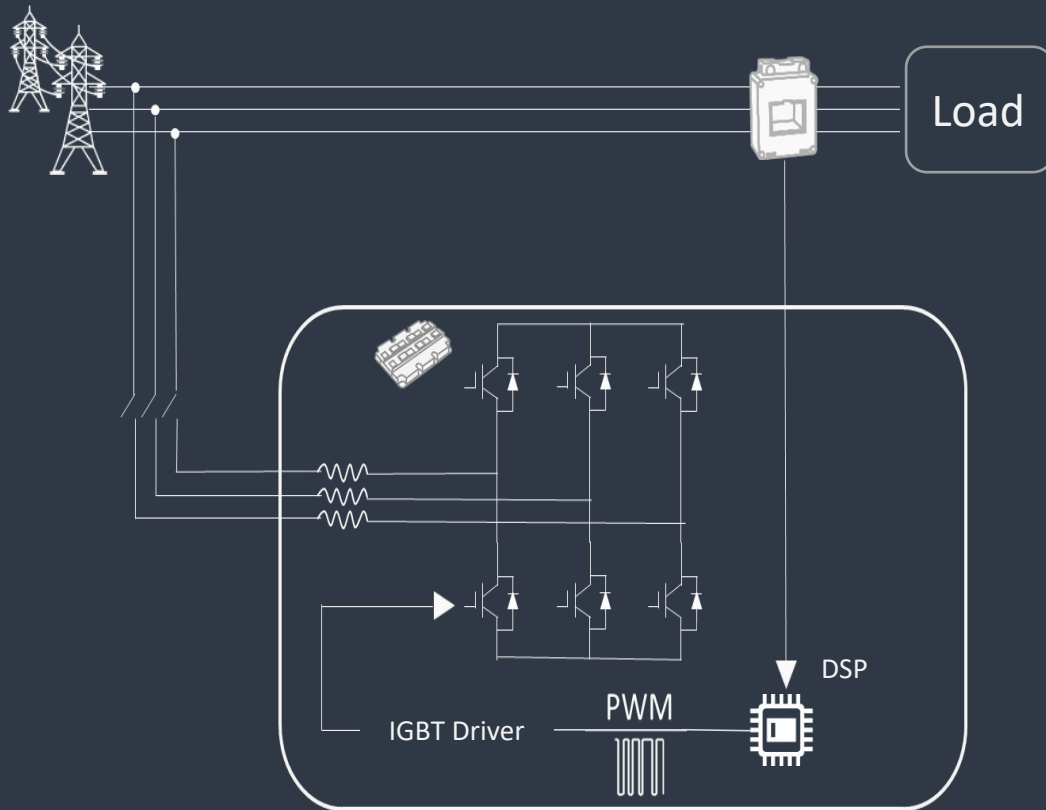


Inverter Based Harmonic Compensation-AHF

Full Controlled Technology



Tech Combination

Flexible Alternative Current Transmission



Power Electronic



Micro-Programming



Micro-Electronics

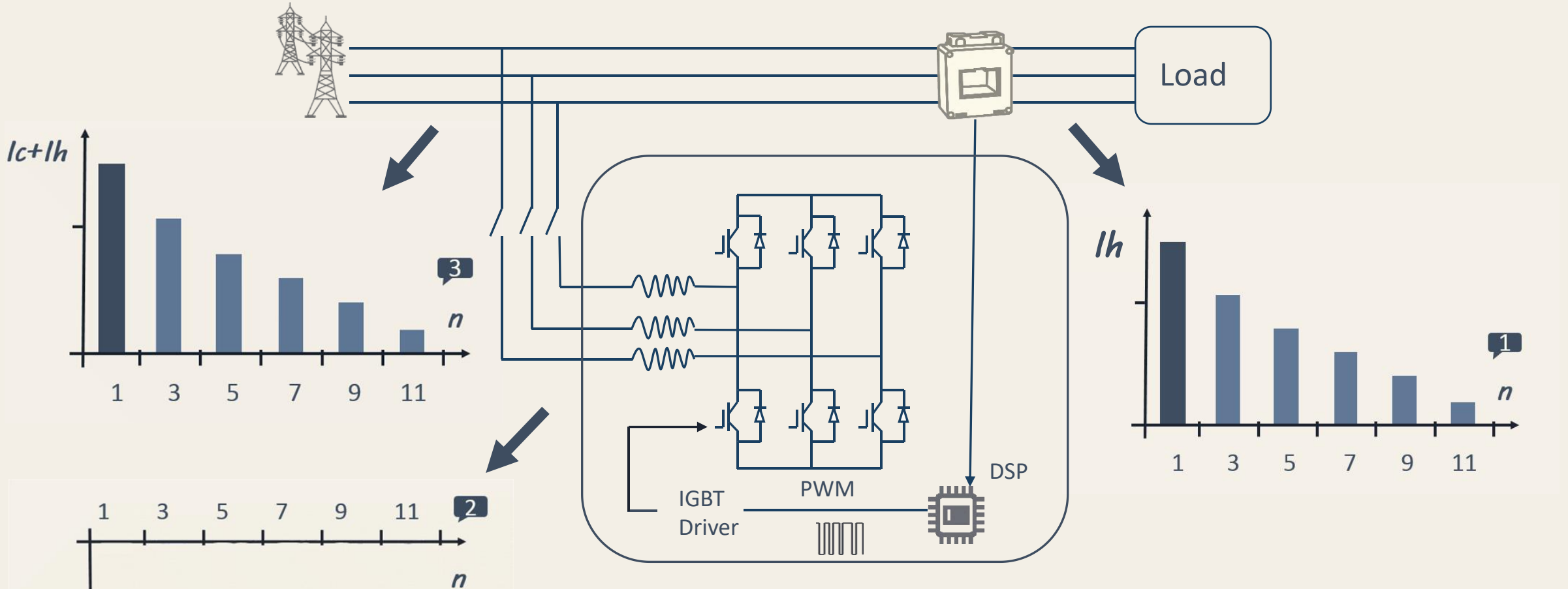


Communication



Control

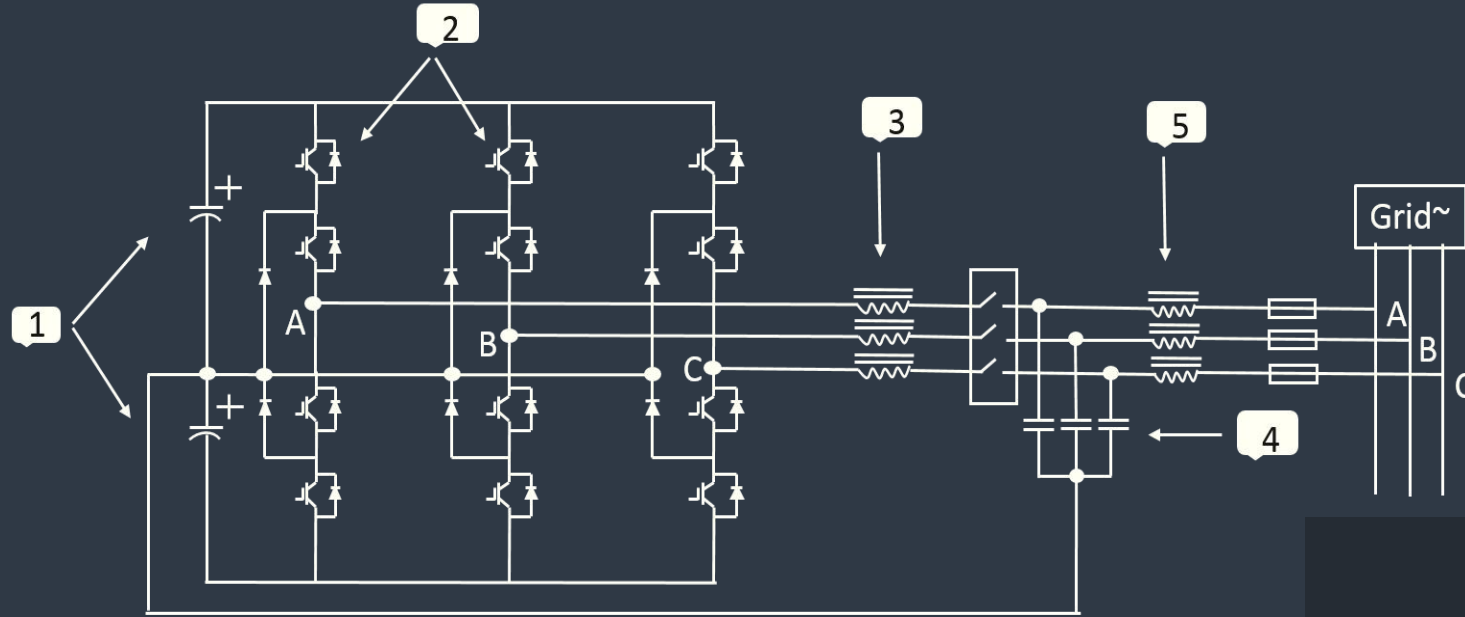
Benefit Of Inverter Based PQ



Fast and programmable to high accuracy

Extremely excellent performance consistent to meet PQ standard

High reliability by free maintenance

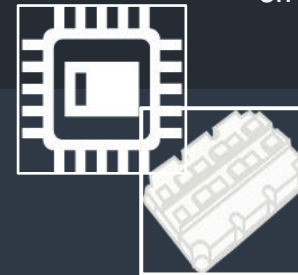


1. The grid side AC through the rectifier part and be changed into DC bus capacitance voltage, this voltage will be stabled in a small range by DC bus capacitor

2. DSP control the port and length of IGBT on and off time to generate a voltage at inverter part.

3. The different voltage between grid side and converter part add on the inverter inductor and generate a compensation current.

