



Our AHF series is an advanced modular Active Harmonic Filter (AHF) system. The AHF system is constructed of one or several filter modules with the system controller.

Filter modules and controller, both are embedded in our standard cabinets. CT terminations are fixed in a standard cabinet, and the AHF capacity can be configured accordingly to user requirement.

The filter capacity can be easily expanded at the user's site by adding extra filter modules as per site requirement.

Features

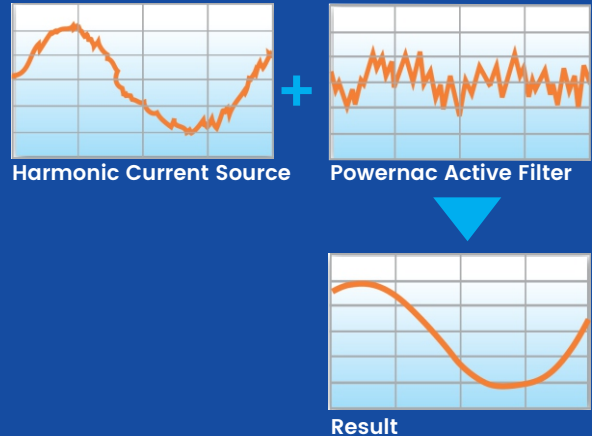
- Supports flexible configuration and capability to expand vertically as well as horizontally
- Compatible with diesel generators & harsh ambient (Temp up to 50°C)
- Eliminates Harmonics, avoiding risk of resonance.
- Highly flexible and scalable solution
- Lower Current could reduce thermal loss in power cables & transformer
- Reduce Voltage Distortion and Fluctuation to extend Service time of electric devices
- Suppressing harmonics & reactive power reduces the Total current, so more loads can be driven by the same transformer
- Increase power factor, avoid reactive power penalty.
- Can compensate from 2nd to 50th order harmonics

Adaptability

- Compatible with diesel generators
- Wider range of input voltage, frequency and faster response time
- Low thermal loss
- Compensates a wide range of harmonics from 2nd order to 50th order harmonics

Active Harmonic Filter-Modular Hybrid Harmonic Filter

Active Filtering Working Principle



Flexibility

- Designers have more choices with flexible configuration
- Capability to expand vertically as well as horizontally
- Higher operating temperature up to 50°C

Reliability

- IGBT parallelling technology
- Intelligent air cooling technology
- High quality components of international brands
- Advanced production technology

Hybrid Harmonic Filter

To improve the capability of Filters - Hybrid Solutions is the best option comprising of Tuned / Detuned Thyristor Switching Passive Filters and modular Active Harmonic Filters. Tuned filter circuit improves the power factor of the network, absorbs the basic harmonics and Active Harmonic Filter module feeder improve the network quality by reducing the harmonics from the network. It is a very cost effective solution for improving power factor and at the same time mitigating harmonics.

Application of AHF / Hybrid Harmonic Filters

- | | |
|-------------------|-----------------------------------|
| • Industry | • Textiles |
| • Automotive | • Petrochemicals |
| • Arc Welding | • Lifts, Port Cranes |
| • Metal | • Pulp and Paper |
| • Cement | • Wind farms & Solar Power |
| • Chemicals | • Water and Waste Water treatment |
| • Pharmaceuticals | • Crushers and shredders |

Commercial

- Data Centers and IT-Facilities
- Offices and buildings
- Traction and Metro stations
- Airports
- Shopping Malls
- Fluorescent or HID lighting
- Hospitals

Specifications

Electrical

| | |
|--------------------------------------|---|
| Rated Voltage | : AC 415V +20% to - 20% (Other Voltages on request) |
| Electric Connection | : 3P3W/3P4W |
| Rated Frequency | : 50Hz (60Hz) +/- 10% |
| Input Voltage THD with stand | : Up to 15% |
| Harmonic compensation range | : 2nd ~ 50th order (Selectable) |
| Harmonic compensation degree | : 0 ~ 100% (Selectable) |
| Harmonic Elimination Rate | : Up to 98%, grid side after elimination THD-V <3%, THD-I <5% |
| Reactive Power Compensation Capacity | : Positive, Negative, Zero Sequence Reactive |
| Full response time | : < 20ms |
| Instant time response | : < 100us |
| Thermal Loss | : ≤ 3% |
| Output Current Limitation | : Automatic (100% rated current) |
| MTBF | : > 100,000 hours |

Control Technology

| | |
|---------------------|------------------------------|
| Switching Frequency | : 60 KHz |
| Controller | : DSP Control |
| Communication | : Modbus Protocol, RS232/485 |

Physical Dimension

| | | | | |
|------------------------|----------------------------------|---|---------------|---------------|
| Rating | : 50/75/150 Amp | 100 Amp | 200/300Amp | 400/500 Amp |
| Dimensions (W x D x H) | : 600x800x1400 | 850x1050x725 | 850x1050x1525 | 850x1050x1825 |
| Weight | : 100/110/160Kg | 160 Kg | 210/330 Kg | 410/490 Kg |
| IP Grade | : IP20 | IP20 | IP20 | IP20 |
| Noise | : < 65dB (A) | < 70dB @ 1 meter in front of the module | | |
| Cooling Method | : Intelligent forced air cooling | | | |

Environment Requirement

| | |
|---------------------|--|
| Ambient Temperature | : -10 ~ 50 °C |
| Relative Humidity | : (RH) 0~95% (Non-condensing) |
| Altitude | : < 1000m Rated Capacity, : 1000-2000m (derating 1% per 100m) |

*Specification & Dimension of Hybrid Harmonic Filters on Request



Hybrid Harmonic Filter comprising of Thyristor Switched Tuned/Detuned Filter Banks and Modular Active Harmonic Filter units



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PQ Solutions

