



## KEY FEATURES

- Power Rating: 2.6kW, 5.2kW, 6.5kW, 10.4kW, 14.5kW, 15.6kW
- Voltage range: 0~80V/0~500V
- Current range: Up to 1000A
- CC, CR, CV, CP load modes
- Master/Slave paralleling control mode, allow synchronous load control under static and dynamic loading mode (Up to 93.6kW)
- Dynamic loading: Up to 20kHz
- Only need 1V to draw rated current
- Programmable slew rate, up to 41A/μs
- Measurement: Voltage / Current / Power / Resistance
- Large LED/LCD display
- External loading waveform simulation
- Short circuit simulation and short circuit current measurement
- Full protection: OC, OP, OT protection and OV, reverse alarm
- Versatile remote controller
- GPIB & RS-232 interfaces

The Chroma Electronic Loads 63200 series are designed for DC power source, power electronic devices and components testing. The high power rating, parallel and synchronization capabilities make them the ideal tool for testing the high power UUT such as SMR, UPS, battery, and fuel cell.

The 63200 series offers 10 different models with power range from 2600 watts to 15600 watts, current from 50A to 1000A and up to 500V input voltage. The 4 load modes setup provide different load simulations for various application occasions. The CC/CR modes are designed to test constant voltage type of power supply. CV mode is used to test battery charger and current source, while CP mode is ideal for battery testing by simulating the real discharge curve.

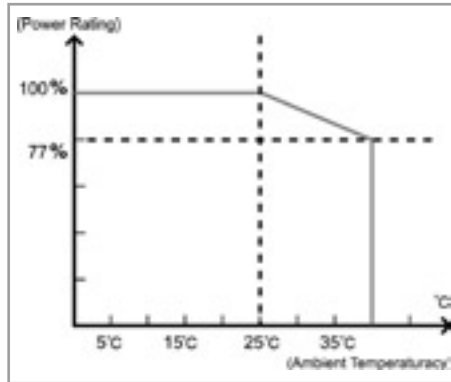
The 63200 series can draw its rated current under very low voltage (1V typical) even under the highest specified slew rate. This unique feature guarantees the best loading performance to a low voltage power supply. With the unique external waveform simulation and Master /Slave control capability, the 63200 series electronic loads allow users to parallel and synchronize more than one load together from an internal or external loading control signal. This feature provides unlimited load simulation and the possibility of power expansion.

The 63200 series also supply necessary measurement functions and short circuit simulation that extend the test capability for even the most demanding engineering tests and ATE applications. With the LCD display and rotary knob, the 63200 electronic loads offer versatile



front panel operations. Users are able to control the 63200 family remotely via GPIB, RS-232 or APG (Analog Programming) interface.

Chroma 63200 series loads are built in fan speed control to minimize the audio noise. The self-diagnosis routine and the full protections against OP, OC, OT and alarm indicating OV, reverse polarity to ensure the best quality and reliability.



## 63200 Series DC Electronic Load Family



## ORDERING INFORMATION

- 63201** : DC Electronic Load 2.6kW/300A/80V
- 63202** : DC Electronic Load 2.6kW/50A/500V
- 63203** : DC Electronic Load 5.2kW/600A/80V
- 63204** : DC Electronic Load 5.2kW/100A/500V
- 63205** : DC Electronic Load 6.5kW/180A/80V
- 63206** : DC Electronic Load 10.4kW/600A/80V
- 63207** : DC Electronic Load 10.4kW/300A/80V
- 63208** : DC Electronic Load 15.6kW/600A/80V
- 63209** : DC Electronic Load 15.6kW/1000A/80V
- 63210** : DC Electronic Load 14.5kW/150A/500V
- A632001** : Remote Controller
- A632002** : Load Cable 38mm/242A/200cmx2
- A632003** : Load Cable 80mm/390A/200cmx2
- A632004** : Sync. Link Box for 6330A & 63200 series
- A632005** : Softpanel for 63200 series
- A632006** : NI USB-6211 Bus-Powered Multifunction DAQ
- A632007** : Special modification 5.2kW/100A/600V for Model 63204

