

# Wise Power Active Harmonic Filter

**WP-FW (Wall Mounted)**



**WP-FR (Rack Mounted)**



**Product range**

- Line Voltage
- 380 – 415 V AC (50Hz)
  - 440 – 480 V AC (60Hz)
  - 500 – 525V (50Hz)
  - 690V (50Hz)

**Filter current**

- 30A – 390 A
- (Modules can be paralleled for higher power)

**Enclosure degree**

- IP 30

Wise Power AHF are advanced harmonic filters, not to be compared with traditional harmonic trap filters. WP harmonic filters have been specially designed to match all types of linear or non-linear loads in modern commercial & industrial buildings.

**Design Advantages**

AHF is connected to the grid in parallel. The voltage & current compensation of the system are monitored in real time, & the IGBT module is driven by the pulse width modulation signal (PWM) using Fourier Transform Technology. The filter measures the harmonics current generated by the non-linear load and generate an opposite phase shifted harmonic current of the same amplitude to cancel the loads harmonic current and obtain a sinusoidal current in the utility and desired power supply.

**Technical Advantages**

Using DSP + FPGA intelligent control System to ensure System accurate compensation harmonic detection and effective control, the use of advanced TTA algorithm which is based on time-domain transform algorithm, real-time monitoring of harmonic current automatic tracking harmonic changes, fast response, can while eliminating 2nd--50<sup>th</sup> harmonic order or choose compensation.

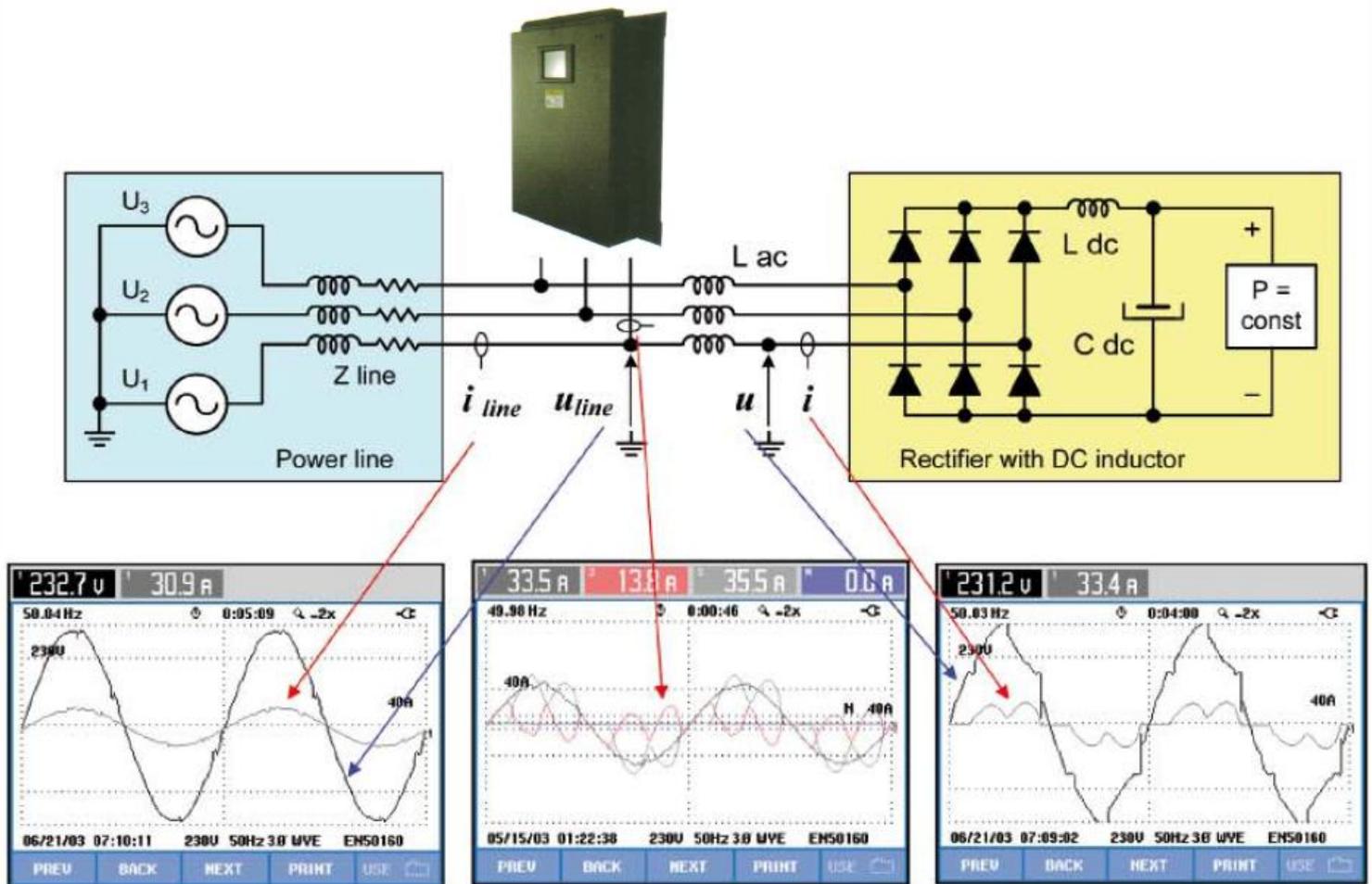
Features	Benefits
<b>User-friendly</b>	
• Small compact housing	• Fits into a panel
• Easy to use in retrofit applications	• High flexibility
• One filter module can be used for several frequency converters	• Lowers system cost
• Complies with IEEE 519-1992 and stage 1 of future EN 61000-3-12	• Installation in harsh environments
• Easy commissioning	• No adjustment necessary
• No routine maintenance required	• No running expenses
<b>Efficient</b>	
• WP AHF reduces the total harmonic current distortion to < 5%	• Reduces transformer load
• WP AHF reduces the total harmonic voltage distortion to < 2%	• Reduces transformer load
• Low filter losses	• High efficiency (> 0.98)

