PROGRAMMABLE DC ELECTRONIC LOAD
MODEL 6310A SERIES

The Chroma 6310A series Programmable DC Electronic Load is suitable for the test and evaluation of multi-output AC/DC power supplies, DC/DC converters, chargers and power electronic components. It is ideal for applications in research and development, production, and incoming inspection. The system is configured by plugging the user selectable load modules into the system mainframe. The user interfaces include an ergonomically designed user friendly keypad on the front panel and the following computer interfaces: RS-232C, USB or GPIB.

The 6310A series offers 8 types of modular loads with power ratings from 100 watts to 1,200 watts, current ratings from 0.5mA to 240A, and voltage ratings from 0.5mV to 500V. The loads can be operated in constant current, constant voltage, constant power and constant resistance and may be placed in parallel for increased current and power.

The 6310A series can simulate a wide range of dynamic loading applications. The waveforms programmable parameters include: slew rate, load level, duration and conducting voltage. Furthermore, up to 100 sets of system operating status' can be stored in EEPROM and recalled instantly for automated testing applications.

Real time measurement of voltage and current are integrated into each 6310A load module using a 15-bit precision measurement circuit. The user can perform on line voltage measurements and adjustments or simulate short circuit test using the user friendly keypad on the front panel. Additionally, the 6310A series offers an optional remote controller for automated production lines.

The 6310A series has a self-diagnosis routine to maintain instrument performance. It also provides OP, OC, OV, OT, and reverse polarity protection to guarantee quality and reliability for even the most demanding engineering testing and ATE applications.

MODEL 6310A SERIES

Key Features:

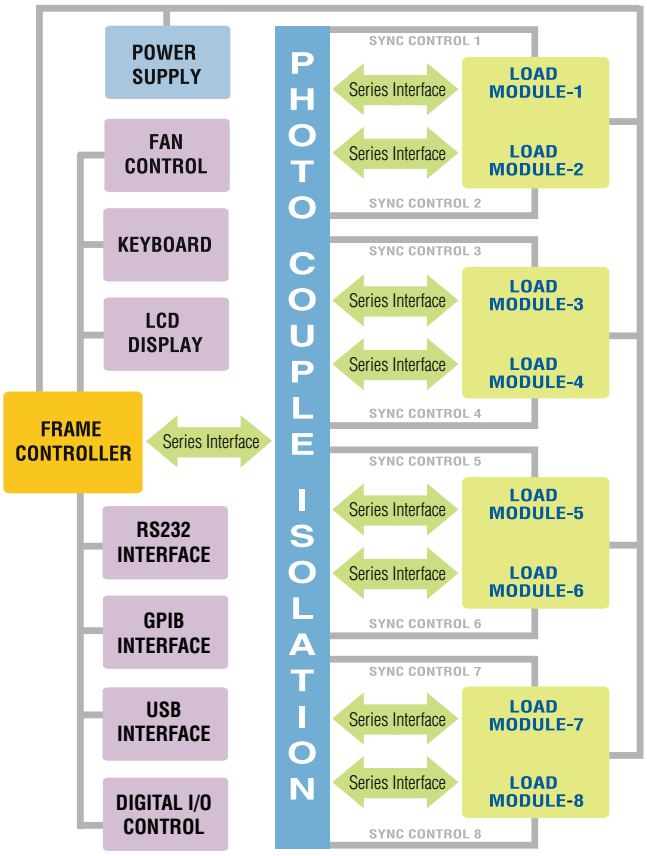
- Max Power: 200W, 100W×2(Dual), 30W & 250W, 300W, 600W, 1200W
- Wide range 0~500V operating voltage
- Compatibility between 6310 and 6310A
- Up to eight channels in one mainframe, for testing multiple output SMPS
- Parallel load modules up to 1200W for high current and power application
- Synchronization with multiple loads
- Flexible CC, CR, CP and CV operation modes
- Dynamic loading with speeds up to 20kHz
- Fast response of 0.32mA/us~10A/us slew rate
- Minimum input resistance allowing load to sink high current at low voltage
- Real time power supply load transient response simulation and output measurement
- User programmable 100 sequences. Front panel input status for user-friendly operating
- High/Low limits of testing parameters to test GO/NG
- Digital I/O control
- Over current protection (OCP) testing function
- 15-bit precision voltage and current measurement with dual-range
- Remote sensing capability
- Short circuit test
- Self-test at power-on
- Full Protection: OV, OC, OP and OT
- USB, GPIB & RS-232C interfaces

Chroma

VERSATILE SYSTEM CONFIGURATION

Chroma 6310A Programmable Electronic Load integrates microprocessor capability into each load module and mainframe to provide simple and accurate parallel operation to optimize the speed and control among multiple load modules. All load modules may be configured to work synchronously, to test multiple outputs simultaneously, thus simulating real life applications.

