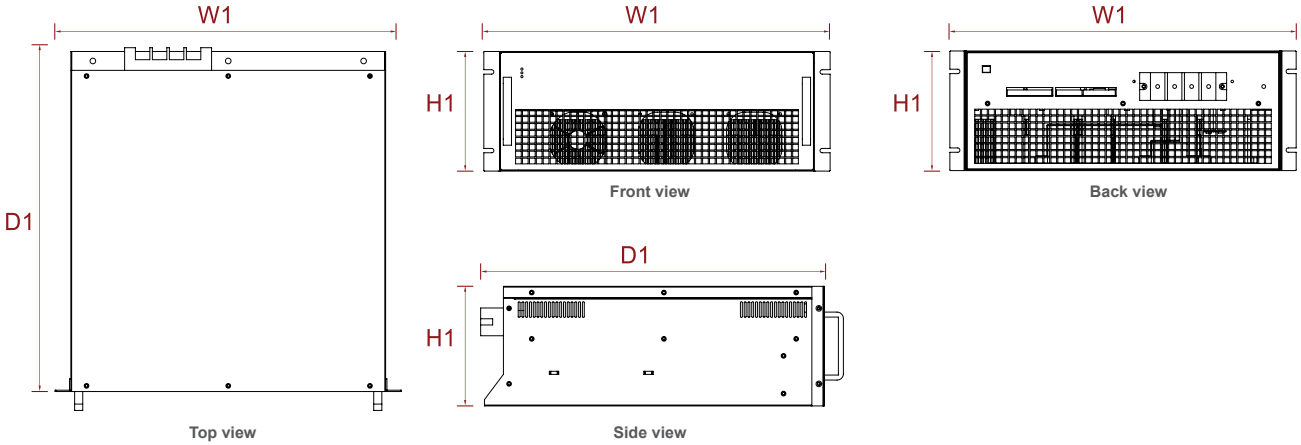
YIY AHF - 75 - 0.4 - 4L -W

- W : Wall-mounted
  R : Rack-mounted
  C : FCL device
- 2L: single phase
  3L: 3P3W
  4L: 3P4W
- 0.22 : 220V
  0.4 : 400V
  0.5 : 500V
  0.69 : 690V
- Nominal capacity(A) : 15/25/50/75/100/150
- Active harmonic filters
- Yiyen Electric Brand name

• Product Dimensions

Rack-Mount





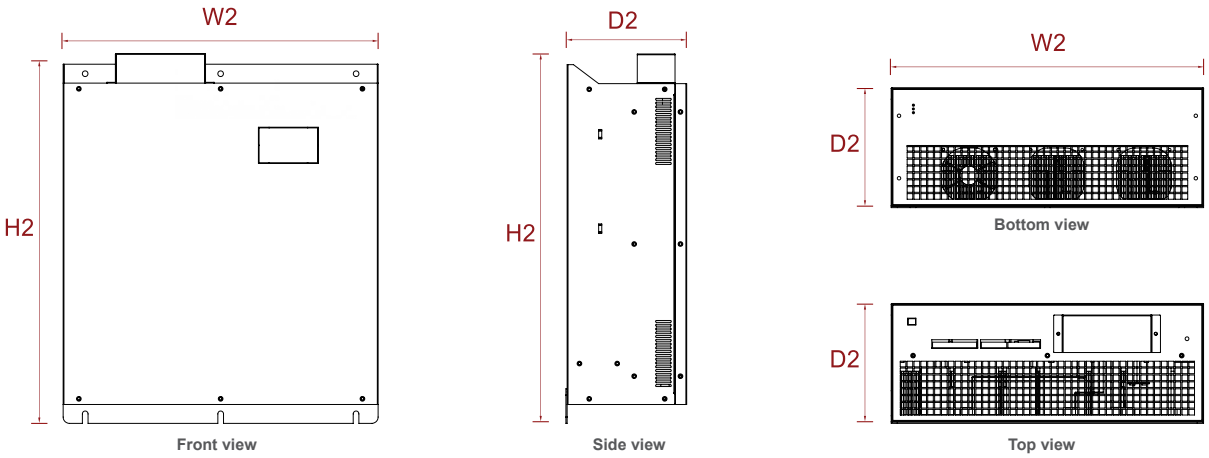
• Models

Model	Capacity	System Voltage	Size(W1*D1*H1)(mm)	Cooling Mode
YIY AHF-23-0.22-2L-R	23A	220V(-20%~+15%)	250*355*161	Forced air cooling
YIY AHF-15-0.4-4L-R	15A	400V(-40%~+15%)	550*520*89	Forced air cooling
YIY AHF-25-0.4-4L-R	25A	400V(-40%~+15%)	550*520*89	Forced air cooling
YIY AHF-50-0.4-4L-R	50A	400V(-40%~+15%)	550*520*89	Forced air cooling
YIY AHF-75-0.4-4L-R	75A	400V(-40%~+15%)	550*540*190	Forced air cooling
YIY AHF-100-0.4-4L-R	100A	400V(-40%~+15%)	550*580*240	Forced air cooling
YIY AHF-150-0.4-4L-R	150A	400V(-40%~+15%)	550*580*240	Forced air cooling
YIY AHF-100-0.5-4L-R	100A	500V(-20%~+15%)	539*711*275	Forced air cooling
YIY AHF-100-0.69-4L-R	100A	690V(-20%~+15%)	539*711*275	Forced air cooling

*If you need any other sizes, please contact us for customization.

