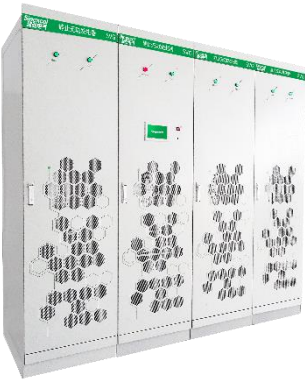
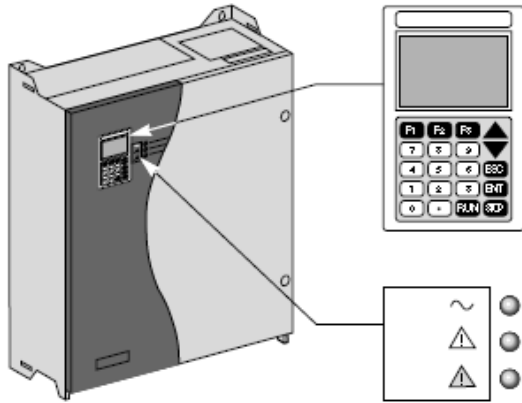


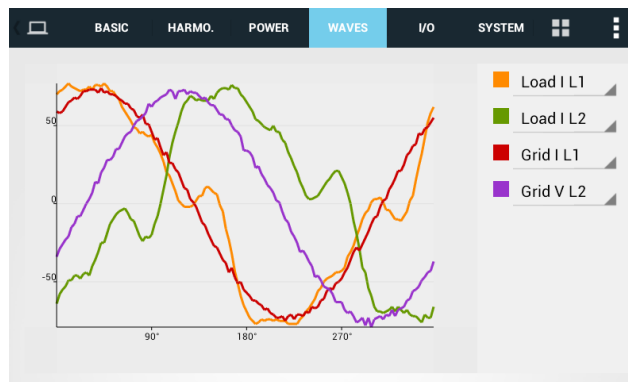
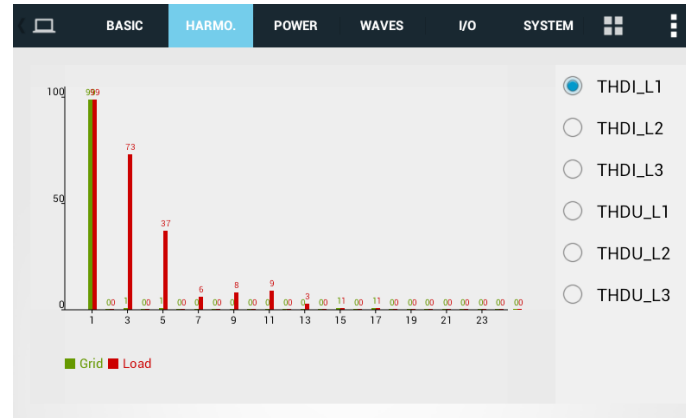
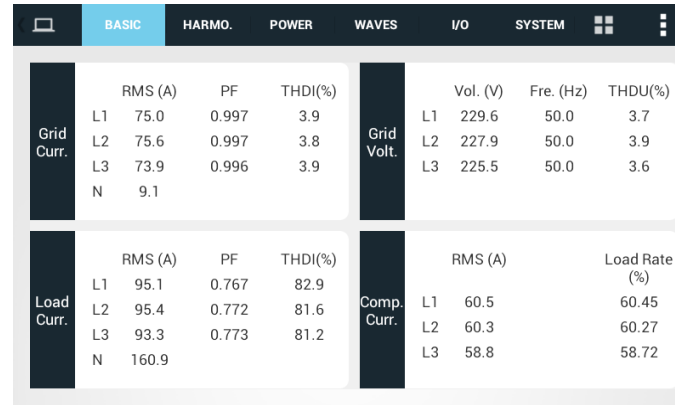
| Items | Schneider | Sinexcel | Conclusion |
|--------------------------------|---|--|---|
| Module capacity | Single module capacity: AccuSine: 20/30/45/60A | Single module capacity: 5/10/15/25/35/50/60/75 /100/150A | Sinexcel AHF has the most complete module capacity in power quality business so it is more flexible on choosing single module capacity. With different combination, it can meet various requirements of different projects. |
| Mounting, dimension and weight | Dimension: smallest: 680x540x280mm (20/30A module) largest: 780x590x325mm (45/60A module) Weight: lightest: 65kg (20/30A module) heaviest: 110kg (45/60A module) | Both rack mount and wall mount Dimension: Smallest: 440x470x150mm (25A/35A module) Largest: 500x510x270mm (150A module) Weight: Lightest: 18kg (25A module) Heaviest: 48kg (150A module) | 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. |
| Parallel connection | | Could unlimited parallel connection  | Sinexcel is first canpany in the world to design unlimited parallel connection |

