
СИМУЛЯТОРЫ СИЛОВОЙ НАГРУЗКИ

63802, 63803, 63804, 63110А, 63113А, 63115А, 63101А,
63102А, 63103А, 63105А, 63106А, 63107А, 63108А,
63112А, 63123А, 63301А, 63302А, 63303А, 63305А,
63306А, 63307А, 63308А, 63312А, 63323А, 63310А,
63313А, 63201, 63202, 63203, 63204, 63205, 63206,
63207, 63208, 63209, 63210, 63211, 63212, 63600-1,
63600-2, 63600-5, 63610-80-20, 63630-80-60,
63630-600-15, 63640-80-80

ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

По вопросам продаж и поддержки обращайтесь:

Архангельск (8182)63-90-72	Калининград (4012)72-03-81	Новосибирск (383)227-86-73	Сочи (862)225-72-31
Астана +7(7172)727-132	Калуга (4842)92-23-67	Омск (3812) 21-46-40	Ставрополь (8652)20-65-13
Астрахань (8512) 99-46-04	Кемерово (3842)65-04-62	Орел (4862)44-53-42	Сургут (3462) 77-98-35
Барнаул (3852) 73-04-60	Киров (8332)68-02-04	Оренбург (3532)37-68-04	Тверь (4822)63-31-35
Белгород (4722)40-23-64	Краснодар (861)203-40-90	Пенза (8412)22-31-16	Томск (3822)98-41-53
Брянск (4832)59-03-52	Красноярск (391)204-63-61	Пермь (342)205-81-47	Тула (4872)74-02-29
Владивосток (423)249-28-31	Курск (4712)77-13-04	Ростов-на-Дону (863)308-18-15	Тюмень (3452)66-21-18
Волгоград (844)278-03-48	Липецк (4742)52-20-81	Рязань (4912)46-61-64	Ульяновск (8422)24-23-59
Вологда (8172)26-41-59	Магнитогорск (3519)55-03-13	Самара (846)206-03-16	Уфа (347)229-48-12
Воронеж (473)204-51-73	Москва (495)268-04-70	Санкт-Петербург (812)309-46-40	Хабаровск (4212) 92-98-04
Екатеринбург (343)384-55-89	Мурманск (8152)59-64-93	Саратов (845)249-38-78	Челябинск (351)202-03-61
Иваново (4932)77-34-06	Набережные Челны (8552)20-53-41	Севастополь (8692) 22-31-93	Череповец (8202)49-02-64
Ижевск (3412)26-03-58	Нижний Новгород (831)429-08-12	Симферополь (3652) 67-13-56	Ярославль (4852)69-52-93
Казань (843)206-01-48	Новокузнецк (3843)20-46-81	Смоленск (4812)29-41-54	

сайт: chrm.nt-rt.ru || эл. почта: cmr@nt-rt.ru

MODEL 63800 SERIES

Key Features

- Power Rating :
1800W, 3600W, 4500W
- Voltage Range :
50V ~ 350Vrms
- Current Range :
Up to 18Arms, 36Arms, 45Arms
- Peak Current :
Up to 54A, 108A, 135A
- Parallel / 3-Phase Function
- Frequency Range :
45 ~ 440Hz, DC
- Crest Factor Range :
1.414 ~ 5.0
- Power Factor Range :
0 ~ 1 lead or lag (Rectified mode)
- CC, CR, CV, CP for DC Loading
- Constant & Rectified Load Modes
for AC Loading
- Analog Voltage & Current Monitor
- Timing Measurement for Battery,
UPS, Fuse and Breaker tests
- Measurement :
V, I, PF, CF, P, Q, S, F, R, Ip+/- and THDv
- Short circuit simulation
- Full Protection :
OP, OC, OT protection and OV alarm
- GPIB & RS-232 interfaces

PROGRAMMABLE AC & DC ELECTRONIC LOAD MODEL 63800 SERIES

63800 Series AC&DC Electronic Loads are designed for testing Uninterruptible Power Supplies(UPS), Off-Grid Inverters, AC sources and other power devices such as switches, circuit breakers, fuses and connectors.

The 63800 Loads can simulate load conditions under high crest factor and varying power factors with real time compensation even when the voltage waveform is distorted. This special feature provides real world simulation capability and prevents over-stressing thereby gives reliable and unbiased test results.

The 63800's state of the art design uses DSP technology to simulate non-linear rectified loads with its unique RLC operation mode. This mode improves stability by detecting the impedance

of the UUT and dynamically adjusting the load's control bandwidth to ensure the system's stability.

Comprehensive measurements allow users to monitor the output performance of the UUT. Additionally, voltage & current signals can be routed to an oscilloscope through analog outputs. The GPIB/RS232 interface options provide remote control & monitor for system integration. The built-in digital outputs may also be used to control the external relays for short circuit (crowbar) testing.

Chroma's 63800 Loads feature in fan speed control to ensure low acoustic noise. The diagnosis/protection functions include self-diagnosis routines and protection against over-power, over-current, over-temperature and over-voltage alarm.



