GIS2k SERIES - AC & DC CURRENT SOURCES

GIS2k Series

AC +DC Current Sources

Key Features:

- Output Current: up to **5000A**
- Output Frequency: **DC, 10-800Hz (internal Ctrlr)**
  DC, 1500Hz (external Ctrlr, optional 2500Hz)
- Single and Three-Phase Systems
- Possibility of Paralleling for higher current
- Continuous or Pulse Mode Operation
- Up to 2 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 GIS2k Series are static sources of AC and DC constant current. Models up to 5000A/200kVA for continuous or pulse operation make up one of the largest ranges of 1- and 3-phase system available today on the market.

Current generators of the GIS2k Series supply a very stable AC current at a variable frequency up to 2500Hz or a DC current. Up to two 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 GIS2k 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 GIS2k 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 GIS2k Series to be perfectly integrated in manufacturing lines.

Specially developed for the test of circuit breakers, the GIS2k 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 GIS2k 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

Front Panel Controls

The sealed and splash proof membrane keypad of the GIS2k Series holds up well in harsh production environments and make for easy operator control.
The large back-lit LCD display provides large readout 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 GIS2k 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 Current Sources GI2k xxx Series
- Pulsed Current Sources GI2K xxx SI series
- AC Current Sources to 200Hz GI series
- DC Voltage Sources AL3000R series with available Regenerative capability

In North America, contact PPST Solutions for more information

Technical Specification

Output Specifications	
Output current	up to 5000A
Output power	500VA up to 200kVA
Output current ranges	1 to 2
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	DC, 10 ~ 800Hz
Resolution	0.01Hz
Accuracy	0.15%
Bandwidth	1500Hz
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 GIS2k 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 & DC current source or system configuration.

Output Voltage (V)	Output Power (kW)	Output Current (A)
5-9	2	500
	5	1000
	10	2000
	25	5000
10-19	2	200
	5	500
	10	1000
	20	2000
20-29	2	100
	5	250
	10	500
	20	1000
	30	1500
	40	2000
30-49	2	83
	5	166
	10	333
	20	666
	30	1000
	40	1330

Output Voltage (V)	Output Power (kW)	Output Current (A)
50-99	5	100
	10	200
	20	400
	30	600
	40	800
	60	1200
	80	1600
100-199	5	50
	10	100
	20	200
	30	300
	40	400
	60	600
	80	800

Options

/M-GI-SW	Software including arbitrary waveforms for single phase unit
/M3-GI-SW	Software including arbitrary waveforms for 3 phase system
/PID	PID software, access to PID-regulation parameters
/Rack	19" Rack instead of cabinet (available up to 5kVA)
/3-Rack	19" Rack with connections for 3 phase systems
/Wheels	Cabinet with wheels max weight 800kg
/USB	USB interface
/LAN	LAN interface
/FO	Fiber Optic interface
/ROUT	Rear output connections
/FOUT	Front output connections
/SOUT	Special output connections
/TCase	Tablet case
/Axxxx	Special output current range (P.E. A8000 = 8000A f.s.)
/MRange	Manual Switching of current range
/ARange	Automatic Switching of current range
/IP	Special IP protection
/ATE Unit	Without Front panel control and display, for system integration
/DC-CTRL	DC control mode of output (0-10V)

Order Example

GIS2k500A-5KVA-1AM-LV-AS...Options

GIS Series

Output Current *(up to 5000A)*

Permanent output power *(500 VA to 80 kVA)*

Number of ranges + additional measurements *(1 to 2 ranges; AM = with additional measurements, delete if no additional measurements)*

Limit of compliance voltage *(delete if no limitation)*

Scale (AS = Automatic, MS = Manual

Specify Options:

- Table Top or 19" rack mount /RACK form factor (Max rack mount model is GIS-500A-2500VA)
- Current output on the front /FOUT or rear /ROUT
- AC Mains switch front or rear
- RS232 and I/O connectors front or rear AC input voltage

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