

Active Harmonic Filter



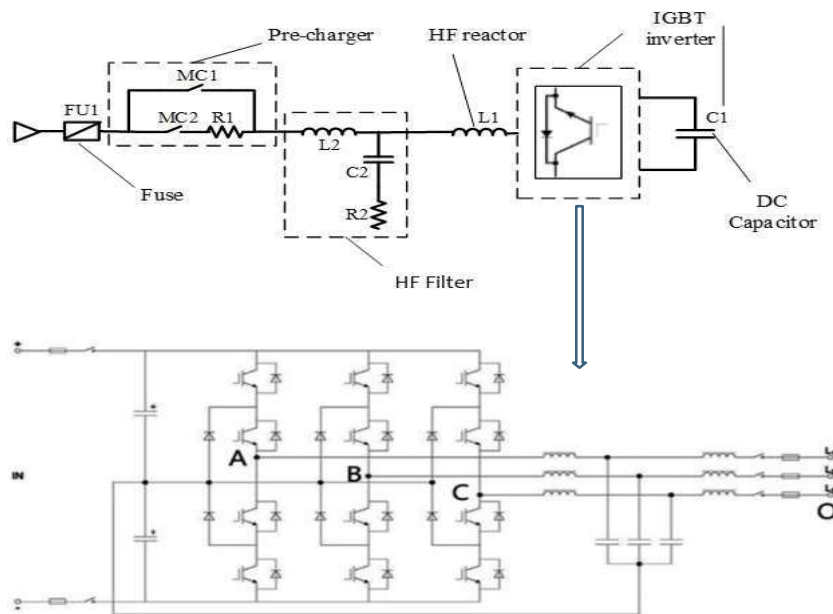
The **VERICON®** Active Harmonic Filter AHF is a new type of power electronic device for dynamically eliminating harmonics and compensating reactive power. It can compensate for the harmonic of varying magnitude & frequency and constantly changing reactive power in real time.

- **Harmonic Compensation**
- **Reactive Power Compensation (Power Factor Improvement)**
- **Phase Unbalance compensation**

Performance Highlights

- Harmonic Elimination Rate > 97% (THDi meets IEEE519 Standard)
- The Most Common Harmonic Orders 2nd,3rd,4th,5th,7th,11th,13th,17th,19th,23rd,29th are selectable and programmable for each
- Other Orders from 29th to 61st can be selected by one button
- Power Factor can reach to 0.9999 (lagging and leading)
- Current Phase Unbalance rate can reach to <3%
- MODBUS RS485 and RS232 communication
- Adapt 3-Phase NPC Three Level PWM Technology with advantage of Compact Size, High Efficiency and good wave form.
- Wall mounted and Floor standing Execution

Schematic



Safety and Reliability

- Automatic Resonance avoiding
- Automatic Output limiter , no overloading risk
- Protection against overvoltage, over current , over heating etc..

Flexibility and Modularity

- 50 A , 60 A , 100A , 150 A Compact Size and Modular Design
- 3 Ph / 3W and 3 PH /4W Compatible
- Supports maximum 16 Units / Modules parallel working



User Friendly

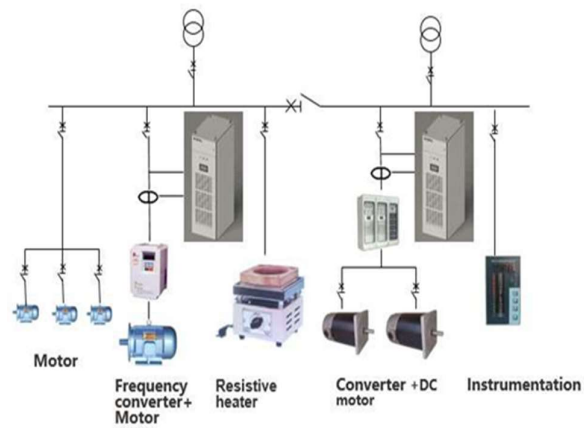
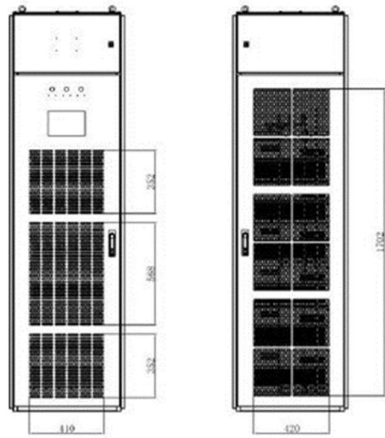
- Open Loop and Close Loop Installation (Source Side and Load Side) is available
- 7 inch Colour Touch Screen
- Grid Side , Load Side Parameters , APF Working Conditions can be shown
- CT Polarity checking and phase angle checking

Energy Saving

- Low Loss
- Auto Hibernation / Awakening according to load situation
- Grid Side , Load Side Parameters , APF Working Conditions can be shown
- Intelligent variable speed cooling fan , low noise.