6310A System Block Diagram



COMPATIBILITY WITH 6310 SERIES

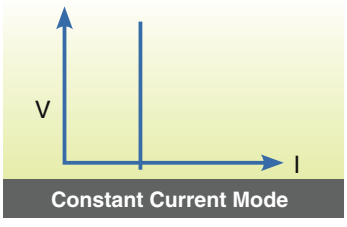
The 6310A series load modules are compatible with the 6310 series mainframes and vice versa. However certain new features and functions will not be available when using the 6310A modules in the 6310 mainframes as well as 6310 modules in the 6310A mainframes. This provides a cost savings for our existing customers.

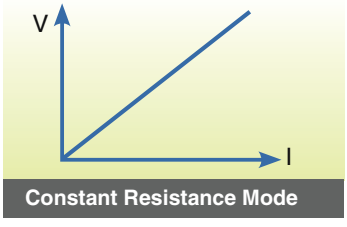
MODULE LOAD DESIGN

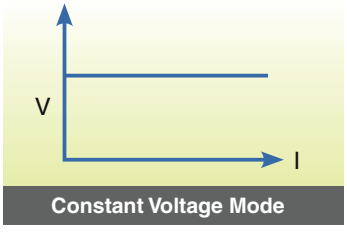
The Chroma 6314A 1200W and 6312A 600W electronic load mainframes accept the user-installable 6310A series load modules for easy system configuration and will mount in a 19" instrument rack. The 6314A holds up to four 63102A load modules, which will result in an 8-channel 100W/channel load with standard front-panel inputs. This makes it ideal for testing multiple output switching power supplies and multiple DC-DC converters. There are also higher wattage modules that may be mixed and matched for an even more versatile system. Additionally, the GO/NG output port is useful for UUT's pass/fail testing on an automated production line. All modules on the 6314A/6312A mainframe share a common GPIB address to synchronize and speed up the control of the load modules and the read-back of data.

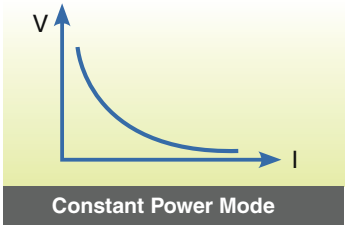
APPLICATION OF SPECIFIC LOAD SIMULATION

The 6310A load modules operate in constant current, constant voltage, constant power or constant resistance to satisfy a wide range of test requirements. For example, the test of a battery charger can be simulated easily by setting the load to operate in constant voltage.



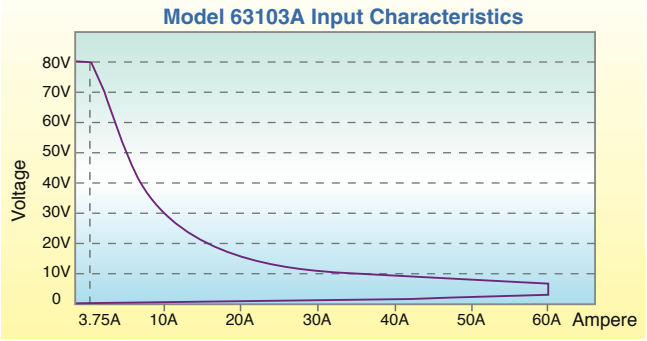


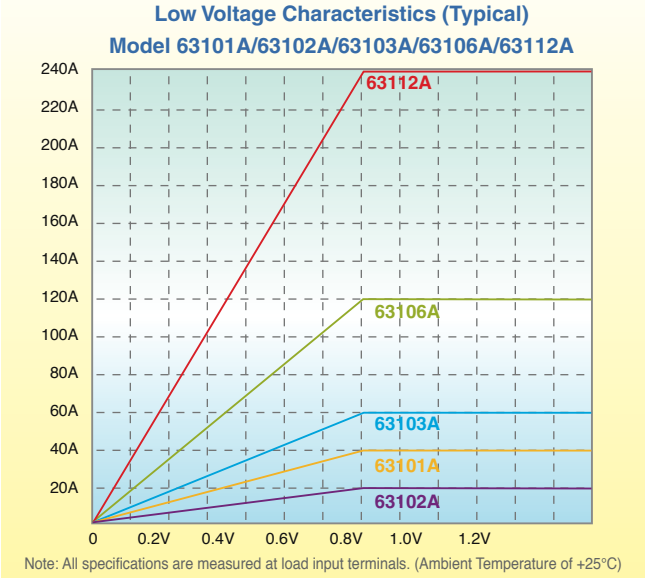




Each load module is designed with state-of-the-art technology and connects all power MOSFET devices parallel to insure high accuracy load control with a minimum drift of less than 0.1%+0.1%F.S. of the current setting. Chroma's use of FET technology provides minimum input resistance and enables the load to sink high current even at very low voltage. For example, the model 63103A is capable of sinking 60A at 1V output, and well-suited for testing the new 3.3V low voltage power supplies. Low voltage operation, down to zero volts, is possible at reduced current levels.

The 6310A load module uses a photo coupler for isolation between the output and control sections, thus each load is isolated and floating. The user can use multiple load modules independently to test multi-output power supplies, or parallel them for high power testing applications.