• Product Dimensions

Wall-Mounted



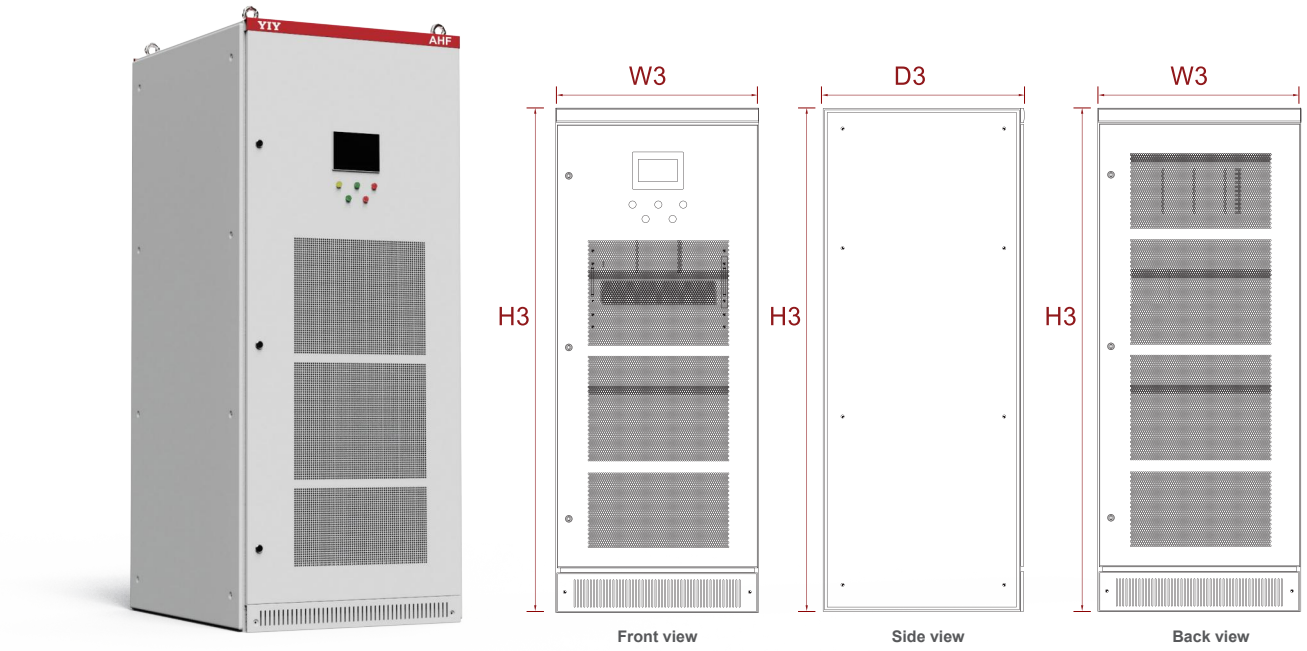
• Models

Model	Capacity	System Voltage	Size(W2*D2*H2)(mm)	Cooling Mode
YIY AHF-23-0.22-2L-W	23A	220V(-20%~+15%)	250*161*351	Forced air cooling
YIY AHF-15-0.4-4L-W	15A	400V(-40%~+15%)	460*89*557	Forced air cooling
YIY AHF-25-0.4-4L-W	25A	400V(-40%~+15%)	460*89*557	Forced air cooling
YIY AHF-50-0.4-4L-W	50A	400V(-40%~+15%)	460*89*557	Forced air cooling
YIY AHF-75-0.4-4L-W	75A	400V(-40%~+15%)	500*190*587	Forced air cooling
YIY AHF-100-0.4-4L-W	100A	400V(-40%~+15%)	500*240*627	Forced air cooling
YIY AHF-150-0.4-4L-W	150A	400V(-40%~+15%)	500*240*627	Forced air cooling
YIY AHF-100-0.5-4L-W	100A	500V(-20%~+15%)	495*275*735	Forced air cooling
YIY AHF100-0.69-4L-W	100A	690V(-20%~+15%)	495*275*735	Forced air cooling

*If you need any other sizes, please contact us for customization.

• Product Dimensions

FCL



• Models

Model	Capacity	System Voltage	Size(W3*D3*H3)(mm)	Cooling Mode
YIY AHF-100-0.4-4L-C	100A	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY AHF-150-0.4-4L-C	150A	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY AHF-200-0.4-4L-C	200A	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY AHF-250-0.4-4L-C	250A	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY AHF-300-0.4-4L-C	300A	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY AHF-400-0.4-4L-C	400A	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY AHF-300-0.5-4L-C	300A	500V(-20%~+15%)	800*1000*2200(Cabinet 1)	Forced air cooling
YIY AHF-300-0.69-4L-C	300A	690V(-20%~+15%)	800*1000*2200(Cabinet 1)	Forced air cooling

*Cabinet 1 can accommodate 5 modules. Cabinet 2 can accommodate 3 modules.

*If you need any other sizes, please contact us for customization.

SVG

Static Var Generator

Static var generators (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.

