POWER DISTRIBUTION SOLUTION PROVIDER

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APFC/SVG

Power quality APFC/SVG series

The static reactive power generator detects the load current signal in real time through the external current transformer, and calculates and analyzes the reactive power content of the load current through the internal DSP. Then, it controls the PWM signal generator to send control signals to the internal IGBT according to the set value, controlling the inverter to generate the reactive power compensation current that meets the requirements, and ultimately achieving the purpose of dynamic reactive power compensation.

The active power filter detects the load current signal in real time through the external current transformer, and separates the harmonic components in the load current through the internal DSP calculation. Then, it sends the PWM signal to the internal IGBT to control the inverter to generate a compensation current that is equal in magnitude and opposite in phase to the harmonics in the system, achieving the harmonic filtering function.



Model definition and description

APFC	–	50A	–	0.4	/	4L
1		2		3		4

1.Active power filter

2.Rated current

3.Rated voltage

4.Wiring method

SVG	–	100kvar	–	0.4	/	4L
1		2		3		4

1.Static reactive power generator

2.Rated capacity

3.Rated voltage

4.Wiring method

Product Features

- The device boasts powerful performance, supporting 95% harmonic filtering from 2nd to 50th harmonics and a reactive power compensation range of [-1 to 1]. It utilizes IGBT and DSP+FPGA architecture for rapid response and efficient compensation, featuring a three-level topology with an efficiency of ≥97.5%.
- The modular design and intelligent parallel operation capabilities adapt to various distributed scenarios. It is equipped with dual-screen displays and comprehensive fault protection, ensuring easy maintenance with low noise levels.

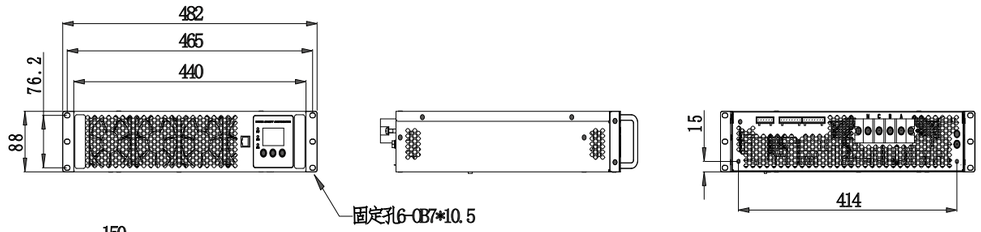
Technical Specification:Electrical parameters

Project	Entry specification			
capacity	35kvar/50A	50kvar/75A	75kvar/100A	100kvar/150A
Grid voltage	400V±20%			
Grid frequency	50/60Hz±10%			
Number of phases	3P3L/3P4L			
CT mode of connection	Gridside/load side			
CT rati orange	100:5~30000:5			
Imbalance kVar and kW compensation	100%			
Compensation range	The capacitance and sensitivity are continuously adjustable			
Response time	≤10ms			
Overload capacity	It can run continuously at 110% rated current and 1min at 120% rated current			
Productiveness	≥97.5%			
Redundance	Any unit can be an independent unit			
THDU	<10%			
Equipment wear and tear	≤2.5%			

