POWER QUALITY SOLUTION

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After Doing Power Quality Audit and NEPLAN Study we manufacture & supply complete solution for Power Quality Issues like Power Factor, Voltage Sag/Swell, Harmonics, Flickers, Transients, Waveform distortions, etc.

Power Quality Solution Panels & Filters:

- APFCU Panel
- RTPFC Panel
- HT APFCU Panel
- HT Harmonic Filter Bank
- Passive Harmonic Filter
- Active Harmonic Filter
- Hybrid Filter
- Sine Wave Filter
- dV/dT Filter
- SVG
- STATCOM

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NEPLAN
Smarter Tools

XGSLab SOFTWARE

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1. Real Time Power Factor Correction Panels:

- RTPFC are designed to provide real-time reactive power compensation and harmonic filtering in demanding applications, For quick response It used thyristor based switching.
- RTPFC minimize voltage variations and mitigate flicker caused by heavy industrial loads, such as induction furnaces (MFI), mine winders, cranes, excavators, etc.

Application

- kVAH Billing Industries
- Auto Industries
- Cement Industries
- Pipe Industries
- Spot Welding Machine
- Captive Power Generation
- Steel Melting
- Mining Applications

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RTPFC Customer benefits:

- ✓ Quick return on investment
- ✓ Higher productivity by reducing melt-time in steel plants
- ✓ Increased torque leading to higher payloads of large inductive loads
- ✓ Easy compliance with grid-code criteria in wind and solar farms
- ✓ Cost-effective solution to increase existing electrical network capacity
- ✓ Transmission and distribution network capacity enhancement
- ✓ Reduced maintenance costs and longer lifetime of plant

Application Standard: IEC 60871

Ratings: 50 – 5000 kVAR

Voltage: 230/400/415/440/480/525/690/850/1000 V

Frequency: 50/60 Hz

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2. HT Automatic Power Factor Correction Panels:

- HTAPFC built with modern Vacuum Contactor - VCC technology and designed to provide Fast reactive power compensation and harmonic filtering in demanding applications.
- HTAPFC minimize voltage variations and mitigate flicker caused by heavy industrial loads, such as Furnaces, Mining Motors, Rolling Mill Motors, etc.

Application Standard: IEC 60871

Ratings: 50 – 5000 kVAR

Frequency: 50/60 Hz

Voltage: 3/3.3/6.6/11/22/33 kV

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3. Filter:

I. Passive Harmonic Filter

- PHF reshape your distorted current back to the desired sinusoidal waveform caused by non linear load.
- It is first power quality equipment Reduce THID down to 5% @ rated power, with PF near to >0.99 Compliance with IEEE 519, EN61000-3-12 and other power quality standards Capacitive current ≤ 20% @ no load

Application

- Building technology
- Cement industry
- Paper mills
- Data and banking centre
- Automation industry
- water/waste water treatment plants
- Wind turbines
- HVAC installation
- Ship propulsion

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PHF Customer benefits:

- ✓ Reduce utility power factor penalties
- ✓ Maximize system utilization and planning
- ✓ Increase electrical network reliability and reduce operating costs
- ✓ Prevent resonance
- ✓ Optimize uptime
- ✓ Extend equipment life
- ✓ Reduce costly unplanned downtime and lost productivity
- ✓ Decrease harmonic related equipment overheating

Application Standard: IEC 60871

Ratings: 1 – 400 kW

Voltage: 440/690 V

Frequency: 50/60 Hz

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3. Filter:

II. Active Harmonic Filter

- AHF is ideal for the reliable compensation up to the 50th harmonic.
- Compact dimensions and low weight, this filter can be easily installed in any environment.
- A response time of under 300µs in ultra-fast mode.

Application Standard: IEC 60871 IEEE-519-1996

Ratings: 25/35/50/60/100/150 A

Voltage: 400V/415V/690V

Phase: 1 Or 3

Frequency: 50/60 Hz

Application: Harmonic filtering/Un balance/PF

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3. Filter:

III. Hybrid Filter

- Hybrid is basically it a combination of Passive and Active harmonic filter
- IGBT-Based Power Converter that reduces harmonic distortion with increase in Reactive power in the System
- Increase the reliability and service life of electric installations, help utilize electric system capacity better, and are the key to meet Power Quality standards such as IEEE 519.

