History drives the future

DUCATI energia

Actisine Pro

Modular

Active Power Filter

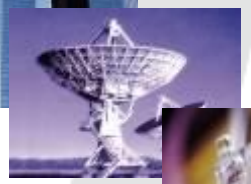
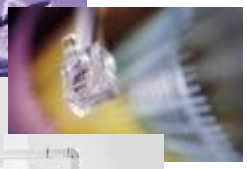
Key Features

- Modular and easy to extend
- **3 Level Technology**
- **Space-saving high power density design**
- **Hot-scalable power modules**
- **60A/80A per module**
- **Flexible Power Capacity Combination**
- Apply to 3 Phase 3 Wires/4 Wires System
- Advanced DSP technology, programmable
- Close/Open Loop Control
- Compensate up to 51st harmonics
- Power Factor Correction
- Correct unbalance three phase utility
- No problem of overload
- **Advanced Operation Interface— 7”Colorful LCD Touch Screen**

Application

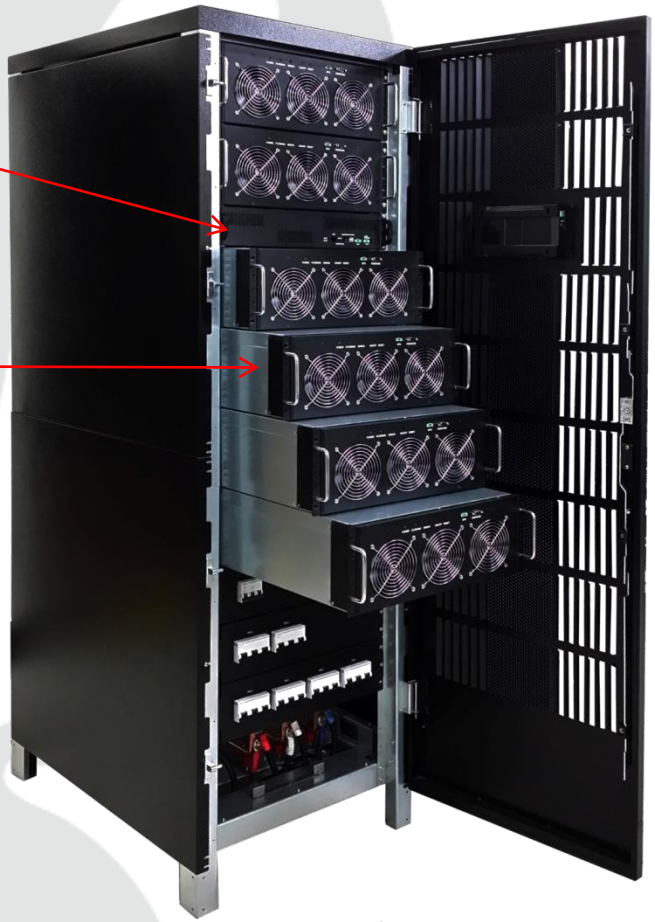
- Utilities Industry
- Steel, Chemical, Automotive Industry
- Semiconductor Factory
- Printing, Pulp and Paper Industry
- Office, Building and Data Center
- Airport
- UPS and MCC (Motor Control Centers)
- Medical Center (MRI)
- Elevator and HVAC System
- Oil Drilling Platform




Modular design

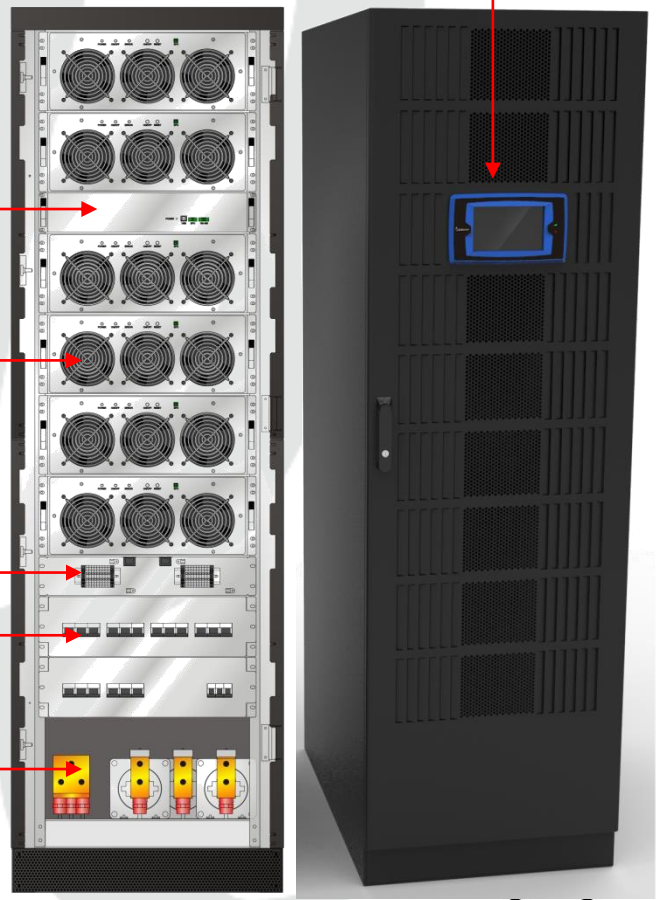
- Control Module
  - 208V/400V/440V/480V
  - Each controller can manipulate 6 Power Modules.
  - 440mm x 630mm x 85mm (w x d x h)
- Power Module
  - 208V/400V/440V/480V 80A
  - 208V/400V/440V/480V 60A
  - 440mm x 630mm x 176mm (w x d x h)
- Hot-scalable design
- Provides Hot-swappable Rack Rail Kit
- Easy to install in standard 19” rack cabinet