4. Ripple current be removed on the LCL filter circuit



Extremely Fast
calculation and reaction in ms

High Accuracy
Programmable and customized AC

AHF Innovative Inverter Based PQ

2nd-50th harmonic compensation
Compensate dynamic change harmonic



Sinexcel



Sinexcel

Sinexcel

Active Harmonic Filter

Sinexcel

Active Harmonic Filter

Normal
Alarm



Sinexcel



Sinexcel

Sinexcel

Active Harmonic Filter

Sinexcel

Sinexcel

Active Harmonic Filter

Sinexcel



Sinexcel



Unique
Flexible-Capacity

25A/35A/50/60A/75A/100A/150A/300A wall/rack
Free combination of capacity



Flexible Engineering-Sinexcel Flexible cabinet

AHF 400A

SVG 2500kvar

Flexible Engineering-Wall Mount Compact Installation





Flexible Engineering-Integrated into Switchgear



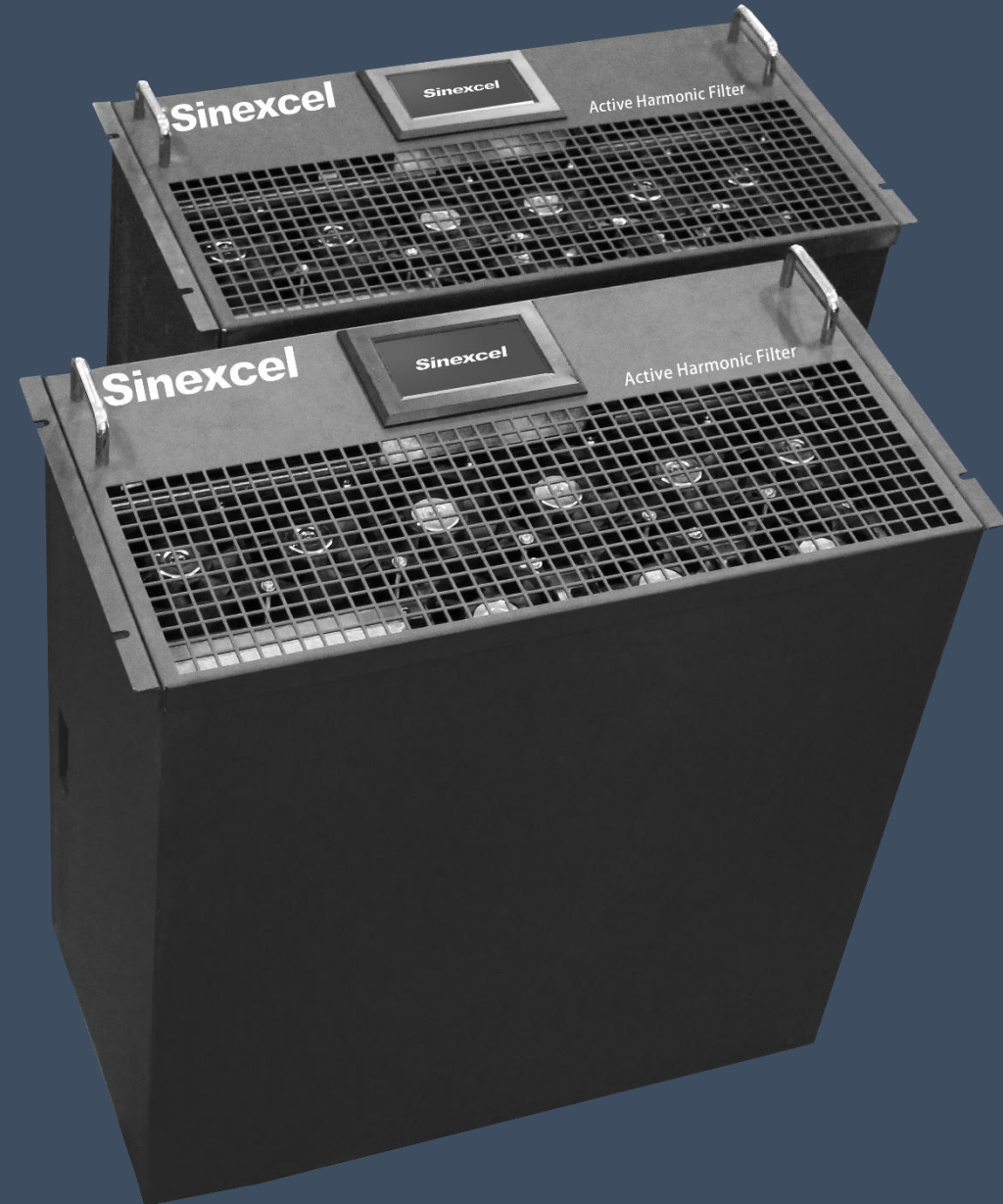
Sinexcel

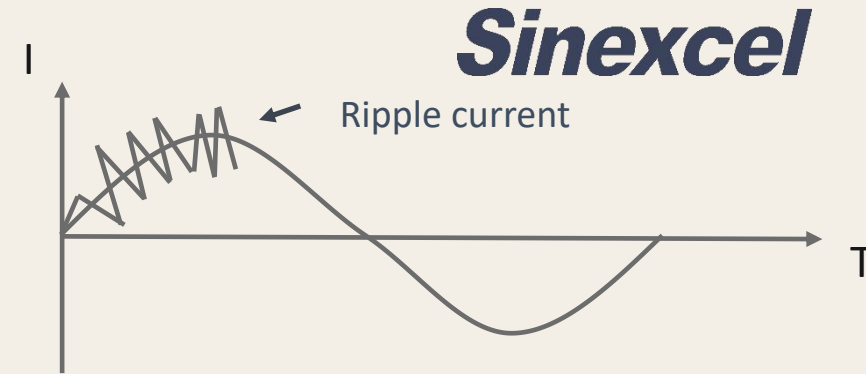
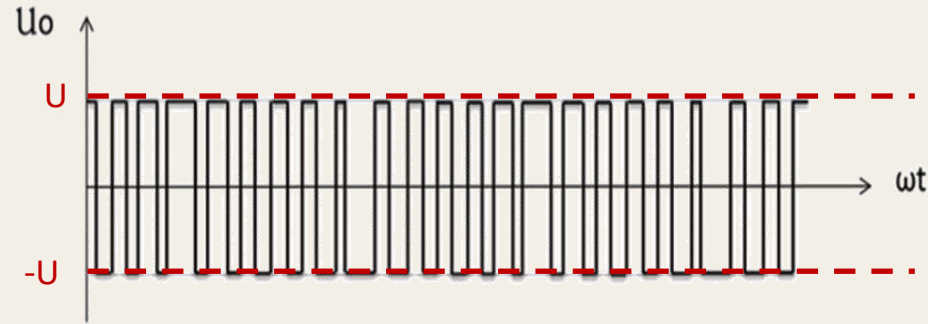
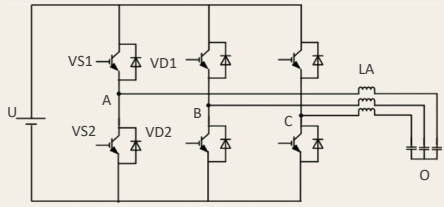
Unique
Modular Design

Modular redundancy

High reliability

Fastest and easiest engineering



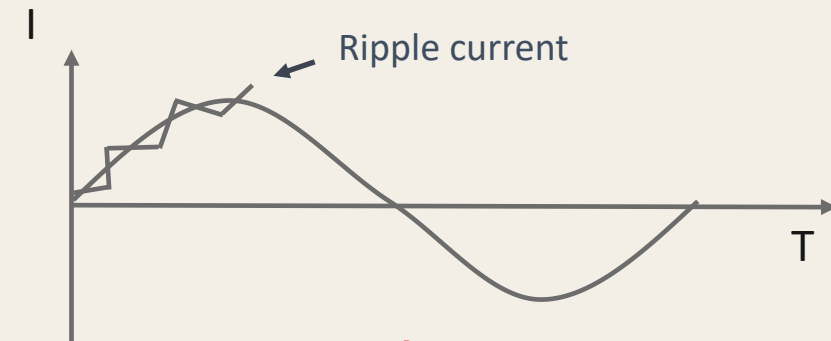
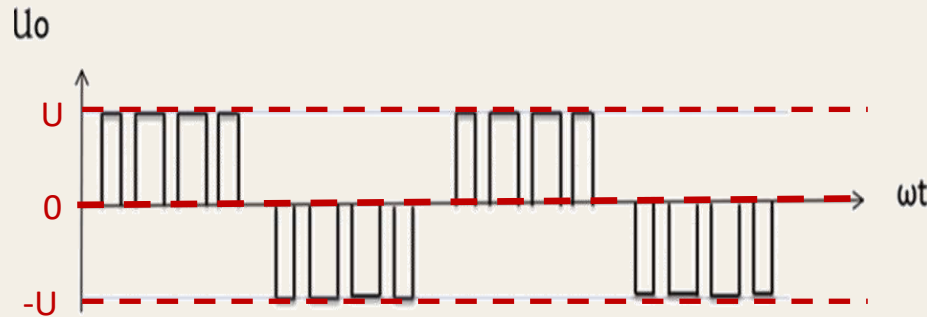
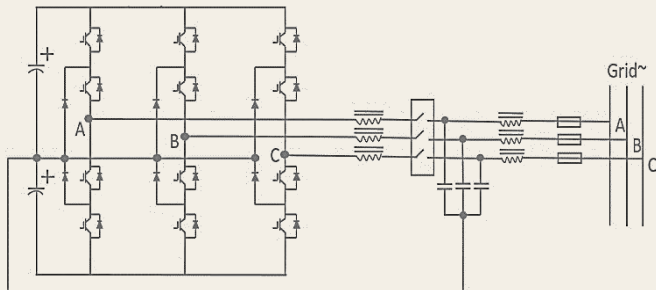