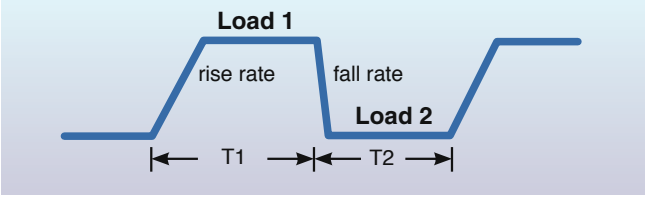




Note: All specifications are measured at load input terminals. (Ambient Temperature of +25°C)

DYNAMIC LOADING AND CONTROL

Modern electronic devices operate at very high speeds and require fast dynamic operation of their power providing components. To satisfy these testing applications, the 6310A loads offer high speed, programmable dynamic load simulation and control capability. The figure below shows the programmable parameters of the 6310A modules:



The programmable slew rate makes the simulation of transient load change demanded by real life applications possible. The 6310A internal waveform generator is capable of producing a maximum slew rate at 10A/us, and dynamic cycling up to 20kHz. It's dedicated remote load sense and control circuit guarantee minimum waveform distortion during continuous load changes.

PARALLEL CONTROL

The 6310A provides parallel control, which enables high power testing when a single module can not meet the requirement of high power applications. Two or more load modules can be paralleled together to achieve the desired loading. The 6310A comes with RS-232C as standard for remote control and automated testing applications, with USB and GPIB interfaces as optional items.

In addition, the 6310A, through its synchronized controls, provides an efficient solution for testing single output AC to DC or DC to DC converters by controlling multiple loads, testing up to 8 UUTs at a time.

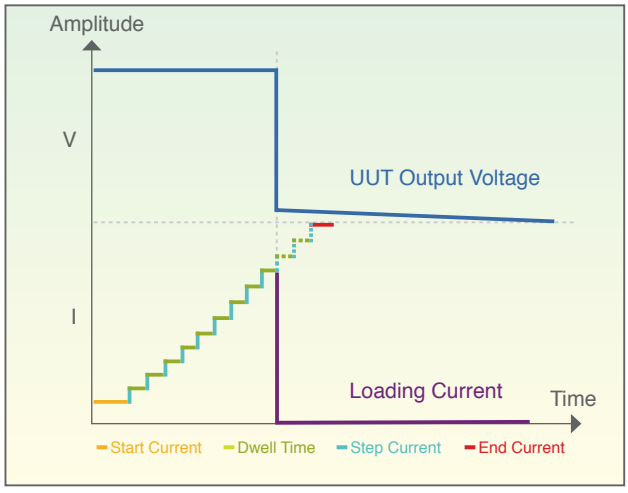
POWERFUL MEASUREMENTS

Each 6310A load module has an integrated 15-bit precision A/D converter for voltage measurement with an accuracy of 0.05%+0.05% full scale. The built-in resistive load current sensing circuit is capable of measuring current with an accuracy of 0.1%+0.1% of full scale. Also, short circuit can be simulated. All measurements are done using remote sensing to eliminate any error due to voltage drop along the measurement path. The user can also select a full scale range of voltage and current measurement according to his applications requirements.

OCP TEST

Modern switching power supplies are designed with over current protection (OCP) circuitry; therefore, it is important to test the OCP circuitry to make sure it is functioning within its designed specifications. The 6310A series provides an easy and fast solution for this testing.

By simply choosing the channel and setting the OCP parameters (start current, end current, step current and dwell time) from the front panel, the 6310A series provides a fast and easy to use OCP testing solution. The 6310A series will automatically detect the OCP point, making it an ideal solution for design verification as well as on the production line.

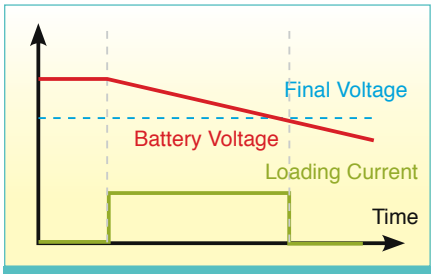


TIMING FUNCTION

The 6310A series loads include a unique timing & measurement function, which allows precise time measurements in the range of 1ms to 86,400s. This feature allows the user to set the final voltage & timeout values for battery discharge testing and other similar applications.

For example, the figure on the right shows that the 6310A's internal timer can be initiated automatically when the battery voltage falls below a preset value. The timer will continue counting until the second preset value is reached.

The Timing function can be used in testing battery and super capacitor discharge, fuse and breaker protection, rise time for ATX or D/D power supplies, and other similar applications.