Rack Rail Kit

Frame

- Frame 1 :
  - 600mm x 900mm x 1950mm (w x d x h)
  - Install up to 6 Power Module, 480A
- Frame 2:
  - 600mm x 900mm x 1500mm (w x d x h)
  - Install up to 4 Power Module, 320A

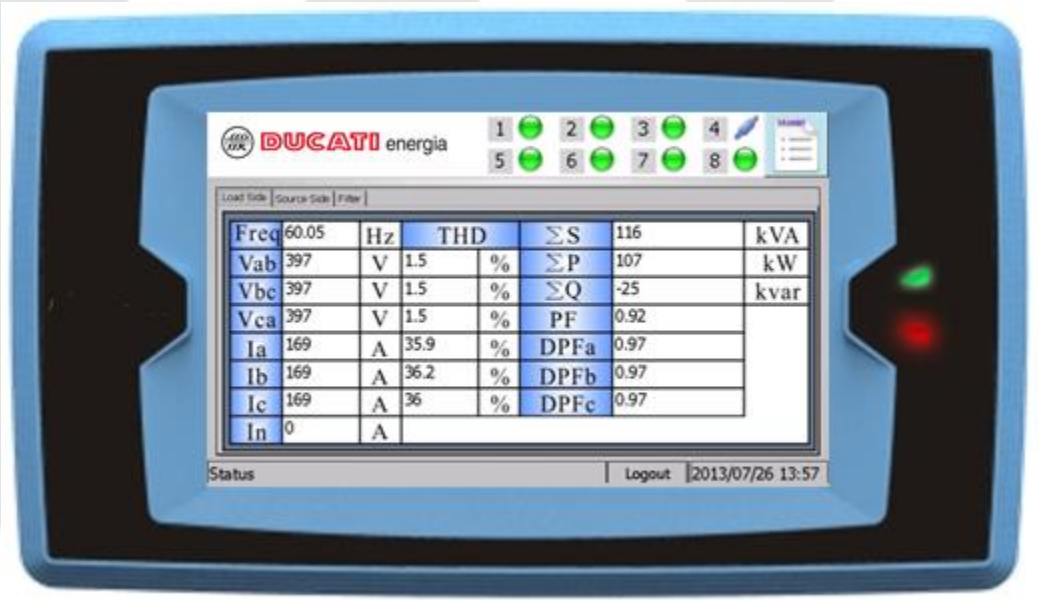


Key Features

- 7” LCD Touch Screen
- Easy Operation
- Display Voltage/Current waveform, parameter and spectrum
- Multiple Languages
- Come with Ethernet & RS-485 communication ports
- Programmable Output Dry Contact x 3, Input Contact x 1

