ACTIVE HARMONIC FILTERS

FUSECO

- Wall Mounted Solutions
- Load Balancing
- Reactive Power (PFC)
- Advanced Harmonic Compensation

Sinexcel®

Active Harmonic Filters (AHF)

Sinexcel have applied new generation thinking and innovative design principles to create a new range of Active Harmonic Filters that have redefined what is possible from a cost vs performance vs space perspective. Their performance and ease of use is unsurpassed and they are a modular design, available in wall-mount, rack-mount and rack/cabinet configurations.

Key features:

- **Modular, Compact Size and Light Weight**
  Can be wall mounted and installed in small spaces.
- **Provides Reactive Power (PFC)**
- **Load Balancing**
- **Harmonics Compensation Capability**
  Compensates 2nd to 50th harmonic order or simultaneous compensation of all 50 harmonic orders.
- **Algorithm Intelligence**
  Intelligent technology that integrates both FFT and Dynamic Compensation Modes, customised to client's requirements.
- **Ease of Installation and Commissioning ('Plug and Play')**
- **3-Level Topology**
  Unique 3-level topology based on a zero voltage transformation design and incorporating high frequency inductor technology results in more than 97% efficiency.
- **User-Friendly Interface and Monitoring**
  Very easy to operate. Online monitoring and programming available. Presents information in terms of numerical data, waveform analysis, etc.
- **15A Rack-mount AHF for database or load centre compensation available**
- **Also available in 690V**
- **Standards**
  IEC61000 / IEC60146 / EN55011
  EN50091 / IEEE519

Intelligent Design

Easy to Use Graphical User Interface

- Integrates a HMI including a graphical user interface
- Offers direct control, configuration, monitoring and harmonics analysis of the AHF without the need of a PC
- Communication options, detailed alarm events and fault reporting with real time stamps are also included

Backlit Display

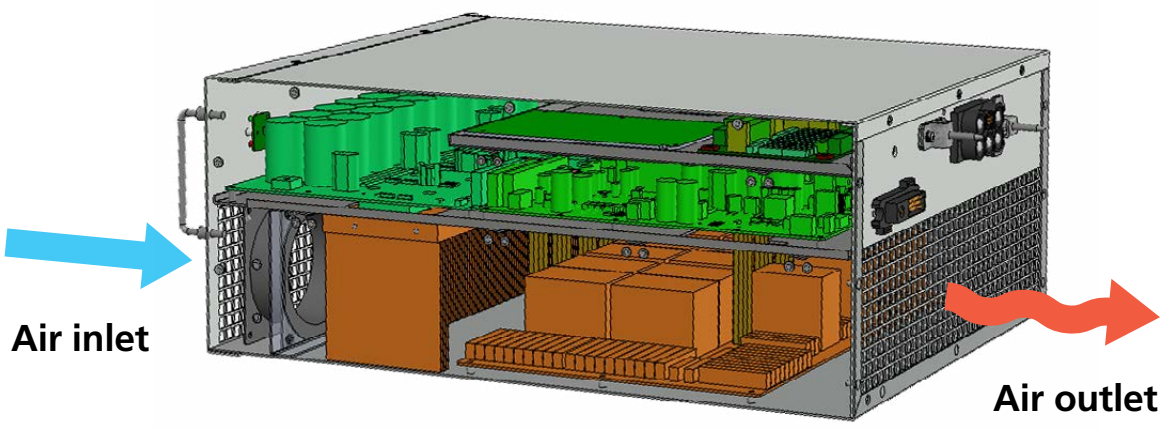
- Incorporates a high level of readability and ease of menu navigation, the backlit LCD display offers:
- Access and configuration of operating parameters
- Measurement data in numerical, graphical and spectrum formats
- Operation status inclusive of detailed alarms and fault messages
- Password protected for critical settings

Measurements

- Provides a comprehensive set of measurement data for analysis, such as:
- Network RMS voltages and currents
- Network Voltage and current distortions (THDu and THDi)
- Total RMS load currents and THDi
- System frequency
- Load factor
- Compensated RMS currents
- Comparison of PF (before and after)
- Graphical waveform of network voltages and currents, load and compensated currents
- Harmonic spectrum for network and load currents, from 2nd to 50th harmonic order

Designed for Efficiency and Minimal Maintenance

- Minimises dust ingress
- Electronic components separated from heat producing components and housed in their own sealed compartment, resulting in greater protection from the effects of heat and dust ingress.
- Optimum heat dissipation
- Heat sinks, IGBT's, inductors and other heat producing components housed in a separate compartment optimised for efficient ventilation and cooling.



