

- Modular design, output power from 15kVA to 500kVA
- Bi-directional power source, seamless transition between source and sink modes
- Output: AC, DC, AC+DC
- Use true current feedback control when working in CC mode
- Frequency Range: DC~ 1kHz (-HF option: DC~2kHz)
- Standard output 300V L-N (higher voltage can be customized)
- Up to 40th harmonic waveform generation, inter-harmonic generation
- Trigger out, TTL signal output for voltage or frequency change
- AC output, ON and OFF output phase angle can be programmed
- LAN/RS485 interfaces (standard)  
RS232/Analog control interface (optional)
- Emergency stop button and indicators on front panel
- TFT-Touch panel operation
- Mod-bus/SCPI protocols
- CE conformity

## Overview

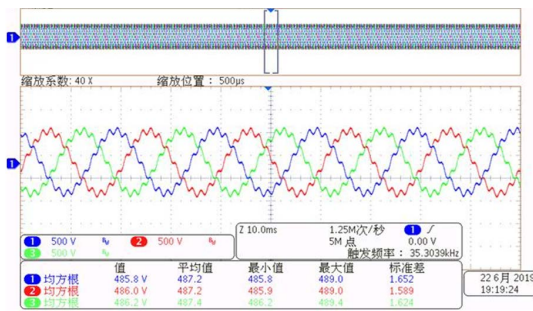
The BriPower KGS series is a high-performance AC/DC power source, using SiC MOSFET PWM technology, which contains multi output power levels from 15kVA to 500kVA. With an output frequency range from DC to 2kHz (standard 1kHz, 2kHz with -HF option), standard output 300V L-N (higher voltage can be customized).

KGS series uses bi-directional design, which makes it possible to be used as grid simulator to test distributed generation systems. KGS Series is well suited for aerospace applications. Remote control interfaces and SCPI command language are provided for easy integration into ATE systems.

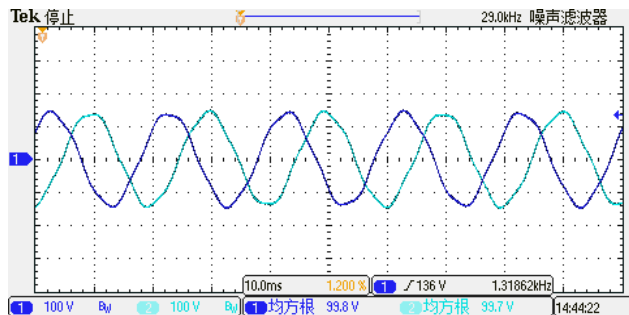
With touch panel on the front panel, user can control the power source with GUI software. System status indicators and emergency stop button are also installed on the front panel. Programming interfaces including LAN and RS485 interfaces are standard, and optional RS232, analog control interfaces are available for automated test applications.

## Grid Simulation

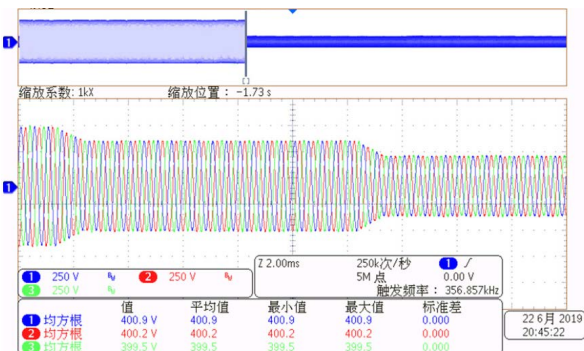
KGS series can be used as grid simulator to test distributed generation systems, such as the electrical characteristics of energy storage PCS, PV inverter, etc. The simulation functions include voltage and frequency fluctuation, voltage drop, low/zero voltage, three-phase unbalance, harmonic and inter-harmonic etc. KGS series can meet the requirements of grid tied DG regulations testing, such as: grid voltage abnormality test, grid frequency abnormality test, low/zero voltage ride through test, anti-islanding test, etc. KGS series provides standard software that can simulate various real-world power grid operating conditions and supports multiple parameter settings.



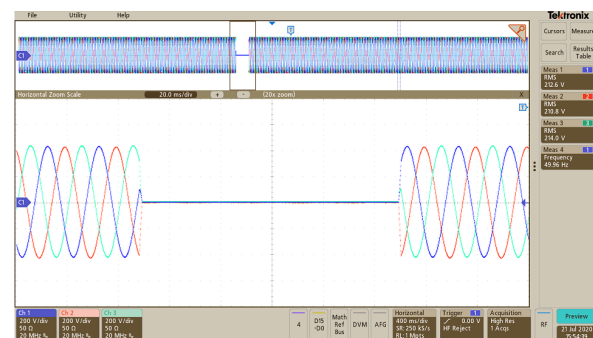
Harmonic waveform



Interharmonic waveform



Voltage drop



Zero voltage ride

## Current Source Mode

The KGS Series uses true current feedback control when working in Current source mode. It is different from power supplies using voltage feedback with constant current mode, which is called voltage controlled current. The voltage controlled current power supplies maintain setting current value by adjusting output voltage, and have relatively long response time to sudden impedance changes, which typically results in dynamic current overshoot or undershoot as the load impedance changes. KGS series working in CC mode does not have such problem, and will always maintain the current at the setting value, regardless of transient load conditions.