## Soft Panel



Battery Discharge Test



OCP Test

Photovoltaic Test Equipment

Semiconductor/IC Test Equipment

LED Test Equipment

LCD/LCM Test Equipment

Video & Color Test Equipment

Optical Inspection Equipment

Power Electronics Test Equipment

Passive Component Test Instruments

Electrical Safety Test Instruments

General Purpose Test Instruments

PXI Instruments & Systems

SPECIFICATIONS-1						
Model	63201		63202		63203	
<b>Power*1</b>	260W	2600W	260W	2600W	520W	5200W
<b>Current</b>	0~30A	0~300A	0~5A	0~50A	0~60A	0~600A
<b>Voltage*7</b>	0~80V		0~500V		0~80V	
<b>Min. Operating voltage</b>	0.5V @ 15A	0.5V @ 150A	1.25V @ 2.5A	1.25V @ 25A	0.5V @ 30A	0.5V @ 300A
	1V @ 30A	1V @ 300A	2.5V @ 5A	2.5V @ 50A	1V @ 60A	1V @ 600A
<b>Constant Current mode</b>						
<b>Range</b>	0~30A	0~300A	0~5A	0~50A	0~60A	0~600A
<b>Resolution</b>	7.5mA	75mA	1.25mA	12.5mA	15mA	150mA
<b>Accuracy</b>	0.1%+0.1%F.S.	0.2%+0.1%F.S.	0.1%+0.1%F.S.	0.2%+0.1%F.S.	0.1%+0.1%F.S.	0.2%+0.1%F.S.
<b>Constant Resistance Mode</b>						
<b>Range</b>	0.005~20Ω	0.25~1000Ω	0.25~1000Ω	10~40000Ω	0.0025~10Ω	0.125~500Ω
<b>Resolution*6</b>	52mS	1.04mS	1.2mS	28.8μS	104mS	2.1mS
<b>Accuracy*2</b>	0.104S+0.35%	0.9S+0.1%	0.0023S+0.35%	0.04S+0.1%	0.208S+0.35%*4	1.2S+0.1%
<b>Accuracy*3 (Vin&gt;7V)</b>	0.104S+0.35%	0.0021S+0.35%	0.0023S+0.35%	57.56μS+0.35%	0.208S+0.35%	0.0042S+0.35%
<b>Constant Voltage mode</b>						
<b>Range</b>	0~16V	0~80V	0~125V	0~500V	0~16V	0~80V
<b>Resolution</b>	4mV	20mV	31mV	125mV	4mV	20mV
<b>Accuracy</b>	0.05%+0.1%F.S.		0.05%+0.1%F.S.		0.05%+0.1%F.S.	
<b>Constant Power mode</b>						
<b>Range</b>	0.6~260W	6~2600W	0.625~260W	6.25~2600W	1.2~520W	12~5200W