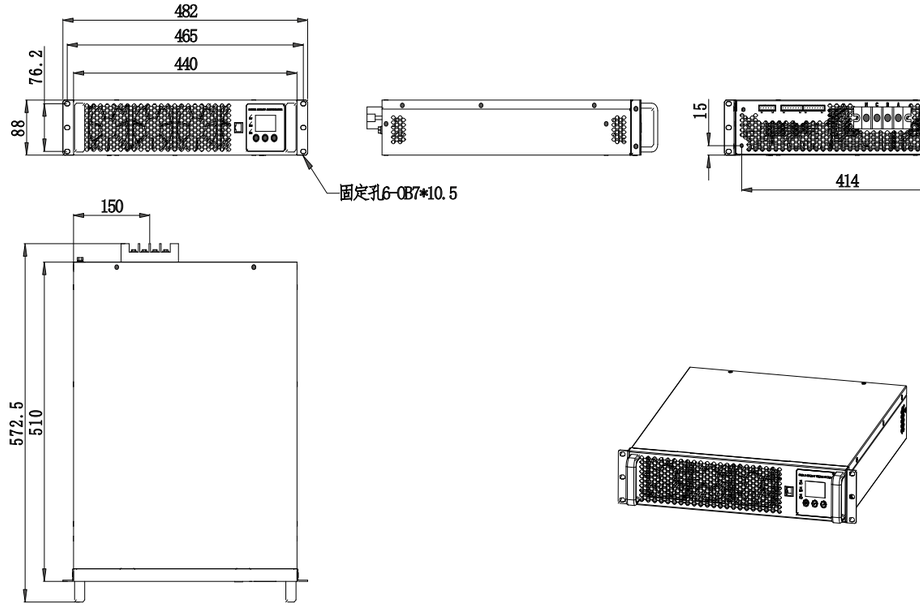
Technical Specification:Whole machine parameters

Project	Entry specification			
Capacity	35kvar/50A	50kvar/75A	75kvar/100A	100kvar/150A
Weight	14kg	17kg	27kg	30kg
Way to install	Rack-mounted			
The color of the body	Black (other colors customizable)			
Communica tioninterface	RS485 interface, CAN interface			
Failure warning	Up to 500 fault messages can be saved			
Monitor mode	Local/remote monitoring is optional and supports dry node Settings			
Cooling-down method	Intelligent air cooling			
Working temperature	-35℃~60°℃,55℃ above is used in reduced capacity			
Relative humidity	5~95%RH, no condensation			
Above sea level	Less than 1500m, between 1500 and 4000, for every increase of 100m, the power decreases by 1%			
levels of protection	IP20			

