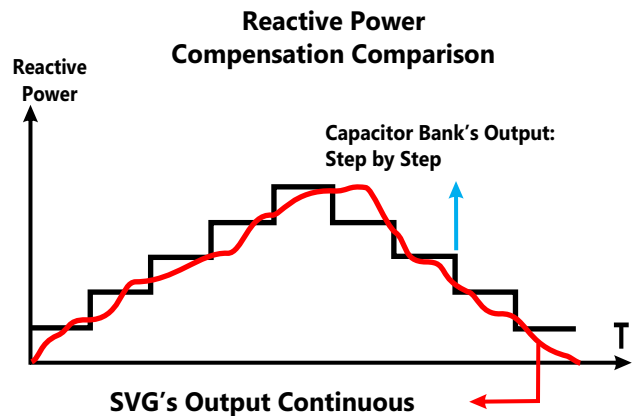


SVG – Static Var Generator



The Static Var Generator (SVG), is a reactive power compensation system, used for compensation of normal or dynamic three-phase, balanced or unbalanced loads. Some of the important highlights of SVG are as follows :

- Stable reactive power compensation for capacitive, inductive, positive sequence, negative sequence and zero sequence loads
- Rapid dynamic responses, stable parameters & high precision of reactive power compensation
- High efficiency, low thermal loss and advanced ECO mode achieve intellectual energy saving
- Modular design offers a variety of coordination with various compensation capacities
- The system adopts an advanced 3-level structure & consists of digital signal processors (DSP), large programmable controllers & high power electronic devices, which has excellent performance and superior reliability
- Supports remote power on/ off functions via computer monitoring

The SVG system is composed of a fixed-type SVG module, a door mounted display monitor and a SVG system cabinet. The external CT is used for the detection of load current and extraction of reactive power that needs compensation, based on which, the SVG controller controls the main power circuit to generate reverse reactive current in this way, the load-carrying reactive power is counteracted.

Each standard SVG system cabinet can be connected to up to 7 modules in parallel. As for the non-standard cabinet, the quantity of the modules installed inside could be varied according to final rating required. The Display Monitor is used for monitoring and controlling the SVG module online.

Some of other SVG Features as follows :

- SVG has high reactive power compensation accuracy
- SVG can correct both Leading & Lagging PF
- Fast response to Dynamic load variations
- Complete response time (from reactive power generation to elimination) of SVG is less than 20ms (1 cycle), with instant response time of < 100 micro sec. which enables SVG to improve Power Factor for fast changing dynamic loads
- SVG capacity increase in pace with load changes
- High adaptability, reliability and stability
- For harmonic filtration, the SVG can be complimented with tuned filter banks of 3rd, 5th, 7th & other as per network requirement
- SVG ambient temperature: -10°C to +50°C
- Input voltage range: 308V~480V (For 415-440V Network) 432V~880V (For 480-690V Network), 50/60Hz \pm 10%
- SVG is not affected by harmonic currents
- The SVG is completely modular in structure. Each module can work independently, and modules can be paralleled to increase the capacity
- Active compensation technology avoids harmonic resonance
- Actual output capacity is the same as rated capacity



Technical Specifications

Electrical Specification

Rated Voltage	:	AC 415V
Input Voltage Range	:	AC 308V~480V
Electric Connection	:	3P3W / 3P4W
Rated Frequency	:	50 (60) Hz \pm 10%
Rated Capacity per Module	:	100 KVAR (50 KVAR module also available on request)
Rated Current per Cabinet	:	100 KVAR to 700 KVAR (module combination)
Redundancy	:	Each module is an independent reactive compensation system
Reactive Power	:	Both inductive and capacitive reactive power compensation Capability
Reactive Power	:	$\text{Cos}\phi \geq 0.99$ after compensation (if the SVG capacity is sufficient)

Compensation Performance

Imbalance Correction	:	Mitigate negative and zero sequence
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Capability

Full Response time	:	<20ms (< 1 Cycle)
Instant Response time	:	<100us
Thermal Loss	:	\leq 3% of SVG rated capacity
Output Current Limitation	:	Automatic (100% rated capacity)
Parallel Expansion(System)	:	Up to 10 Racks (7 modules per cabinet)
MTBF	:	> 100,000 hours

Control Technology

Switching Frequency	:	30kHz
Controller	:	DSP control
Communication	:	Modbus Protocol, RS232/485
Monitoring	:	PQC Monitor Software (Optional)

Physical Specification

IP Grade of Cabinet	:	IP20
Cooling method	:	Intelligent forced air cooling
Noise Level	:	< 60dB(A) @1m (Module)
Dust Filter	:	Optional

Dimension (W x D x H) mm

Upto 300 KVAR	:	850 x 850 x 152 mm
400 KVAR to 500 KVAR	:	850 x 850 x 2125 mm
600 KVAR to 700 KVAR	:	850 x 850 x 2325 mm

Environmental Requirement

Ambient Temperature	:	-10°C to +50°C
Relative Humidity	:	0~95%
Altitude	:	\leq 1000m rated capacity, 1000~2000m (derating 1% per 100m)

*Specifications are subject to change without notification.



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