Technical Upgraded

Higher switching frequency from up to 35kHz
100% more IGBT and more complicated program

One more level voltage, more PWM

Higher switching frequency of IGBT could filter more ripple current



Modular design compact and flexible
Higher accuracy on harmonic performance
Higher reliable by program control

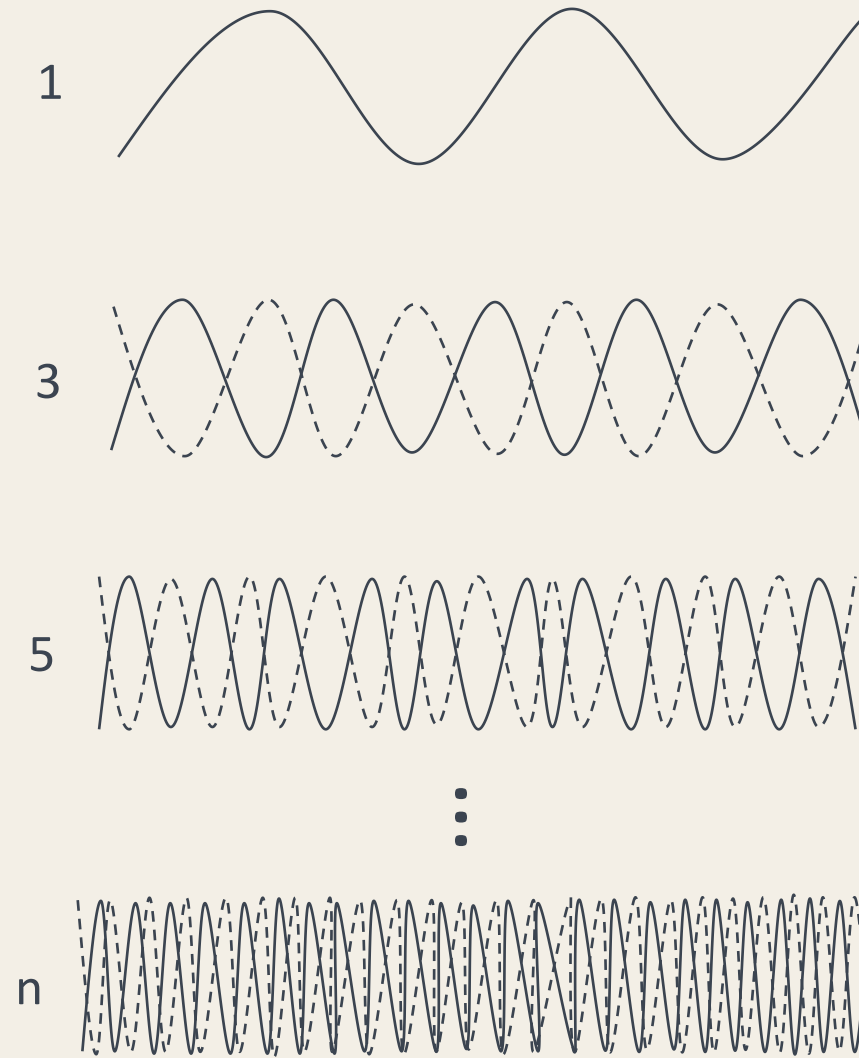
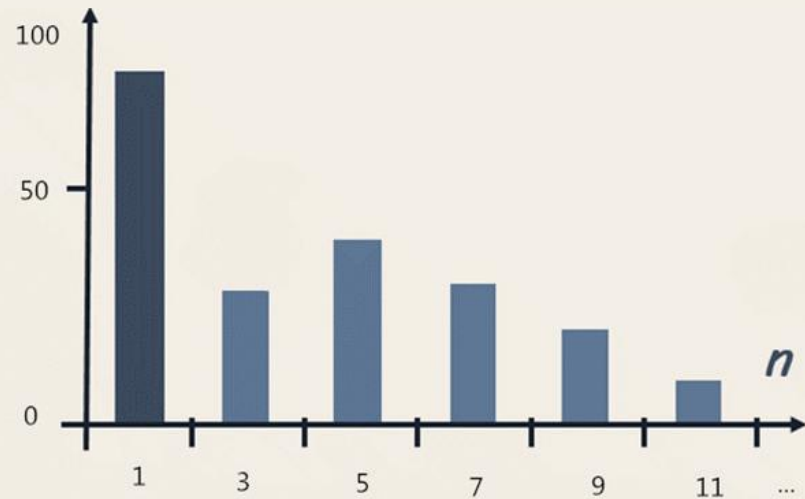
Close to sine wave