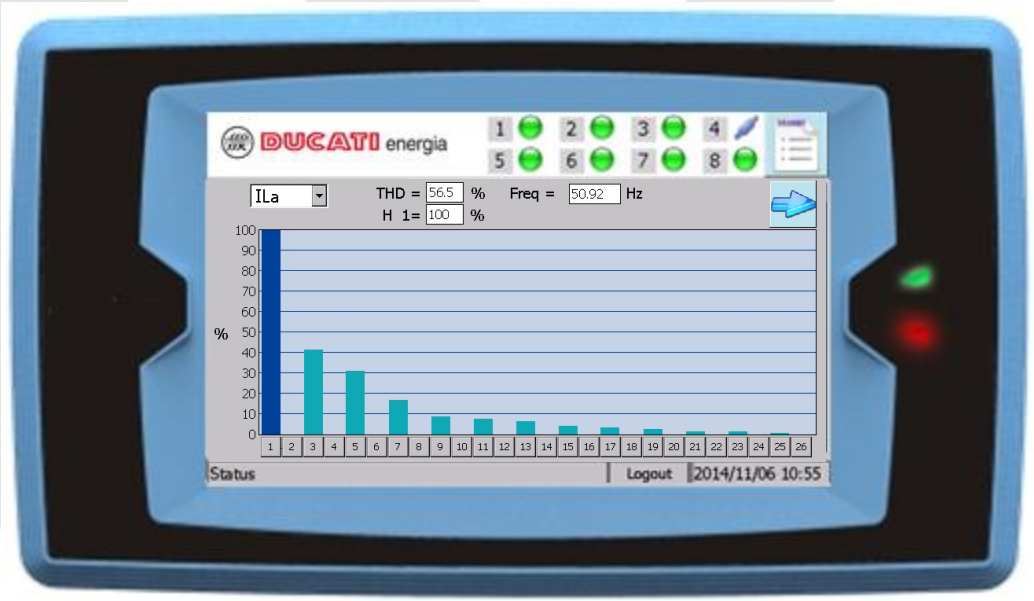
Advance operation interface

- Power Parameters



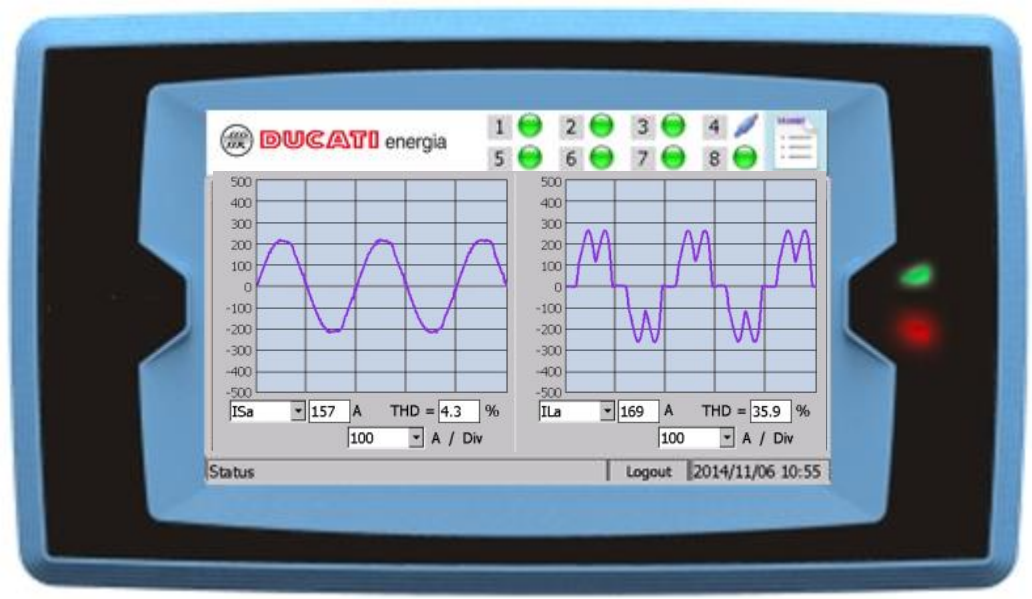
Advance operation interface

- Harmonic Spectrum



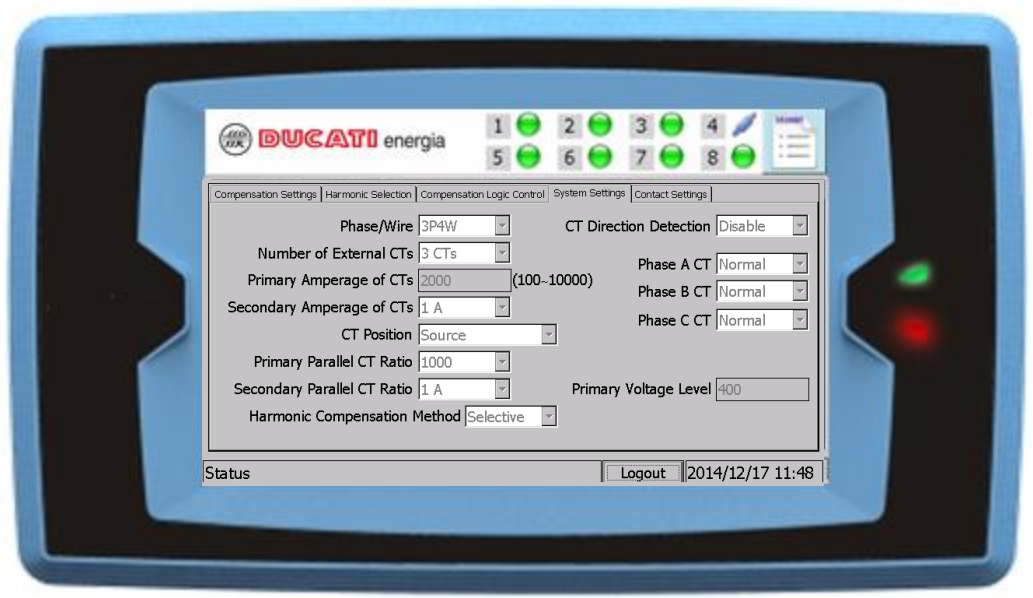
Advance operation interface

- Waveform



