Hybrid Solutions with Harmonic Filtering and Reactive Power Compensation

An ever increasing deployment of high power converters in industrial application causes the grid power quality to deteriorate. The displacement power factor and the current distortion are two key indicators of the quality of the grid power. An active harmonic filter (AHF) alone is capable of addressing both, the low power factor issue as well as the high current distortion issues of power quality. However the higher cost and higher losses associated with the AHF makes the AHF an expensive proposal for addressing multiple power quality problems. In view of this, EPCOS offers an economical hybrid solution which combines the features of the AHF with those of automatic power factor correction (APFC) capacitors. This hybrid solution offered by EPCOS ensures high performance and quality of power at much lower costs

Specifications and Range:

- Complying to Standards IEC-61000 and IS-16636.
- Rated Voltage – 400 ~ 690V.
- Rated Frequency - 50/60Hz.
- 32 bit DSP with 3 Level Topology.
- Floor Mounted Construction.
- Rated Output – 100 KVAr to ~2000 KVAr.
- Load balancing and leading compensation.
- Modular Design and low MTTR.
- Optional provision for future expansion.
- Programmable selective harmonic compensation.
- Communication port RS485.
- Standard Parts Viz, Capacitor, Reactor, Controller, Modules.
- Protections – OV/UV/OC/OT/SC/EF etc.
- Available in thyristor as well as contactor switching configuration.

Features:

- **High quality integrated product.**
- **Effective Thermal Design.**
- **Unique test facility including**
- **harmonic generator.**
- **All major components under one roof.**
- **Controllers with ease of programming.**
- **Less Maintenance.**

Applications:

- Best suited in industry for centralized group compensation.
- Industries having VFD and invertor,UPS, etc.
- Industries such as Textile, Paper,
- Steel, Automobile, IT-parks, Data Centers Hospitals.
- Solar Generation Farms and Wind Mills.

network techlab
Adding Values to Work
An ISO 27001:2013 Certified Company

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Hybrid Solution (Stepless Reactive Power Compensation)

With the invention of switching logic, it is possible to achieve automatic control of reactive power compensation. Despite the means are available of achieving dynamic reactive power compensation, there is limit to have fine control due to fixed step rating in APFC Panel. The need of intermediate fine control of reactive power including real time can be catered through stepless switching technology called SVG or Static – VAR –Generator.
The advanced stepless technology consists of Active device IGBT. The product can be effectively applied when combined with normal APFC system.This combined Hybrid Solution of (Stepless+Step) switching forms LV SVGC system.The product consists of SVG Modules and LC (Reactor- Capacitor) steps,which are monitored by controlled by Advanced multilevel Controller. The controller effectively utilizes the combination to cater and fine tune the need of reactive power compensation at all the times.

Specifications and Range:
- Complying to Standards IEC-61000.
- Rated Voltage – 400 ~ 690V*.
- Advanced Multicontroller - 18 steps
- for Thyristor/Contactor switching.
- Module Prototypes – 30 KVAr,
- 50 KVAr, and 100 KVAr.
- Very fast response time (< 15ms)
- Rated Output

Features:
- **Advanced DSP Controller.**
- **Suitable for inductive and**
- **Capacitive Loads.**
- **Real time reactive power**
- **compensation.**
- **Load Balancing.**
- **Most suited for reduction in MD.**

Applications:
- Best suited for Robotic and welding loads.
- Induction furnace startup loads.
- Iron and Steel Rolling Mills.
- High unbalance and highly fluctuating Loads.
- Industries Such as Food, Paper, Commercial Malls.

Benefits:
- Extremely smooth compensation.
- Reduction in electricity bill (MD).
- Avoid network resonance.
- No hunting.

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