Product structural dimensions

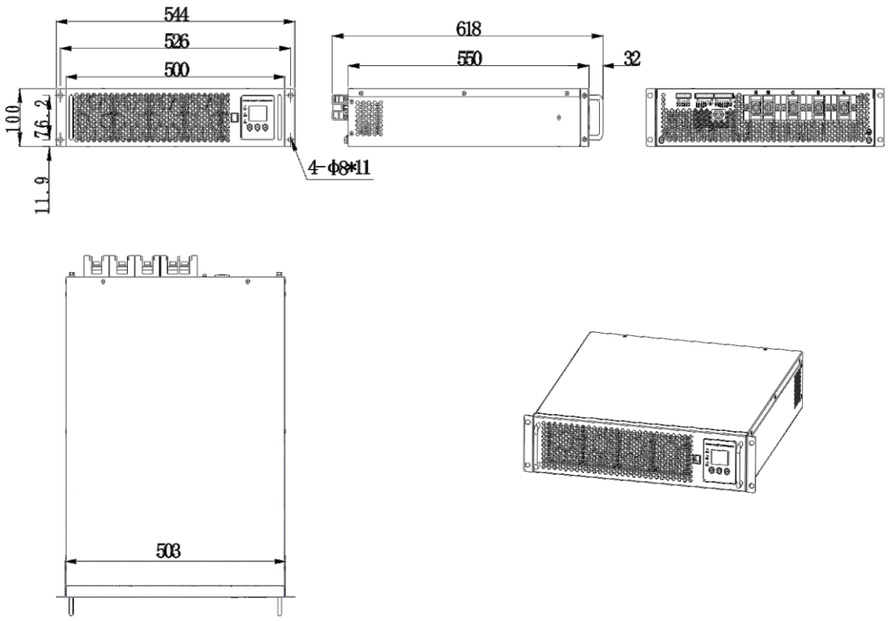


35kvar/50A size



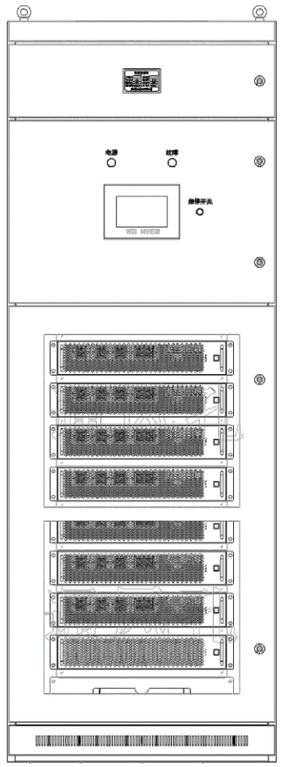
50kvar/75A size

Product structural dimensions



75kvar/100A, 100kvar/150A dimensions

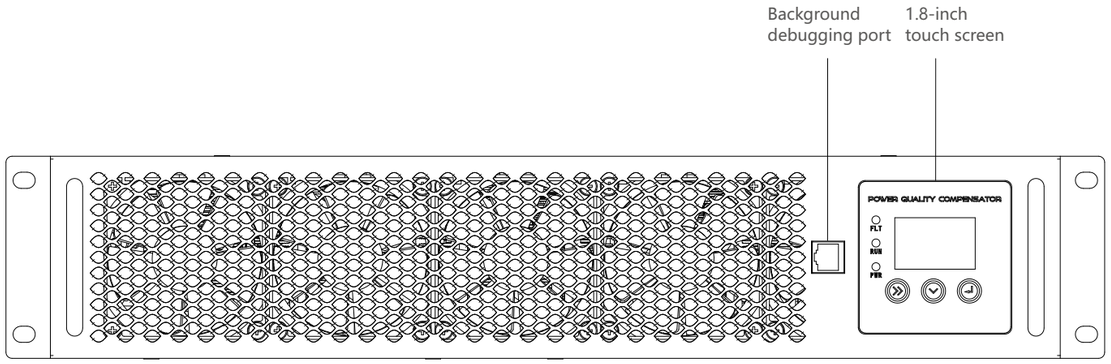
SVG/APFC	Size D × H × W	Weight
35kvar/50A	440 × 88 × 425 mm	14kg
50kvar/75A	440 × 88 × 510 mm	17kg
75kvar/100A	500 × 100 × 550mm	27kg
100kvar/150A	500 × 100 × 550mm	30kg



