

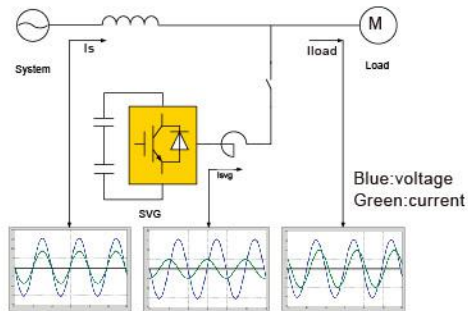
ANSVG



Principles of ANSVG

Static var generator is a new type of power electronics used to compensate for reactive power, harmonics, and regulation imbalances.

ANSVG is a kind of static var generator device which integrates an intelligent control system. The equipment is generally put into operation in the form of a complete machine which composed of multiple ANSVG modules to meet the actual requirements of compensating for the reactive power of a larger capacity. In addition, the device also has a 7-inch LCD screen that communicates with the module in real time via the RS485 protocol, enabling users to interact with the device. The schematic is shown as below.



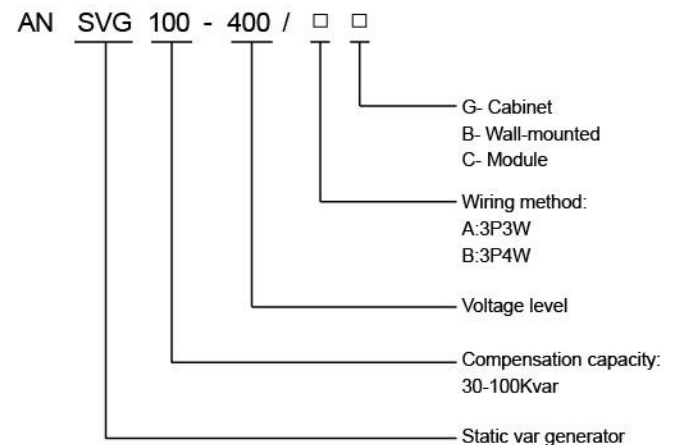
The schematic of ANSVG

Technical Parameter

Rated voltage	380V $\pm 15\%$
Rated frequency	50Hz $\pm 2\%$
Compensation method	Linear compensation
Response time	Full response time $\leq 5\text{ms}$, Instantaneous response time $\leq 100\mu\text{s}$
Switching frequency	20kHz
Compensation effect	≥ 0.99 , Compensates for capacitive reactive and inductive reactiver
Self-loss	$\leq 2\%$
Efficiency	$\geq 98\%$
Total harmonic compensation rate	$\geq 97\%$

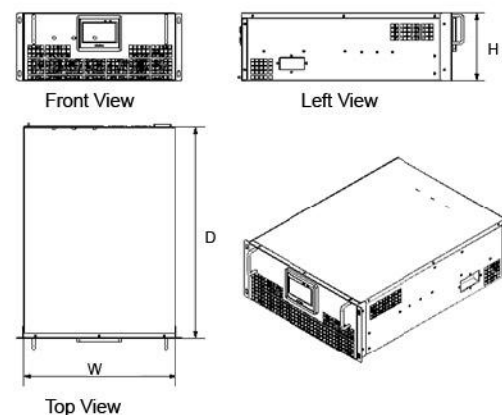
Cooling method	Forced air cooling
Noise	$\leq 60\text{dB}$
Operation temperature	$-10^\circ\text{C} \sim +45^\circ\text{C}$
Storage temperature	$-25^\circ\text{C} \sim +60^\circ\text{C}$
Relative humidity	$\leq 95\%$ (No condensation)
Altitude	$\leq 1000\text{m}$
Protection level	IP20
Communication	RS485(Modbus-RTU) or Ethernet(Modbus-TCP)
Module capacity	30kvar, 50kvar, 75kvar or 100kvar
Working mode	Automatic or manual
Overload protection	Automatic limit to rated current output