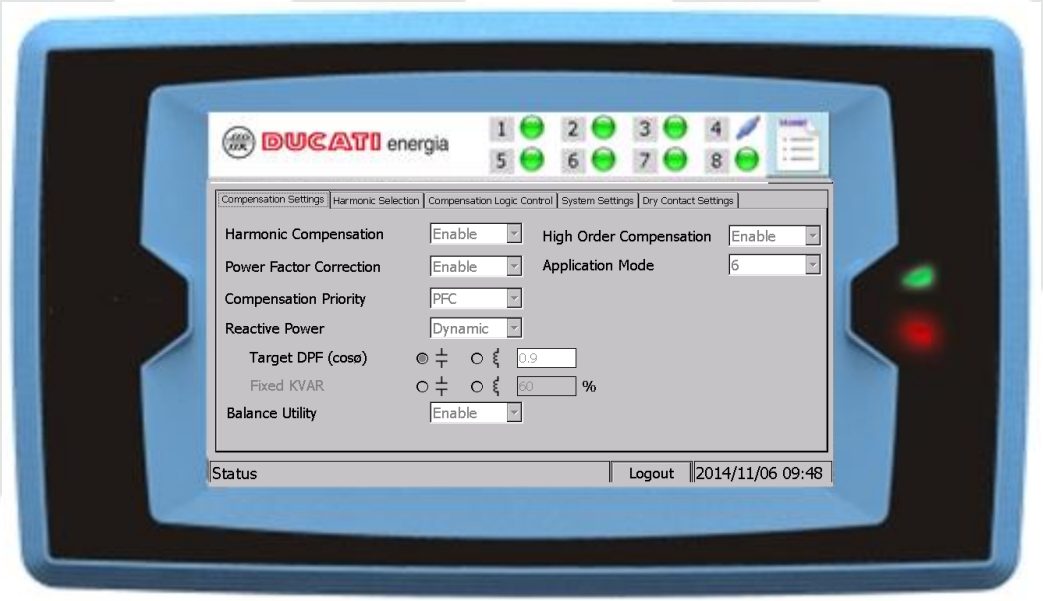
Advance operation interface

- System Configuration
- Programmable CT Ratio



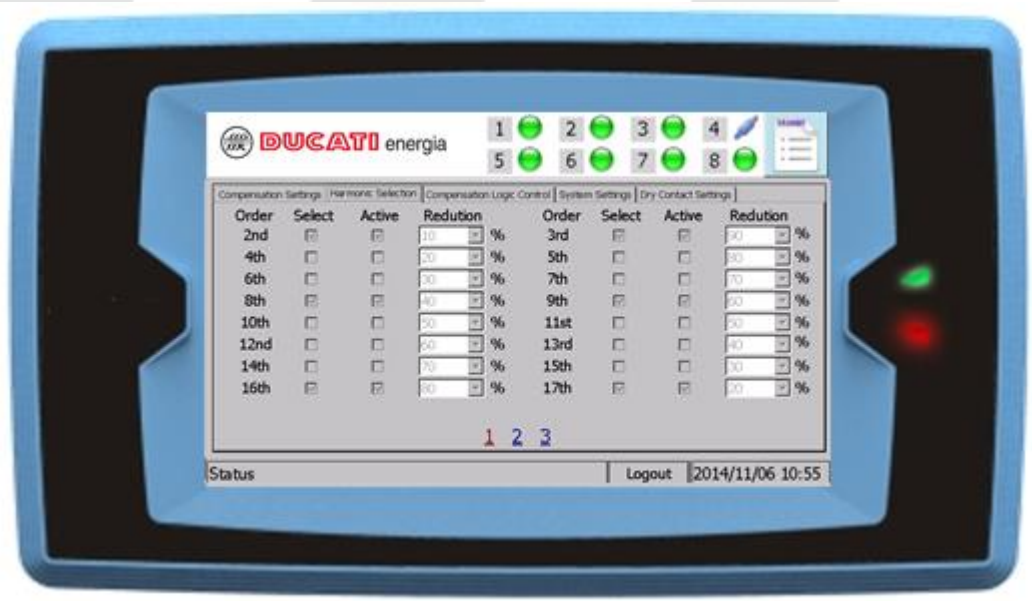
Advance operation interface

- Harmonic Enable/Disable
- Power Factory Correction Enable/Disable
- Balance Utility Current Enable/Disable