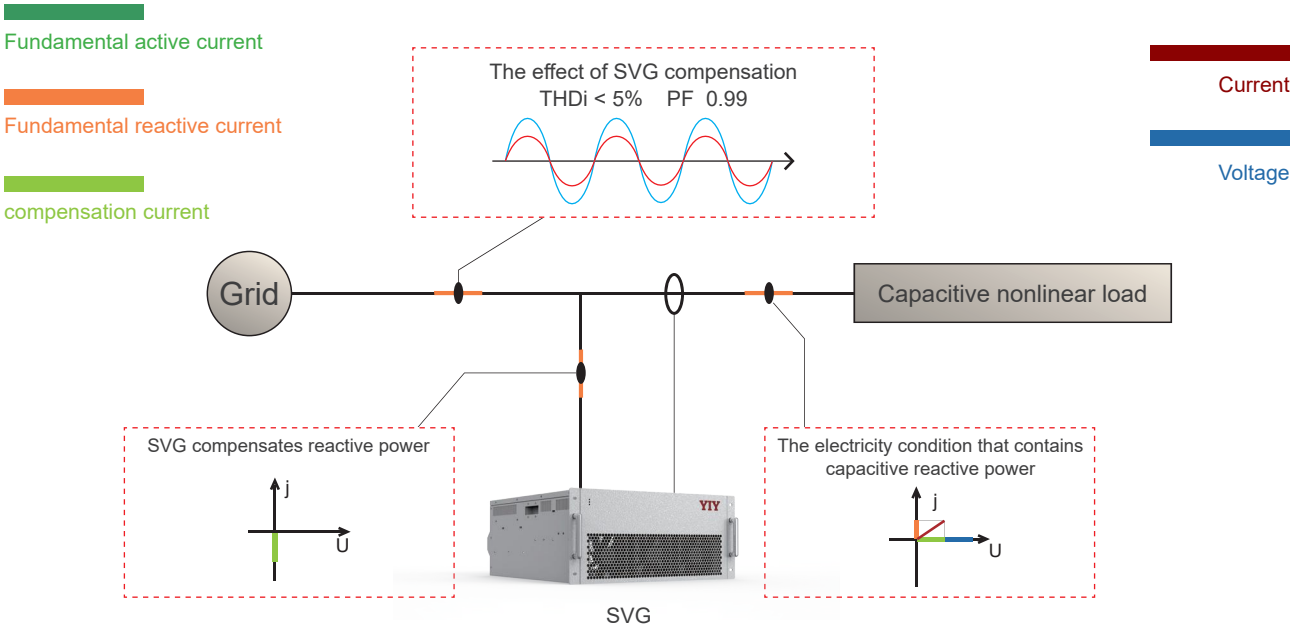
• Product Features

- 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

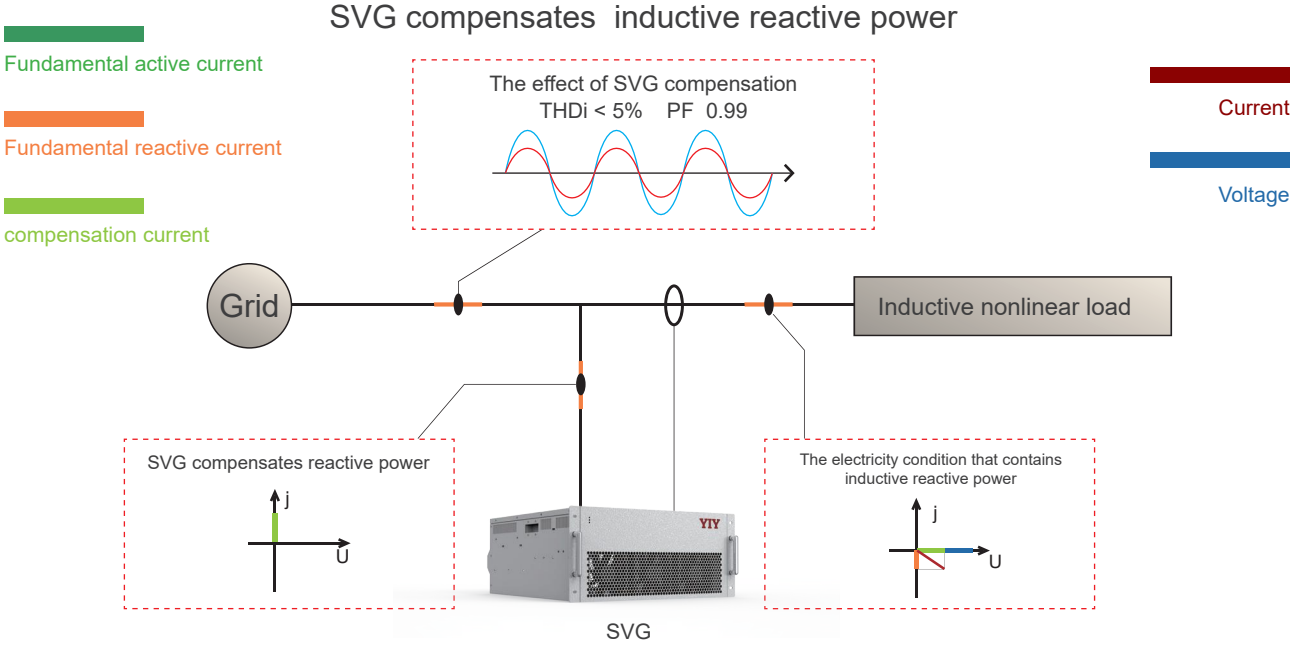
• Working Principle

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



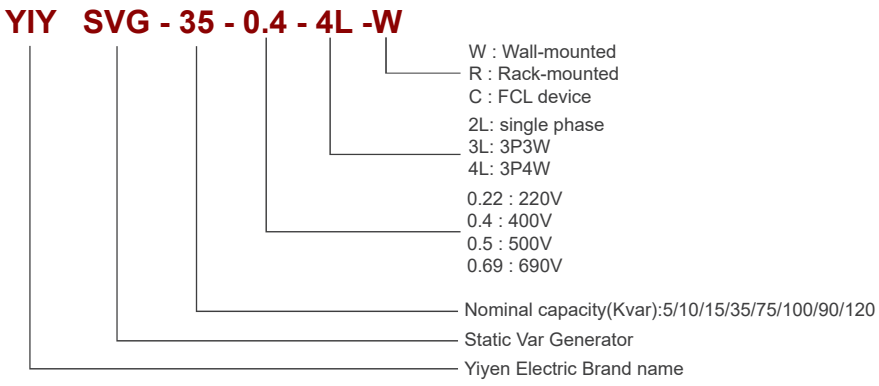
SVG compensates inductive reactive power



• Technical Specifications

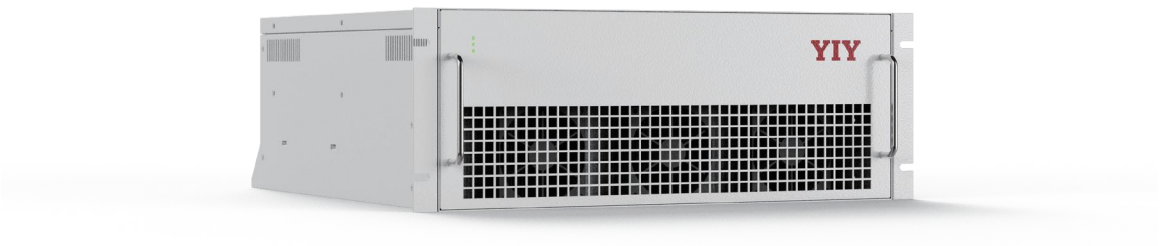
TYPE	220V Series	400V Series	500V Series	690V Series
Rated compensation capacity	5KVar	10KVar15KVar/ 35KVar/50KVar/ 75KVar/100KVar	90KVar	100KVar/120KVar
Nominal voltage	AC220V(-20%~+15%)	AC400V(-40%~+15%)	AC500V(-20%~+15%)	AC690V(-20%~+15%)
Rated frequency	50/60Hz±5%			
Network	Single phase	3 phase 3 wire/3 phase 4 wire		
Response time	<10ms			
Reactive power compensation rate	>95%			
Machine efficiency	>97%			
Switching frequency	32kHz	16kHz	12.8kHz	12.8kHz
Function	Reactive power compensation			
Numbers in parallel	No limitation. A single centralized monitoring module can be equipped with up to 8 power modules.			
Communication methods	Two-channel RS485 communication interface (support GPRS/WIFI wireless communication)			
Altitude without derating	<2000m			
Temperature	-20~+50°C			
Humidity	<90% RH, The average monthly minimum temperature is 25°C without condensation on the surface			
Pollution level	Below level III			
Protection function	Overload protection, hardware over-current protection,over-voltage protection,power grid voltage protection, power failure protection,over-temperature protection,frequency anomaly protection, short circuit protection, etc			
Noise	<50dB	<60dB	<65dB	
Installation	Rack/Wall-mounted			
Into the way of line	Back entry (rack type), top entry (wall-mounted type)			
Protection grade	IP20			