<b>Resolution</b>	7.5mW	75mW	3.125mW	31.25mW	22.5mW	225mW
<b>Accuracy</b>	0.5%+0.5%F.S.		0.5%+0.5%F.S.		0.5%+0.5%F.S.	
<b>Dynamic mode</b>						
<b>Timing</b>						
T1&T2	0.025~10ms	1ms~30s	0.025~10ms	1ms~30s	0.025~10ms	1ms~30s
Resolution	1μs	1ms	1μs	1ms	1μs	1ms
Accuracy	1μs+100ppm	1ms+100ppm	1μs+100ppm	1ms+100ppm	1μs+100ppm	1ms+100ppm
Slew rate	5mA~1.25A/μs	50mA~12.5A/μs	0.8mA~0.2A/μs	8mA~2A/μs	10mA~2.5A/μs	100mA~25A/μs
Resolution	5mA/μs	50mA/μs	0.8mA/μs	8mA/μs	10mA/μs	100mA/μs
Accuracy	10% ± 20μs		10% ± 20μs		10% ± 20μs	
Min. Rise Time	24μs (typical)		24μs (typical)		24μs (typical)	
<b>Current</b>						
Range	0~30A	0~300A	0~5A	0~50A	0~60A	0~600A
Resolution	7.5mA	75mA	1.25mA	12.5mA	15mA	150mA
Accuracy	0.4%F.S.		0.4%F.S.		0.4%F.S.	
<b>Measurement</b>						
<b>Voltage Read Back</b>						
Range	0~16V	0~80V	0~125V	0~500V	0~16V	0~80V
Resolution	0.5mV	2.4mV	3.5mV	13.7mV	0.5mV	2.4mV
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
<b>Current Read Back</b>						
Range	0~30A	0~300A	0~5A	0~50A	0~60A	0~600A
Resolution	0.9mA	8.5mA	0.2mA	1.4mA	1.7mA	17mA
Accuracy	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.	
<b>Power Read Back</b>						
Range	0~260W	0~2600W	0~260W	0~2600W	0~520W	0~5200W
Accuracy*5	0.3%+0.3%F.S.		0.3%+0.3%F.S.		0.3%+0.3%F.S.	
<b>General</b>						
<b>Short Circuit</b>						
current	30A	300A	5A	50A	60A	600A
<b>Dimension (H x W x D)</b>	177 x 440 x 589 mm / 6.9 x 17.3 x 23.2 inch		177 x 440 x 589 mm / 6.9 x 17.3 x 23.2 inch		353 x 440 x 589 mm / 6.9 x 17.3 x 23.2 inch	
<b>Weight</b>	30 kg / 66.13 lbs		30 kg / 66.13 lbs		62 kg / 136.68 lbs	
<b>Safety &amp; EMC</b>	CE		CE		CE	