SPECIFICATIONS

Model	63802	63803	63804
Power	1800W	3600W	4500W
Current	0 ~ 18Arms (54 Apeak, continue)	0 ~ 36Arms (108 Apeak, continue)	0 ~ 45Arms (135 Apeak, continue)
Voltage*1	50 ~ 350Vrms (500 Vpeak)	50 ~ 350Vrms (500 Vpeak)	50 ~ 350Vrms (500 Vpeak)
Frequency	45 ~ 440Hz, DC	45 ~ 440Hz, DC	45 ~ 440Hz, DC
AC Section			
Constant Current Mode			
Range	0 ~ 18Arms, Programmable	0 ~ 36Arms, Programmable	0 ~ 45Arms, Programmable
Accuracy	0.1% + 0.2%F.S.	0.1% + 0.2%F.S.	0.1% + 0.2%F.S.
Resloution	2mA	5mA	5mA
Constant Resistance Mode			
Range	2.77Ω ~ 2.5kΩ, Programmable	1.39Ω ~ 2.5kΩ, Programmable	1.11Ω ~ 2.5kΩ, Programmable
Accuracy	0.5% + 0.5%F.S.	0.5% + 0.5%F.S.	0.5% + 0.5%F.S.
Resloution*2	20μS	50μS	50μS
Constant Power Mode			
Range	1800W, Programmable	3600W, Programmable	4500W, Programmable
Accuracy	0.5% + 0.5%F.S.	0.2% + 0.3%F.S.	0.2% + 0.3%F.S.
Resloution	0.375W	1.125W	1.125W
Crest Factor (under CC, CP modes)			
Range	1.414 ~ 5.0, Programmable	1.414 ~ 5.0, Programmable	1.414 ~ 5.0, Programmable
Accuracy	(0.5% / Irms) + 1% F.S.	(0.5% / Irms) + 1%F.S.	(0.5% / Irms) + 1%F.S.
Resloution	0.005	0.005	0.005
Power Factor			
Range	0 ~ 1 lead or lag, Programmable	0 ~ 1 lead or lag, Programmable	0 ~ 1 lead or lag, Programmable
Accuracy	1%F.S.	1%F.S.	1%F.S.
Resloution	0.001	0.001	0.001
Rectified Load Mode			
Operating Frequency	45Hz ~ 70Hz		
RLC Mode	Parameter : Ip(max), R _s , L _s , C, R _L		
Constant Power Mode	Parameter : Ip(max), Power setting=200W ~ 1800W, PF=0.4 ~ 0.75	Parameter : Ip(max), Power setting=200W ~ 3600W, PF=0.4 ~ 0.75	Parameter : Ip(max), Power setting=200W ~ 4500W, PF=0.4 ~ 0.75
Inrush Current Mode	Parameter : Ip(max), R _s , L _s , C, R _L , Phase		
	80A (peak current)	160A (peak current)	200A (peak current)
R_s Range	0 ~ 9.999Ω	0 ~ 9.999Ω	0 ~ 9.999Ω
L_s Range	0 ~ 9999μH	0 ~ 9999μH	0 ~ 9999μH
C Range	100 ~ 9999μF	100 ~ 9999μF	100 ~ 9999μF
R_L Range	2.77 ~ 9999.99Ω	1.39 ~ 9999.99Ω	1.11 ~ 9999.99Ω
DC Section			
Voltage Range	7.5V ~ 500V	7.5V ~ 500V	7.5V ~ 500V
Current Range	0A ~ 18A	0A ~ 36A	0A ~ 45A
Min. operating voltage	7.5V	7.5V	7.5V
Rise time	75μs	75μs	75μs
Operating Mode	CC, CV, CR, CP, DC Rectified		
Short Circuit Simulation	Use the CR mode loading under max. power rating		
Measurement Section			
DVM Range	350V _{rms} (500V _{peak})	350V _{rms} (500V _{peak})	350V _{rms} (500V _{peak})
DVM Accuracy	0.1% + 0.1%F.S.	0.1% + 0.1%F.S.	0.1% + 0.1%F.S.
DVM Resloution	10mV	10mV	10mV
DAM Range	18A _{rms} (80A _{peak})	36A _{rms} (160A _{peak})	45A _{rms} (200A _{peak})
DAM Accuracy(<70Hz)	0.1% + 0.2%F.S.	0.1% + 0.2%F.S.	0.1% + 0.2%F.S.
DAM Accuracy(>70Hz)	0.1% (1+CF ² x kHz)+0.2% F.S.	0.1% (1+CF ² x kHz)+0.2% F.S.	0.1% (1+CF ² x kHz)+0.2% F.S.
DAM Resloution	1.0mA	1.0mA	1.0mA
Other Parameter	P(W), S(VA), Q(VAR), CF, PF, Freq, R, Ip-, Ip+, THDv		
Others			
Vmonitor	± 500V / ± 10V (Isolated)	± 500V / ± 10V (Isolated)	± 500V / ± 10V (Isolated)
Imonitor	± 80A / ± 10V (Isolated)	± 200A / ± 10V (Isolated)	± 200A / ± 10V (Isolated)
Protection	OCP : 19.2Arms ; OV alarm: 360Vrms (DC : 510VDC) OPP : 1920W ; OTP	OCP : 38.4Arms ; OV alarm: 360Vrms (DC : 510VDC) OPP : 3840W ; OTP	OCP : 48Arms ; OV alarm: 360Vrms (DC : 510VDC) OPP : 4800W ; OTP
Remote Interface	GPIB, RS-232		
Input Rating	1Ø 100~115Vac ± 10% V _{LNr} , 47~63Hz; 1Ø 200~230Vac ± 10% V _{LNr} , 47~63Hz		
Dimension (H x W x D)	177 x 440 x 595 mm / 7.0 x 17.32 x 23.42 inch	310 x 440 x 595 mm / 12.2 x 17.32 x 23.42 inch	310 x 440 x 595 mm / 12.2 x 17.32 x 23.42 inch
Weight	37kg / 81.57 lbs	66 kg / 145.5 lbs	66 kg / 145.5 lbs

NOTE*1 : If the operating voltage exceeds the rated voltage for 1.1 times, it would cause permanent damage to the device.

NOTE*2 : S (siemens) is the SI unit of conductance, equal to one reciprocal ohm.

* All specifications are subject to change without notice. Please visit our website for the most up to date specifications.

Programmable DC Electronic Load

MODEL 6310A SERIES

Key Features:

- Max Power: 200W, 100W × 2(Dual), 30W & 250W, 300W, 350W, 600W, 1200W
- Wide range 0~600V operating voltage
- Compatibility between 6310 and 6310A
- Up to eight channels in one mainframe, for testing multiple output SMPS
- Parallel load modules up to 1400W for high current and power applications
- Synchronization with multiple loads
- Flexible CC, CR, CP and CV operation modes
- Dynamic loading with speeds up to 20kHz
- Fast response of 0.32mA/μs ~ 10A/μs slew rate
- Minimum input resistance allows load to sink high current at low voltage (63123A : 0.6V@70A)
- Real time power supply load transient response simulation and output measurements
- User programmable 100 sequences. Front panel input status for user-friendly operation
- High/Low limits of testing parameters to test GO/NG
- Digital I/O control
- Over current protection (OCP) testing function
- 16-bit precision voltage and current measurement with dual-range
- Remote sensing capability
- Short circuit test
- Self-test at power-on
- Full Protection: OC, OP, OT protection and OV, reverse alarm
- USB, GPIB & RS-232C interfaces



PROGRAMMABLE DC ELECTRONIC LOAD

MODEL 6310A SERIES

The 6310A series Programmable DC Electronic Load is ideal for the test and evaluation of multi-output AC/DC power supplies, DC/DC converters, chargers and power electronic components. It is designed 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 12 different modules with power ratings from 20 watts to 1,200 watts, current ratings from 0.5mA to 240A, and voltage ratings from 0.5mV to 600V. 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. In addition, 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 16-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 routines to maintain instrument performance. It also provides OC, OP, OT protection, and alarm indicating OV, reverse polarity to guarantee quality and reliability for even in the most demanding engineering testing and ATE applications.



