
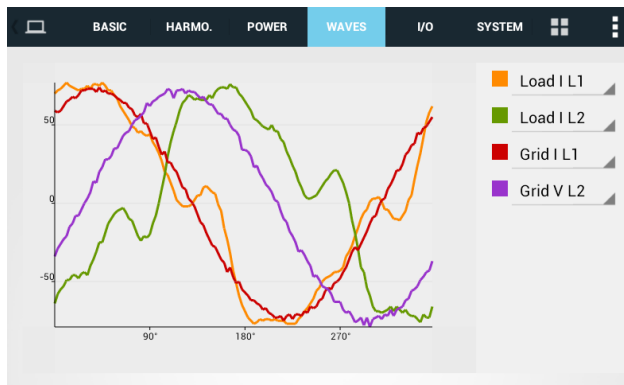
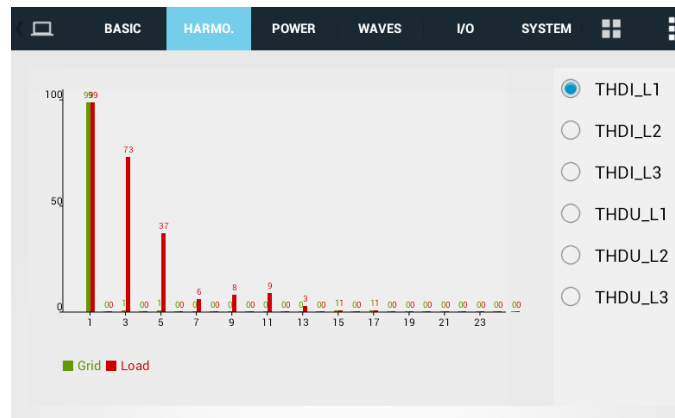


Items	Schneider	Sinexcel	Conclusion
Module capacity	480V series don't have module design Single cabinet capacity: AccuSine PCS+ : 60/120/200/300A	Single module capacity: 25/35/50/60/75/90A	Sinexcel AHF has the most complete module capacity in power quality business so it is more flexible on choosing single module capacity. With different combination, it can meet various requirements of different projects.
Mounting, dimension and weight	Dimension: Cabinet dimension: 1300*421*349/ 2100*800*500/ 1400*421*384 / 2100*800*500/ 1323*582*438/ 2100*900*600/ 1560*582*438/ 2100*900*600/ 2100*1300*500 / 2100*1400*600/ 2000*800*600 Weight: 60A: 88/277/291 kg 120A: 113/279/293kg 200A: 171/363/384/402kg 300A: 210/402/422/436kg Wall-mounted: 60A: 1530*421*349 with 97.3kg 120A: 1730*421*384 with 122kg 200A: 1642*575*435 with 180kg 300A: 1882*575*435 with 218.6kg	The modules have both rack mount and wall mount Dimension: Rack-mounted: 544x640x250mm Wall-mounted: 504*253*640mm Weight: 66kg	Sinexcel is the first company in the world to invent modular design for AHF. So Sinexcel has the most compact module and most flexible solution.

<p>Parallel connection</p>	<p>Up to 10 units per set of CT</p>	<p>Could unlimited parallel connection</p> 	<p>Sinexcel is the first company in the world to design unlimited parallel connection.</p> <p>Sinexcel cabinets use FACTS (Flexible Alternative Current Transmission System) technology.</p> <p>Flexible to integrate both AHF, and SVG, for different power rating modules.</p> <p>Flexible for both top and bottom cable entrance.</p> <p>Flexible to set bus bar at the back or side.</p> <p>Flexible for more capacity option.</p> <p>Able to connect in parallel unlimitedly between cabinets.</p>
<p>Monitor interface</p>	<p>LCD controller and display</p>	<p>7 inch or 4.3 inch colorful touch HMI screen.</p>	<p>Much smarter HMI monitor for Sinexcel products.</p>