Customer Benefits

Unique
3 Level Topology

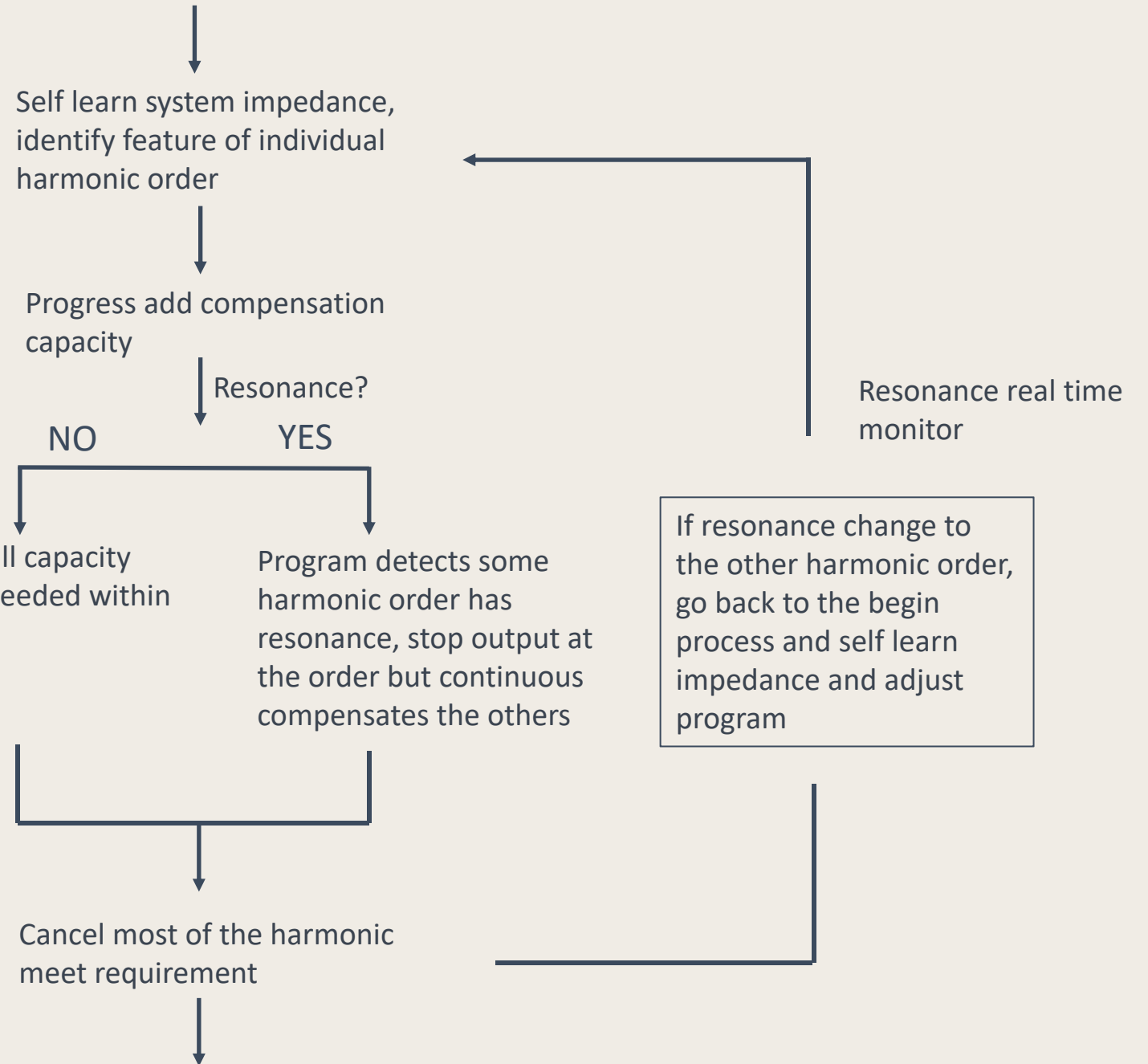
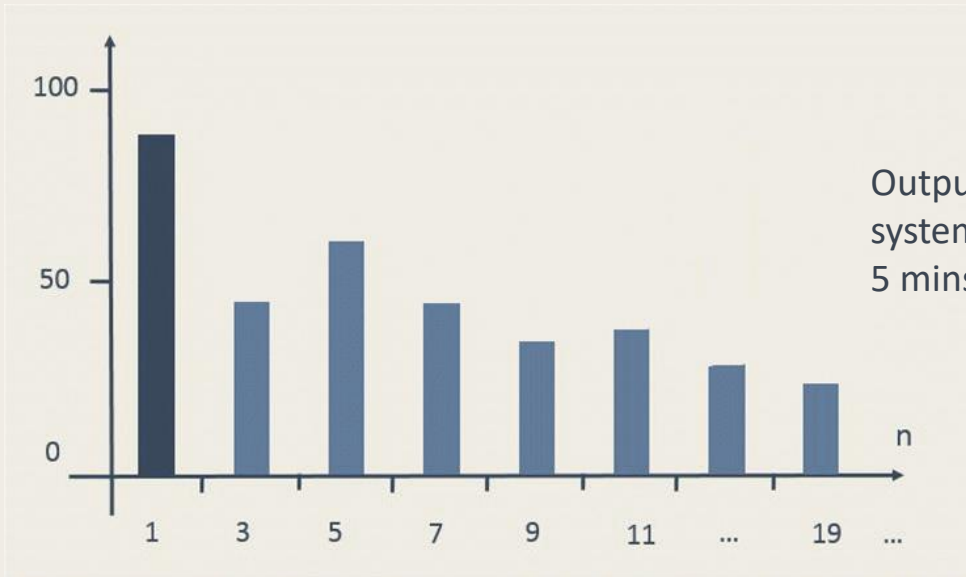
FFT-Fast Fourier Transform