Advance operation interface

- Harmonic Order Selection from 2nd to 51st



Communication

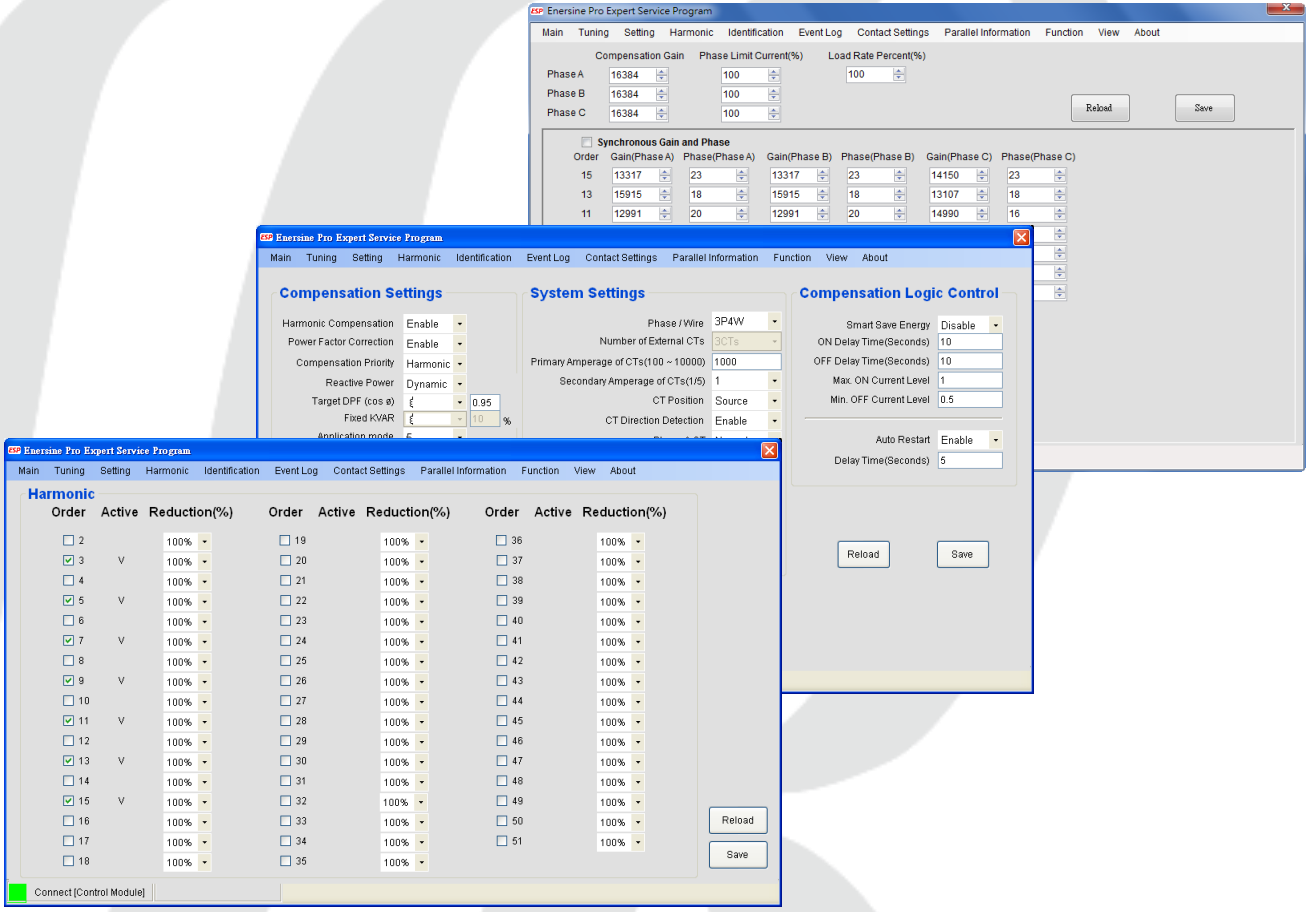
Remote Monitoring Center

Ethernet/RS-485

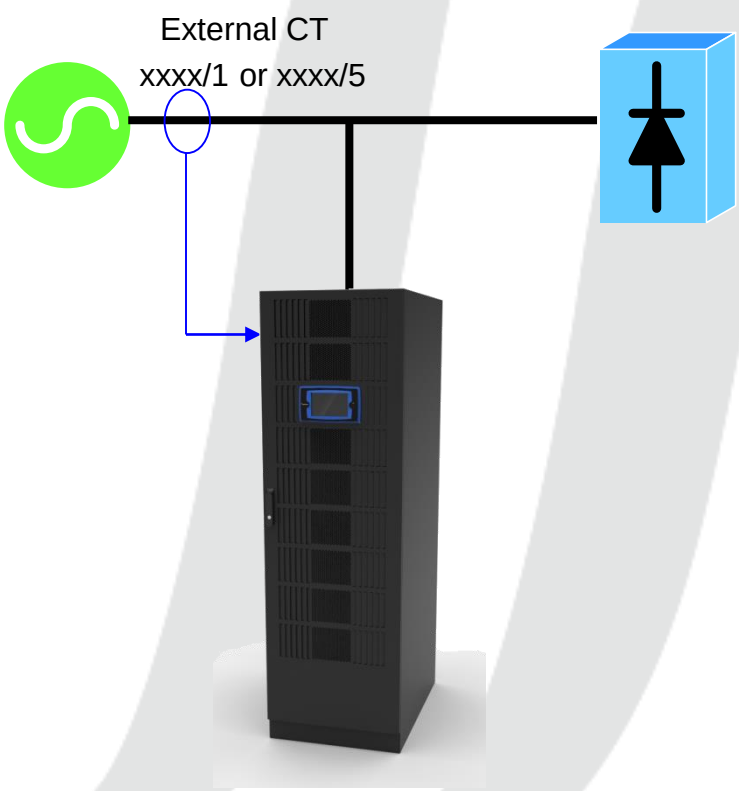
Local Service

RS-232/USB

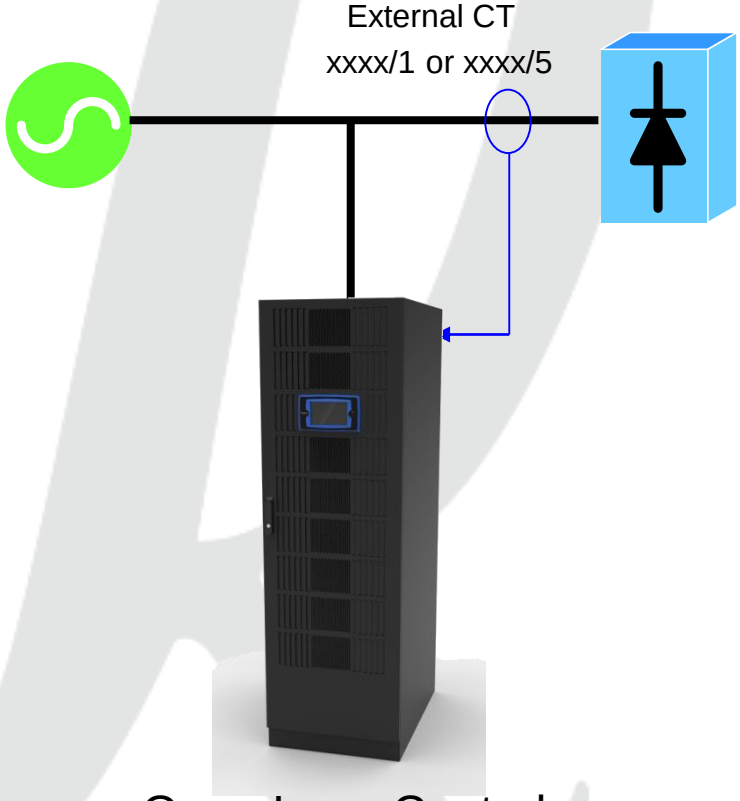
Service software