SPECIFICATIONS-LED LOAD SIMULATOR

Model	63110A (100Wx2)		63113A		63115A *3	
Power	100W		300W		300W	
Current	0~0.6A	0~2A	0~5A	0~20A	0~5A	0~20A
Voltage *1	0~500V		0~300V		0~600V	
Min. Operating Voltage	6V@2A		4V@20A		4V@20A	
Constant Current Mode						
Range	0~0.6A	0~2A	0~5A	0~20A	0~5A	0~20A
Resolution	12μA	40μA	100μA	400μA	100μA	400μA
Accuracy	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.
Constant Resistance Mode						
Range	CRL : 3Ω~1kΩ (100W/100V) CRH : 10Ω~10kΩ (100W/500V)		CRL @ CH : 0.2Ω~200Ω (300W/60V) CRL @ CL : 0.8Ω~800Ω (300W/60V) CRH @ CL : 4Ω~4kΩ (300W/300V)		CRL @ CH : 0.2Ω~200Ω (300W/60V) CRL @ CL : 0.8Ω~800Ω (300W/60V) CRH @ CL : 8Ω~8kΩ (300W/600V)	
Resolution*2	CRL : 62.5μS CRH : 6.25μS		CRL @ CH : 100μS CRL @ CL : 25μS CRH @ CL : 5μS		CRL @ CH : 100μS CRL @ CL : 25μS CRH @ CL : 2.5μS	
Accuracy	1kΩ : 4mS+0.2% 10kΩ : 1mS+0.1%		0.2% (setting + range)		0.2% (setting + range)	
Constant Voltage Mode						
Range	0~500V		0~300V		0~600V	
Resolution	20mV		6mV		12mV	
Accuracy	0.05% + 0.1%F.S.		0.05% + 0.1%F.S.		0.05% + 0.1%F.S.	
LED Mode						
Range	Operating Voltage: 0~100V/0~500V R _d Coefficient : 0.001~1 V _f : 0~100V/0~500V Current : 0~2A R _d : 1Ω~1kΩ/10Ω~10kΩ		Operating Voltage : 0~60V/0~300V R _d Coefficient : 0.001~1 V _f : 0~60V/0~300V LEDL @ CH : 0~60V- 0~20A (R _d : 0.05Ω~50Ω) LEDL @ CL : 0~60V- 0~5A (R _d : 0.8Ω~800Ω) LEDH @ CL : 0~300V- 0~5A (R _d : 4Ω~4kΩ)		Operating Voltage : 0~60V/0~600V R _d Coefficient : 0.001~1 V _f : 0~60V/0~600V LEDL @ CH : 0~60V- 0~20A (R _d : 0.05Ω~50Ω) LEDL @ CL : 0~60V- 0~5A (R _d : 0.8Ω~800Ω) LEDH @ CL : 0~600V- 0~5A (R _d : 8Ω~8kΩ)	
Resolution *2	V _o : 4mV/20mV I _o : 0.1mA R _d Coefficient : 0.001 R _d : 62.5μS/6.25μS V _f : 4mV/20mV		V _o : 1.2mV/6mV I _o : 100μA/400μA R _d Coefficient : 0.001 R _d : 400μS / 25μS / 5μS V _f : 1.2mV/ 6mV		V _o : 1.2mV/12mV I _o : 100μA/400μA R _d Coefficient : 0.001 R _d : 400μS/25mS/2.5mS V _f : 6mV/ 60mV	
Dynamic Mode						
Dynamic Mode	--		C.C. Mode		C.C. Mode	
T1 & T2	--		0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms	
Accuracy	--		1μs/1ms+100ppm		1μs/1ms+100ppm	
Slew Rate	--		0.8~200mA/μs 3.2~800mA/μs		0.8~200mA/μs 3.2~800mA/μs	
Resolution	--		0.8mA/μs 3.2mA/μs		0.8mA/μs 3.2mA/μs	
Accuracy	--		10% ± 20μs		10% ± 20μs	
Min. Rise Time	--		25μs (Typical)		25μs (Typical)	
Current	--		0~5A 0~20A		0~5A 0~20A	
Resolution	--		100μA 400μA		100μA 400μA	
Accuracy	--		0.4%F.S.		0.4%F.S.	
Measurement Section						
Voltage Read Back						
Range	0~100V	0~500V	0~60V	0~300V	0~60V	0~600V
Resolution	2mV	10mV	1.2mV	6mV	1.2mV	12mV
Accuracy	0.025%+0.025% F.S.		0.025%+0.025% F.S.		0.025%+0.025% F.S.	
Current Read Back						
Range	0~0.6A	0~2A	0~5A	0~20A	0~5A	0~20A
Resolution	12μA	40μA	100μA	400μA	100μA	400μA
Accuracy	0.05%+0.05% F.S.		0.05%+0.05% F.S.		0.05%+0.05% F.S.	

NOTE*1 : If the operating voltage exceeds 1.1 times of the rated voltage, it would cause permanent damage to the device.

NOTE*2 : S (siemens) is the SI unit of conductance, equal to one reciprocal ohm.

