

Technical Specifications

Item	Sinexcel SVG100
System parameters	
Voltage of rated AC input line	400V
Scope of input phase voltage	138V ~ 265V
Input frequency	50Hz
Scope of input frequency	45Hz ~ 63Hz
Maximum multiple units	8
efficiency	≥98%
Power Losses	≤2%
Network structure	3P4W
CT setting	150/5 ~ 10,000/5
Performance indexes	
topology design	3-level
Rated Compensation capacity	100kvar
response time	< 10ms
modes of operation	Compensation reactive mode and compensation reactive and three-phase imbalance mode
operation range	-1 to 1, capacitive to inductive continuously adjustable
Cooling air requirement	Smart air cooling
Noise level	65db
Monitoring capacity	
Communication interface	RS485 CAN
Communication protocol	Modbus RTU
Alarm events	yes
Monitoring	LCD monitor/HMI centralized monitor (optional)
Product property	
Mounting Type	Rack installation The module is back incoming method and the cabinet is top incoming or bottom incoming method
Approx. dimensions (W*D*H), mm ³	500x550x270
Mounting Type	Rack
Approx. weight	48KG
Color	silver
Environmental requirements	
Altitude	1,500m/derating up to 4,000m, 1% / 100m
Ambient temperature	-10 ~ 40(°C)
SVG storage-transportation temperature	-20 ~ 70(°C)
Relative humidity	Max. < 95%, non-condensing
Protection class	IP20



Excellent PFC Performance

- PF 0.99 level PFC performance
- three-phase unbalance compensation
- Compensate both Inductive and capacitive loads

Stepless compensation

- Faster response speed : SVG response time ≤5ms
- Non-overcompensation, Non-short compensation and non-resonance

Long service life

- Design life is 100,000 hours, Free from maintenance

Modularized product design

- Component product design concept is consistent with application method of common capacitor bank.
- Single capacity module reaches 100kvar
- Easy to use, transport and maintain

Application of various compensations

- SVG PFC
- SVG+SVC combined PFC
- ASVG+SVG combined PFC

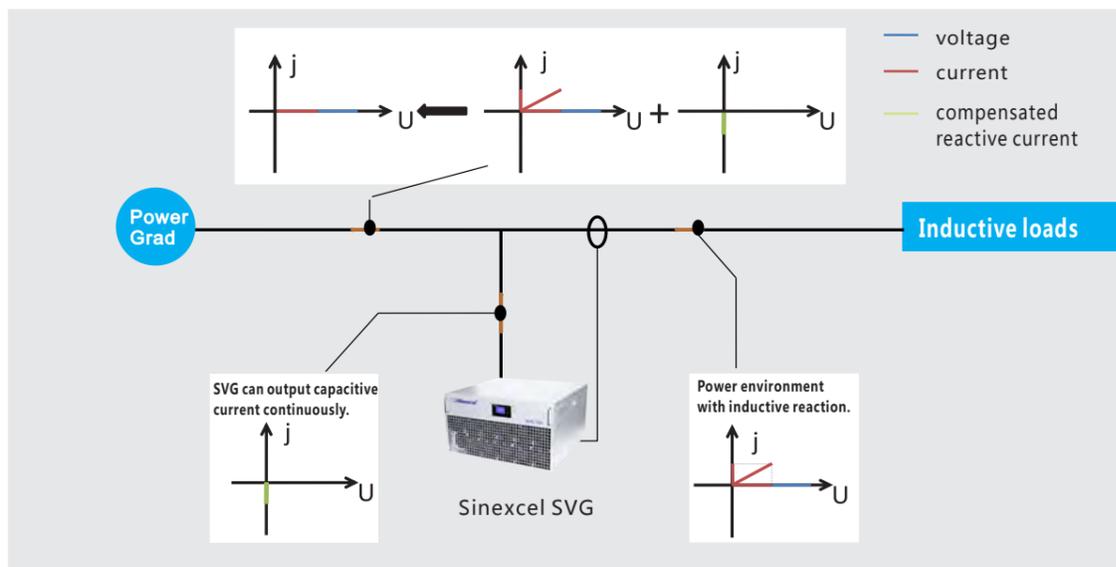
The compensation capacity of SVG is equal to installation capacity. The PFC performance of SVG will not dropped even under low system voltage.

Operating principle

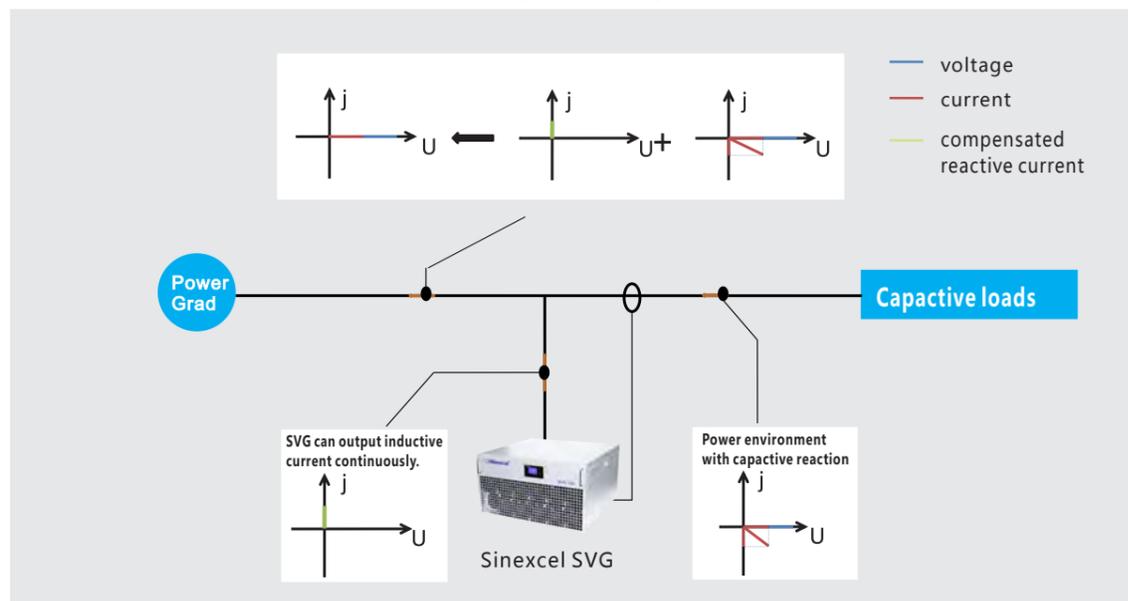
SVG is the representative of newest technology in var compensation area. SVG is connected in parallel to the grid, similar to a variable var current source. SVGs fundamental configuration is 3-phase self commutated bridge circuits adopting full controlled power electronic semiconductor devices (like IGBT). Through reactors the SVG is connected in parallel to the grid. By adjusting the output voltage amplitude and phase angle or direct controlling AC side current, the SVG can absorb or generate var according to the load reactive power or the grid voltage level.

