

GI2k Series



High Current AC Current Sources

Key Features:

- Output Current: up to 50kA
- Output Frequency: 40-200Hz
- Single and Three-Phase Systems
- Possibility of Paralleling for higher current
- Continuous or Pulse Mode Operation
- Up to 3 Output Current Ranges
- Integrated Timer and Sequencer with up to 30 steps
- Measurement of Trip Time for Fuse and CB test
- Ramp, Drop-out, Loop Modes
- Easy Maintenance and Calibration
- Access to PID Regulation Parameters
- Standard WebGUI Browser Interface
- Customized Units on request

General Description

Current generators of the GI2k Series are static sources of AC constant current. Models up to 50kA/1000kVA for continuous or pulse operation make up one of the largest ranges of 1- and 3-phase system available today on the market.

The GI2k Series Current Sources supply a very stable AC current at a variable frequency from 40 to 200Hz. Up to three current ranges per unit are provided, with manual or automatic selection. Equipped with a modern and easy to use front panel interface with a large LCD display, the controllers of the GI2k Series offer advanced capabilities for current test applications.

Standard low power units are built into 19" racks or table cases. High power units are built into 19" cabinets on wheels.

Ideally suited for lab applications (R&D), the GI2k Series finds a great role in final product testing. Remote control is via the standard isolated RS232 and RS485, or optional USB, LAN, and Fiber Optic Interfaces. Analog inputs (Booster inputs) are available as well and allow the units to be used as current amplifiers using external analog signals. They can for example be used as amplifier to reproduce arbitrary current waveforms. In addition, eight Digital inputs/outputs allow finally the GI2k Series to be easily integrated in automated manufacturing lines.

Specially developed for the test of circuit breakers, the GI Series is equipped with a sequencer and timer, allowing to set current and test time and measuring accurately the trip time with a resolution up to 1ms. Different modes like ramp, drop out and loop are available in order to create test program and sequences following norms or custom manufacturer procedures. Following information will be measured and displayed during the test:

- Output current
- Time of supply
- Voltage on the load
- Active power and reactive power consumption
- Complex load impedance

All these features allow the GI2k Series to be used in the following applications:

- Thermal and magnetic testing of switches, breakers, relays, fuses with trip-time measurement
- Heating tests of electrical contacts
- Tests of coils and transformers
- Test and calibration of measurement instruments

North American Sales & Support

GI2k SERIES - AC CURRENT SOURCES

Front Panel Controls

The sealed and splash proof membrane keypad of the GI2k Series holds up well in harsh production environments and make for easy operator control. The large back-lit LCD display provides large read-out of settings and test results for the operator to see.

Test sequences can be programmed from the front panel as needed and locked down to prevent unauthorized changes.

Test results include trip current levels and trip duration with msec resolution.



WebGUI Browser Interface



In addition to front panel operation, a standard embedded web server function allows remote operation of the GI2k Current Source from a web browser Interface when using the Ethernet interface.

Typical Applications

- Thermal and magnetic tests of switches, breakers, relays or fuses with trip-time measurements
- Heating tests of electrical contacts
- Tests of coils and transformers
- Tests and calibration of measurement instruments

Zenone Elettronica History

Founded in 1990 in Mirabella Eclano (AV), Italy by a staff with high experience in the power electronics sector, Zenone Elettronica has quickly become a leader in the development and manufacture of power electronics with a high level of technological sophistication, focusing on test equipment for measurement laboratories and production lines.

Other products available from Zenone Elettronica

- AC & DC Current Sources GIS2k xxx Series
- Pulsed Current Sources GI2k xxx SI series
- AC up to 2.5KHz High Bandwidth and DC Current Sources GIS series
- DC Voltage Sources AL4000R series with available Regenerative capability

In North America, contact PPST Solutions for more information

Technical Specification

Output Specifications

Output current	40A up to 50kA (100kA in pulse mode)
Output power	100VA up to 1MVA
Output current ranges	1 to 3
Current resolution	0.3% F.S.
Minimum setting current	1/20 of F.S.
Accuracy	0.3% F.S.
Line accuracy	Typ. 0.1% F.S.
Load accuracy	Typ. 0.2% F.S.
Linearity	0.1% F.S.
DC offset	0.3%
Max output ripple at HF	Typ. 0.3% F.S.