Battery Discharge Testing

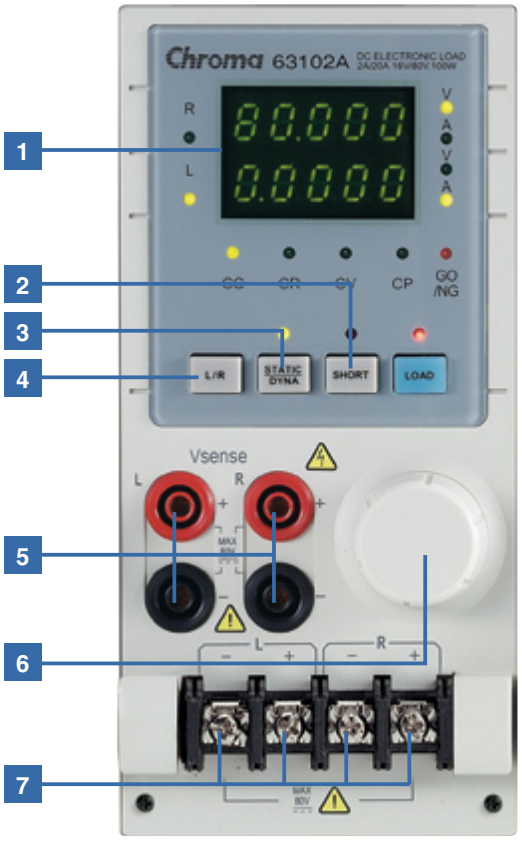
DIGITAL I/O

Digital I/O interface makes the 6310A DC Load the ideal choice for automated testing requirements. Through the digital I/O, the 6310A can accept digital signals to trigger its functions (Load On/Off, OCP test, etc.) as well as current output status signals.

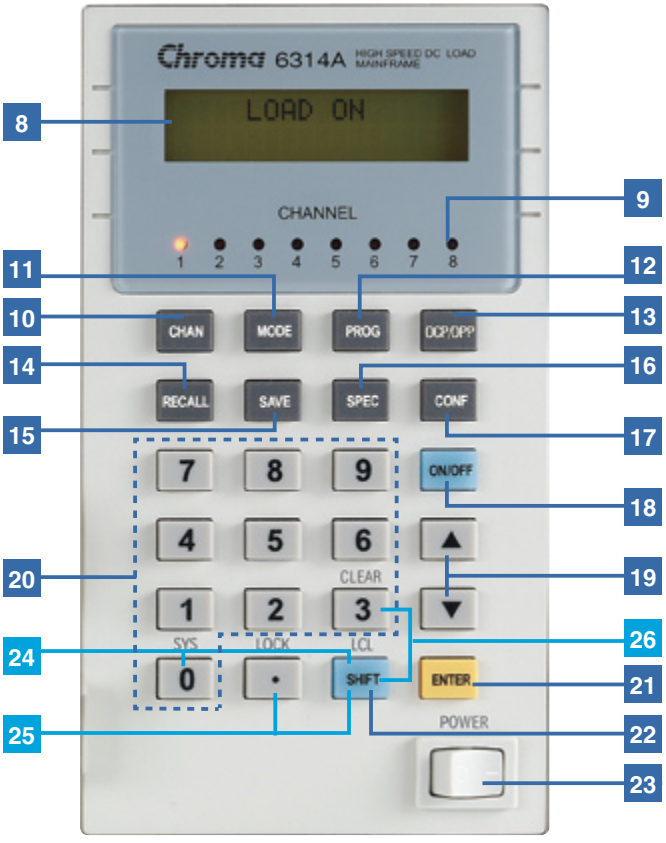
Pin	Definition	Pin	Definition
Pin 1	Reserved	Pin 9	Short Signal (O/P)
Pin 2	DGND	Pin 10	Protection Signal (O/P)
Pin 3	DGND	Pin 11	External Load ON/OFF (I/P)
Pin 4	DGND	Pin 12	Reserved
Pin 5	DGND	Pin 13	Reserved
Pin 6	Load ON/OFF (O/P)	Pin 14	DGND
Pin 7	Total Pass (O/P)	Pin 15	External Trig. For Sequences Run (I/P)
Pin 8	Total Fail (O/P)		

PANEL DESCRIPTION

Load Module



Mainframe Controller



Rear Panel

1. **LED indicator**
2. **SHORT key :** To apply a short circuit across the input
3. **STATIC/DYNA key :** To select static or dynamic test mode
4. **L/R key :** To select left or right channel of input load(63102A, 63107A)
   A/B key : To select static A or B load (other models)
5. **V terminal :** To measure the UUT's output voltage using remote sense
6. **Rotary knob :** To adjust load setting continuously
7. **Load terminal**
8. **LCD display**
9. **LED indicator :** To display the channel at which load is set
10. **CHAN key :** To select input load channel
11. **MODE key :** To select the operation mode of CC, CR, CV, or CP
12. **PROG key :** For program data setting
13. **OCP/OPP key :** Over current protection/Over power protection testing
14. **RECALL key :** To recall the front panel input status from memory
15. **SAVE key :** To save the front panel input status into memory
16. **SPEC key :** To set up High/Low limits for GO/NG test
17. **CONF key :** To set the configuration
18. **ON/OFF key :** To enable or disable the load input
19. **Up/Down key :** To select the next or previous display in edit mode
20. **Numeric key :** For data setting
21. **ENTER key :** To confirm editing data on the instrument
22. **SHIFT key :** As LOCAL Key when in remote mode
23. **Power switch**
24. **SHIFT + 0 key :** System function
25. **SHIFT + . key :** Lock function
26. **SHIFT + 3 key :** Clear the currently edited data
27. **Digital I/O :** Used for system input/output control signals
28. **RS-232C connector**
29. **GO/NG output port**
30. **GPIB or USB slot**
31. **AC input voltage switch**
32. **AC input fuse**
33. **AC input connector**

