庆道 Chindow

Active Harmonic Filter

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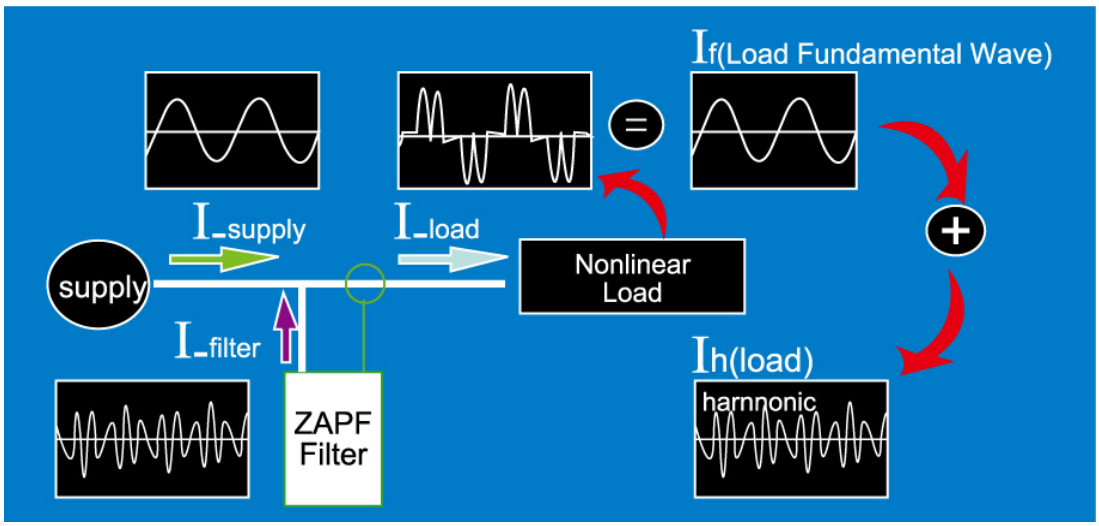
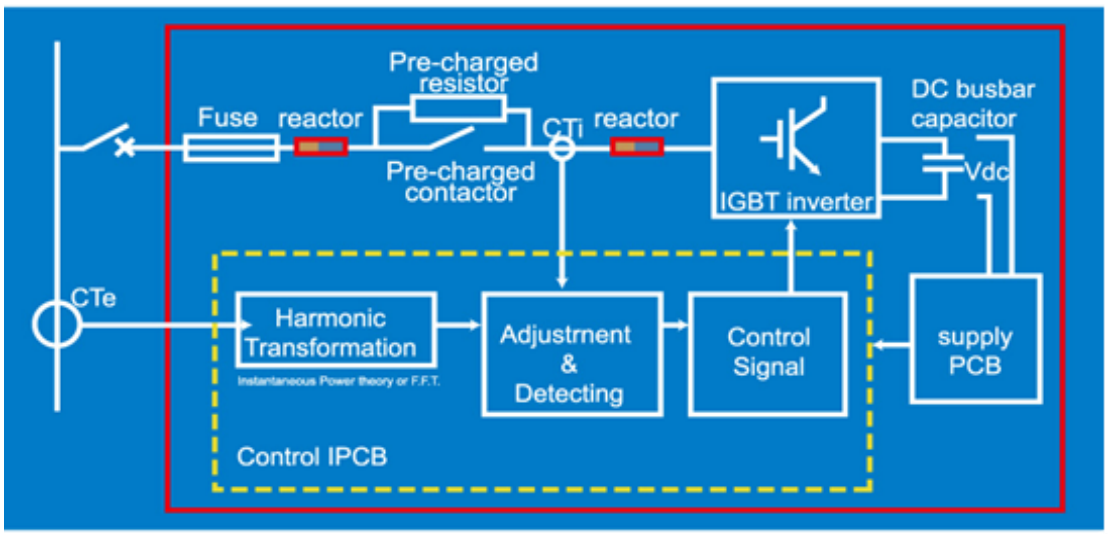
WORK PRINCIPLES

- **Mathematic model**

$$i_1 = (i_1 + \Sigma i_h) + (-\Sigma i_h)$$



- **Flow diagram**



PERFORMANCE CHARACTERISTICS

- Combination of power factor correction function (both inductive and capacitive power)
- Wide harmonic filtering range: 2nd ~ 50th harmonic can be filtered
- High harmonic filtering rate: more than 98.4%
- Quick response: Fast dynamic response speed. Response time is 10 ms
- Imbalance rectification available: single-phase dynamic current injection to rectify imbalance of supply system
- Free from resonance due to automatic resonance elimination
- Free from overload due to automatic current-limit output
- Concurrent Var compensation: Filtering and Var compensation available for choice
- LCD is adopted for interface operation, which can live indicate voltage, current and harmonic. Log record is available
- Complete protection includes over voltage, under voltage, over current, over heat, under voltage of control supply and so on
- Parallel-connected operation available: 10 sets can be connected in parallel
- Directly applicable for system below 430V, and applicable for system with voltage higher than 400V when transformer is added
- Plug-and-play design and easy scheme selection, no need for detailed analysis on supply network