Open/Closed Loop Control



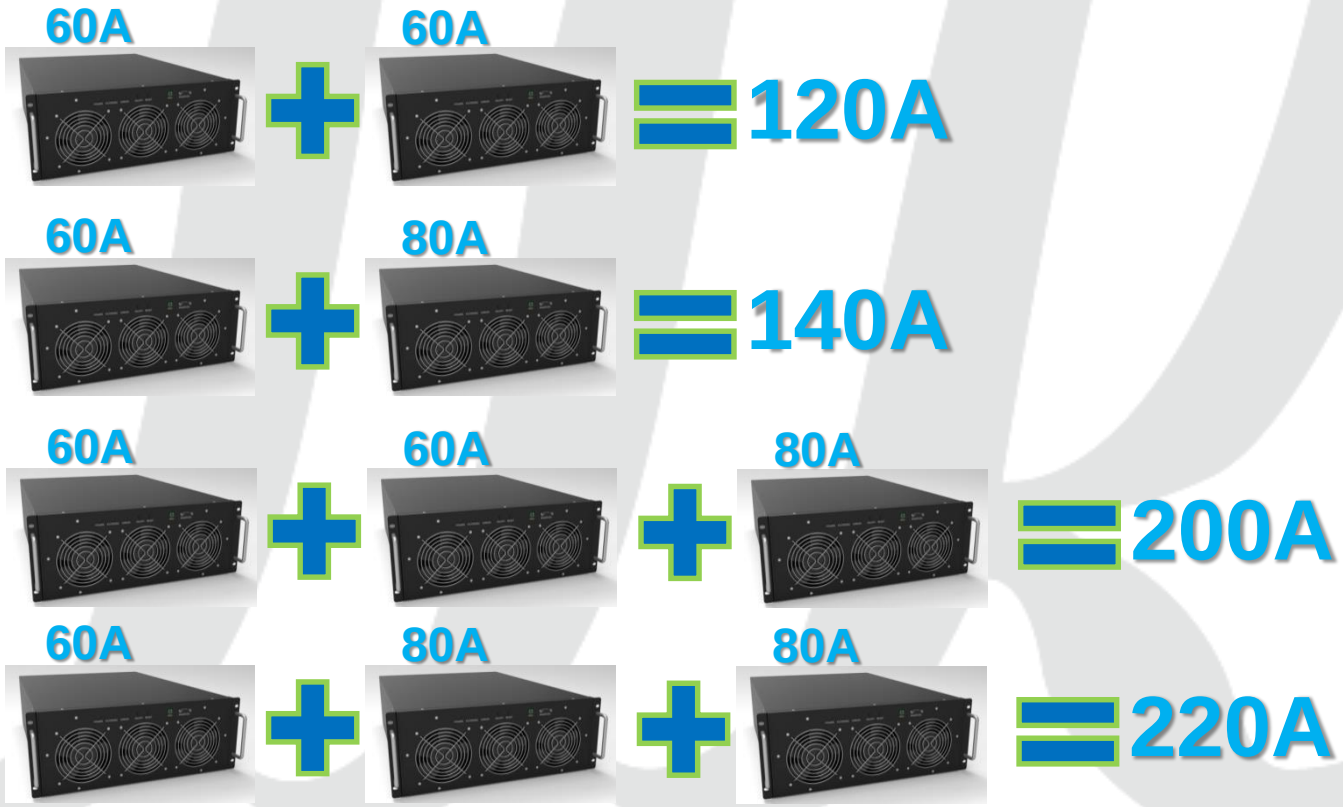
Closed Loop Control



Open Loop Control

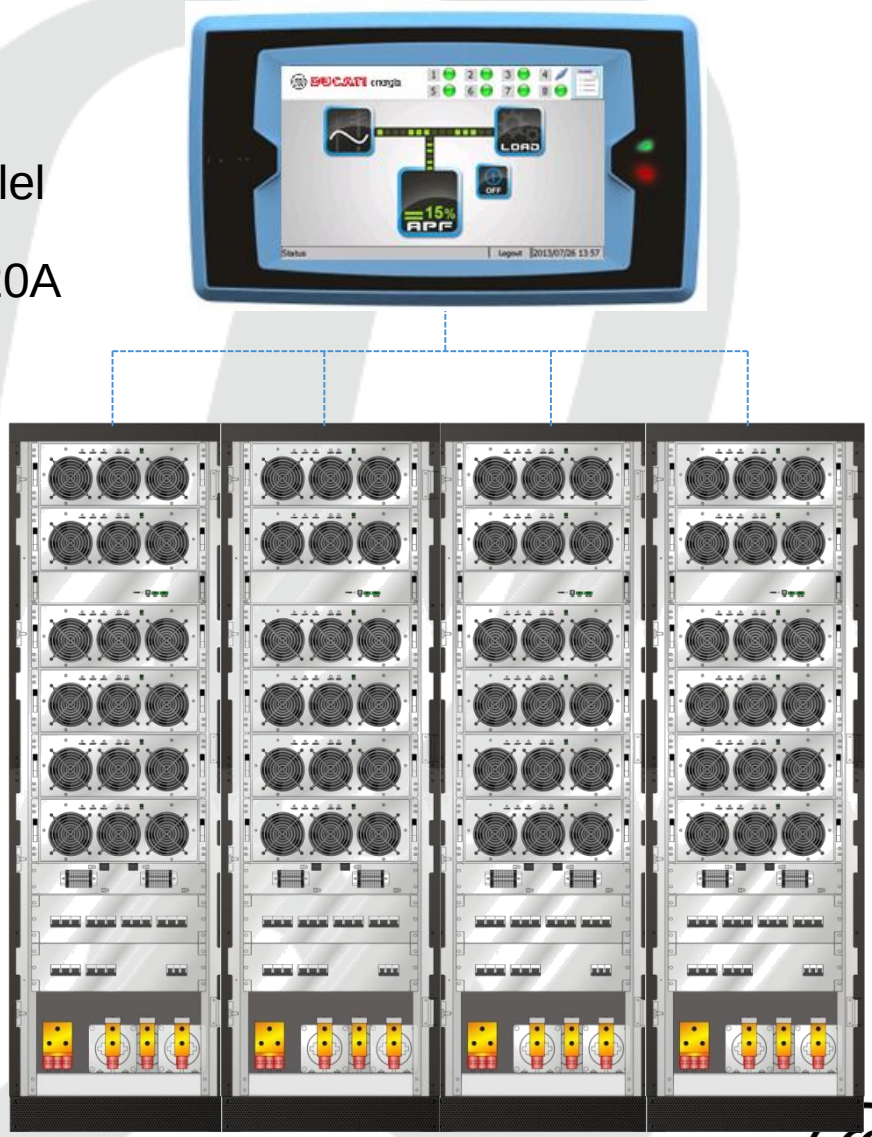
Flexible Extend Power Capacity

- 60A and 80A Power Modules can work together
- Flexible Power Capacity Combination



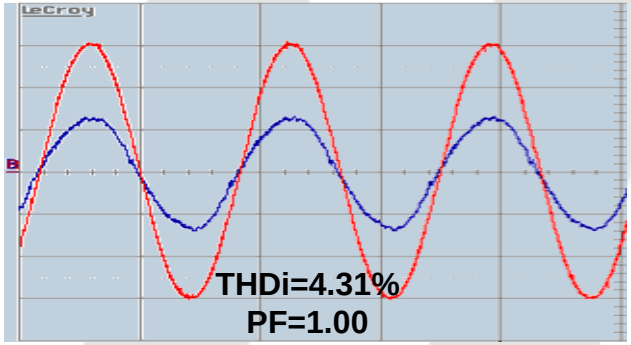