6310A SERIES PROGRAMMABLE DC ELECTRONIC LOAD FAMILY

6314A : 4 in 1 Mainframe

6312A : 2 in 1 Mainframe

A631001: Remote Controller

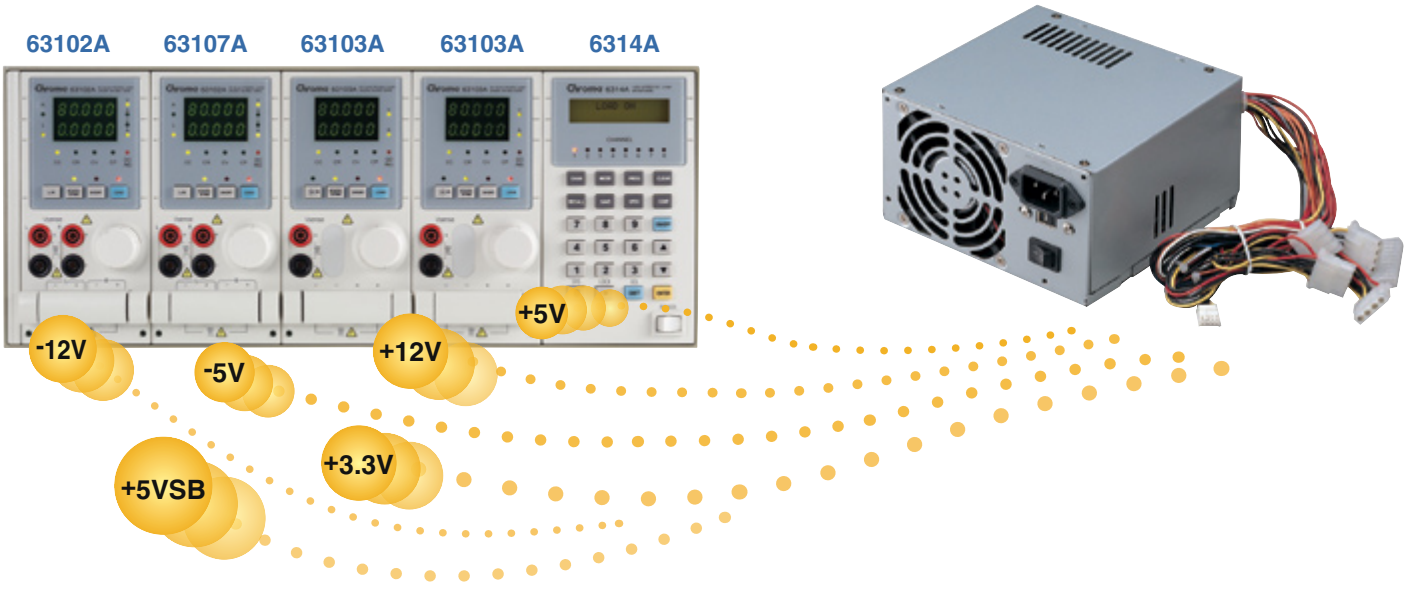
A630002 : GPIB Interface

A631003 : USB Interface

A MULTIPLE SELECTION FOR MULTIPLE OUTPUT SMPS TEST APPLICATION

Modern switching power supplies are getting more complicated with more outputs and control signals for PC and system requirements. For example, ATX power supplies need more channels of load to simulate or test the output than the traditional AT power supply. The Chroma's 6310A series provides a solution by offering a broad selection of load modules, which will provide up to 8-channels of load in a standard mainframe.

Product Lineup			
Model	**Power**	**Operation Voltage**	**Current**
63101A	200W	0~80V	40A
63103A	300W	0~80V	60A
63106A	600W	0~80V	120A
63112A	1200W	0~80V	240A
63102A	100W x 2	0~80V	20A(Dual Channels)
63107A	250W & 30W	0~80V	40A & 5A(Dual Channels)
63105A	300W	0~500V	10A
63108A	600W	0~500V	20A



A more efficient solution to testing the single output AC to DC or DC to DC converters by synchronization control with multiple loads for testing 8 UUTs at one time.