Output Frequency

Range	40 ~ 200Hz
Resolution	0.01Hz
Accuracy	0.15%
Bandwidth	500Hz
Max THD at 50-60Hz	0.2%

Timer / Sequencer

Range	1ms to infinite
Resolution	1ms
Max n. of steps	30
Modes	Auto-Repeat, Loop, Ramp, Pause-Resume, continuous or pulse



Example of a GI2k Series table top cabinet

Current Measurement

Range	+10% F.S.
Resolution	0.2%
Accuracy	0.3%

Voltage Measurement

Range	+10% F.S.
Resolution	0.5%
Accuracy	0.5%
Additional Measurements	Active/Reactive/Apparent Power, Power Factor, Frequency, Complex Impedance, Ambient T°

Line supply

Line voltage	230V 1F ± 10% / 480V 3F ± 10%
Line frequency	45 ~ 65 Hz
Cos phi	0.85
Line protection	Automatic MCB
Line connection	External or internal (depending on power)

Miscellaneous

Dimensions	depending on model, 19" rack or cabinet
Weight	depending on model
Output connection	Front or rear
Operating temperature	5 ~ 40°C / 41 ~ 104°F
Storage temperature	-5 ~ 60°C / 23 ~ 140°F
Protection rating	IP20B
Cooling	Forced air
Acoustic noise at 1m	Typ. 65dBA
Safety and EMC	CE (EMC & LVDT)

Isolation

Line / Output-Gnd	2500 Vrms
Output / Gnd	1500 Vrms
Max operation voltage each output to gnd	depending on output voltage

Interface

Communication	isolated RS232/RS485 std.; USB, LAN, Fiber Optic opt.
Digital Inputs	4x no contact no voltage isolated programmable inputs. Available functions: Start, Stop, Start/Stop, Enable, Status (1 to 4), Test End, Pause, Resume, etc.
Digital Outputs	4x 24V isolated programmable outputs. Available functions: Ready, Test started, Abnormal status, Failure, Test completed, etc.
Booster inputs for external analog control	0-20Vpk-pk (use as power amplifier)
External connections	Sync (Trig In / Trig Out)

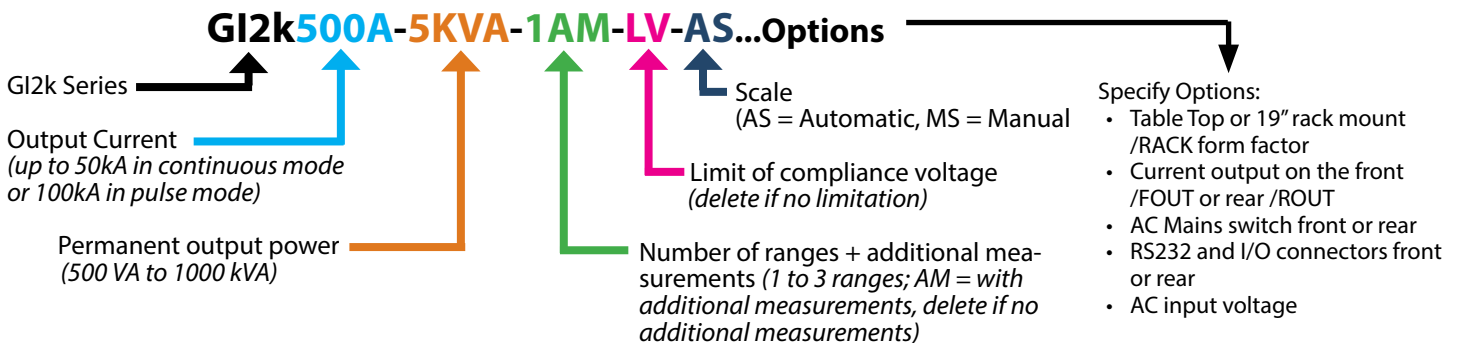
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Available Configurations

Contact PPST Solutions to discuss your application requirements and configure an optimal AC current source or system configuration.

Power Module	Current (Continuous)	Current (Pulsed)	Options
500 VA	10 A	900 A	/Pulse Pulse mode
1200 VA	50 A	1300 A	/PID PID software, access to PID-regulation parameters
2500 VA	120 A	2500 A	/Rack 19" Rack instead of cabinet (available up to 5kVA)
5000 VA	240 A	3500 A	/3-Rack 19" Rack with connections for 3 phase systems
7500 VA	350 A	5000 A	/Wheels Cabinet with wheels max weight 800kg
10 kVA	500 A	6000 A	/USB USB interface
15 kVA	750 A	8000 A	/LAN LAN interface
20 kVA	1000 A	10000 A	/FO Fiber Optic interface
30 kVA	2000 A	15000 A	/ROUT Rear output connections
40 kVA	4000 A	20000 A	/FOUT Front output connections
50 kVA	5000 A	30000 A	/SOUT Special output connections
60 kVA	6000 A		/TCASE Tablet case
80 kVA	8000 A		/Axxxx Special output current range (P.E. A8000 = 8000A f.s.)
100 kVA	10000 A		/MRange Manual Switching of current range
120 kVA	12000 A		/ARange Automatic Switching of current range
150 kVA	15000 A		/IP Special IP protection
	20000 A		/ATE Unit Without Front panel control and display, for system integration
			/DC-CTRL DC control mode of output (0-10V)

Order Example



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