Parallel

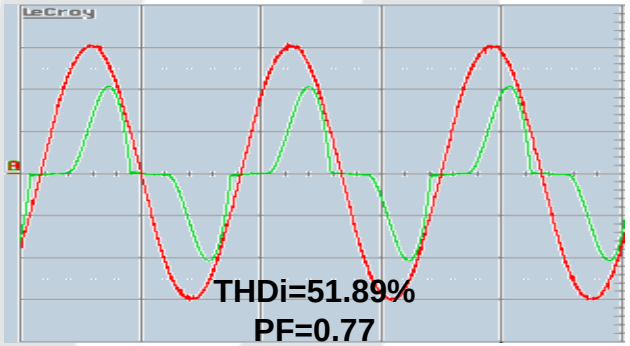
- Up to 24 Power Modules in Parallel
- The maximum capacity up to 1920A
- Only one LCD display is needed

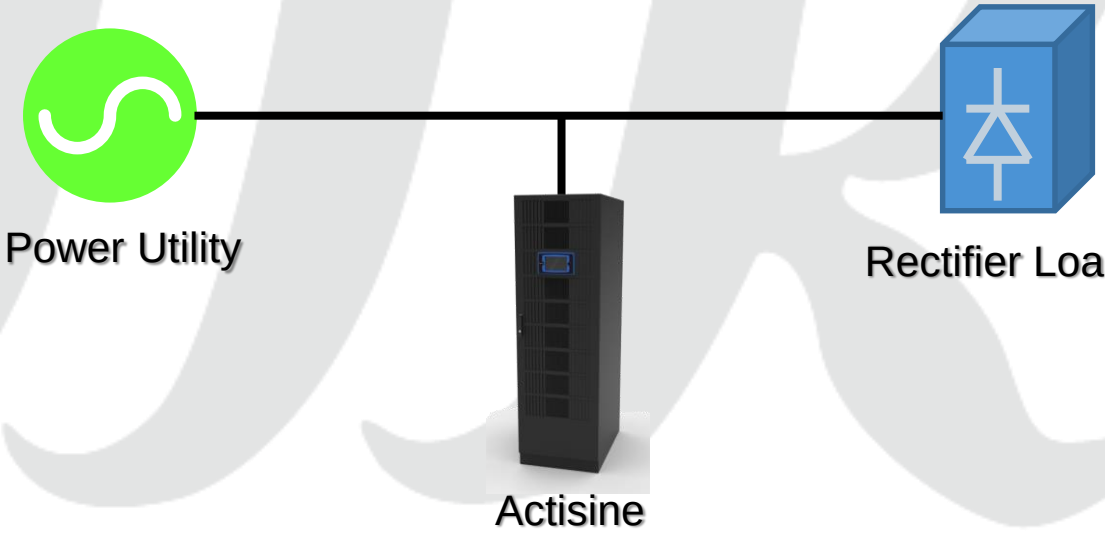


Harmonic and PF Correction

- ***Actisine*** not only eliminate harmonic current but also improve power factor.