Testing 8 Units at one time

SPECIFICATIONS

Model	63101A		63102A (100Wx2)		63103A		63105A	
Power	20W	200W	20W	100W	30W	300W	30W	300W
Current	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A	0~1A	0~10A
Voltage	0~80V		0~80V		0~80V		0~500V	
Min. Operation Voltage (DC)*1 (Typical)	0.4V@2A	0.4V@20A	0.4V@1A	0.4V@10A	0.4V@3A	0.4V@30A	1.0V@0.5A	1.0V@5A
	0.8V@4A	0.8V@40A	0.8V@2A	0.8V@20A	0.8V@6A	0.8V@60A	2.0V@1A	2.0V@10A
Constant Current Mode								
Range	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A	0~1A	0~10A
Resolution	1mA	10mA	0.5mA	5mA	1.5mA	15mA	0.25mA	2.5mA
Accuracy	0.1%+0.1%F.S.	0.1%+0.2%F.S.	0.1%+0.1%F.S.	0.1%+0.2%F.S.	0.1%+0.1%F.S.	0.1%+0.2%F.S.	0.1%+0.1%F.S.	0.1%+0.2%F.S.
Constant Resistance Mode								
Range	0.0375Ω~150Ω (200W/16V) 1.875Ω~7.5kΩ (200W/80V)		0.075Ω~300Ω (100W/16V) 3.75Ω~15kΩ (100W/80V)		0.025Ω~100Ω (300W/16V) 1.25Ω~5kΩ (300W/80V)		1.25Ω~5Ω (300W/125V) 50Ω~200kΩ (300W/500V)	
Resolution	12 bits		12 bits		12 bits		12 bits	
Accuracy	150Ω : 0.1℧ + 0.2% 7.5kΩ : 0.01℧ + 0.1%		300Ω : 0.1℧ + 0.2% 15kΩ : 0.01℧ + 0.1%		100Ω : 0.1℧ + 0.2% 5kΩ : 0.01℧ + 0.1%		5kΩ : 20m℧ + 0.2% 200kΩ :5m℧ + 0.1%	
Constant Voltage Mode								
Range	1~80V		1~80V		1~80V		2.5~500V	
Resolution	20mV		20mV		20mV		125mV	
Accuracy	0.05% ± 0.1%F.S.		0.05% ± 0.1%F.S.		0.05% ± 0.1%F.S.		0.05% ± 0.1%F.S.	
Constant Power Mode								
Range	0~20W	0~200W	0~20W	0~100W	0~30W	0~300W	0~30W	0~300W
Resolution	5mW	50mW	5mW	25mW	7.5mW	75mW	7.5mW	75mW
Accuracy	0.5% ± 0.5%F.S.		0.5% ± 0.5%F.S.		0.5% ± 0.5%F.S.		0.5% ± 0.5%F.S.	
Dynamic Mode								
Dynamic Mode	C.C. Mode		C.C. Mode		C.C. Mode		C.C. Mode	
T1 & T2	0.025ms ~ 50ms / Res: 5us 0.1ms ~ 500ms / Res: 25us 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5us 0.1ms ~ 500ms / Res: 25us 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5us 0.1ms ~ 500ms / Res: 25us 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5us 0.1ms ~ 500ms / Res: 25us 10ms ~ 50s / Res: 2.5ms	
Accuracy	1μs/1ms+100ppm		1μs/1mS+100ppm		1μs/1ms+100ppm		1μs/1ms+100ppm	
Slew Rate	0.64~160mA/μs	6.4~1600mA/μs	0.32~80mA/μs	3.2~800mA/μs	0.001~0.25A/μs	0.01~2.5A/μs	0.16~40mA/μs	1.6~400mA/μs
Resolution	0.64mA/μs	6.4mA/μs	0.32mA/μs	3.2mA/μs	0.001A/μs	0.01A/μs	0.16mA/μs	1.6mA/μs
Min. Rise Time	10μs (Typical)		10μs (Typical)		10μs (Typical)		24μs (Typical)	
Current	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A	0~1A	0~10A
Resolution	1mA	10mA	0.5mA	5mA	1.5mA	15mA	0.25mA	2.5mA
Current Accuracy	0.4%F.S.		0.4%F.S.		0.4%F.S.		0.4%F.S.	
Measurement Section								
Voltage Read Back								
Range	0~16V	0~80V	0~16V	0~80V	0~16V	0~80V	0~125V	0~500V
Resolution	0.5mV	2.5mV	0.5mV	2.5mV	0.5mV	2.5mV	4mV	16mV
Accuracy	0.05% + 0.05%F.S.		0.05% + 0.05%F.S.		0.05% + 0.05%F.S.		0.05% + 0.05%F.S.	
Current Read Back								
Range	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A	0~1A	0~10A
Resolution	0.125mA	1.25mA	0.0625mA	0.625mA	0.1875mA	1.875mA	0.032mA	0.320mA
Accuracy	1mA	10mA	0.5mA	5mA	1.5mA	15mA	0.25mA	2.5mA
Current Accuracy	0.1% + 0.1%F.S.		0.1% + 0.1%F.S.		0.1% + 0.1%F.S.		0.1% + 0.1%F.S.	
Protective Section								
Over Power Protection	≒20.8W	≒208W	≒20.8W	≒104W	≒31.2W	≒312W	≒31.2W	≒312W
Over Current Protection	≒4.08A	≒40.8A	≒2.04A	≒20.4A	≒6.12A	≒61.2A	≒1.02A	≒10.2A
Over Temperature Protection	≒85°C		≒85°C		≒85°C		≒85°C	
Over Voltage Protection	≒81.6V		≒81.6V		≒81.6V		≒510V	
General								
Short Circuit								
Current (CC)	-	≒40A	-	≒20A	-	≒60A	-	≒10A
Voltage (CV)	-	0V	-	0V	-	0V	-	0V
Resistance (CR)	-	≒0.0375Ω	-	≒0.075Ω	-	≒0.025Ω	-	≒1.25Ω
Power (CP)	-	≒200W	-	≒100W	-	≒300W	-	≒300W
Input Resistance (Load Off)	100kΩ (Typical)		100kΩ (Typical)		100kΩ (Typical)		100kΩ (Typical)	
Temperature Coefficient	100PPM/°C (Typical)		100PPM/°C (Typical)		100PPM/°C (Typical)		100PPM/°C (Typical)	
Power	Supply from 6314A Mainframe		Supply from 6314A Mainframe		Supply from 6314A Mainframe		Supply from 6314A Mainframe	
Dimensions (HxWxD)	172x81x495mm/6.8"x3.2"x19.5"		172x81x495mm/6.8"x3.2"x19.5"		172x81x495mm/6.8"x3.2"x19.5"		172x81x495mm/6.8"x3.2"x19.5"	
Weight	4.2kg/9.3lbs		4.2kg/9.3lbs		4.2kg/9.3lbs		4.2kg/9.3lbs	
Operating Range	0~40°C		0~40°C		0~40°C		0~40°C	
EMC & Safety	CE		CE		CE		CE	