NOTE*3 : Call for availability

SPECIFICATIONS-1

Model	63101A		63102A (100Wx2)		63103A	
Power	20W	200W	20W	100W	30W	300W
Current	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A
Voltage *3	0~80V		0~80V		0~80V	
Typical Min. Operation Voltage (DC)*1	0.4V@2A	0.4V@20A	0.4V@1A	0.4V@10A	0.4V@3A	0.4V@30A
	0.8V@4A	0.8V@40A	0.8V@2A	0.8V@20A	0.8V@6A	0.8V@60A
Constant Current Mode						
Range	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A
Resolution	1mA	10mA	0.5mA	5mA	1.5mA	15mA
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.
Constant Resistance Mode						
Range	0.0375Ω~150Ω (200W/16V)		0.075Ω~300Ω (100W/16V)		0.025Ω~100Ω (300W/16V)	
	1.875Ω~7.5kΩ (200W/80V)		3.75Ω~15kΩ (100W/80V)		1.25Ω~5kΩ (300W/80V)	
Resolution*5	6.667mS (200W/16V)		3.333mS (100W/16V)		10mS (300W/16V)	
	133μS (200W/80V)		66.667μS (100W/80V)		200μS (300W/80V)	
Accuracy	150Ω: 0.1S+ 0.2%		300Ω: 0.1S + 0.2%		100Ω: 0.1S+ 0.2%	
	7.5kΩ: 0.01S + 0.1%		15kΩ: 0.01S + 0.1%		5kΩ: 0.01S+ 0.1%	
Constant Voltage Mode						
Range	0~80V		0~80V		0~80V	
Resolution	20mV		20mV		20mV	
Accuracy	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
Resolution	5mW	50mW	5mW	25mW	7.5mW	75mW
Accuracy	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	
T1 & T2	0.025ms ~ 50ms / Res: 5μs		0.025ms ~ 50ms / Res: 5μs		0.025ms ~ 50ms / Res: 5μs	
	0.1ms ~ 500ms / Res: 25μs		0.1ms ~ 500ms / Res: 25μs		0.1ms ~ 500ms / Res: 25μs	
	10ms ~ 50s / Res: 2.5ms		10ms ~ 50s / Res: 2.5ms		10ms ~ 50s / Res: 2.5ms	
Accuracy	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
Resolution	0.64mA/μs	6.4mA/μs	0.32mA/μs	3.2mA/μs	0.001A/μs	0.01A/μs
Accuracy	10% ± 20μs		10% ± 20μs		10% ± 20μs	
Min. Rise Time	10μs (Typical)		10μs (Typical)		10μs (Typical)	
Current	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A
Resolution	1mA	10mA	0.5mA	5mA	1.5mA	15mA
Accuracy	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
Resolution	0.25mV	1.25mV	0.25mV	1.25mV	0.25mV	1.25mV
Accuracy	0.025% + 0.025%F.S.		0.025% + 0.025%F.S.		0.025% + 0.025%F.S.	
Current Read Back						
Range	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A
Resolution	0.0625mA	0.625mA	0.03125mA	0.3125mA	0.09375mA	0.9375mA
Accuracy	0.05% + 0.05%F.S.		0.05% + 0.05%F.S.		0.05% + 0.05%F.S.	
Power Read Back*2						
Range	0~20W	0~200W	0~20W	0~100W	0~30W	0~300W
Accuracy	0.1% + 0.1%F.S.		0.1% + 0.1%F.S.		0.1% + 0.1%F.S.	
Protective Section						
Over Power Protection	Yes		Yes		Yes	
Over Current Protection	Yes		Yes		Yes	
Over Temperature Protection	Yes		Yes		Yes	
Over Voltage Alarm*3	Yes		Yes		Yes	
General						
Short Circuit						
Current (CC)	-	≒ 40A	-	≒ 20A	-	≒ 60A
Voltage (CV)	-	0V	-	0V	-	0V
Resistance (CR)	-	≒ 0.0375Ω	-	≒ 0.075Ω	-	≒ 0.025Ω
Power (CP)	-	≒ 200W	-	≒ 100W	-	≒ 300W
Input Resistance (Load Off)	100kΩ (Typical)		100kΩ (Typical)		100kΩ (Typical)	
Temperature Coefficient	100PPM/°C (Typical)		100PPM/°C (Typical)		100PPM/°C (Typical)	
Power	Supply from 6314A Mainframe		Supply from 6314A Mainframe		Supply from 6314A Mainframe	
Dimensions (HxWxD)	172x82x489.5mm / 6.8x3.2x19.3inch		172x82x489.5mm / 6.8x3.2x19.3inch		172x82x489.5mm / 6.8x3.2x19.3inch	
Weight	4.2 kg / 9.3 lbs		4.2 kg / 9.3 lbs		4.2 kg / 9.3 lbs	
Operating Temperature Range	0~40°C		0~40°C		0~40°C	
EMC & Safety	CE		CE		CE	

SPECIFICATIONS-2

Model	63105A		63106A		63107A (30W & 250W)		
Power	30W	300W	60W	600W	30W	30W	250W
Current	0~1A	0~10A	0~12A	0~120A	0~5A	0~4A	0~40A
Voltage*3	0~500V		0~80V		0~80V		
Typical Min. Operation Voltage (DC)*1	1.0V@0.5A	1.0V@5A	0.4V@6A	0.4V@60A	0.4V@2.5A	0.4V@2A	0.4V@20A
	2.0V@1A	2.0V@10A	0.8V@12A	0.8V@120A	0.8V@5A	0.8V@4A	0.8V@40A
Constant Current Mode							
Range	0~1A	0~10A	0~12A	0~120A	0~5A	0~4A	0~40A
Resolution	0.25mA	2.5mA	3mA	30mA	1.25mA	1mA	10mA
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%+0.1%F.S.	0.1%+0.2%F.S.
Constant Resistance Mode							
Range	1.25Ω~5kΩ (300W/125V) 50Ω~200kΩ (300W/500V)		12.5mΩ~50Ω (600W/16V) 0.625Ω~2.5kΩ (600W/80V)		0.3Ω~1.2kΩ (30W/16V) 15Ω~60kΩ (30W/80V)		0.0375Ω~150Ω (250W/16V) 1.875Ω~7.5kΩ (250W/80V)
Resolution*5	200μS (300W/125V) 5μS (300W/500V)		20mS (600W/16V) 400μS (600W/80V)		833μS (30W/16V) 16.67μS (30W/80V)		6.667μS (250W/16V) 133μS (250W/80V)
Accuracy	5kΩ: 20mS+0.2% 200kΩ: 5mS+0.1%		50Ω: 0.4S+0.5% 2.5kΩ: 0.04S+0.2%		1.2kΩ: 0.1S+0.2% 60kΩ: 0.01S+0.1%		150Ω: 0.1S+0.2% 7.5kΩ: 0.01S+0.1%
Constant Voltage Mode							
Range	0~500V		0~80V		0~80V		
Resolution	125mV		20mV		20mV		
Accuracy	0.05%+0.1%F.S.		0.05%+0.1%F.S.		0.05%+0.1%F.S.		
Constant Power Mode							
Range	0~30W	0~300W	0~60W	0~600W	0~30W	0~30W	0~250W
Resolution	7.5mW	75mW	15mW	150mW	7.5mW	7.5mW	62.5mW
Accuracy	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		
T1 & T2	0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		
Accuracy	1μs/1ms+100ppm		1μs/1ms+100ppm		1μs/1ms+100ppm		
Slew Rate	0.16~40mA/μs	1.6~400mA/μs	0.002~0.5A/μs	0.02~5A/μs	0.8~200mA/μs	0.64~160mA/μs	6.4~1600mA/μs
Resolution	0.16mA/μs	1.6mA/μs	0.002A/μs	0.02A/μs	0.8mA/μs	0.64mA/μs	6.4mA/μs
Accuracy	10% ±20μs		10% ±20μs		10% ±20μs		
Min. Rise Time	24μs (Typical)		10μs (Typical)		10μs (Typical)		
Current	0~1A	0~10A	0~12A	0~120A	0~5A	0~4A	0~40A
Resolution	0.25mA	2.5mA	3mA	30mA	1.25mA	1mA	10mA
Accuracy	0.4%F.S.		0.4%F.S.		0.4%F.S.		
Measurement Section							
Voltage Read Back							
Range	0~125V	0~500V	0~16V	0~80V	0~16V	0~80V	0~16V
Resolution	2mV	8mV	0.25mV	1.25mV	0.25mV	1.25mV	0.25mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.		
Current Read Back							
Range	0~1A	0~10A	0~12A	0~120A	0~5A	0~4A	0~40A
Resolution	0.016mA	0.16mA	0.1875mA	1.875mA	0.078125mA	0.0625mA	0.625mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.		
Power Read Back*2							
Range	0~30W	0~300W	0~60W	0~600W	0~30W	0~30W	0~250W
Accuracy	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.		
Protective Section							
Over Power Protection	Yes		Yes		Yes		
Over Current Protection	Yes		Yes		Yes		
Over Temperature Protection	Yes		Yes		Yes		
Over Voltage Alarm*3	Yes		Yes		Yes		
General							
Short Circuit							
Current (CC)	-	≒10A	-	≒120A	-	-	≒40A
Voltage (CV)	-	0V	-	0V	-	-	0V
Resistance (CR)	-	≒1.25Ω	-	≒0.0125Ω	-	-	≒0.0375Ω
Power (CP)	-	≒300W	-	≒600W	-	-	≒250W
Input Resistance (Load Off)	100kΩ (Typical)		100kΩ (Typical)		100kΩ (Typical)		
Temperature Coefficient	100PPM/°C (Typical)		100PPM/°C (Typical)		100PPM/°C (Typical)		
Power	Supply from 6314A Mainframe		Supply from 6314A Mainframe		Supply from 6314A Mainframe		
Dimensions (HxWxD)	172x82x489.5mm / 6.8x3.2x19.3inch		172x164x489.5mm / 6.8x6.5x19.3inch		172x82x489.5mm / 6.8x3.2x19.3inch		
Weight	4.2 kg / 9.3 lbs		7.3 kg / 16.1 lbs		4.5 kg / 9.9 lbs		
Operating Temperature Range	0~40°C		0~40°C		0~40°C		
EMC & Safety	CE		CE		CE		