Compact Modular Design

Compensating Current Capability vs Space

- Up to 150A capability from a wall-mount solution
- Up to 150A capability from a single rack-mount module
- Up to 750A capability from a single cabinet solution

15A Solution (Blade)

◀ 15A Rack-Mounted AHF
400W x 325D x 45H (mm)
Weight: 5kg

25A & 35A Solutions

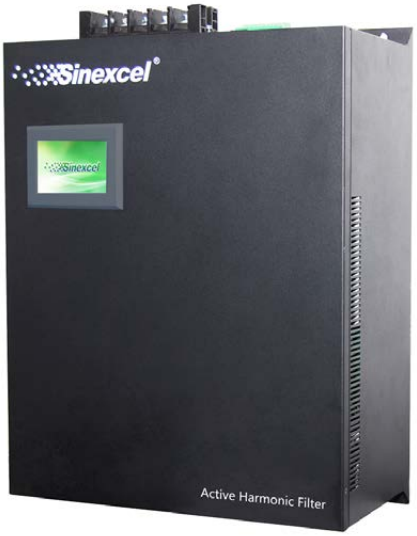
▲ 25A & 35A Rack-Mounted AHF
440W x 470D x 150H (mm)
Weight: 18kg

25A & 35A ▶
Wall-Mounted AHF
440W x 150D x 470H (mm)
Weight: 18kg

50A & 60A Solutions

▲ 50A & 60A Rack-Mounted AHF
440W x 450D x 230H (mm)
Weight: 35kg

50A & 60A ▶
Wall-Mounted AHF
440W x 190D x 490H (mm)
Weight: 35kg

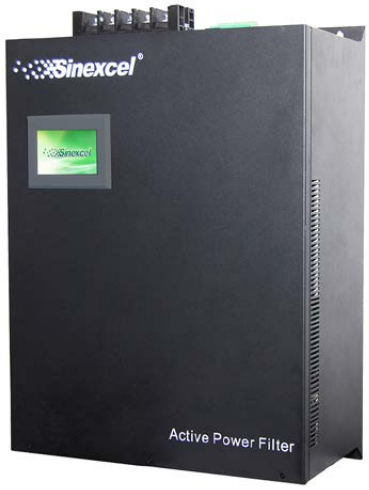


Compact Modular Design

75A & 100A Solutions

▲ 75A & 100A
Rack-Mounted AHF
440W x 600D x 230H (mm)
Weight: 36kg

75A & 100A ▶
Wall-Mounted AHF
440W x 230D x 600H (mm)
Weight: 36kg



150A Solutions

▲ 150A Rack-Mounted AHF
500W x 510D x 270H (mm)
Weight: 48kg

150A Wall-Mounted AHF ▶
505W x 286D x 557H (mm)
Weight: 50kg

Cabinet Solutions

◀ 400V AHF Cabinet with
centralised monitoring
and 750A capacity

690V AHF Cabinet ▶

Key Features

Harmonics Compensation Performance

- Harmonics filtering performance THDi < 5%
- Selection of every harmonic to the 50th order
- Filter up to 50 harmonics simultaneously
- Harmonic filtering levels [%] can be pre-configured
- Resonance protection by means of pre-configuring harmonic filtering levels for the potential resonance zones
- Unique 3-level topology incorporating high frequency inductor technology results in more than 97% efficiency.
- Capable of suppressing ripple currents effectively and promote a high compensation precision for the output waveform with respect to the sinusoidal waveform.

User-Friendly Interface and Monitoring

- Very easy to operate. Online monitoring and programming available. Presents information in terms of numerical data, waveform analysis, etc.
- Incorporates a backlit HMI graphical user interface, offering direct control, complete configuration, monitoring and harmonic analysis of the AHF without the need of a PC.

Available in Various Configurations

- 3-Wire and 4-Wire versions available.
- Available in 690V.
- Available in IP20, IP31 and IP54 versions to suit a wide variety of industry applications.

Standards

- EC61000 / IEC60146 / EN55011 / EN50091 / IEEE519.

Key Features

Flexibility and Ease of Commissioning

- Designed to be a 'Plug and Play' experience for the user.
- Available in wall mounting or rack/cabinet options.
- Unlimited parallel operation of modular AHF units in combination as per system requirements.
- Installation & commissioning process is the industry benchmark for simplicity and ease of use.

Load Balancing and Reactive Power (PFC)

- Capable of measuring each phase and then redirecting the existing load current to balance the phases.
- Also capable of using their remaining capacity to dynamically inject reactive power to correct the power factor.
- It is possible for the user to program the unit to prioritise load balancing or reactive power, depending on the application.