Mainframe Model	6312A	6314A
Dimensions(HxWxD)	177x275x543mm/7"x10.8"x21.4"	177x439x543mm/7"x17.3"x21.4"
Weight	15kg/33.1lbs	22kg/48.5lbs

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Model	63106A		63107A (30W & 250W)			63108A		63112A	
Power	60W	600W	30W	30W	250W	60W	600W	120W	1200W
Current	0~12A	0~120A	0~5A	0~4A	0~40A	0~2A	0~20A	0~24A	0~240A
Voltage	0~80V		0~80V			0~500V		0~80V	
Min. Operation Voltage (DC)*1 (Typical)	0.4V@6A 0.8V@12A	0.4V@60A 0.8V@120A	0.4V@2.5A 0.8V@5A	0.4V@2A 0.8V@4A	0.4V@20A 0.8V@40A	1.0V@1A 2V@2A	1.0V@10A 2V@20A	0.4V@12A 0.8V@24A	0.4V@120A 0.8V@240A
Constant Current Mode									
Range	0~12A	0~120A	0~5A	0~4A	0~40A	0~2A	0~20A	0~24A	0~240A
Resolution	3mA	30mA	1.25mA	1mA	10mA	0.5mA	5mA	6mA	60mA
Accuracy	0.1%+0.1%F.S.	0.1%+0.2%F.S.	0.1%+0.1%F.S.	0.1%+0.1%F.S.	0.1%+0.2%F.S.	0.1%+0.1%F.S.	0.1%+0.2%F.S.	0.1%+0.1%F.S.	0.1%+0.2%F.S.
Constant Resistance Mode									
Range	12.5mΩ~ 50Ω (600W/16V) 0.625Ω~2.5kΩ (600W/80V)		0.3Ω~1.2kΩ (30W/16V) 15Ω~60kΩ (30W/80W)		0.0375Ω~150Ω (250W/16V) 1.875Ω~7.5kΩ (250W/80V)	0.625Ω~2.5kΩ (600W/125V) 25Ω~100kΩ (600W/500V)		6.25mΩ~25Ω (1200W/16V) 0.3125Ω~1.25kΩ (1200W/80V)	
Resolution	12 bits		12 bits		12 bits	12 bits		12 bits	
Accuracy	50Ω: 0.4ʊ + 0.5% 2.5kΩ: 0.04ʊ + 0.2%		1.2kΩ: 0.1ʊ + 0.2% 60kΩ: 0.01ʊ + 0.1%		150Ω: 0.1ʊ + 0.2% 7.5kΩ: 0.01ʊ + 0.1%	25kΩ: 50mʊ+ 0.2% 100kΩ: 5mʊ+ 0.1%		25Ω: 0.8ʊ+ 0.8% 1.25kΩ: 0.08ʊ+ 0.2%	
Constant Voltage Mode									
Range	1~80V		1~80V			2~500V		1~80V	
Resolution	20mV		20mV			125mV		20mV	
Accuracy	0.05% ± 0.1%F.S.		0.05% ± 0.1%F.S.			0.05% ± 0.1%F.S.		0.05% ± 0.1%F.S.	
Constant Power Mode									
Range	0~60W	0~600W	0~30W	0~30W	0~250W	0~60W	0~600W	0~120W	0~1200W
Resolution	15mW	150mW	7.5mW	7.5mW	62.5mW	15mW	150mW	30mW	300mW
Accuracy	0.5% ± 0.5%F.S.		0.5% ± 0.5%F.S.			0.5% ± 0.5%F.S.		0.5% ± 0.5%F.S.	
Dynamic Mode									
Dynamic Mode	C.C. Mode		C.C. Mode			C.C. Mode		C.C. Mode	
T1 & T2	0.025ms~10ms/Res:1μs 1ms~30s/Res:1ms		0.025ms~10ms/Res:1μs 1ms~30s/Res:1ms			0.025ms~10ms/Res:1μs 1ms~30s/Res:1ms		0.025ms~10ms/Res:1μs 1ms~30s/Res:1ms	
Accuracy	1μs/1ms+100ppm		1μs/1ms+100ppm			1μs/1ms+100ppm		1μs/1ms+100ppm	
Slew Rate	0.002~0.5A/μs	0.02~5A/μs	0.8~200mA/μs	0.64~160mA/μs	64~1600mA/μs	0.32~80mA/μs	3.2~800mA/μs	0.004~1A/μs	0.04~10A/μs
Resolution	0.002A/μs	0.02A/μs	0.8mA/μs	0.64mA/μs	64mA/μs	0.32mA/μs	3.2mA/μs	0.004A/μs	0.04A/μs
Min. Rise Time	10μs (Typical)		10μs (Typical)			24μs (Typical)		10μs (Typical)	
Current	0~12A	0~120A	0~5A	0~4A	0~40A	0~2A	0~20A	0~24A	0~240A
Resolution	3mA	30mA	1.25mA	1mA	10mA	0.5mA	5mA	6mA	60mA
Current Accuracy	0.4%F.S.		0.4%F.S.			0.4%F.S.		0.4%F.S.	