It is the mode of program to identify RMS current to fundamental current, harmonic current of 150Hz/3rd , 250Hz/5th, 350Hz/7th,450Hz/9th...up to 2500Hz/50Hz AHF output current as same frequency as individual harmonic order at the reverse direction.



Unique Intelligent FFT

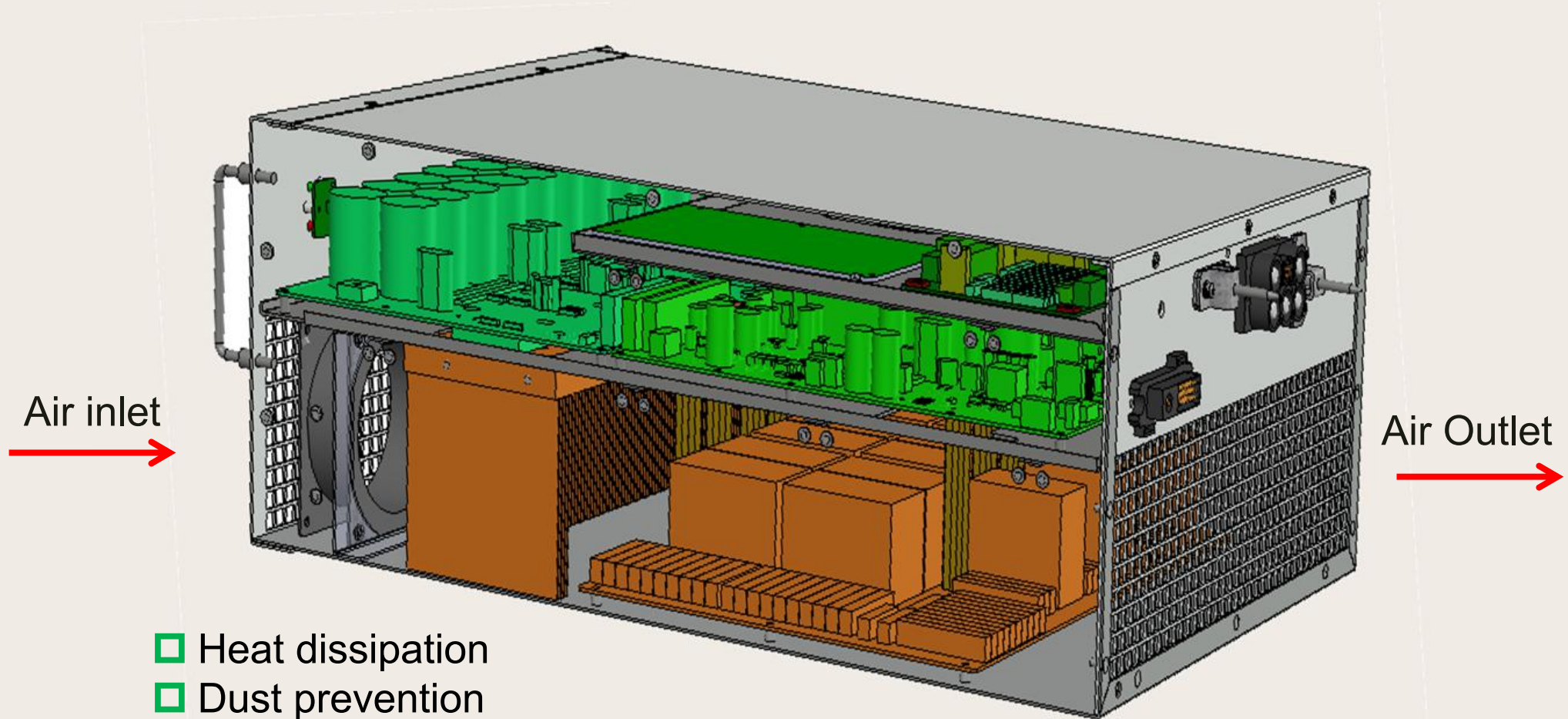
Base on FFT add intelligent program



Unique

Heat Isolation

Sinexcel



Unique

Friendly Interface



COMM.

HARMO.

PREFER.