Application

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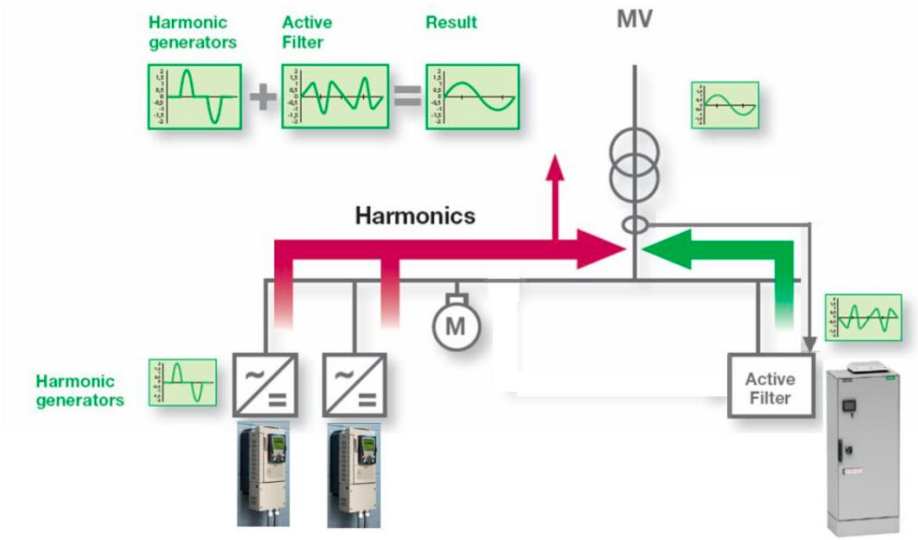

3. Filter:

IV. Sine Wave Filter

- Sine wave filters are used in variable speed drives (VSD) and for protecting a motor against extreme voltage fluctuations and overheating.
- Installing a sine wave filter between the VFD power source and the motor smoothens the VFD pulse width modulated signal.
- This allows longer cable layouts, better insulation, and less stres on the motor.
- Heating and vibration is also reduced, increasing the operating life of the motor.

V. dV/dT Filter

- dV/dT filters are used to control the voltage spikes generated by Variable Frequency Drives (VFDs) and long motor lead lengths.
- dv/dt filters allow longer motor cables.

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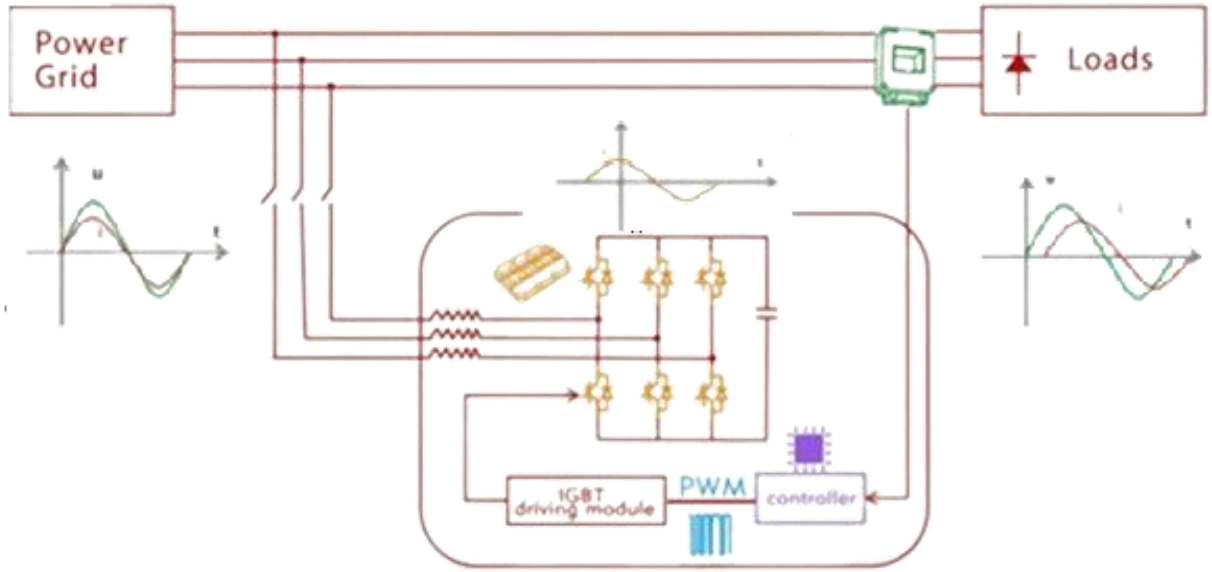
4. Static VAR Generator:

- SVG is small size IGBT based device which deliver instantaneous capacitive and inductive power to maintain reactive power and power factor.
- It optimized for highly dynamic applications where conventional capacitor or reactor banks unable to track the loads.



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Application of SVG

- Automotive and Welding plant
- Steel plants and Rolling mills Textile Industries
- Process industries
- Crane and Compressor loads
- Pulp and Paper industries
- Rubber industries
- Chemical and Cement factories
- Water treatment plants

Application Standard: IEC 60871

Ratings: 30 – 100 kVAR

Frequency: 50/60 Hz

Voltage: 220/400/500/690 V

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5. Static VAR Compensation:

- STATCOM consists of a controllable part that can operate as capacitive and inductive power and keeps the reactive power flow constant in the system. If there is a need for reactive power in the supply grid, It can provide instant reactive power support to stabilize the grid. On contrary situation, it absorbs the additional VArs to ensure the stability of the grid.

STATCOM is the right solution to solve following power quality challenges:

- Voltage variation and flicker
- Poor power factor
- Harmonics distortions
- Voltage sags
- Entrapped capacities of transmission and distribution

Ratings: 100Kvar to 10 MVAR

System Voltage: 3.3/6.6/11/35 kV

Type : Indoor/Outdoor

IP Class : IP42/IP53