Measurement Section									
Voltage Read Back									
Range	0~16V	0~80V	0~16V	0~80V	0~16V	0~80V	0~125V	0~500V	0~16V	0~80V
Resolution	0.5mV	2.5mV	0.5mV	2.5mV	0.5mV	2.5mV	4mV	16mV	0.5mV	2.5mV
Accuracy	0.05% + 0.05%F.S.		0.05% + 0.05%F.S.			0.05% + 0.05%F.S.		0.05% + 0.05%F.S.	
Current Read Back									
Range	0~12A	0~120A	0~5A	0~4A	0~40A	0~2A	0~20A	0~24A	0~240A
Resolution	0.375mA	3.75mA	0.15625mA	0.125mA	1.25mA	0.375mA	0.625mA	0.75mA	7.5mA
Accuracy	3mA	30mA	1.25mA	1mA	10mA	0.5mA	5mA	6mA	60mA
Current Accuracy	0.1% + 0.1%F.S.		0.1% + 0.1%F.S.			0.1% + 0.1%F.S.		0.15% + 0.15%F.S.	
Protective Section									
Over Power Protection	≒62.4W	≒624W	≒31.2W	≒31.2W	≒260W	≒62.4W	≒624W	≒124.8W	≒1248W
Over Current Protection	≒12.24A	≒122.4A	≒5.1A	≒4.08A	≒40.8A	≒2.04A	≒20.4A	≒24.48A	≒244.8A
Over Temperature Protection	≒85°C		≒85°C			≒85°C		≒85°C	
Over Voltage Protection	≒81.6V		≒81.6V			≒510V		≒81.6V	
General									
Short Circuit									
Current (CC)	-	≒120A	-	-	≒40A	-	≒20A	-	≒240A
Voltage (CV)	-	0V	-	-	0V	-	0V	-	0V
Resistance (CR)	-	≒0.0125Ω	-	-	≒0.0375Ω	-	≒0.625Ω	-	≒0.00625Ω
Power (CP)	-	≒600W	-	-	≒250W	-	≒600W	-	≒1200W
Input Resistance(Load Off)	100kΩ (Typical)		100kΩ (Typical)			100kΩ (Typical)		100kΩ (Typical)	
Temperature Coefficient	100PPM/°C (Typical)		100PPM/°C (Typical)			100PPM/°C (Typical)		100PPM/°C (Typical)	
Power	Supply from 6314A Mainframe		Supply from 6314A Mainframe			Supply from 6314A Mainframe		Supply from 6314A Mainframe	
Dimensions (HxWxD)	172x162x495mm/6.8"x6.4"x19.5"		172x81x495mm/6.8"x3.2"x19.5"			172x162x495mm/6.8"x6.4"x19.5"		172x324x495mm/6.8"x12.8"x19.5"	
Weight	8.4 kg/18.5lbs		4.5 kg/9.9lbs			8.4 kg/18.5lbs		16.8 kg/37lbs	
Operating Range	0~40°C		0~40°C			0~40°C		0~40°C	
EMC & Safety	CE		CE			CE		CE	

NOTE*1 :
Low voltage operation, under 0.8 volt, is possible at correspondingly reduced current level.
Operating temperature range is 0ºC to 40ºC. All specifications apply for 25ºC±5ºC, except as noted.

All specifications are subject to change without notice.

ORDERING INFORMATION

6312A : Mainframe for 2 Load Modules
6314A : Mainframe for 4 Load Modules
63101A : Load Module 40A/80V/200W
63102A : Load Module 20A/80V/100Wx2 channels
63103A : Load Module 60A/80V/300W
63105A : Load Module 10A/500V/300W
63106A : Load Module 120A/80V/600W
63107A : Load Module 5A&40A/80V/30W&250W
63108A : Load Module 20A/500V/600W
63112A : Load Module 240A/80V/1200W
A630002 : GPIB Interface for Model 6314A, 6312A
A631003 : USB Interface for Model 6314A, 6312A
A631001 : Remote Controller
A631002 : Test Fixture
A631004 : Softpanel

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