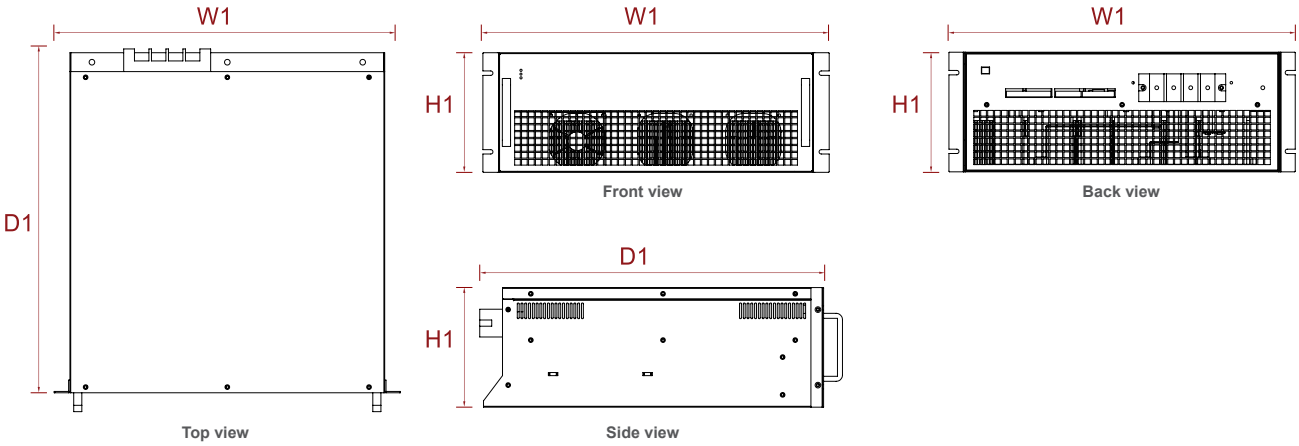
• Type Code



• Product Dimensions

Rack-Mount





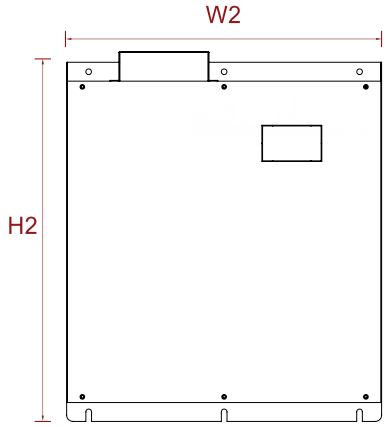
• Models

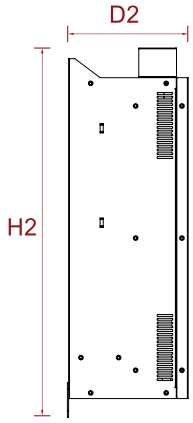
Model	Capacity	System Voltage	Size(W1*D1*H1)(mm)	Cooling Mode
YIY SVG-5-0.22-2L-R	5Kvar	220V(-20%~+15%)	250*355*161	Forced air cooling
YIY SVG-10-0.4-4L-R	10Kvar	400V(-40%~+15%)	550*520*89	Forced air cooling
YIY SVG-15-0.4-4L-R	15Kvar	400V(-40%~+15%)	550*520*89	Forced air cooling
YIY SVG-35-0.4-4L-R	35Kvar	400V(-40%~+15%)	550*520*89	Forced air cooling
YIY SVG-50-0.4-4L-R	50Kvar	400V(-40%~+15%)	550*540*190	Forced air cooling
YIY SVG-75-0.4-4L-R	75Kvar	400V(-40%~+15%)	550*580*240	Forced air cooling
YIY SVG-100-0.4-4L-R	100Kvar	400V(-40%~+15%)	550*580*240	Forced air cooling
YIY SVG-90-0.5-4L-R	90Kvar	500V(-20%~+15%)	539*711*275	Forced air cooling
YIY SVG-100-0.69-4L-R	100Kvar	690V(-20%~+15%)	539*711*275	Forced air cooling
YIY SVG-120-0.69-4L-R	120Kvar	690V(-20%~+15%)	539*711*275	Forced air cooling

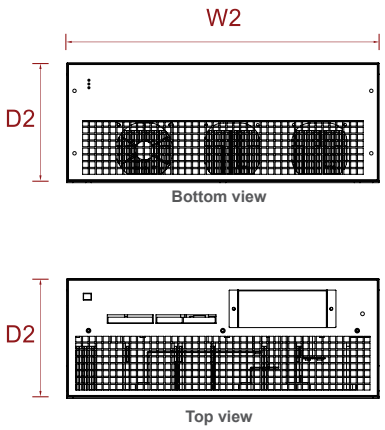
*If you need any other sizes, please contact us for customization.

• Product Dimensions

Wall-Mounted







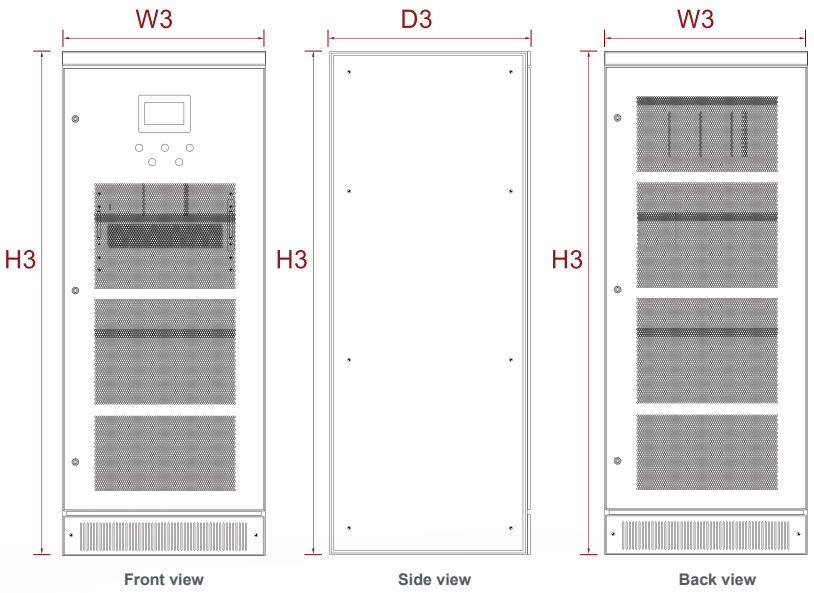
• Models

Model	Capacity	System Voltage	Size(W2*D2*H2)(mm)	Cooling Mode
YIY SVG-5-0.22-2L-W	5Kvar	220V(-20%~+15%)	250*161*351	Forced air cooling
YIY SVG-10-0.4-4L-W	10Kvar	400V(-40%~+15%)	460*89*557	Forced air cooling
YIY SVG-15-0.4-4L-W	15Kvar	400V(-40%~+15%)	460*89*557	Forced air cooling
YIY SVG-35-0.4-4L-W	35Kvar	400V(-40%~+15%)	460*89*557	Forced air cooling
YIY SVG-50-0.4-4L-W	50Kvar	400V(-40%~+15%)	500*190*587	Forced air cooling
YIY SVG-75-0.4-4L-W	75Kvar	400V(-40%~+15%)	500*240*627	Forced air cooling
YIY SVG-100-0.4-4L-W	100Kvar	400V(-40%~+15%)	500*240*627	Forced air cooling
YIY SVG-90-0.5-4L-W	90Kvar	500V(-20%~+15%)	495*275*735	Forced air cooling
YIY SVG-100-0.69-4L-W	100Kvar	690V(-20%~+15%)	495*275*735	Forced air cooling
YIY SVG-120-0.69-4L-W	120Kvar	690V(-20%~+15%)	495*275*735	Forced air cooling

*If you need any other sizes, please contact us for customization.

• Product Dimensions

FCL



• Models

Model	Capacity	System Voltage (V)	Size(W3*D3*H3)(mm)	Cooling Mode
YIY SVG-50-0.4-4L-C	50Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY SVG-100-0.4-4L-C	100Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY SVG-200-0.4-4L-C	200Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY SVG-250-0.4-4L-C	250Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY SVG-300-0.4-4L-C	300Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY SVG-400-0.4-4L-C	400Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY SVG-270-0.5-4L-C	270Kvar	500V(-20%~+15%)	800*1000*2200(Cabinet 1)	Forced air cooling
YIY SVG-360-0.69-4L-C	360Kvar	690V(-20%~+15%)	800*1000*2200(Cabinet 1)	Forced air cooling

*Cabinet 1 can accommodate 5 modules. Cabinet 2 can accommodate 3 modules.

*If you need any other sizes, please contact us for customization.

ASVG

Advanced Static Var Generator

Reactive Power Compensation, Harmonic Control, Three Phase Unbalance

Advanced Static Var Generator (ASVG) is a new type of dynamic reactive power compensation product, combining power factor correction and harmonic mitigation 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.