# Wise Power Active Harmonic Filter

WF active filter is designed and manufactured for harmonic distortion suppression & for partially power factor correction of the connected load. The equipment from the load current calculates & injects, the same harmonics shifted of 180 degree suppressing from the installation these dangerous component of the current.

It is so possible to reduce the harmonic distortion due to non-linear load: in fact the algebraic sum of fundament) is zero and the network is affected by a current having only the rated frequency.

At the same way it is possible to correct the power factor of the load, in a partially way, producing three sinusoidal shaped current, with a width depending from the load.

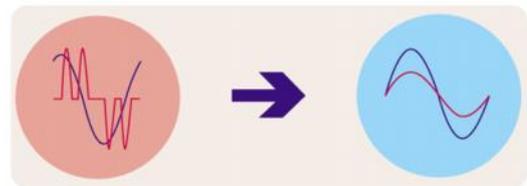
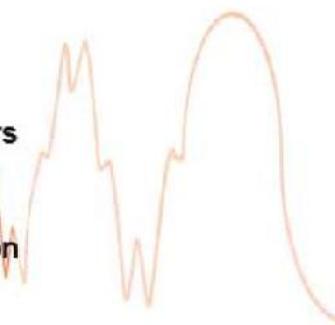


# Wise Power Active Harmonic Filter

## Application:



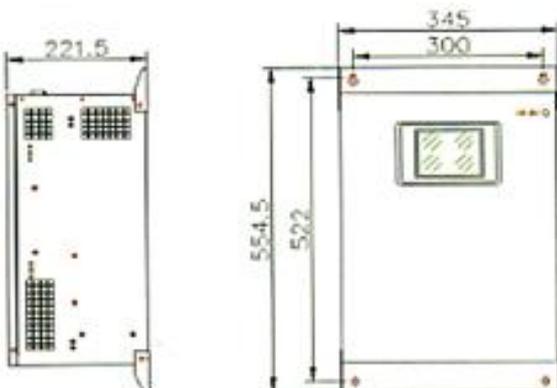
- Automotive industry
- Building automation
- Cement industry
- Data and banking centers
- Elevators
- HVAC installation
- Machines and automation
- Oil and Gas exploration
- Paper mills
- Ship propulsion
- Steel Industry
- Tunnel ventilation
- Uninterruptible power supplies (UPSs)
- Variable-frequency drives
- Water/wastewater treatment
- Welding equipment
- Wind turbines



## Dimension:

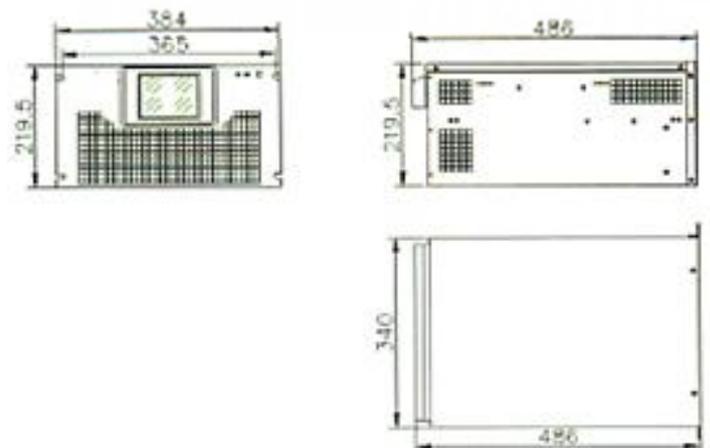
### Wall Mounted Design

**WP-FW 30 to 100A**



### Rack Mounted Design

**WP-FR 30 to 100A**



## WP Filter Technical Datasheet

Model:	WP-FW (Wall Mounted) / WP-FR (Rack Mounted)
Installation location:	Indoor
Working voltage:	AC400Vac x (1±15%)
Format:	three-phase three-wire system (3P3W)
	three-phase four-wire system (3P4W)
Filtering of harmonic current capacity ( Arms )	30, 50, 75 & 100A
Frequency(Hz):	45 ~55
Dimension WP-F / WP-FR:	555mm (H) X 220mm (D) X 345mm (W) / 220mm (H) X 486mm (D) X 384mm (W)
Filtering harmonic order:	2nd-50th ( Eliminate all or a selected order of harmonics )
THDi correction ratio:	THDI ( current distortion ) < 5%
Reference Harmonic Standard:	EN 61000-34, IEEE 519-1992
Cooling:	Intelligent cooling
Dynamic response time (ms):	10 ms
Filtering efficiency:	97%
Noise Level:	45 dB
Overload (1min):	120%
Current transformer:	Three CT(Class1.0 or above) 5VA,CT secondary current is 5A
Protection class:	IP30

Note: the product can be designed according to user needs. The effective filtering of harmonic current capability (Arms) can be up to  $300 * 10 = 3000A$

FOR SALES ENQUIRY

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