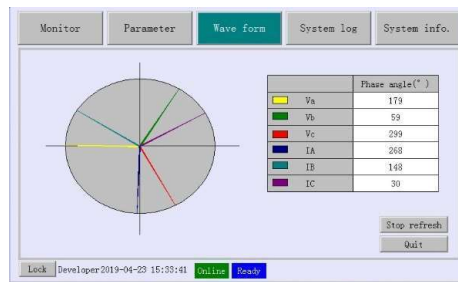
Where to install the AHF

- Type-A Distributed compensation : install nearby the load who generates harmonics
- Type-B Centralized Compensation near the Main Transformer.
- 7 inch Colour Touch Screen
- Grid Side , Load Side Parameters , APF Working Conditions can be shown
- CT Polarity checking and phase angle checking



Grid					
S	1.280 kVA	Freq	50.029 Hz	PF	0.005
Va	230.675 V	Vb	230.992 V	Vc	231.994 V
Ia	3.177 A	Ib	2.743 A	Ic	1.946 A
Load					
Ial	3.177 A	Ibl	2.743 A	Icl	1.946 A
P	0.007 kW	Q	-1.280 kvar	S	1.280 kVA
PF	0.005	PK	6.321	THD	0.000 %
FO					
Iea	1.375 A	Ieb	0.649 A	Iec	1.187 A
T1	25.000 °C	T2	25.000 °C	T3	25.000 °C
Vdc	663.886 V	BUS+	331.908 V	BUS-	332.548 V

1# APF (100A) Quit Module Selection



Monitor Parameter Wave form System log System info.

All Same Single Current Module 1#

2nd harmonics	<input type="checkbox"/> OFF	2th ratio	100 %
3rd harmonics	<input type="checkbox"/> OFF	3rd ratio	100 %
4th harmonics	<input type="checkbox"/> OFF	4th ratio	100 %
5th harmonics	<input type="checkbox"/> OFF	5th ratio	100 %
7th harmonics	<input type="checkbox"/> OFF	7th ratio	100 %
9th harmonics	<input type="checkbox"/> OFF	9th ratio	100 %

