STATIC VAR GENERATOR

(SHR-SVG)

SHR-SVG FEATURES;

Operating Conditions:	
System voltage (RMS)	350-480V
System frequency (Hz)	50 ± 5%
Operating temperature range	0 to 45° C (Non-condensing)

Product Specifications:	
Semiconductor devices	IGBTs (3-Level Topology)
Maximum Reactive Power Output @480V	125kVAR
Step-less compensation range	-100kVAR to +125kVRA
Rated RMS current output	150A
SHR-SVG configuration	3P3W
Power Factor Correction	Yes
Load Current Balancing	Yes, Negative Sequence
CT Requirement	3CTs with 5A Secondary
CT Position	Load Side / Source Side
Internal Thermal Losses	<2%
Color	Black
Integrated Short-Circuit Protection	Yes

Control and Paralleling:	
Controller	ARM based MCU
Control method	Adaptive Artificial Neural Network based
Dynamic Response Time	100 micro seconds
Correction Time	10 milli seconds
Parallel Operation	Upto 50modules per CT set
Parallel Communication	Mini-USB/CAN Bus
Paralleling Options	Master-Slave / Multi-Master
Noise Level	<65dB

User Interface:	
Display	*7" TFT Touch-Screen Display*
Cloud Connectivity	Yes

System Integration:	
CT Connections between modules	Daisy Chain Type

1. LT Side Power Factor Correction

SHR-SVG system dynamically supports the load reactive current locally, even with highly fluctuating loads. This assures unity power factor operation at all time, thereby, maximize power factor incentive.

2   Power Factor Correction Under Unbalanced Loading:

Smart inverter architecture of *SHR-SVG* system ensures the unity power factor operation even under the presence of large single-phase and/or two-phase loads.

3   HT Side Power Factor Correction:

Being connected on LT side of the transformer, *SHR-SVG* system can support the load dependent transformer internal reactive power requirement. This assures near unity power factor operation on HT side of the transformer, wherever HT billing is applicable.

4   Current Balancing:

SHR-SVG System can compensate negative sequence part of the load current, to maintain balance between three-phase input currents.

Advancements:

1   Three-Level IGBT Inverter:

Most advanced three-level inverter topology with RB-IGBT technology enables *SHR-SVG System* to operate at high switching frequencies for precise and faster operation, with ripple and noise free operation.

2   Modular Design:

Thanks to modular design for enabling the in-built redundancy and ease of service, with expandable upto 675kVAR capacity in a single rack.

3 Designed for Harsh Weather Conditions:

Designed to operate at 45 C ambient temperature without any deration. All the PCBs are applied with conformal coating for improved reliability.

4 Operation under Distorted Voltage Conditions:

The output current of *SHR-SVG* System remains sinusoidal and free from harmonics, even when the significant voltage harmonics are present at the incomer.

5 Best-In-Class Energy Efficiency:

SHR-SVG System consists 3-level inverter with an intelligent On-The-Fly real- time internal switching loss minimization technique which enhances the converter energy efficiency. Additionally, the state-of-the-art LCL based third order filters reduce the ripple filtering losses as well.

6 Integrated Best-in-Class HMI:

SHR-SVG System will have an integrated 7-inch TFT touch-screen to set/display the all the plant electrical parameters in real-time. Moreover, the user can visualize the real-time three-phase voltages and currents (load /*SHR-SVG*/source side) waveforms just like in an oscilloscope.

7. Optimum Design:

Light in weight, compact in size, quieter in operation while delivering best-in-class performance.

9. In-house R&D and manufacturing with better service:

The research, development, and the manufacturing activities are fully carried out by Shreem. This certainly ease our team in providing the guaranteed service even after the end of warranty period.