Model Description

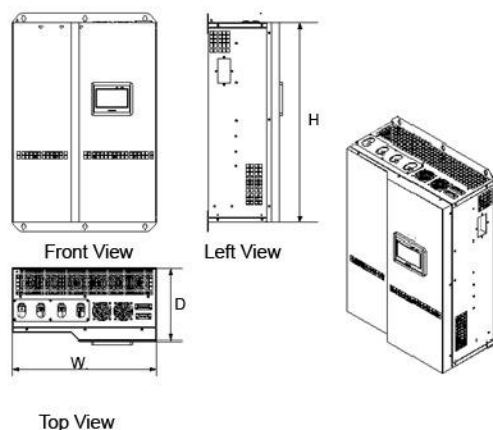


Structure and size

MODULE:



Wall-mounted:



Capacity	Module size(W*D*H)(mm)	Weight(kg)
30Kvar	480*440*130	25
50Kvar	450*622*201	35
75Kvar	450*622*201	35
100Kvar	500*533*280	50

Capacity	Wall-mounted size(W*D*H)(mm)	Weight(kg)
30Kvar	480*130*440	25
50Kvar	450*201*622	35
75Kvar	450*201*622	35
100Kvar	500*280*533	50

LCD operation

■ Main interface

The main interface is used to display the grid parameters of all modules. Besides that, the communication connection status of each module could be switched through the green button at the bottom, and the specific parameters and control interface of each module could be entered by clicking the device name at the top. The interface is shown as below.

20:19:11 10:05:54	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
COS4						
a-phase Line Voltage (V)	0.0	0.0	0.0	0.0	0.0	0.0
b-phase Line Voltage (V)	0.0	0.0	0.0	0.0	0.0	0.0
c-phase Line Voltage (V)	0.0	0.0	0.0	0.0	0.0	0.0
a-phase Device Current (A)	0.0	0.0	0.0	0.0	0.0	0.0
b-phase Device Current (A)	0.0	0.0	0.0	0.0	0.0	0.0
c-phase Device Current (A)	0.0	0.0	0.0	0.0	0.0	0.0
a-phase Device Current (A)	0.0	0.0	0.0	0.0	0.0	0.0
b-phase Device Current (A)	0.0	0.0	0.0	0.0	0.0	0.0
c-phase Device Current (A)	0.0	0.0	0.0	0.0	0.0	0.0
State	Test	Test	Test	Test	Test	Test
COS4						

- System information interface

The system information interface is used to display the electrical parameters of each module and control the running state of them. The interface is shown as below.

Main	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
Grid Parameter	Device Current		Load Current		Main	
COSφ	0.000	Ia 0.0		Ia 0.0		
Ua	0.0	Ib 0.0		Ib 0.0		
Ub	0.0	Ic 0.0		Ic 0.0		
Uc	0.0	In 0.0		In 0.0		
Set Up	Set Down	Compensation	Stand by	Self Check	Test	
System Menu	Fault Menu		API SET		Parameter SET	

■ Fault information interface

The fault interface allows users to view the faults of every equipment and it also indicates the trigger time and recovery time for each fault. The interface is shown as below. The interface is shown as below.

[illegible]

- Parameter setting interface

The parameter setting interface is used to set the parameters of every module. In addition, the compensation priority and the operation mode could also be switched on this interface. The interface is shown as below.

Compensation Setting 1				Reset			
No.	Type	Current Value	Set Value	No.	Type	Current Value	Set Value
1	Compensation priority	Reaction+Harmonic+Unbalance		6	Operation Mode	Manual	OFF
2	A-phase CT Ratio	+0.00	+0.00	7	Number of Mold		0.00
3	B-phase CT Ratio	+0.00	+0.00	8	lg		
4	C-phase CT Ratio	+0.00	+0.00	9	Harmonic Ratio	-1.00	0.00
5	Reaction power rate	-1.00	0.00	10	Zero sequence rate	-1.00	0.00
System Menu		Fault Menu		API SET		Parameter SET	

Wiring Diagram