## Modular Design

The KGS series power supply contains one or more 15kVA power modules. Each power module is fully self-contained and forms a complete AC to AC or AC to DC converter.



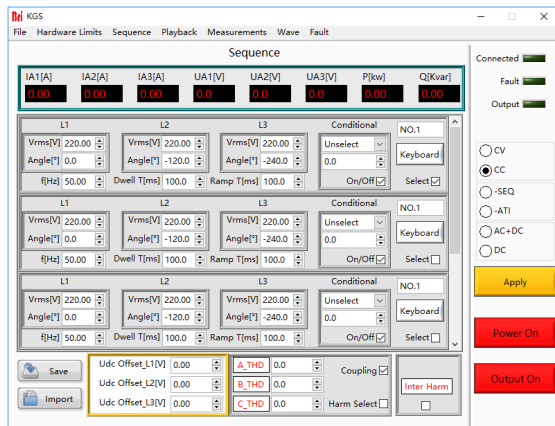
## Graphical User Interface

GUI software is included, and is installed in front touch panel, which uses windows OS. The software provides following functions:

- Output limits and settings
- Sequence output settings

The output phase voltage, angle, frequency, ON/OFF phase angle, dwell time, switching time and other parameters of the power supply can be set.

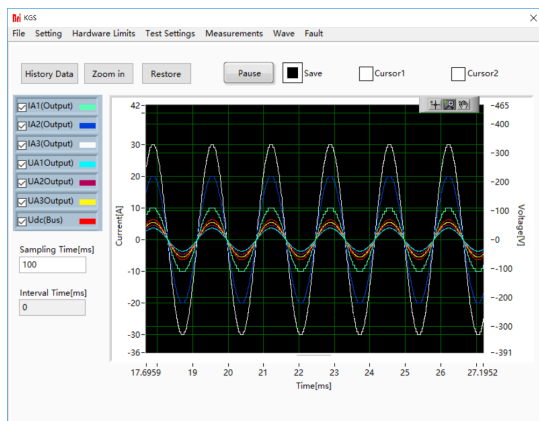
- Generate harmonic and inter-harmonic waveforms  
Up to 40<sup>th</sup> harmonic waveform generation, inter-harmonic generation
- Real time display measurements: voltage, current, power, etc.
- Capture, display and save output voltage and current waveforms.
- Display power source faults