NOTE*1 : Low voltage operation, under 0.8 volt, is possible at correspondingly reduced current level. Operating temperature range is 0°C to 40°C.

All specifications apply for 25°C ± 5°C, except as noted

NOTE*2 : Power F.S. = Vrange F.S. x Irange F.S.

SPECIFICATIONS-3

Model	63108A		63112A		63123A	
Power	60W	600W	120W	1200W	350W	
Current	0~2A	0~20A	0~24A	0~240A	0~7A	0~70A
Voltage*3	0~500V		0~80V		0~120V	
Typical Min. Operation Voltage (DC)*1	1.0V@1A	1.0V@10A	0.4V@12A	0.4V@120A	0.05V@3.5A	0.3V@35A
	2.0V@2A	2.0V@20A	0.8V@24A	0.8V@240A	0.1V@7A	0.6V@70A
Constant Current Mode						
Range	0~2A	0~20A	0~24A	0~240A	0~7A	0~70A
Resolution	0.5mA	5mA	6mA	60mA	0.125mA	1.25mA
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%+0.1%F.S.
Constant Resistance Mode						
Range	0.625 Ω ~ 2.5k Ω (600W/125V) 25 Ω ~ 100k Ω (600W/500V)		6.25m Ω ~ 25 Ω (1200W/16V) 0.3125 Ω ~ 1.25k Ω (1200W/80V)		0.015 Ω ~ 150 Ω (350W/24V)*4 2 Ω ~ 2k Ω (350W/120V)	
Resolution*5	400μS (600W/125V) 10μS (600W/500V)		40mS (1200W/16V) 800μS (1200W/80V)		1.33mS (350W/24V)*4 10μS (350W/120V)	
Accuracy	2.5k Ω : 50mS + 0.2% 100k Ω : 5mS + 0.1%		25 Ω : 0.8S + 0.8% 1.25k Ω : 0.08S + 0.2%		150 Ω : 67mS + 0.1% 2k Ω : 5mS + 0.2%	
Constant Voltage Mode						
Range	0~500V		0~80V		0~120V	
Resolution	125mV		20mV		2mV	
Accuracy	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	0~120W	0~1200W	0~35W	0~350W
Resolution	15mW	150mW	30mW	300mW	2.5mW	25mW
Accuracy	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	
T1 & T2	0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		0.025ms~50ms/Res: 5μs 0.1ms~500ms / Res: 25μs 10ms~50s / Res: 2.5ms	
Accuracy	1μs/1ms+100ppm		1μs/1ms+100ppm		1μs /1ms+100ppm	
Slew Rate	0.32~80mA/μs	3.2~800mA/μs	0.004~1A/μs	0.04~10A/μs	0.001~0.25A/μs	0.01~2.5A/μs
Resolution	0.32mA/μs	3.2mA/μs	0.004A/μs	0.04A/μs	0.001A/μs	0.01A/μs
Accuracy	10% ± 20μs		10% ± 20μs		10% ± 20μs	
Min. Rise Time	24μs (Typical)		10μs (Typical)		25μs (Typical) *6	
Current	0~2A	0~20A	0~24A	0~240A	0~7A	0~70A
Resolution	0.5mA	5mA	6mA	60mA	0.125mA	1.25mA
Accuracy	0.4%F.S.		0.4%F.S.		0.1% F.S.	
Measurement Section						
Voltage Read Back						
Range	0~125V	0~500V	0~16V	0~80V	0~24V	0~120V
Resolution	2mV	8mV	0.25mV	1.25mV	0.4mV	2mV
Accuracy	0.025% + 0.025%F.S.		0.025% + 0.025%F.S.		0.025%+0.015% F.S.	
Current Read Back						
Range	0~2A	0~20A	0~24A	0~240A	0~7A	0~70A
Resolution	0.03125mA	0.3125mA	0.375mA	3.75mA	0.125mA	1.25mA
Accuracy	0.05% + 0.05%F.S.		0.075% + 0.075%F.S.		0.04%+0.04% F.S.	
Power Read Back*2						
Range	0~60W	0~600W	0~120W	0~1200W	0~35W	0~350W
Accuracy	0.1% + 0.1%F.S.		0.1% + 0.1%F.S.		0.1%+0.1% F.S.	
Protective Section						
Over Power Protection	Yes		Yes		Yes	
Over Current Protection	Yes		Yes		Yes	
Over Temperature Protection	Yes		Yes		Yes	
Over Voltage Alarm*3	Yes		Yes		Yes	
General						
Short Circuit						
Current (CC)	-	≒ 20A	-	≒ 240A	-	≒ 70A
Voltage (CV)	-	0V	-	0V	-	0V
Resistance (CR)	-	≒ 0.625 Ω	-	≒ 0.00625 Ω	-	≒ 0.01 Ω
Power (CP)	-	≒ 600W	-	≒ 1200W	-	≒ 350W
Input Resistance (Load Off)	100k Ω (Typical)		100k Ω (Typical)		800k Ω (Typical)	
Temperature Coefficient	100PPM/°C (Typical)		100PPM/°C (Typical)		100PPM/°C (Typical)	
Power	Supply from 6314A Mainframe		Supply from 6314A Mainframe		Supply from 6314A Mainframe	
Dimensions (HxWxD)	172x164x489.5mm / 6.8x6.5x19.3inch		172x329x495mm / 6.8x12.9x19.5inch		172x82x489.5mm / 6.8x3.2x19.3inch	
Weight	7.3 kg / 16.1 lbs		14 kg / 30.8 lbs		4.2kg / 9.3 lbs	
Operating Temperature Range	0~40°C		0~40°C		0~40°C	
EMC & Safety	CE		CE		CE	