STANDARD ADOPTED & WORKING ENVIRONMENT

Standard Adopted

- IEC60947-1:2007
- IEC61439-1:2009
- CE marking
- IEC61000-6
- IEC61000-4
- IEC61000-3

Working Environment

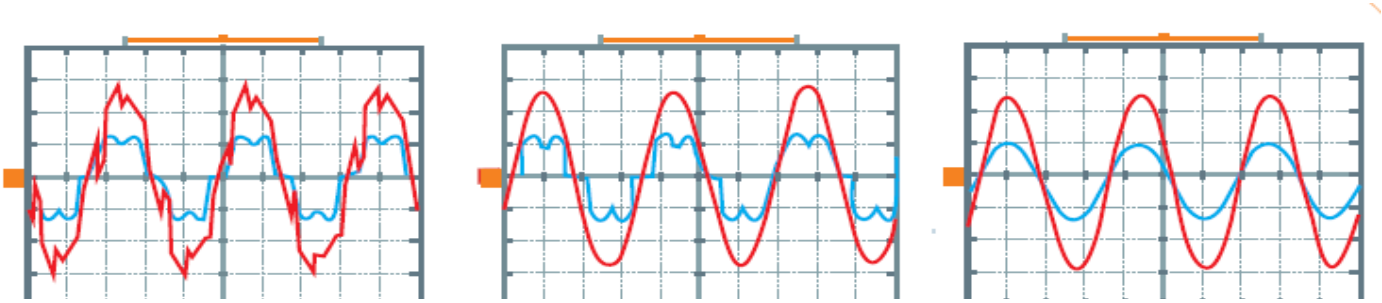
- Ambient temperature: -10℃~50℃
- Temperature for storage: -40℃~65℃
- Relative humidity: up to 99%
- Altitude above sea: 1000 meters

SPECIFICATION

- Work voltage: AC 415V/690V/1000V + / - 15%
- Frequency: 50Hz/60Hz, + / - 3Hz
- Harmonic order: 2nd-50th
- Efficiency: 97.3%~98.2%
- Output ability: 100%,self-limited;
- IGBT Switch frequency: 20kHz
- Full response time: 10ms
- Response time: 100μs
- Display /interface: LCD
- Display Language: English
- Extension: up to 10 sets in parallel
- Protection level: IP20 (IEC 60529)

3 Phase 3 Wire AHF Module 380V/415V Series

Product model	APF-50/415	APF-75/415	APF-100/415	APF-150/415	APF-200/415
Rated Voltage (V)	380/415				
Rated Frequency(Hz)	50				
Rated Compensation Current (A)	50	75	100	150	200
Dimensions (mm, HxWxD)	205x400x560	205x400x560	205x500x678	205x500x678	240*500*650
Weight (kg)	27	35	42	51	68
Mounting	floor / wall / rack				
Protection Level	IP20 (customizable)				
CT Ratio	50:5 ~ 100000:5				
Communication	RS-485				



3 Phase 3 Wire AHF Module 690V Series

Product model	APF-50/690	APF-100/690
Rated Compensation Current (A)	50	100
Dimensions (mm, HxWxD)	205x500x550	205x500x620
Weight (kg)	42	51
Rated Voltage (V)	690	
Rated Frequency (Hz)	50/60	
Mounting	floor / wall / rack	
Protection Level	IP20 (customizable)	
CT Ratio	50:5 ~ 100000:5	
Communication	RS-485	

3 Phase 3 Wire AHF Module 800V/1000V Series

Product model	APF-150-800	APF-125-1000
Rated Voltage (V)	800	1000
Rated Frequency(Hz)	45Hz~65Hz	
Rated Compensation Current (A)	150A	125A
Dimensions (mm, HxWxD)	300*500*620	
Weight (kg)	70	
Mounting	floor / wall / rack	
Protection Level	IP20 (customizable)	
CT Ratio	50:5 ~ 100000:5	
Communication	RS-485	

3 Phase 4 Wire AHF Module 380V/415V Series

Product model	APFA-50/415	APFA-75/415	APFA-100/415	APFA-150/415	APFA-200/415
Rated Voltage (V)	380/415				
Rated Compensation Current (A)	50	75	100	150	200
Dimensions (mm, HxWxD)	205x400x560	205x400x560	205x500x678	205x500x678	240*500*650
Weight (kg)	31	39	47	56	78
Mounting	floor / wall / rack				
Protection Level	IP20				
CT Ratio	50:5 ~ 100000:5				
Communication	RS-485				

INDUSTRIES APPLICABLE

Automotive
Pharmaceuticals
Cement
Pulp & paper
Oil, gas & petrochemicals

Textiles industries
Steel rolling mills
Plastic extrusion
IT/ITES
Water & water treatment Industry

Shopping Malls
Hospitals
Hotels
Food & beverage
Banks & data centers