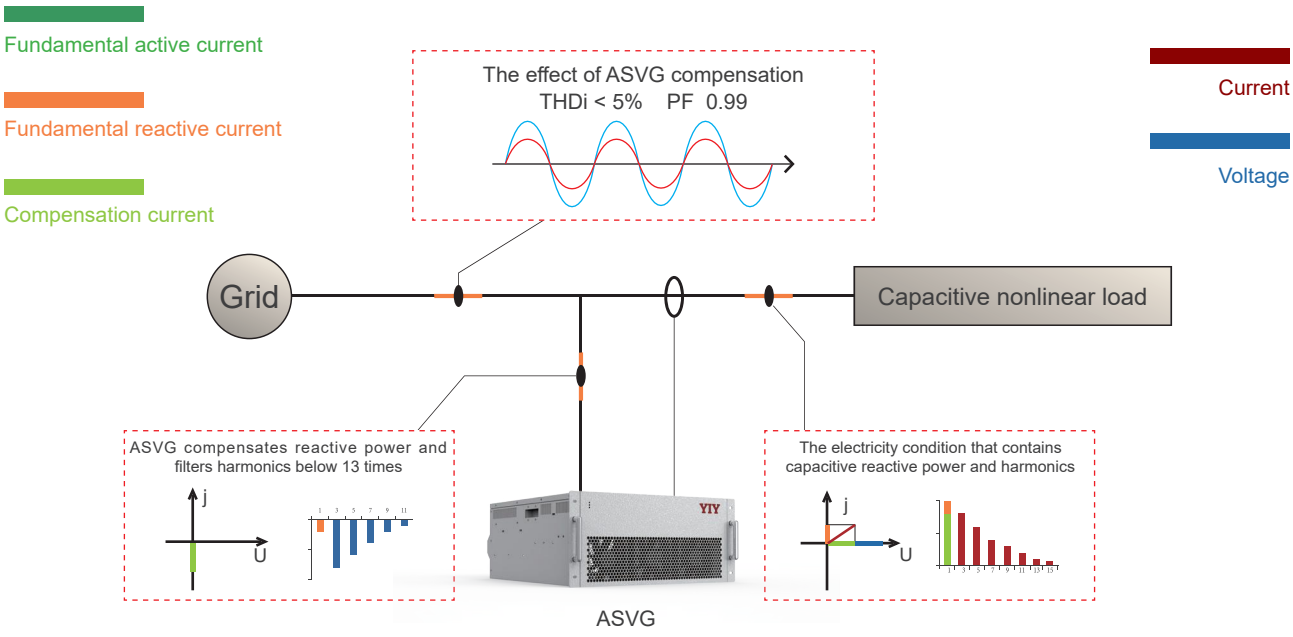
• Product Features

- Reactive power compensation: Cos Ø = 1.00
- Capacitive and Inductive compensation: -1 to +1
- All the features and benefits of the SVG.
- Mitigation of 3rd, 5th, 7th, 9th, 11th harmonic orders
- 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

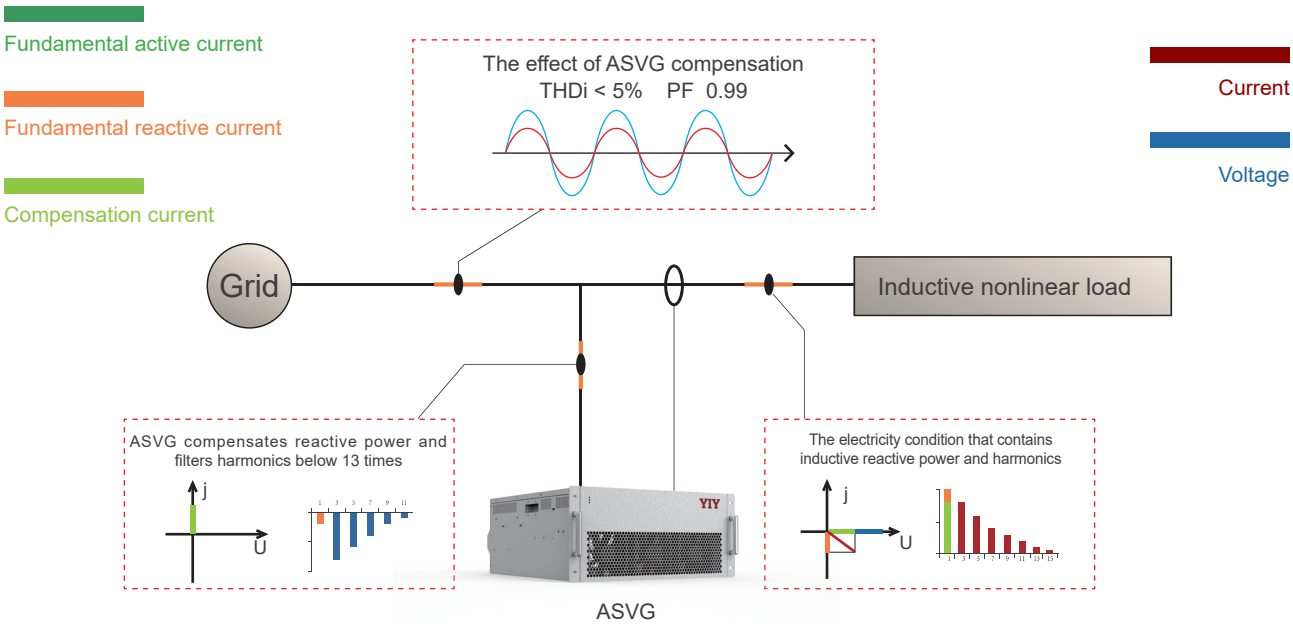
• Working Principle

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



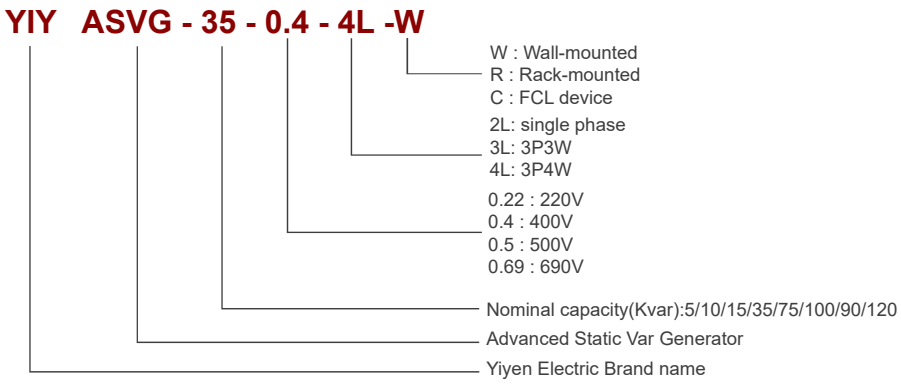
ASVG Compensates inductive reactive power and harmonics