BASIC		HARMO.	POWER	WAVES	I/O	SYSTEM			
Grid Curr.	RMS (A)	PF	THDI(%)	Grid Volt.	Vol. (V)	Fre. (Hz)	THDU(%)		
	L1	75.0	0.997		3.9	L1	229.6	50.0	3.7
	L2	75.6	0.997		3.8	L2	227.9	50.0	3.9
	L3	73.9	0.996		3.9	L3	225.5	50.0	3.6
	N	9.1							
Load Curr.	RMS (A)	PF	THDI(%)	Comp. Curr.	RMS (A)	Load Rate (%)			
	L1	95.1	0.767		82.9	L1	60.5	60.45	
	L2	95.4	0.772		81.6	L2	60.3	60.27	
	L3	93.3	0.773		81.2	L3	58.8	58.72	
	N	160.9							



Comparison for before and after compensation performance of each individual harmonic order could be even shown on the monitor. You can clearly see the value of THDI.

Also waveform of before and after compensation and spectrum on the same screen with different color. Multiple chooses about display, Grid load or compensation' parameters.

Switching frequency	20KHz	Average 20KHz ,the highest frequency up to 35KHz	
Altitude	1000m, (derate 1% per 100 m above)	1,500m /derating up to 4,000m, 1%/100m	
Noise level	<70dB	<65dB	
Response time	40ms	5ms	

Ability for compensation harmonics

2nd-50th harmonic orders

Filter harmonic from 2nd to 50th order selectively and simultaneously.

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Sinexcel AHF

Harmonics Comp. Setup

1#		3#	100	5#	100	7#	100	9#	100
11#	100	13#	100	15#	0	17#	0	19#	0
21#	0	23#	0	25#	0	27#	0	29#	0
31#	0	33#	0	35#	0	37#	0	39#	0
41#	0	43#	0	45#	0	47#	0	49#	0

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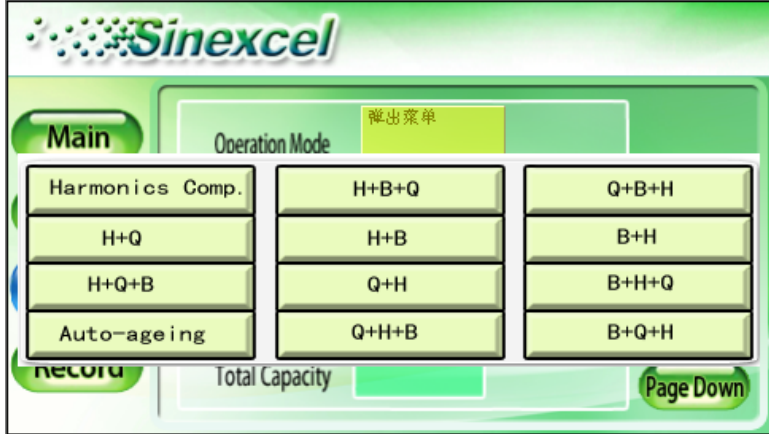
Sinexcel AHF

Harmonics Comp. Setup

2#	100	4#	100	6#	100	8#	100	10#	100
12#	100	14#	100	16#	100	18#	0	20#	0
22#	0	24#	0	26#	0	28#	0	30#	0
32#	0	34#	0	36#	0	38#	0	40#	0
42#	0	44#	0	46#	0	48#	0	50#	0

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Sinexcel AHF is more flexible on harmonic compensation.

<p>Function sequence</p>	<p>AccuSine PCS+: Phase harmonic/ PFC/ Mains current Balancing</p>	<p>Up to 12 working modes including different priorities and different combinations for “harmonic compensation”, “power factor correction” and “3-phase load balancing”.</p>  <p>(Different combinations represent different priority. e.g. the combination of H+Q+B means preferential compensation of harmonics, then reactive power, and three-phase imbalance; H+B+Q means preferential compensation of harmonics, then three-phase imbalance, and reactive power; mode 0 means sole compensation of harmonics, Q+H means preferential compensation of reactive power, and then harmonics compensation.)</p>	<p>With 12 selective working modes, Sinexcel AHF could combine three independent functions (Harmonic, PFC, Load balancing) for any system demand.</p>
<p>Input</p>	<p>Input voltage and frequency: 380-480 VAC; +10%/-15% 50/60 Hz, ±3 % auto sensing</p>	<p>Input voltage and frequency: 480 (384V -552V), 45~62Hz</p>	<p>Sinexcel AHF have stronger self-adaption ability both for voltage degree and frequency range, which means that it could solve problems under more strict situations.</p>