NOTE*3 : When the operating voltage exceeds the rated voltage for 1.02 times, a warning will occur and if it exceeds 1.1 times of the rated voltage, it would cause permanent damage to the device.

NOTE*4 : Please refer to user's manual for detail specifications.

NOTE*5 : S (siemens) is the SI unit of conductance, equal to one reciprocal ohm.

NOTE*6 : The loading current should be 0.35A at least.



KEY FEATURES

- Improve operating speeds of load for auto test system integration
- Synchronous paralleling control mode, allow Synchronous load control under static and dynamic Loading mode up to 7000W
- Up to 8 channels in one mainframe, fit for testing Multiple output SMPS.
- GPIB/RS-232/USB Interface
- Max Power: 200W, 100W x 2(Dual), 30W&250W, 300W, 350W, 600W, 1200W
- Voltage Range: 0~80V / 0V~500V
- CC, CR, CV, CP operating modes
- Dynamic loading with speed up to 20kHz
- Programmable slew rate, up to 10A/μs
- Only need 0.5V to draw rated current (63323A)
- Individual panel meters
- Real time power supplies load transient response simulation and output measurement
- 16-bit precision voltage and measurement with dual-range selection
- Remote sensing capability
- Short circuit test
- Self-test at power-on
- CE marking

Chroma Model 6330A series high speed DC electronic improves CPU clock, baud rate, parser and added synchronic parallel function for fast operation, which is ideal for auto test system integration to increase your manufacturing test throughput. Plugging the user selectable load modules into the system mainframe can also provide easy system configuration and future reconfiguration configure the system.

The 6330A family offers 11 types of modular loads with power ranging from 30 watts to 1200 watts, current from 0.5mA to 240A, and voltage measurement from 0.5mV to 500V. Each load is isolated and floating, programmable in dual current range and measuring voltage range, and capable of synchronizing with other modules for control operating. The load can be operated in constant current, constant voltage, and constant resistance.

With Synchronic parallel control capability, 6330A series loads allow users to parallel and synchronize more than one load together from an internal loading control signal. This feature provides synchronic dynamic loading test for multi-output power and high power test solution.

Real time measurement of voltage, current, is integrated into each 6330A load module using a 16-bit precision measurement circuit. The user can perform on line voltage measurement and adjustment, or simulate short circuit test using the simple keypad on the front panel.

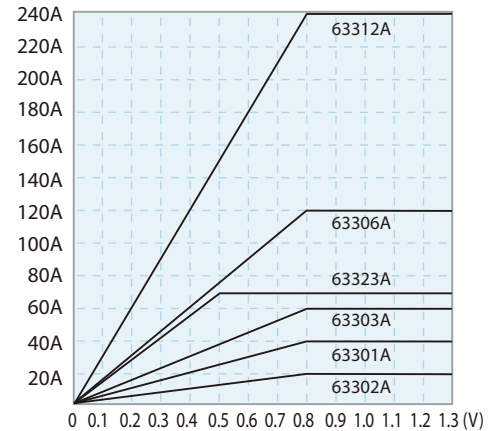
The 6330A have self-diagnosis routine to maintain instrumental performance all the time. It is also protected against OP, OC, OT protection, and alarm indicating OV, reverse polarity to guarantee quality and reliability for even the most demanding engineering testing and ATE application.

The FET technology accomplishes minimum input resistance and enables the load to sink high current even at very low voltage. For example, model 63303A is capable of sinking 60A at 1V output, and well-suited for testing the new 3V low voltage power supplies. Low voltage operation, down to zero volt, is possible at correspondingly reduced current level. (see below)

Chroma has created the industries first LED Load Simulator for simulating LED loading with our 63310A load model from our 6330A series Electronic Loads. By setting the LED power driver's output voltage, and current, the Electronic Load can simulate the LED's loading characteristics. The LED's forward voltage and operating resistance can also be set to further adjust the loading current and ripple current to better simulate LED characteristics. The 63310A design also has increased bandwidth to allow for PWM dimming testing.

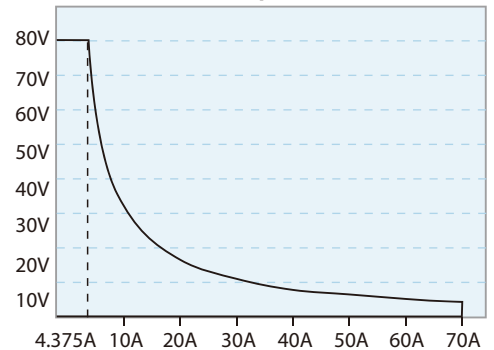
Low Voltage Characteristics (Typical)