• Technical Specifications

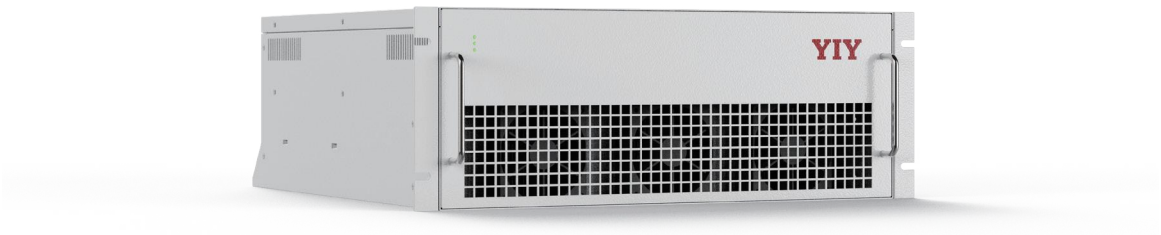
Technical Specification	220V Series	400V Series	500V Series	690V Series
Rated Compensation Capacity	5kvar	10KVar15KVar/ 35KVar/50KVar/ 75KVar/100KVar	90kvar	100kvar/120kvar
Nominal Voltage	AC220V(-20%~+15%)	AC400V(-40%~+15%)	AC500V(-20%~+15%)	AC690V(-20%~+15%)
Rated Frequency	50/60Hz±5%			
Grid Structure	Single phase	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	32kHz	16kHz	12.8kHz	12.8kHz
Function	Reactive / Reactive and Harmonic	Reactive / Reactive and harmonic / Reactive and imbalance (optional)		
Reactive Power Compensation Rate	>99%			
Harmonic Compensation Capacity	70%SOC			
Harmonic Compensation Times	2-13 times			
Response Time	<10ms			
Noise	<50dB	<60dB	<65dB	
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	≤2000Meters	≤2000Meters	≤2000Meters	≤2000Meters
Ambient Temperature	-20~+50℃	-20~+50℃	-20~+50℃	-20~+50℃
Relative Humidity	<90% ,The average monthly minimum temperature is 25℃ without condensation on the surface			
Pollution Level	Below level III			
Installation	Rack/Wall-mounted			
Wiring Patter	Back entry (Rack type) Top entry (Wall mounted type)			
Protection Grade	IP20			
Color	White			

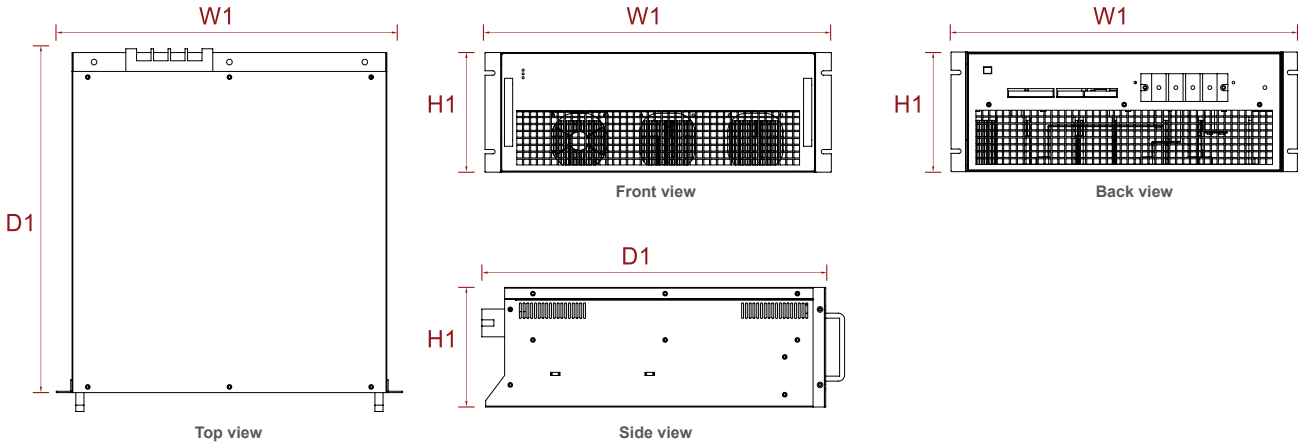
• Type Code



• Product Dimensions

Rack-Mount





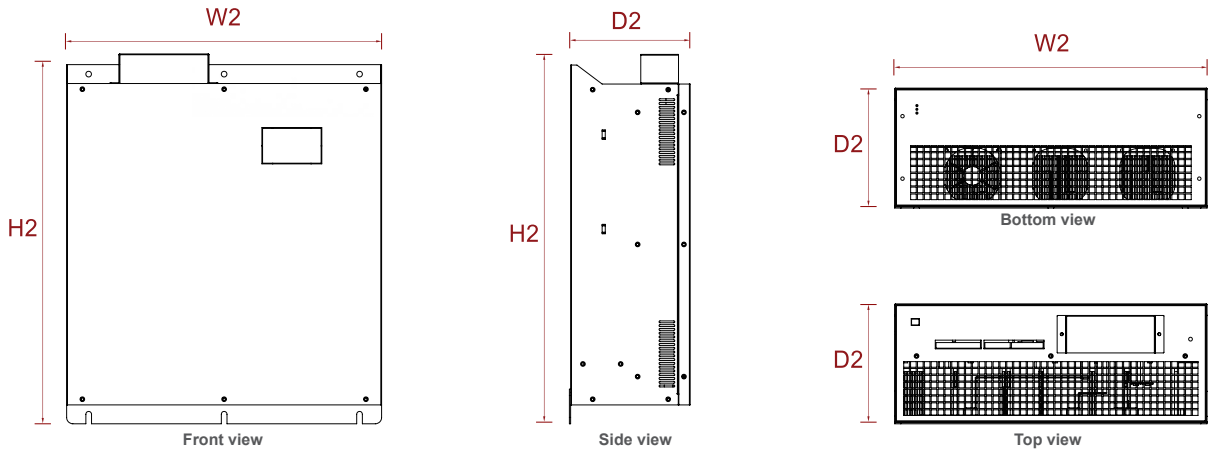
• Models

Model	Capacity	System Voltage	Size(W1*D1*H1)(mm)	Cooling Mode
YIY ASVG-5-0.22-2L-R	5Kvar	220V(-20%~+15%)	250*355*161	Forced air cooling
YIY ASVG-10-0.4-4L-R	10Kvar	400V(-40%~+15%)	550*520*89	Forced air cooling
YIY ASVG-15-0.4-4L-R	15Kvar	400V(-40%~+15%)	550*520*89	Forced air cooling
YIY ASVG-35-0.4-4L-R	35Kvar	400V(-40%~+15%)	550*520*89	Forced air cooling
YIY ASVG-50-0.4-4L-R	50Kvar	400V(-40%~+15%)	550*540*190	Forced air cooling
YIY ASVG-75-0.4-4L-R	75Kvar	400V(-40%~+15%)	550*580*240	Forced air cooling
YIY ASVG-100-0.4-4L-R	100Kvar	400V(-40%~+15%)	550*580*240	Forced air cooling
YIY ASVG-90-0.5-4L-R	90Kvar	500V(-20%~+15%)	539*711*275	Forced air cooling
YIY ASVG-100-0.69-4L-R	100Kvar	690V(-20%~+15%)	539*711*275	Forced air cooling
YIY ASVG-120-0.69-4L-R	120Kvar	690V(-20%~+15%)	539*711*275	Forced air cooling

*If you need any other sizes, please contact us for customization.