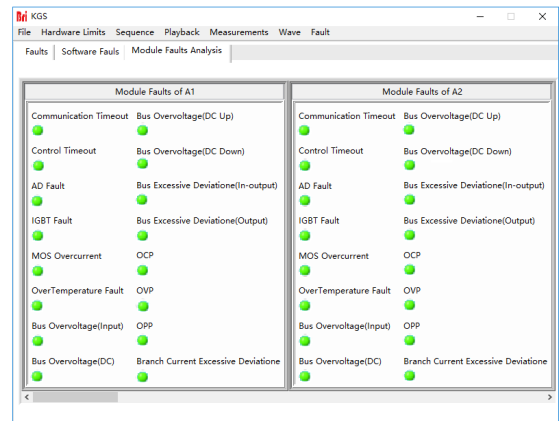
Sequence Mode



Harmonic and inter-harmonic generation

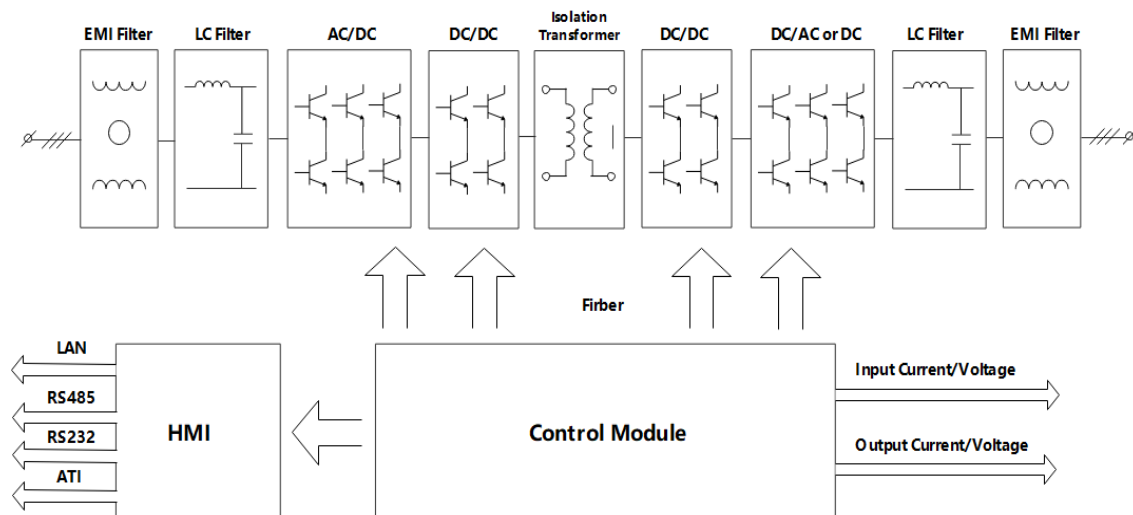


Waveform Display



Fault Display

## Block Diagram



**General Specification** (customized unit specification will be shown in the quotation)

<b>AC input</b>	
Voltage	3P+N+PE, 380VLL±10%(std)
Frequency	47-63Hz
Efficiency	≥85%
Power Factor	0.95
<b>Output</b>	
Output Modes	AC, DC, or AC+DC
Power Level	From 15kVA to 500kVA
Output Voltage Load Regulation	0.2%FS
Output Voltage Line Regulation	0.1% (10% input line change)
<b>AC Output</b>	
Voltage Range (L-N)	0-300V (std), higher voltage can be customized
Current Range	Max 50A per 15kVA module
Phase Angle Range	Phase B/C relative to phase A, 0.0~360.0°
Frequency Range	DC -1000Hz (std), DC -2000Hz (-HF option)
THD	<1% (Resistive Load)
Harmonic Generation	Up to 40 <sup>th</sup>
Voltage Slew Rate	5V/us
Power Accuracy	0.5%FS
Voltage Accuracy	0.5%FS
Current Accuracy	0.3%FS
Frequency Accuracy	0.01%FS+0.01Hz
Phase Angle Accuracy	<1.2° (@50Hz)
Power Resolution	0.01kW
Voltage Resolution	0.1V
Current Resolution	0.01A
Frequency Resolution	0.01Hz (~100Hz), 0.05Hz (>100Hz)
<b>DC Output</b>	
Voltage Range	0-550V (Std), customized voltage up to 1125V
Current Range	Max 25A per 15kVA module

Voltage Accuracy	0.2%FS
Current Accuracy	0.1%FS
Voltage Ripple	0.1%FS
<b>AC+DC Mode</b>	Max Power, Voltage and Current are the same as DC Mode
AC Voltage Measurement Accuracy	0.5%FS
AC Current Measurement Accuracy	0.3%FS
DC Voltage Measurement Accuracy	0.2%FS
DC Current Measurement Accuracy	0.1%FS
Frequency Measurement Accuracy	0.01%+0.01Hz
<b>Others</b>	
Protection	OVP, OCP, OTP
Regulatory	CE Conformity
Cooling	Forced Air Cooling
Temperature	Operating: 0~40℃    Storage: -20~85℃
Operating Humidity	20-90%RH (None Condensing)

### Standard Models Specification

Model	KGS15	KGS45	KGS90
AC Output Mode	Single Phase	Single Phase or Three Phases	
AC Output Power	15kVA	45kVA	90kVA
AC Output Current	50A	50A/ph	100A/ph
DC Output Power	10kW	30kW	60kW
DC Output Current	25A	75A	150A
Dimension (W*D*H mm)	800*900*1700	800*900*1700	2*800*900*1700
Weight	<500kg	<550kg	<950kg

\* Other Power/Voltage Level can be offered. Please consult factory

### Options

- 232    RS232 program interface
- ATI    Analog program interface
- 1P    Add single phase output
- HF    Output frequency range up to 2kHz

### AC Input Configuration

Please specify the input voltage (L-L)

/208, Input Voltage 208V $\pm$ 10%, 3-phase

/230, Input Voltage 230V $\pm$ 10%, 3-phase

/380, Input Voltage 380V $\pm$ 10%, 3-phase

/400, Input Voltage 400V $\pm$ 10%, 3-phase

/480, Input Voltage 480V $\pm$ 10%, 3-phase

### Model Configuration

**KGS AAA-BBB-CCC-DDD/EEE**

AAA: Power, kVA

BBB: Voltage range (L-N), V

CCC: Current range, A

DDD: Option

EEE: Input configuration



Picture of KGS 150kVA System

### About BriPower

Bridge Technology is a company focusing on business of power supplies and test systems for new energy applications. We are devoted to providing high quality products and solutions for customers.

Bridge Technology has a top-class R&D team in China, works on modularization and standardization power supplies and systems. We have sales, technical support, R&D and manufacture in Shanghai, Nanjing and Chengdu.

Nanjing Bridge New Energy Technology was founded on Jan 12th, 2016, focusing on R&D and manufacturing BriPower brand power systems, including bi-directional AC sources for grid simulation, bi-directional DC sources for battery simulation, and regenerative loads. The BriPower AC&DC power systems are widely used in new energy and related fields.

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Sales Company: Shanghai Bridge Electronic Technology Co., Ltd

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