Schematic diagram of an 800kvar cabinet

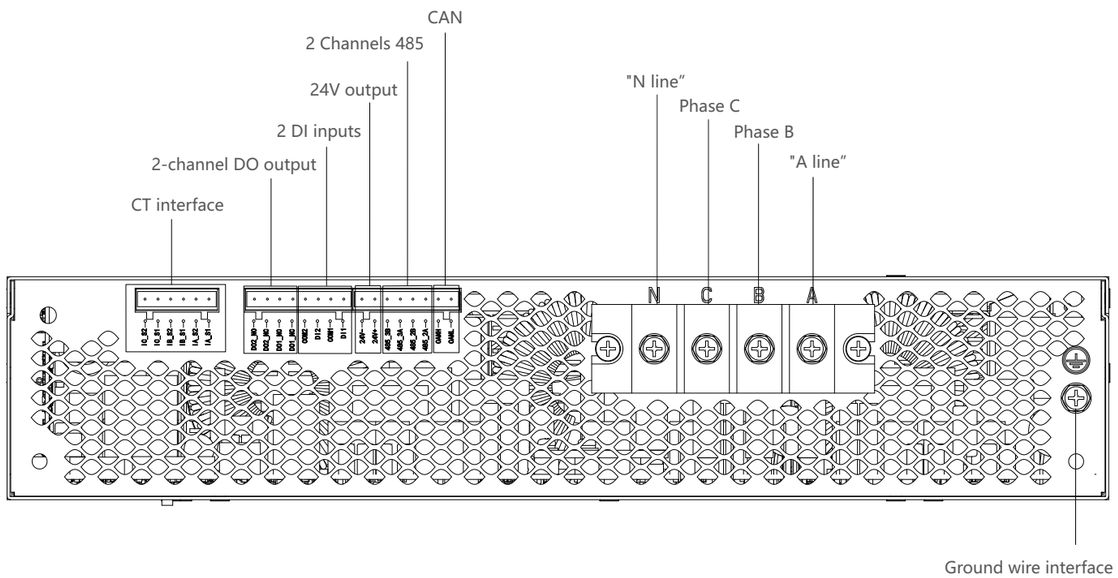
Size D × H × W
800 × 2200 × 1000 mm

SVG and APFC front panels

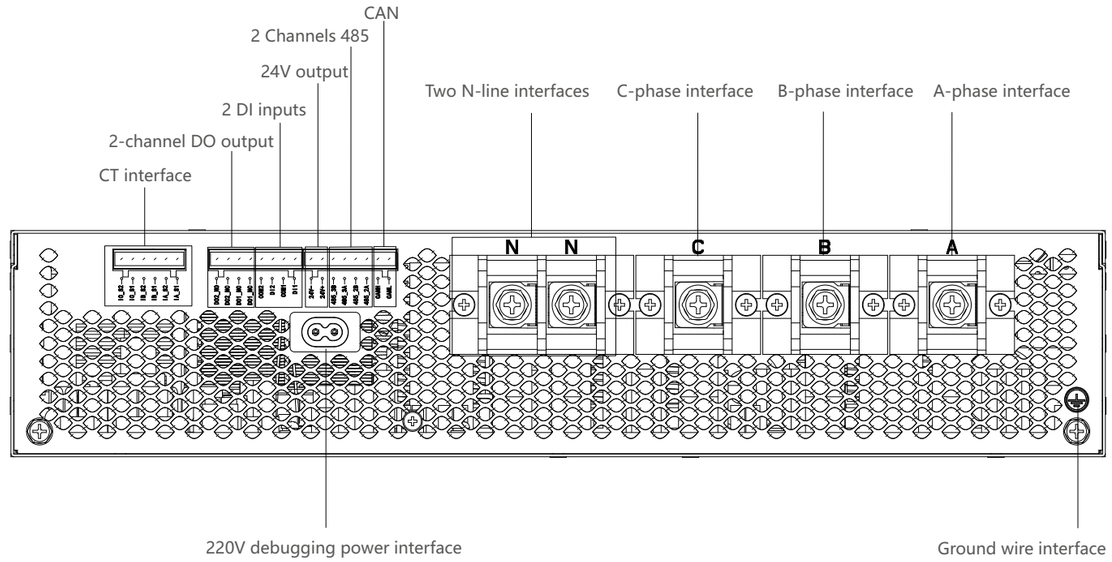


The front panels of all modules only differ in size and all come with a debugging interface. The control panel is optional.

35kvar/50A, 50kvar/75A rear panel



75kvar/100A, 100kvar/150A rear panel



The N line is designed with two terminals. When handling harmonics, the N line should be designed with a margin of twice the rated capacity. The internal design meets the power density requirement of 300A, and the external output needs to carry a current of 300A. One terminal is of 200A specification, which not only meets the safety requirements but also complies with the derating regulations.

Cable selection

Model	Terminal	Cable selection	Terminal selection	Fuse
35kvar/50A	A、B、C、N	16mm²	SC16-6	80A
	PE	16mm²	SC16-6	
50kvar/75A	A、B、C、N	25mm²	SC25-6	125A
	PE	16mm²	SC16-6	
75kvar/100A	A、B、C、N	35mm²	SC35-8	160A
	PE	16mm²	SC16-6	
100kvar/150A	A、B、C、N	50mm²	SC50-8	250A
	PE	25mm²	SC25-6	

It is recommended to use copper core wires: If it has harmonic compensation function, both 75kvar and 100kvar N lines need to be connected.