Model 63301A/63302A/63303A/
63306A/63312A/63323A



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

Model 63323A Input Characteristics



6330A Series High Speed DC Electronic Load Family



SPECIFICATIONS-1						
Model	63301A		63302A (100Wx2)		63303A	
Power	20W	200W	20W	100W	30W	300W
Current	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A
Voltage *3	0~80V		0~80V		0~80V	
Min. Operation Voltage (DC) *1 (Typical)	0.4V@2A 0.8V@4A	0.4V@20A 0.8V@40A	0.4V@1A 0.8V@2A	0.4V@10A 0.8V@20A	0.4V@3A 0.8V@6A	0.4V@30A 0.8V@60A
Constant Current Mode						
Range	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A
Resolution	1mA	10mA	0.5mA	5mA	1.5mA	15mA
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.
Constant Resistance Mode						
Range	0.0375 Ω ~150 Ω (200W/16V) 1.875 Ω ~7.5k Ω (200W/80V)		0.075 Ω ~300 Ω (100W/16V) 3.75 Ω ~15k Ω (100W/80V)		0.025 Ω ~100 Ω (300W/16V) 1.25 Ω ~5k Ω (300W/80V)	
Resolution*5	6.667mS (200W/16V) 133μS (200W/80V)		3.333mS (100W/16V) 66.667μS (100W/80V)		10mS (300W/16V) 200μS (300W/80V)	
Accuracy	150 Ω : 0.1S + 0.2% 7.5k Ω : 0.01S + 0.1%		300 Ω : 0.1S + 0.2% 15k Ω : 0.01S + 0.1%		100 Ω : 0.1S + 0.2% 5k Ω : 0.01S + 0.1%	
Constant Voltage Mode						
Range	0~80V		0~80V		0~80V	
Resolution	20mV		20mV		20mV	
Accuracy	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
Resolution	5mW	50mW	5mW	25mW	7.5mW	75mW
Accuracy	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	
T1 & T2	0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms	
Accuracy	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
Resolution	0.64mA/μs	6.4mA/μs	0.32mA/μs	3.2mA/μs	0.001A/μs	0.01A/μs
Accuracy	10% ± 20μs		10% ± 20μs		10% ± 20μs	
Min. Rise Time	10μs (Typical)		10μs (Typical)		10μs (Typical)	
Current	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A
Resolution	1mA	10mA	0.5mA	5mA	1.5mA	15mA
Accuracy	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
Resolution	0.25mV	1.25mV	0.25mV	1.25mV	0.25mV	1.25mV
Accuracy	0.025% + 0.025%F.S.		0.025% + 0.025%F.S.		0.025% + 0.025%F.S.	
Current Read Back						
Range	0~4A	0~40A	0~2A	0~20A	0~6A	0~60A
Resolution	0.0625mA	0.625mA	0.03125mA	0.3125mA	0.09375mA	0.9375mA
Accuracy	0.05% + 0.05%F.S.		0.05% + 0.05%F.S.		0.05% + 0.05%F.S.	
Power Read Back*2						
Range	0~20W	0~200W	0~20W	0~100W	0~30W	0~300W
Accuracy	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
Over Current Protection	≒ 4.08A	≒ 40.8A	≒ 2.04A	≒ 20.4A	≒ 6.12A	≒ 61.2A
Over Temperature Protection	≒ 85°C		≒ 85°C		≒ 85°C	
Over Voltage Alarm*3	≒ 81.6V		≒ 81.6V		≒ 81.6V	
General						
Short Circuit						
Current (CC)	-	≒ 40A	-	≒ 20A	-	≒ 60A
Voltage (CV)	-	0V	-	0V	-	0V
Resistance (CR)	-	≒ 0.0375 Ω	-	≒ 0.075 Ω	-	≒ 0.025 Ω
Power (CP)	-	≒ 200W	-	≒ 100W	-	≒ 300W
Input Resistance (Load Off)	100k Ω (Typical)		100k Ω (Typical)		100k Ω (Typical)	
Temperature Coefficient	100PPM/°C (Typical)		100PPM/°C (Typical)		100PPM/°C (Typical)	
Power	Supply from 6334A Mainframe		Supply from 6334A Mainframe		Supply from 6334A Mainframe	
Dimension (H x W x D)	172x82x489.5mm / 6.8x3.2x19.3inch		172x82x489.5mm / 6.8x3.2x19.3inch		172x82x489.5mm / 6.8x3.2x19.3inch	
Weight	4.2 kg / 9.3 lbs		4.2 kg / 9.3 lbs		4.2 kg / 9.3 lbs	
Operating Range	0~40°C		0~40°C		0~40°C	
EMC & Safety	CE		CE		CE	

SPECIFICATIONS-2				
Model	63305A		63306A	
Power	30W	300W	60W	600W
Current	0~1A	0~10A	0~12A	0~120A
Voltage*3	0~500V		0~80V	
Min. Operation Voltage (DC) *1 (Typical)	1.0V@0.5A 2.0V@1A	1.0V@5A 2.0V@10A	0.4V@6A 0.8V@12A	0.4V@60A 0.8V@120A
Constant Current Mode				
Range	0~1A	0~10A	0~12A	0~120A
Resolution	0.25mA	2.5mA	3mA	30mA
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.
Constant Resistance Mode				
Range	1.25 Ω ~ 5 Ω (300W/125V) 50 Ω ~ 200k Ω (300W/500V)		12.5m Ω ~ 50 Ω (600W/16V) 0.625 Ω ~ 2.5k Ω (600W/80V)	
Resolution*5	200μS (300W/25V) 5μS (300W/500V)		20mS (600W/16V) 400μS (600W/80V)	
Accuracy	5k Ω : 20mS + 0.2% 200k Ω : 5mS + 0.1%		50 Ω : 0.4S + 0.5% 2.5k Ω : 0.04mho + 0.2%	
Constant Voltage Mode				
Range	0~500V		0~80V	
Resolution	125mV		20mV	
Accuracy	0.05% + 0.1%F.S.		0.05% + 0.1%F.S.	
Constant Power Mode				
Range	0~30W	0~300W	0~60W	0~600W
Resolution	7.5mW	75mW	15mW	150mW
Accuracy	0.5% + 0.5%F.S.		0.5% + 0.5%F.S.	
Dynamic Mode				
Dynamic Mode	C.C. Mode		C.C. Mode	
T1 & T2	0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms	
Accuracy	1μs/1ms+100ppm		1μs/1ms+100ppm	
Slew Rate	0.16~40mA/μs	1.6~400mA/μs	0.002~0.5A/μs	0.02~5A/μs
Resolution	0.16mA/μs	1.6mA/μs	0.002A/μs	0.02A/μs
Accuracy	10% ± 20μs		10% ± 20μs	
Min. Rise Time	24μs (Typical)		10μs (Typical)	
Current	0~1A	0~10A	0~12A	0~120A
Resolution	0.25mA	2.5mA	3mA	30mA
Accuracy	0.4%F.S.		0.4%F.S.	
Measurement Section				
Voltage Read Back				
Range	0~125V	0~500V	0~16V	0~80V
Resolution	2mV	8mV	0.25mV	1.25mV
Accuracy	0.025% + 0.025%F.S.		0.025% + 0.025%F.S.	
Current Read Back				
Range	0~1A	0~10A	0~12A	0~120A
Resolution	0.016mA	0.16mA	0.1875mA	1.875mA
Accuracy	0.25mA	2.5mA	0.05% + 0.05%F.S.	
Power Read Back*2				
Range	0~30W	0~300W	0~60W	0~600W
Accuracy	0.1% + 0.1%F.S.		0.1% + 0.1%F.S.	
Protective Section				
Over Power Protection	≒ 31.2W	≒ 312W	≒ 62.4W	≒ 624W
Over Current Protection	≒ 1.02A	≒ 10.2A	≒ 12.24A	≒ 122.4A
Over Temperature Protection	≒ 85°C		≒ 85°C	
Over Voltage Alarm*3	≒ 510V		≒ 81.6V	
General				
Short Circuit				
Current (CC)	-	≒ 10A	-	≒ 120A
Voltage (CV)	-	0V	-	0V
Resistance (CR)	-	≒ 1.25 Ω	-	≒ 0.0125 Ω
Power (CP)	-	≒ 300W	-	≒ 600W
Input Resistance (Load Off)	100k Ω (Typical)		100k Ω (Typical)	
Temperature Coefficient	100PPM/°C (Typical)		100PPM/°C (Typical)	
Power	Supply from 6334A Mainframe		Supply from 6334A Mainframe	
Dimension (HxWxD)	172x82x489.5mm / 6.8x3.2x19.3inch		172x164x489.5mm / 6.8x6.5x19.3inch	
Weight	4.2 kg / 9.3 lbs		7.3 kg / 16.1 lbs	
Operating Range	0~40°C		0~40°C	
EMC & Safety	CE		CE	