• Product Dimensions

Wall-Mounted



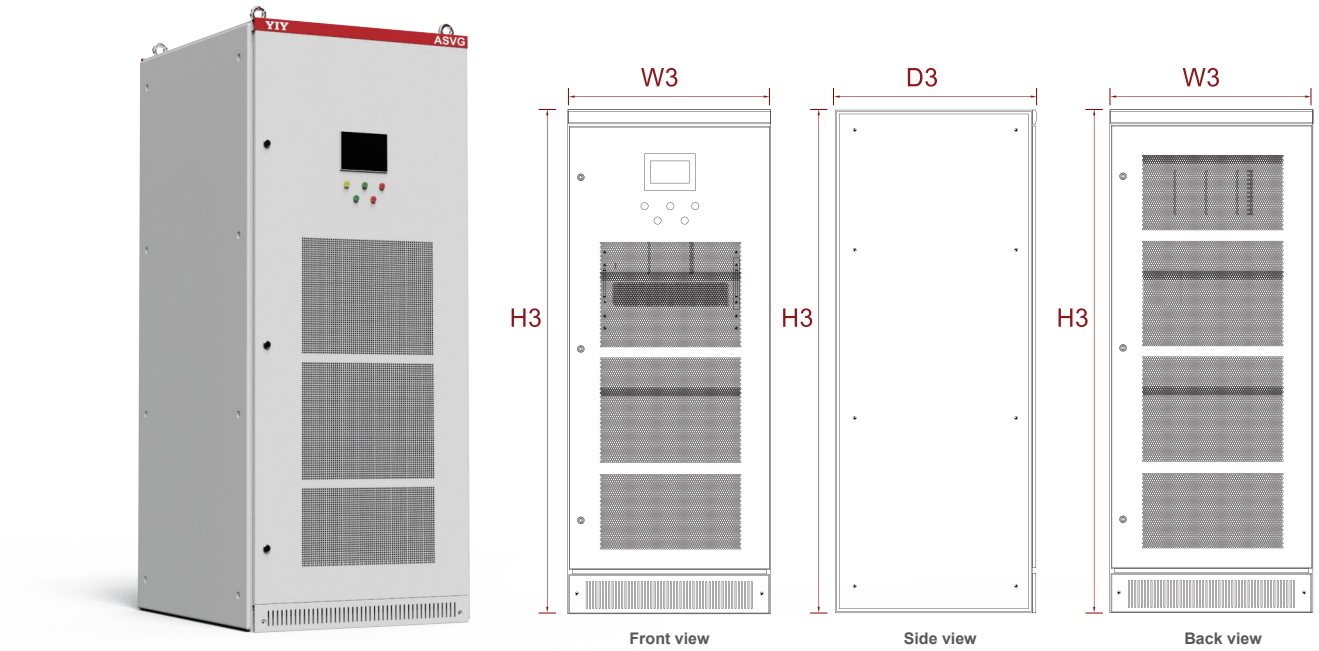
• Models

Model	Capacity	System Voltage	Size(W2*D2*H2)(mm)	Cooling Mode
YIY ASVG-5-0.22-2L-W	5Kvar	220V(-20%~+15%)	250*161*351	Forced air cooling
YIY ASVG-10-0.4-4L-W	10Kvar	400V(-40%~+15%)	460*89*557	Forced air cooling
YIY ASVG-15-0.4-4L-W	15Kvar	400V(-40%~+15%)	460*89*557	Forced air cooling
YIY ASVG-35-0.4-4L-W	35Kvar	400V(-40%~+15%)	460*89*557	Forced air cooling
YIY ASVG-50-0.4-4L-W	50Kvar	400V(-40%~+15%)	500*190*587	Forced air cooling
YIY ASVG-75-0.4-4L-W	75Kvar	400V(-40%~+15%)	500*240*627	Forced air cooling
YIY ASVG-100-0.4-4L-W	100Kvar	400V(-40%~+15%)	500*240*627	Forced air cooling
YIY ASVG-90-0.5-4L-W	90Kvar	500V(-20%~+15%)	495*275*735	Forced air cooling
YIY ASVG-100-0.69-4L-W	100Kvar	690V(-20%~+15%)	495*275*735	Forced air cooling
YIY ASVG-120-0.69-4L-W	120Kvar	690V(-20%~+15%)	495*275*735	Forced air cooling

*If you need any other sizes, please contact us for customization.

• Product Dimensions

FCL



• Models

Model	Capacity	System Voltage (V)	Size(W3*D3*H3)(mm)	Cooling Mode
YIY ASVG-50-0.4-4L-C	50Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY ASVG-100-0.4-4L-C	100Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY ASVG-200-0.4-4L-C	200Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY ASVG-250-0.4-4L-C	250Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY ASVG-300-0.4-4L-C	300Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY ASVG-400-0.4-4L-C	400Kvar	400V(-40%~+15%)	800*1000*2200(Cabinet 1) 800*1000*1600(Cabinet 2) optional	Forced air cooling
YIY ASVG-270-0.5-4L-C	270Kvar	500V(-20%~+15%)	800*1000*2200(Cabinet 1)	Forced air cooling
YIY ASVG-360-0.69-4L-C	360Kvar	690V(-20%~+15%)	800*1000*2200(Cabinet 1)	Forced air cooling

*Cabinet 1 can accommodate 5 modules. Cabinet 2 can accommodate 3 modules.

*If you need any other sizes, please contact us for customization.

AVC

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.

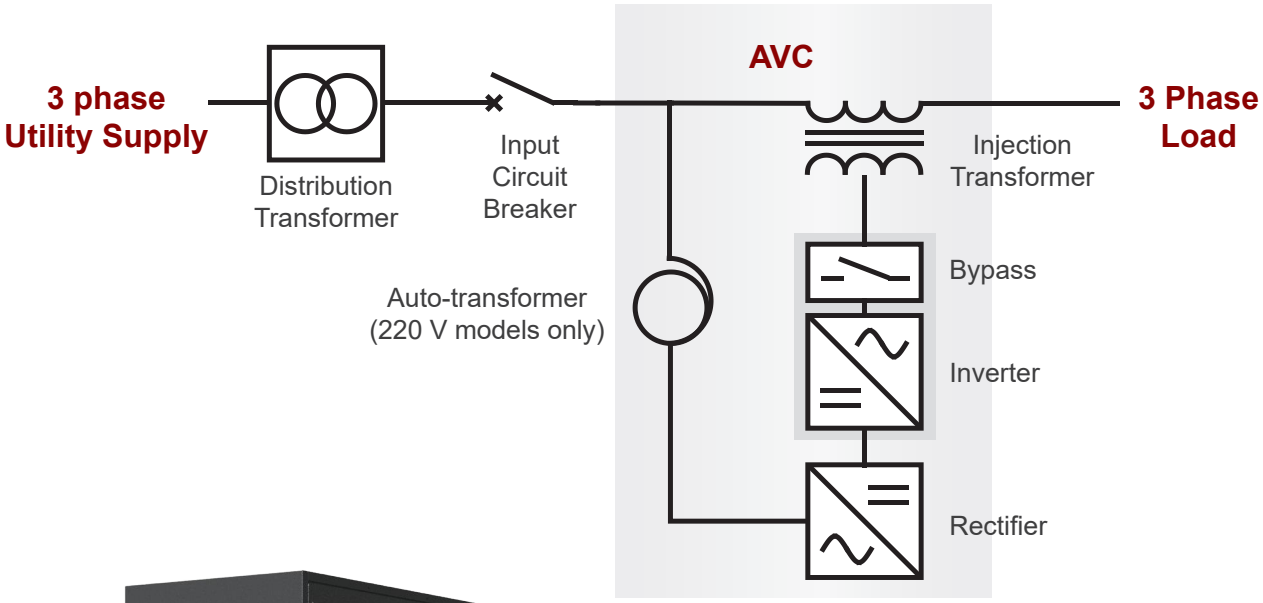
Overall, an Active Voltage Conditioner is a high-performance solution for regulating and stabilizing the voltage of an electrical power system, providing several benefits such as improved voltage stability, reduced power losses, improved power factor, and harmonic filtering.