DEBU

I/O

SYSTEM

Load I L1

Load I L2

Grid I L1

Grid V L2

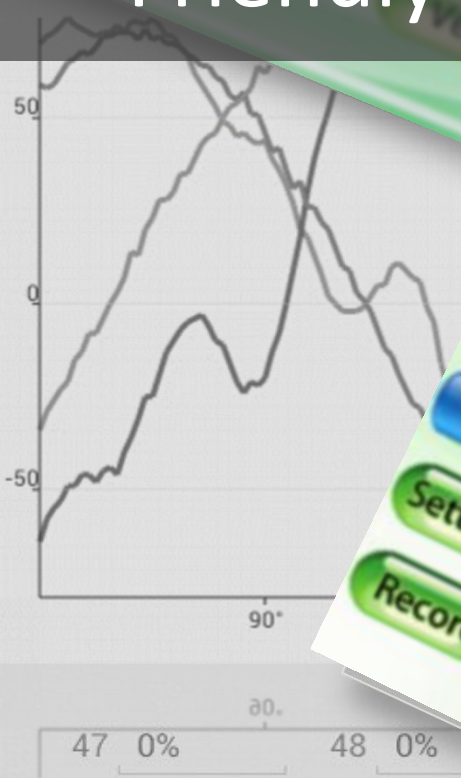
2016-10-09
11:24:47 Normal

2016-10-09
11:35:15 Stop

2016-10-09
11:37:11 Stop

2016-10-09
11:32:10 Stop

2016-10-09
11:24:47 Normal



1#	3#	5#	7#	9#
11# 100	13# 100	15# 100	17# 100	19# 100
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

Grid L1	Current(A)	Power Factor	THDI(%)
Grid L2	108.6	0.98	3.7
Grid L3	109.0	0.98	4.4
Neutral	112.1	0.99	3.6

Grid L1	Current(A)	Power Factor	THDI(%)
Grid L2	108.6	0.98	3.7
Grid L3	109.0	0.98	4.4
Neutral	112.1	0.99	3.6

Items	400V	208V/480V	600V	690V
Rated Voltage	228~456V	384~552V	420~690V	483v~793V
Rated Capacity	15/25/35/50/60/75/ 100/150/300A	25/35/50/60/75/90/100A		
Compensation	Harmonic Compensation, Reactive power compensation, unbalance Compensation			
Power Grid Structure	3P4W, 3P3W			
Filter Range	2~50 th order			
Response Time	<5ms			
Efficiency	>97%			
Cooling air requirement	44/75/151/300/405L/Sec	359L/Sec		
Dimensions (W x D x H) (mm ³)	440*470*150、 440*590*190、 440*600*230、 500*510*270	544*640*250(Rack-mounted)/504*253*640(Wall-mounted)		
Module display interface	4.3-inch HMI(module), 7-inch HMI(central monitor),LED	4.3-inch HMI(wall-mounted), 7-inch HMI(rack mounted)		
Communications ports	RS485,and Ether net port(RJ45)			
Communications protocols	Modbus (RTU)			
Standards Compliance	UL /ETL (UL508) / DNV/ RINA/ BV/ IEEE519, ER G5/4			

LEADING IN INDUSTRY

2.0 Million Installation Global
The biggest quantity installation reference

Widest Application

Reference in non-linear loads
Reference in industries
Reference in environment

Unique Engineering Innovation

Modular Design
3 Level topology





Inverter PQ focus company

100% Power Electronic company high focus
on PQ Tech

Stock listed on CEM stock code 300693



Reference in Global, Industries, Non-linear Loads





Australia, Sydney Opera house, 200A



New Zealand, Irrigation, Central Plains
Water, VFD,1340A



Hong Kong International Airport, one of the busiest, most developed airports in the world, 520A




Saudi Arabia, oil drilling, off grid diesel system, high impedance, high THDu, 450A



Changlong Ocean World, Theme Park, Hotel, Shopping mall , 12000A

 Sinexcel®



 Sinexcel®



 Sinexcel®



 Sinexcel®



 Sinexcel®



 Sinexcel®

Active Harmonic Filter

Active Harmonic Filter

Active Harmonic Filter



Turkey, Ministry of Health of Turkey, UPS, sensitive medical equipment, 1015A



전기위험



Korea, Hanwha Solar Factory. Furnace, 600A





Singapore, CBD Skyscraper Applications, Marina Bay Financial Center Tower, Asia Square Tower, Ocean Financial Center, Keppel Bay Tower, South Beach Tower, Metropolis Tower, Guoco Tower, Duo Tower for the top companies of the world PWC International, Hewlett Packard, Oracle, ABN AMRO Bank, Google, Boeing, lighting, UPS, VFD, harmonic of commercial building, 5000A+



Malaysia, Prime Minister's Department
Complex, , 125A





Chile, Food Product Factory, Cecinas Llanquihue, 200A



Germany, Transportation, AHF, Summit Bulk Carrier, VFD, isolated grid, high THDu, Ship Certification approval AHF, 300A





Tibet, copper industry , AHF 9900A , SVG 1000kvar



The UK, Glabina cheese, VFD, 350A

Thank You