Cabinet Capacity

Maximum 300A

Cabinet dimension: (H*W*D)

1300*421*349/

2100*800*500/

1400*421*384 /

2100*800*500/

1323*582*438/

2100*900*600/

1560*582*438/

2100*900*600/

2100*1300*500 /

2100*1400*600/

2000*800*600



Flexible type cabinet: (W*D*H)

600*1000*2200

800*1000*2200

800*800*2200



Plug type cabinet

600*800*2200

Maximum one cabinet 450A
or 375kVar.

Harmonic compensation setting

Not equipped.

You can set compensation ratio and angle biasing of each harmonic order on the monitor to reach perfect compensation.

By adjusting angle biasing, it can make compensation more accurate.

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Sinexcel — AHF

Harmonics Comp. Setup

1#	3# 100	5# 100	7# 100	9# 100
11# 100	13# 100	15# 0	17# 0	19# 0
21# 0	23# 0	25# 0	27# 0	29# 0
31# 0	33# 0	35# 0	37# 0	39# 0
41# 0	43# 0	45# 0	47# 0	49# 0

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Sinexcel — AHF

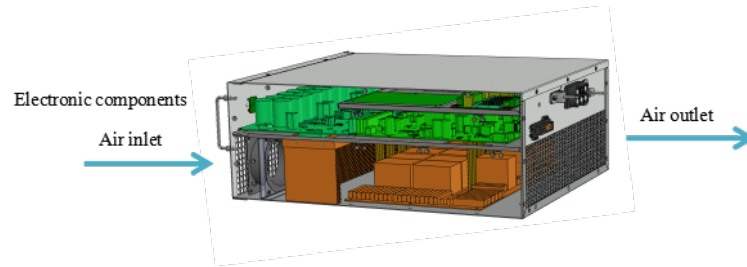
Harmonics Comp. Setup

2# 100	4# 100	6# 100	8# 100	10# 100
12# 100	14# 100	16# 100	18# 0	20# 0
22# 0	24# 0	26# 0	28# 0	30# 0
32# 0	34# 0	36# 0	38# 0	40# 0
42# 0	44# 0	46# 0	48# 0	50# 0

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Air flow design


Natural and forced ventilation. Separate air plenums for heat sink section and PCBA section. Heat sink plenum input from bottom with exhaust out top. All components in heat sink plenum rated IP54 or better => no filtering required PCBA air supply must be clean and dry (filtering may be required). No conductive particles permitted.



The top layer is the electronic components like DSP and chips. And the bottom layer is the IGBT, inductors and the heat sink. It's designed to protect the micro electronic components from the dust and the heat elements.

Perfect design for:
Heat dissipation
Dust prevention

No AC capacitor and no need to do maintenance

<p>Compensation algorithm</p>	<p>FFT algorithm</p>	<p>Sinexcel AHF support 3 kinds of algorithms Intelligent FFT FFT Instantaneous reactive power algorithm.</p>	<p>Intelligent FFT is a unique algorithm invented by Sinexcel. Can self-study the system impedance to avoid system resonance by gradually increasing AHF capacity</p>
<p>Communication</p>	<p>Modbus RTU, Modbus TCP/IP</p>	<p>Communications ports have RS485 and Ethernet port(RJ45),the protocols use Modbus(RTU).</p>	<p>Sinexcel HMI have integrate all software function that users could setting the parameters of AHF, don't need the software in the PC to Debug and setup.And another function is send Email, you can see the parameters of operation</p>
<p>3P3L and 3P4L module type</p>		<p>Same module for 3P3L and 3P4L</p>	<p>every week and month or year</p> <p>3P3L and 3P4L have same module. If you want to change the phase condition,</p>
<p>Components Attribute</p>		<p>Could as the components installed in all kinds of devices,become a part of the system</p> 	<p>needn't to change the cabinet or add any components.</p> <p>Could as the components installed in all kinds of devices</p>