Monitor interface

LCD controller and display



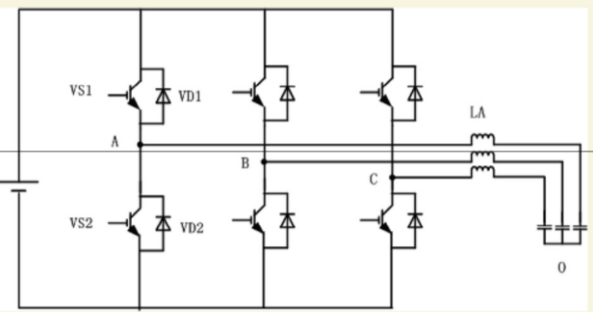
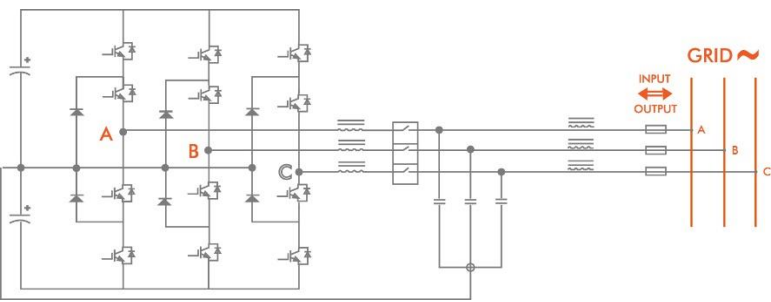
7 inch or 4.3 inch colorful touch HMI screen



Much smarter HMI monitor for Sinexcel products.

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's parameters.

| | | | |
|---------------------|--|---|--|
| | | | |
| Circuit topology | <p style="text-align: center;">2-level topology</p>  | <p style="text-align: center;">3-level topology</p>  | <p>Main advantages of the 3-level topology are:</p> <ol style="list-style-type: none"> 1. Lower the losses of IGBT. IGBT could switches much faster and has longer lifetime. 2. Smaller output current ripple to improve performance and reduce the internal filter requirement. <p>Three-level solution is characterized by reduced circuit losses and higher efficiency, thus supporting energy-saving concepts. If you want to know more 3-level topology technology, please connect with us.</p> |
| Switching frequency | 20KHz | Average 20KHz ,the highest frequency up to 35KHz | |
| Altitude | 1,000m /derating up to 3,000m, 1%/100m | 1,500m /derating up to 4,000m, 1%/100m | |
| Noise level | <67dB | <56dB | |
| Response time | 40ms | Instantaneous reactive power algorithm <5ms FFT <20ms | |

Ability for compensation harmonics

2nd-50th harmonic orders

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

Sinexcel AHF is more flexible on harmonic compensation.

