

Static VAR Generator



Static VAR Generator (SVG) is the new product which has rewritten the conventional approach of power factor correction. It is designed to compensate the rapid reactive power requirement, thereby improving the power factor and consequently reducing the costs. Stepless SVG monitors the current signal and utilizes three level inverter topology which generates the reactive part of the measured current to compensate dynamically in order to improve the power factor. It can dynamically compensate power factor from -1 to 1.

Features of SVG

SVG can be considered as a controllable reactive current source, which helps to improve the system power factor to a target value of more than > 0.99 without any over or under compensation.

SVG has extremely rapid dynamic compensation reaction time, which is less than $50 \mu s$ and a state response time of less than 15 ms.

SVG is an active compensation device, which doesn't need capacitor or reactor for reactive power compensation which will avoid the condition of resonance caused by the traditional capacitor banks.

SVG can compensate both inductive and capacitive reactive power and also provide load balancing.

SVG can compensate reactive power in any scope and can be installed together with traditional capacitor banks.

SVG has been designed to provide highest safety and reliability features.



Applications

Some typical applications which require rapid reactive power compensation includes the following:

- ◆ **Data centers**
- ◆ **Renewable power generation**
(e.g. photovoltaic and wind turbines)
- ◆ **Industrial production machines**
Plastic industry machinery (e.g. extruders, injection molders)
- ◆ **UPS systems**
- ◆ **Sensitive equipment manufacturing**
(e.g. silicon wafer production, semiconductor production)
- ◆ **Electrical welding systems**

Technical Data Sheet



Hybrid APFC Panel



Static VAR Generator

Particulars	30 KVAR	50 KVAR	100 KVAR	200 KVAR
System Parameter				
Voltage	440 Volts / 415 Volts			
Frequency	50 Hz	50 Hz	50 Hz	50 Hz
Parallel Quantities	Unlimited			
Efficiency	> 97% (Full Load)			
CT Ratio	As per Site Conditions			
Performance Indicators				
Rated Capacity	30 KVAR	50 KVAR	100 KVAR	200 KVAR
Response Time	< 15 ms			
Targett Power Factor	Adjustable from -1 to +1			
Noise Level	< 65 db			< 75db
Cooling Mode	240 cfm	481 cfm	825 cfm	1611 cfm
Cooling Air Requirement	321 CFM	543 CFM	825 CFM	1611 CFM
Noise Level	< 56db		<65db	<75db
COMMUNICATION & MONITORING FACILITIES				
Communication Ports	RS 485, Ethernet Port (RJ45)			
Communication Protocols	Modbus			
Module Display Interface	4.3 inch touch screen monitor & optional 7 inch touch screen centralized monitor			
Monitoring Alarm	Available			
Mechanical Properties				
Dimensions (wxdxh) IN mm	500 x 560 x 190		500 x 520 x 269	500 x 690 x 370
Colour	RAL 7035			
Environment Requirement				
Attitude	< 1500m between 1500 m to 4000 m derating 1% every additional 100 m			
Relative Humidity	5% to 95% non-condensing.			
Protection Class	IP 20 (IP Deg Can be customized)			

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