• 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.

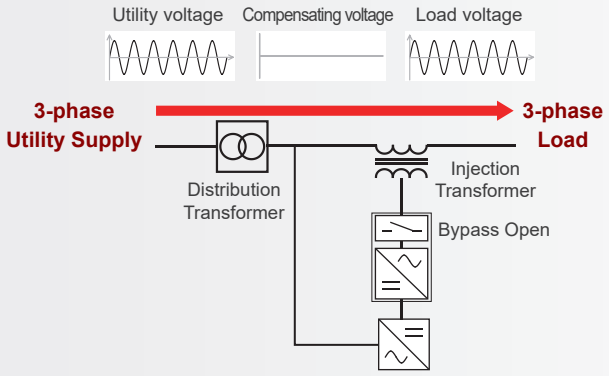


• Technical Specifications

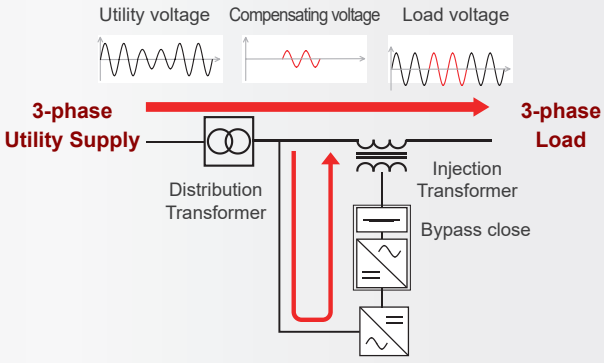
Item	Specification	
Rated Capacity	Single Phase:10KVA-1800KVA	
	Three Phase:30KVA-3600KVA	
Input	Power System	Three Phase 380V+N(3 Phases 4 Wires) Center ground referenced (TN-S)
	Range	220 V-application range 176-264V 380V-application range 304-456V
	Max Supply Voltage	130%
	Frequency	50Hz/60Hz±5Hz
	Outage-Control Ride Through	10ms
	Harmonics	THDv<3%
Output	Voltage	To match nominal input voltage
	Regulation Mode	contactless
	Equivalent Series Impedance	< 4%(model specific)
	Control model	independent control on each phase
	Partial Correction Derating conditions	1.0 PF at 80% load, 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, once every 500s
Performance	Efficiency	Typically > 95%
	Sag Correction Response	Initial <250ps Complete<1/2cycle
	Voltage Regulation Accuracy	<±0.5% typical, ±2% max
	Sag Correction Accuracy	± 4%
	Continuous Regulation Range	± 10%
	Sag correction performance Three phase sags Single phase	60% to 100% for 30s 50% to 90% for 10s 40% to 100% for 30s
	Partial correction derating conditions	1.0 PF at 80% load / 0.8PF at 80% load
Internal Bypass	Capacity	100% of model rating(Kva)
	Maximum Overload Capacity (in bypass)	125% for 10 minutes / 150% for 1 minutes 500% for 1s / 2000% for 200ms
	Transfer Time	To Bypass <0.5 ms / To Inverter <250 ms
	Equivalent Series Impedance	Bypass < 2.5% typical
Injection Transformer	Transformer Type	Dry
	Insulation	IEC 60085 Thermal class 200
	Frequency	50Hz/60Hz
	Vector Group	DiiiJ(delta+3 indpendent windings)
Protection	Input over/low voltage protection / output over / low voltage protection, input over current protection, TX over heat protection, output over load protection etc.	Internal
Display	7 inch Touch Screen	Parameter control, power info, display, fault log, history curve line, elc.
Environment	Operating Temperature Range	0°C to 50°C (30°F to 122°F)
	Temperature Derating	Above 40°C ,derate at 2% load per °C to a maximum of 50°C
	Operating Altitude	< 1000m without derating
	Derating with Altitude	1% every 100m above 1500m. 2000m max
	Inverter Cooling	Forced ventilation
	Transformer Cooling	Natural convection
	Humidity	<95%, non-condensing
	Pollution Degree Rating	200%
	Noise	<75dBA @ 1m
	Working Temperature	-25 ~ +45°C
	Storage Temperature	-30 ~ +70°C
	IP Grade	IP20

• Operational Detail

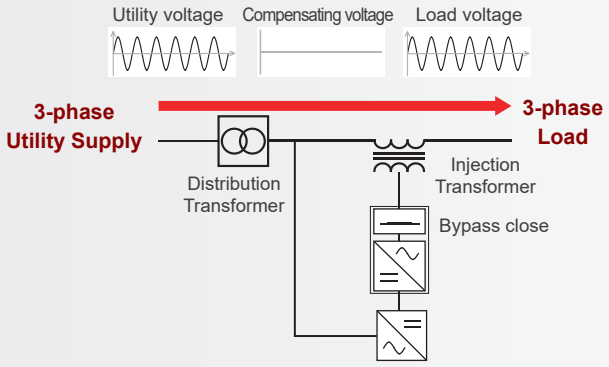
Utility Voltage Close to Nominal Level

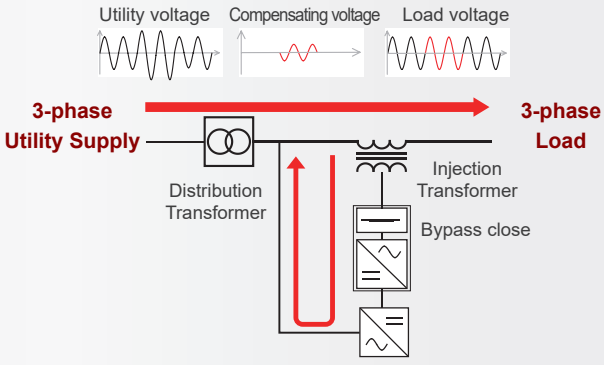


Utility Disturbance Occurs



Internal Bypass Operation



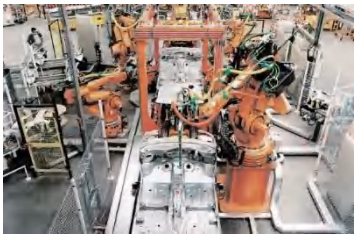


• Applications

• Electronics industry

• Food and beverage

• Automotive



• Continuous process

• Pharmaceutical industry

• Medical industry

YIY

Energy Storage System
&
Power Quality System Provider

YIYEN HOLDING GROUP CO.,LTD

Tel: +86-577-27772199 27772139
Email: yiyen@yiyen.com
Website: www.yiyen.com
PQ Website: www.yiyelec.com

WENZHOU YIYEN SUPPLY CHAIN MANAGEMENT CO.,LTD

Add: Rm.1301.Building 3.Headquarters Economic Park .No.6688 Xuyang Road. Yueqing City. 325600.Zhejiang

LISHUI YIYEN TECHNOLOGY CO.,LTD

Add:No.77,Xiang Long Road,Lian Du Zone,Lishui City,Zhejiang Province, China

KINMO PW CORPORATION

Contact Nos.: T 8251-0507 T 8251-0508
Mobile No.: +63977-840-7799
Email: kinmopw.ph@gmail.com
Main Office:1732 Jose Abad Santos St., Tondo Manila, Philippines
BGC Office:Unit 3C-1 Seibu Tower, 6th Ave., 24th St., BGC Taguig City