SVG Operating Principle Diagram

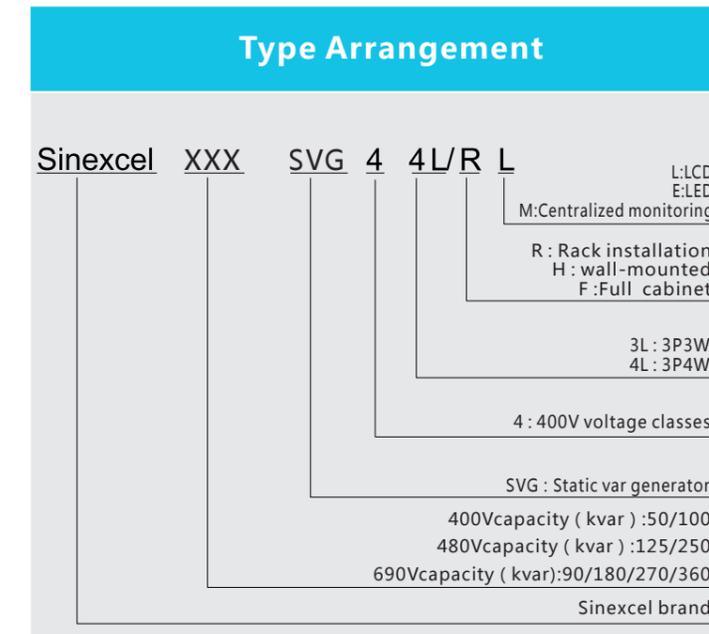
Sinexcel SVG compensate inductive loads



Sinexcel SVG compensate capacitive loads

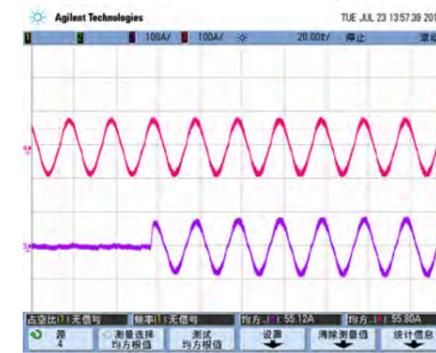


SVG Type Arrangement

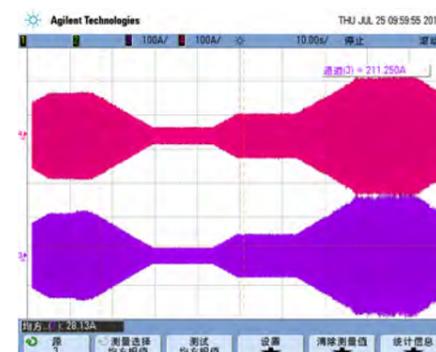


SVG PFC Performance

The Fastest PFC speed

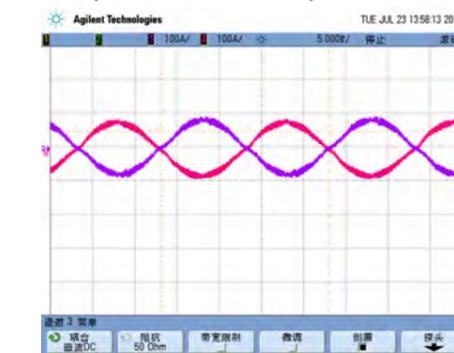


Sinexcel SVG can achieve PFC of system at the moment when response begins.

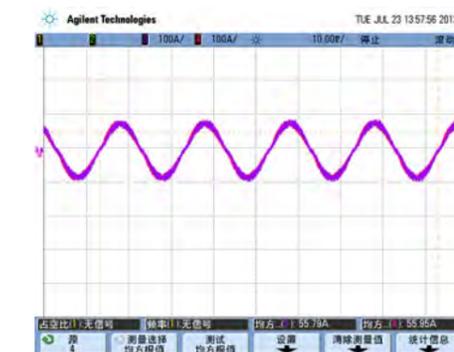


Sinexcel SVG can achieve dynamic real-time PFC according to change of reactive current of the system.

The perfectest PFC performance



Sinexcel SVG issues offset current with equal size and opposite phase of reactive current of the system.



When compensation current reverses, reactive power of the system completely overlaps with wave form of reactive power issued by Sinexcel SVG.

Reactive current of the system

Sinexcel SVG' S compensated reactive currents