2014-10-09 11:35:15 Stop

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 |


Main Data Settings Record Page Up Page Down

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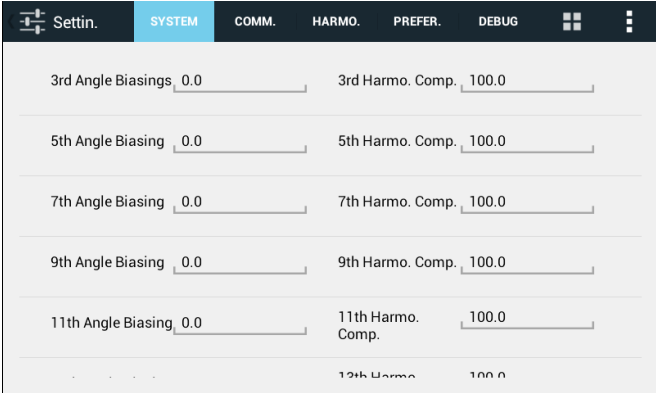
Harmonics Comp. Setup

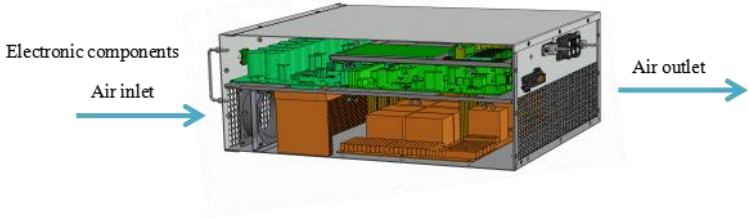
| | | | | |
|---------|---------|---------|--------|---------|
| 2# 100 | 4# 100 | 6# 100 | 8# 100 | 10# 100 |
| 12# 100 | 14# 100 | 16# 100 | 18# 0 | 20# 0 |
| 22# 0 | 24# 0 | 26# 0 | 28# 0 | 30# 0 |
| 32# 0 | 34# 0 | 36# 0 | 38# 0 | 40# 0 |
| 42# 0 | 44# 0 | 46# 0 | 48# 0 | 50# 0 |


Main Data Settings Record Page Up Page Down

| | | | |
|--|------------------------------------|--|---|
| <p>Function sequence</p> | <p>Harmonic compensation</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>Reactive power compensation settings.</p> | <p>Not mentioned in the manual</p> | <p>Power factor can be programmed to 1 lagging to 1 leading.</p> | <p>With enough capacity, Sinexcel AHF could not only eliminate all the harmonic but also could improve PF to 1.</p> |

| | | | |
|-------------------------|--|--|---|
| <p>Input</p> | <p>Input voltage and frequency: 320V-440V(400V -20%~+10%), 50Hz, 60Hz +/-4Hz</p> | <p>Input voltage and frequency: 228V-456V (380V -40%~+20%), 45~63Hz</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> |
| <p>Cabinet Capacity</p> | <p>Maximum 4 units can be combined Maximum 480A with 4 units.</p> | <div data-bbox="974 395 1319 922" data-label="Image"> </div> <p data-bbox="1429 898 1702 930">Flexible type cabinet</p> <div data-bbox="987 938 1397 1465" data-label="Image"> </div> <p data-bbox="1458 1441 1688 1473">Plug type cabinet</p> | <p>Maximum one cabinet 750A or 500kVar.</p> |

| | | | |
|--------------------------------------|--|--|---|
| <p>Parallel system</p> | <p>Maximum 4 units can be combined</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>Harmonic compensation setting</p> | <p>Not equipped.</p> | <p>You can set compensation ratio and angle biasing of each harmonic order on the monitor to reach perfect compensation.</p>  | <p>By adjusting angle biasing, it can make compensation more accurate.</p> |

| | | | |
|-----------------|------------|---|--|
| Air flow design | Fan cooled |  <p>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.</p> | Perfect design for: Heat dissipation Dust prevention No AC capacitor and no need to 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>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 every week and month or year</p> |
| <p>3P3L and 3P4L module type</p> | | <p>Same module for 3P3L and 3P4L</p> | <p>3P3L and 3P4L have same module. If you want to change the phase condition, needn't to change the cabinet or add any components.</p> |
| <p>Components Attribute</p> | | <p>Could as the components installed in all kinds of devices,become a part of the system</p>  | <p>Could as the components installed in all kinds of devices</p> |