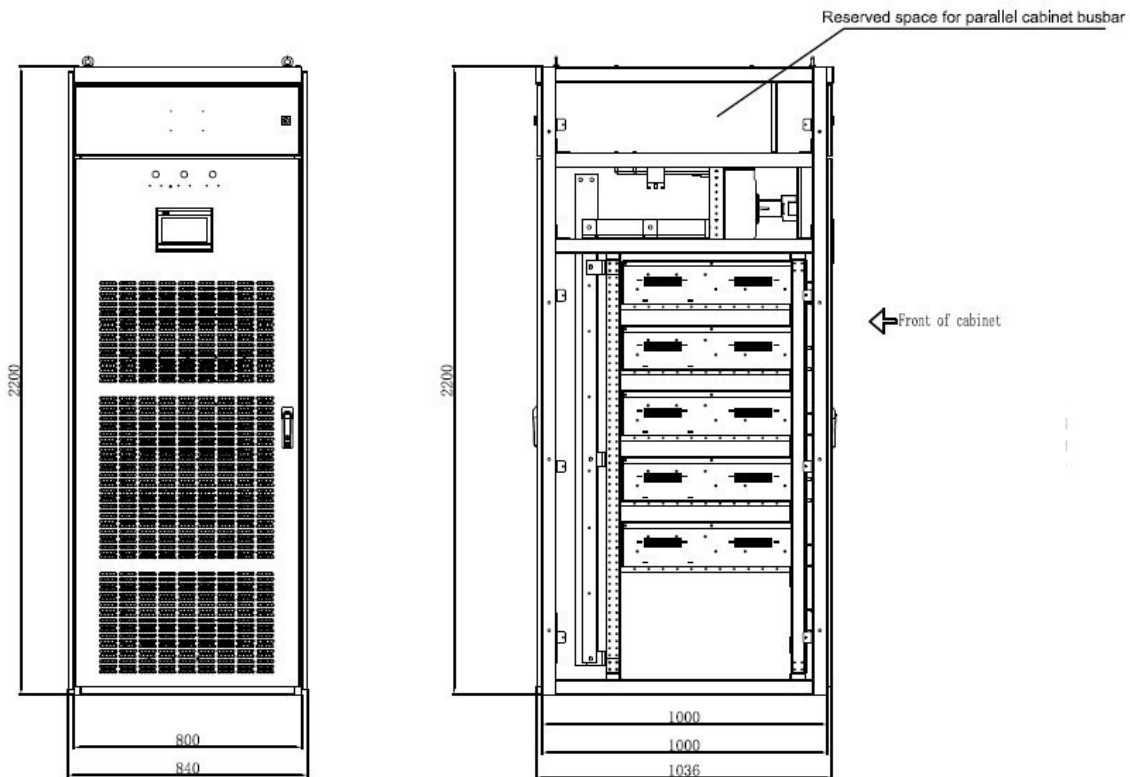
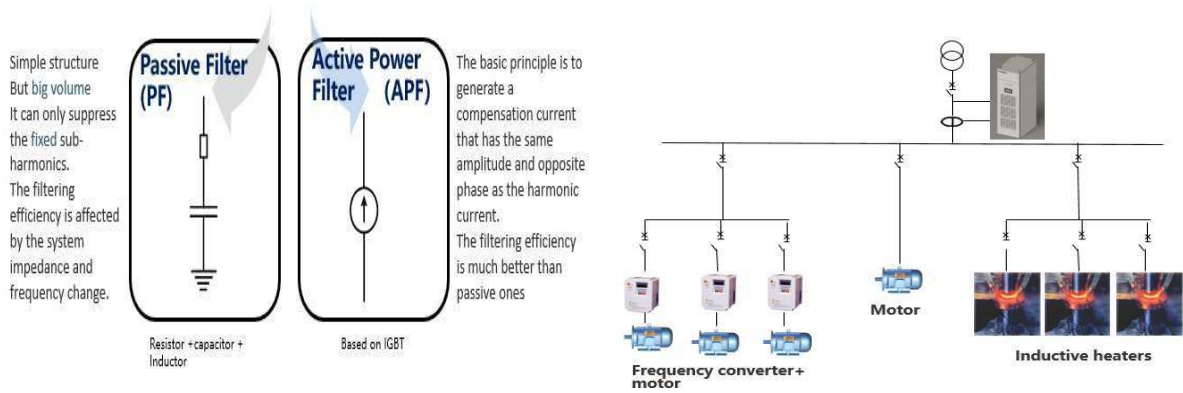
Para.scope Prev Next Quit

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Comparison with Capacitor Bank

- **Faster response**
- **Automatic tracking of harmonics and reactive power and mitigates both**
- **No over or under compensation risk**
- **Automatically avoids resonance**
- **Can compensate both lagging and leading VAR**



1000Amp AHF Configuration

- **CE Certified**
- **5 Nos. 100A AHF Modules in each (two nos.) cabinets**
- **2200mm X 1036mm X 840mm Two cabinets connected by cable or busbar**
- **Breaker / Contactor can be chosen as per requirement**
- **1 HMI or 2 HMI can be provided as per project need**

Technical data sheet :- 400 Volt Series (*)

Rated Current	50A	60A	100A	150A	200-600A Cabinet
Rated Voltage	400 V (176 Volts -458 Volts)				
Filter Capacity	2 ~ 61 Order (selectable or whole compensation)				
Harmonic Elimination Rate	>97%				
Line Frequency	50Hz / 60 Hz \pm 5%				
Supply System	3Ph 3 Wire / 3 Ph 4 Wire				
Topology	Three Level NPC				
Three Ph Unbalance Compensation Capacity	< 3%				
Reactive Compensation	-1 ~ 1 Adjustable				
Response Time	< 5 mSec Complete response ; < 25 Micro Sec transient response				
Auto Current Limiting	Yes				
Cooling Method	Air Cooling , Speed adjustable				
Noise Level	< 60 dBA				
Efficiency	>= 97%				
Protection Functions	Overvoltage , Undervoltage, Overcurrent, Over-temperature etc.				
HMI	Standard 7 inch with Colour touch screen				
Communication Interface	RS485 / CAN / Internet Access				
Installation	Wall mounted enclosure				Floor Standing Cabinet
Dimension (WXDXH) mm	450*265*545	450*265*545	450*290*645	550*350*645	800*1000*2200
Weight(Kg)	35	35	45	60	200-600
Color	RAL 7035				
Storage Temp	-40 ~ 70 Degree Cent				
Humidity	-10 ~ 50 Degree Cent				
Altitude	<1500 mtr (derating required beyond 1500 m)				
Enclosure	IP21 or Customized				

(*) in view of continuous development the technical data is subject to changes

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