SPECIFICATIONS-2						
Model	63204*8		63205		63206	
<b>Power*1</b>	520W	5200W	650W	6500W	1040W	10400W
<b>Current</b>	0~10A	0~100A	0~18A	0~180A	0~60A	0~600A
<b>Voltage*7</b>	0~500V		0~80V		0~80V	
<b>Min. Operating voltage</b>	1.25V @ 5A	1.25V @ 50A	0.5V @ 9A	0.5V @ 90A	0.5V @ 30A	0.5V @ 300A
	2.5V @ 10A	2.5V @ 100A	1V @ 18A	1V @ 180A	1V @ 60A	1V @ 600A
<b>Constant Current mode</b>						
<b>Range</b>	0~10A	0~100A	0~18A	0~180A	0~60A	0~600A
<b>Resolution</b>	2.5mA	25mA	4.5mA	45mA	15mA	150mA
<b>Accuracy</b>	0.1%+0.1%F.S.	0.2%+0.1%F.S.	0.1%+0.2%F.S.	0.1%+0.2%F.S.	0.1%+0.2%F.S.	0.1%+0.2%F.S.
<b>Constant Resistance Mode</b>						
<b>Range</b>	0.125~500Ω	5~20000Ω	0.008~32Ω	0.4~1600Ω	0.0025~10Ω	0.125~500Ω
<b>Resolution*6</b>	2.3mS	57.56μS	35mS	0.7mS	112.5mS	2.25mS
<b>Accuracy*2</b>	0.0046S+0.35%	0.08S+0.1%	0.07S+0.35%	0.75S+0.1%	0.225S+0.35%*4	1.2S+0.1%
<b>Accuracy*3 (Vin&gt;7V)</b>	0.0046S+0.35%	115.51μS+0.35%	0.07S+0.35%	0.0014S+0.35%	0.225S+0.35%	0.0045S+0.35%
<b>Constant Voltage mode</b>						
<b>Range</b>	0~125V	0~500V	0~16V	0~80V	0~16V	0~80V
<b>Resolution</b>	31mV	125mV	4mV	20mV	4mV	20mV
<b>Accuracy</b>	0.05%+0.1%F.S.		0.05%+0.1%F.S.		0.05%+0.1%F.S.	
<b>Constant Power mode</b>						
<b>Range</b>	1.25~520W	12.5~5200W	0.36~650W	3.6~6500W	1.2~1040W	12~10400W
<b>Resolution</b>	6.25mW	62.5mW	4.6mW	46mW	22.5mW	225mW
<b>Accuracy</b>	0.5%+0.5%F.S.		0.5%+0.5%F.S.		0.5%+0.5%F.S.	
<b>Dynamic mode</b>						
<b>Timing</b>						
T1&T2	0.025~10ms	1ms~30s	0.025~10ms	1ms~30s	0.025~10ms	1ms~30s
Resolution	1μs	1ms	1μs	1ms	1μs	1ms
Accuracy	1μs+100ppm	1ms+100ppm	1μs+100ppm	1ms+100ppm	1μs+100ppm	1ms+100ppm
Slew rate	1.6mA~0.4A/μs	16mA~4A/μs	3mA~0.75A/μs	30mA~7.5A/μs	10mA~3A/μs	100mA~25A/μs
Resolution	1.6mA/μs	16mA/μs	3mA/μs	30mA/μs	12mA/μs	100mA/μs
Accuracy	10% ± 20μs		10% ± 20μs		10% ± 20μs	
Min. Rise Time	24μs (typical)		24μs (typical)		20μs (typical)	
<b>Current</b>						
Range	0~10A	0~100A	0~18A	0~180A	0~60A	0~600A
Resolution	2.5mA	25mA	4.68mA	46.8mA	15mA	150mA
Accuracy	0.4%F.S.		0.4%F.S.		0.4%F.S.	
<b>Measurement</b>						
<b>Voltage Read Back</b>						
Range	0~125V	0~500V	0~16V	0~80V	0~16V	0~80V
Resolution	3.5mV	13.7mV	0.5mV	2.4mV	0.5mV	2.4mV
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
<b>Current Read Back</b>						
Range	0~10A	0~100A	0~18A	0~180A	0~60A	0~600A
Resolution	0.3mA	2.7mA	0.5mA	4.7mA	1.3mA	16.1mA
Accuracy	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.	
<b>Power Read Back</b>						
Range	0~520W	0~5200W	0~650W	0~6500W	0~1040W	0~10400W
Accuracy*5	0.3%+0.3%F.S.		0.3%+0.3%F.S.		0.3%+0.3%F.S.	
<b>General</b>						
<b>Short Circuit</b>						
current	10A	100A	18A	180A	60A	600A
<b>Dimension (H x W x D)</b>	353 x 440 x 589 mm / 13.9 x 17.3 x 23.2 inch		310 x 440 x 589 mm / 12.2 x 17.3 x 23.2 inch		443.7 x 440 x 589 mm / 17.5 x 17.3 x 23.2 inch	
<b>Weight</b>	62 kg / 136.68 lbs		62 kg / 136.68 lbs		90 kg / 198.41 lbs	
<b>Safety &amp; EMC</b>	CE		CE		CE	