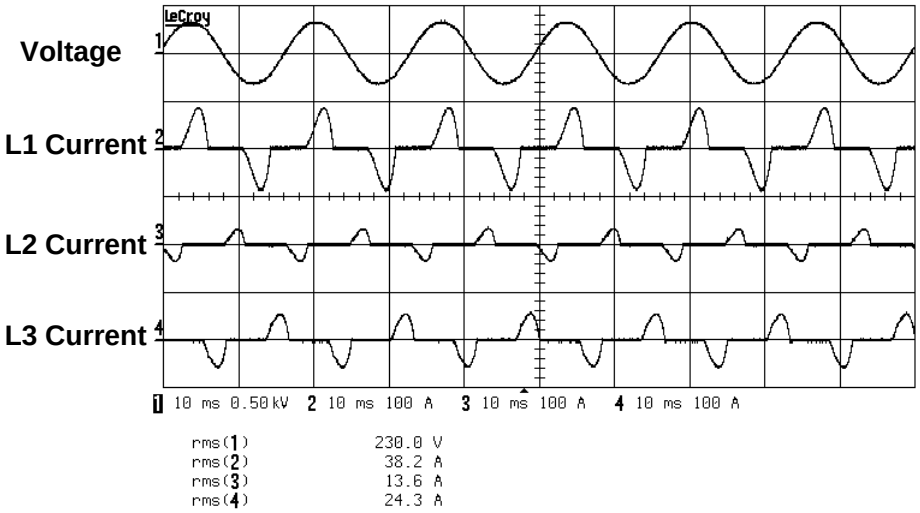




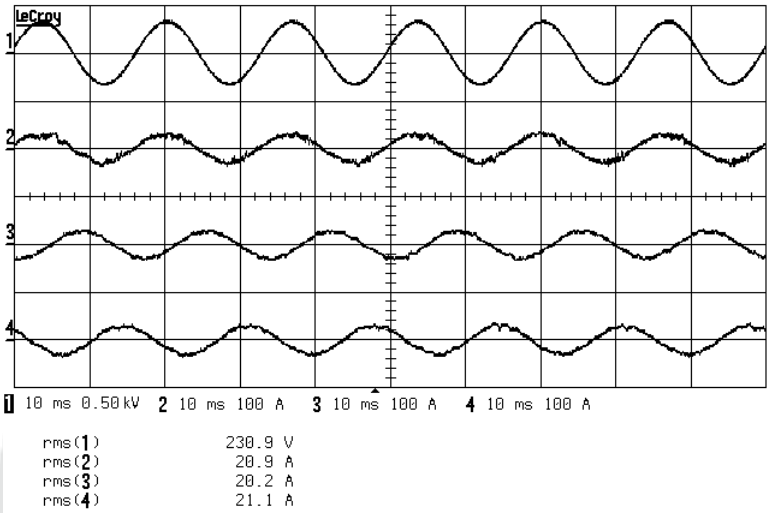


Balance System Current

Before *Actisine* turn on,
unbalance three phase current



After *Actisine* turn on,
three phase current are balanced.



Specifications

- General

Equipment Storage Temperature	-20°C to + 70°C
Operating Temperature	+0°C to +40°C without derating +40°C to +50°C derating operation
Relative Humidity	<95%
Operating Altitude	<1000 m without derating Up to 3000m
Reference Harmonic Standard	EN61000-3-4, IEEE 519-1992
Reference Design Standard	EN60146
Safety Standard	EN50178
Electromagnetic Compatibility	IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6

Specifications

- Power Module

Input Voltage		208V +15%,-20% 3 phase 4 wires/3wires 400V +15%,-20% 3 phase 4 wires/3wires 440V +15%,-20% 3 phase 3wires 480V +10%,-20% 3 phase 3wires	
Frequency		50/60±3 Hz	
Rating Current of Each Phase		60 Arms	80 Arms
Rating Current of Neutral		180 Arms	240 Arms
Inrush Current		Less than rated current	
Current Limitation		Yes, at full correcting	
Maximum Heat losses	208V	700 Watt	920 Watt
	400V~480V	1250 Watt	1650 Watt
Protection Index		IP20	
Dimensions (WxDxH)		440 x 630 x 176mm	
Weight		36 Kg	43 Kg

Specifications

- Control Module

Input Voltage	208V +15%,-20% 3 phase 4 wires/3wires 400V +15%,-20% 3 phase 4 wires/3wires 440V +15%,-20% 3 phase 3wires 480V +10%,-20% 3 phase 3wires
Frequency	50/60±3 Hz (Auto Sensing)
Compensated Harmonic Orders	From 2nd to 51st order
Power Factor Correction	Power factor can be programmed from 0.6 lagging to 0.6 leading
Load Balancing	Both phase to phase and phase to neutral
CT Ratio	Primary Current: 100A~10000A Secondary Current: 1A/5A
CT Location	Source Side: Closed Loop Control Load Side: Open Loop Control
Response Time	Global<1ms ; Selective < 10 ms
Number of controllable Power Module	Up to 6 Power Modules.
Parallel	Up to 4 Control Modules.
Maximum Heat losses	50 Watt
Protection Index	IP20
Dimensions (WxDxH)	440 x 630 x 86 mm
Weight	10 Kg

Specifications

- HMI & Communication

Display	**7” LCD Touch Screen**
Dry Contact (Standard)	**3 Output Dry Contacts** **1 Input Dry Contact** **1 EPO**
Communication	**RS485 Modbus RTU, Ethernet Card**
Programming	**Setting by LCD Panel, Software**
Software	***ESP-Link* Monitoring Software (Option)** ***Actisine Pro Expert Service Program***
Communication Protocol	**J-Bus / Mod Bus**

Specifications

- Enclosure

Dimensions (WxDxH)	600 x 900 x 1500 mm	600 x 900 x 1950 mm
Max. Power Module	Up to 4 Power Modules. 320A	Up to 6 Power Modules. 480A
Weight (w/o Modules)	150 Kg	195 Kg
Protection Index	IP21	