Photovoltaic Test Equipment  
Semiconductor/IC Test Equipment  
LED Test Equipment  
LCD/LCM Test Equipment  
Video & Color Test Equipment  
Optical Inspection Equipment  
Power Electronics Test Equipment  
Passive Component Test Instruments  
Electrical Safety Test Instruments  
General Purpose Test Instruments  
PXI Instruments & Systems

SPECIFICATIONS-3				
Model	63207		63208	
<b>Power *1</b>	1040W	10400W	1560W	15600W
<b>Current</b>	0~30A	0~300A	0~60A	0~600A
<b>Voltage*7</b>	0~80V		0~80V	
<b>Min. Operating voltage</b>	0.5V @ 15A	0.5V @ 150A	0.5V @ 30A	0.5V @ 300A
	1V @ 30A	1V @ 300A	1V @ 60A	1V @ 600A
<b>Constant Current mode</b>				
<b>Range</b>	0~30A	0~300A	0~60A	0~600A
<b>Resolution</b>	9.3mA	75mA	15mA	150mA
<b>Accuracy</b>	0.1%+0.2%F.S.		0.1%+0.2%F.S.	
<b>Constant Resistance Mode</b>				
<b>Range</b>	0.005~20Ω	0.25~1000Ω	0.0025~10Ω	0.125~500Ω
<b>Resolution*6</b>	55.7mS	1.1mS	110mS	2.22mS
<b>Accuracy *2</b>	0.111S+0.35%		0.22S+0.35% *4	
<b>Accuracy *3 (Vin&gt;7V)</b>	0.111S+0.35%		0.0022S+0.35%	
<b>Constant Voltage mode</b>				
<b>Range</b>	0~16V	0~80V	0~16V	0~80V
<b>Resolution</b>	4mV	20mV	4mV	20mV
<b>Accuracy</b>	0.05%+0.1%F.S.		0.05%+0.1%F.S.	
<b>Constant Power mode</b>				
<b>Range</b>	0.744~1040W	6~10400W	1.2~1560W	12~15600W
<b>Resolution</b>	9.3mW	75mW	22.5mW	225mW
<b>Accuracy</b>	0.5%+0.5%F.S.		0.5%+0.5%F.S.	
<b>Dynamic mode</b>				
<b>Timing</b>				
T1&T2	0.025~10ms	1ms~30s	0.025~10ms	1ms~30s
<b>Resolution</b>	1μs	1ms	1μs	1ms
<b>Accuracy</b>	1μs+100ppm		1ms+100ppm	
<b>Slew rate</b>	6mA~1.5A/μs	50mA~12.5A/μs	12mA~3A/μs	100mA~25A/μs
<b>Resolution</b>	6mA/μs	50mA/μs	12mA/μs	100mA/μs
<b>Accuracy</b>	10% ± 20μs		10% ± 20μs	
<b>Min. Rise Time</b>	20μs (typical)		20μs (typical)	
<b>Current</b>				
<b>Range</b>	0~30A	0~300A	0~60A	0~600A
<b>Resolution</b>	9.37mA	75mA	15mA	150mA
<b>Accuracy</b>	0.4%F.S.		0.4%F.S.	
<b>Measurement</b>				
<b>Voltage Read Back</b>				
<b>Range</b>	0~16V	0~80V	0~16V	0~80V
<b>Resolution</b>	0.5mV	2.4mV	0.5mV	2.4mV
<b>Accuracy</b>	0.05%+0.05%F.S.		0.05%+0.05%F.S.	
<b>Current Read Back</b>				
<b>Range</b>	0~30A	0~300A	0~60A	0~600A
<b>Resolution</b>	0.7mA	8.2mA	1.3mA	16.1mA
<b>Accuracy</b>	0.1%+0.1%F.S.		0.1%+0.1%F.S.	
<b>Power Read Back</b>				
<b>Range</b>	0~1040W	0~10400W	0~1560W	0~15600W
<b>Accuracy*5</b>	0.3%+0.3%F.S.		0.3%+0.3%F.S.	
<b>General</b>				
<b>Short Circuit</b>				
<b>Current</b>	30A	300A	60A	600A
<b>Dimension (H x W x D)</b>	443.7 x 440 x 589 mm / 17.5 x 17.3 x 23.2 inch		762.8 x 546 x 700 mm / 30 x 21.5 x 27.6 inch	
<b>Weight</b>	90 kg / 198.24 lbs		170 kg / 374.45 lbs	
<b>Safety &amp; EMC</b>	CE		CE	

SPECIFICATIONS-4				
Model	63209		63210	
<b>Power *1</b>	1560W	15600W	1450W	14500W
<b>Current</b>	0~100A	0~1000A	0~15A	0~150A
<b>Voltage*7</b>	0~80V		0~500V	
<b>Min. Operating voltage</b>	0.5V @ 50A	0.5V @ 500A	1.25V @ 7.5A	1.25V @ 75A
	1V @ 100A	1V @ 1000A	2.5V @ 15A	2.5V @ 150A
<b>Constant Current mode</b>				
<b>Range</b>	0~100A	0~1000A	0~15A	0~150A
<b>Resolution</b>	31.25mA	250mA	3.75mA	37.5mA
<b>Accuracy</b>	0.1%+0.2%F.S.	0.1%+0.2%F.S.	0.1%+0.1%F.S.	0.2%+0.1%F.S.
<b>Constant Resistance Mode</b>				
<b>Range</b>	0.0015~6Ω	0.075~300Ω	0.083~333Ω	3.3~13200Ω
<b>Resolution*6</b>	186.5mS	3.73mS	3.21mS	80.1μS
<b>Accuracy *2</b>	0.373S+0.35% *4	1.2S+0.1%	0.0064S+0.35%	0.092S+0.1%
<b>Accuracy *3 (Vin&gt;7V)</b>	0.373S+0.35%	0.0075S+0.35%	0.0064S+0.35%	161μS+0.35%
<b>Constant Voltage mode</b>				
<b>Range</b>	0~16V	0~80V	0~125V	0~500V
<b>Resolution</b>	4mV	20mV	31mV	125mV
<b>Accuracy</b>	0.05%+0.1%F.S.		0.05%+0.1%F.S.	
<b>Constant Power mode</b>				
<b>Range</b>	2.5~1560W	20~15600W	5~1450W	50~14500W
<b>Resolution</b>	31.255mW	250mW	25mW	250mW
<b>Accuracy</b>	0.5%+0.5%F.S.		0.5%+0.5%F.S.	
<b>Dynamic mode</b>				
<b>Timing</b>				
T1&T2	0.025~10ms	1ms~30s	0.025~10ms	1ms~30s
Resolution	1μs	1ms	1μs	1ms
Accuracy	1μs+100ppm	1ms+100ppm	1μs+100ppm	1ms+100ppm
Slew rate	20mA~5A/μs	166mA~41.6A/μs	3mA~0.75A/μs	25mA~6A/μs
Resolution	20mA/μs	166mA/μs	3mA/μs	25mA/μs
Accuracy	10% ± 20μs		10% ± 20μs	
Min. Rise Time	20μs (typical)		24 μs (typical)	
<b>Current</b>				
Range	0~100A	0~1000A	0~15A	0~150A
Resolution	31.25mA	250mA	3.75mA	37.5mA
Accuracy	0.4%F.S.		0.4%F.S.	
<b>Measurement</b>				
<b>Voltage Read Back</b>				
Range	0~16V	0~80V	0~125V	0~500V
Resolution	0.5mV	2.4mV	3.5mV	13.7mV
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.	
<b>Current Read Back</b>				
Range	0~100A	0~1000A	0~15A	0~150A
Resolution	2.2mA	27.2mA	0.4mA	4.2mA
Accuracy	0.1%+0.1%F.S.		0.1%+0.1%F.S.	
<b>Power Read Back</b>				
Range	0~1560W	0~15600W	0~1450W	0~14500W
Accuracy*5	0.3%+0.3%F.S.		0.3%+0.3%F.S.	
<b>General</b>				
<b>Short Circuit</b>				
Current	100A	1000A	15A	150A
<b>Dimension (H x W x D)</b>	762.8x546x700mm/30x21.5x27.6inch(cabinet)		762.8x546x700mm/30x21.5x27.6inch(cabinet)	
<b>Weight</b>	170 kg / 374.45 lbs		170 kg / 374.45 lbs	
<b>Safety &amp; EMC</b>	CE		CE	

**NOTE\*1** : The power rating specifications at ambient temperature=25°C and see the diagram below for power derating.

**NOTE\*2** : The Vin must be greater than min. operating voltage of each model.

**NOTE\*3** : The Vin must be greater than 7V of each model.

**NOTE\*4** : Setting error will be 1% for R<0.005Ω at CRL range.

**NOTE\*5** : Power F.S. = Vrange x Irange F.S.

**NOTE\*6** : S (siemens) is the SI unit of conductance, equal to one reciprocal ohm.

**NOTE\*7** : If the operating voltage exceeds the rated voltage for 1.1 times, it would cause permanent damage to the device.

**NOTE\*8** : 600V modification is available

Photovoltaic  
Test Equipment  
Semiconductor/IC  
Test Equipment  
LED  
Test Equipment  
LCD/LCM  
Test Equipment  
Video & Color  
Test Equipment  
Optical Inspection  
Equipment  
Power Electronics  
Test Equipment  
Passive Component  
Test Instruments  
Electrical Safety  
Test Instruments  
General Purpose  
Test Instruments  
PXI Instruments  
& Systems