SPECIFICATIONS-3						
Model	63307A (30W & 250W)			63308A		
Power	30W	30W	250W	60W	600W	
Current	0~5A	0~4A	0~40A	0~2A	0~20A	
Voltage*3	0~80V			0~500V		
Min. Operation Voltage (DC) *1 (Typical)	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	
Constant Current Mode						
Range	0~5A	0~4A	0~40A	0~2A	0~20A	
Resolution	1.25mA	1mA	10mA	0.5mA	5mA	
Accuracy	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.	
Constant Resistance Mode						
Range	0.3Ω~1.2kΩ (30W/16V) 15Ω~60kΩ (30W/80V)	0.0375Ω~150Ω (250W/16V) 1.875Ω~7.5kΩ (250W/80V)		0.625Ω~2.5kΩ (600W/125V) 25Ω~100kΩ (600W/500V)		
Resolution*5	833μS (30W/16V) 16.67μS (30W/80V)	6.667μS (250W/16V) 133μS (250W/80V)		400μS (600W/125V) 10μS (600W/500V)		
Accuracy	1.2kΩ: 0.1S + 0.2% 60kΩ: 0.01S + 0.1%	150Ω: 0.1S + 0.2% 7.5kΩ: 0.01S + 0.1%		25kΩ: 50mS + 0.2% 100kΩ: 5mS + 0.1%		
Constant Voltage Mode						
Range	0~80V			0~500V		
Resolution	20mV			125mV		
Accuracy	0.05% + 0.1%F.S.			0.05% + 0.1%F.S.		
Constant Power Mode						
Range	0~30W	0~30W	0~250W	0~60W	0~600W	
Resolution	7.5mW	7.5mW	62.5mW	15mW	150mW	
Accuracy	0.5% + 0.5%F.S.			0.5% + 0.5%F.S.		
Dynamic Mode						
Dynamic Mode	C.C. Mode			C.C. Mode		
T1 & T2	0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms			0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		
Accuracy	1μs/1ms+100ppm			1μs/1ms+100ppm		
Slew Rate	0.8~200mA/μs	0.64~160mA/μs	64~1600mA/μs	0.32~80mA/μs	3.2~800mA/μs	
Resolution	0.8mA/μs	0.64mA/μs	64mA/μs	0.32mA/μs	3.2mA/μs	
Accuracy	10% ± 20μs			10% ± 20μs		
Min. Rise Time	10μs (Typical)			24μs (Typical)		
Current	0~5A	0~4A	0~40A	0~2A	0~20A	
Resolution	1.25mA	1mA	10mA	0.5mA	5mA	
Accuracy	0.4%F.S.			0.4%F.S.		
Measurement Section						
Voltage Read Back						
Range	0~16V	0~80V	0~16V	0~80V	0~125V	0~500V
Resolution	0.25mV	1.25mV	0.25mV	1.25mV	2mV	8mV
Accuracy	0.025% + 0.025%F.S.			0.025% + 0.025%F.S.		
Current Read Back						
Range	0~5A	0~4A	0~40A	0~2A	0~20A	
Resolution	0.078125mA	0.0625mA	0.625mA	0.03125mA	0.3125mA	
Accuracy	0.05% + 0.05%F.S.			0.05% + 0.05%F.S.		
Power Read Back*2						
Range	0~30W	0~30W	0~250W	0~60W	0~600W	
Accuracy	0.1% + 0.1%F.S.			0.1% + 0.1%F.S.		
Protective Section						
Over Power Protection	≒ 31.2W	≒ 31.2W	≒ 260W	≒ 62.4W	≒ 624W	
Over Current Protection	≒ 5.1A	≒ 4.08A	≒ 40.8A	≒ 2.04A	≒ 20.4A	
Over Temperature Protection	≒ 85°C			≒ 85°C		
Over Voltage Alarm*3	≒ 81.6V			≒ 510V		
General						
Short Circuit						
Current (CC)	-	-	≒ 40A	-	≒ 20A	
Voltage (CV)	-	-	0V	-	0V	
Resistance (CR)	-	-	≒ 0.0375Ω	-	≒ 0.625Ω	
Power (CP)	-	-	≒ 250W	-	≒ 600W	
Input Resistance (Load Off)	100kΩ (Typical)					
Temperature Coefficient	100PPM/°C (Typical)					
Power	Supply from 6334A Mainframe					
Dimension (HxWxD)	172x82x489.5mm / 6.8x3.2x19.3inch			172x164x489.5mm / 6.8x6.5x19.3inch		
Weight	4.5 kg / 9.9 lbs			7.3 kg / 16.1 lbs		
Operating Range	0~40°C					
EMC & Safety	CE					

SPECIFICATIONS-4				
Model	63312A		63323A	
Power	120W	1200W	350W	
Current	0~24A	0~240A	0~7A	0~70A
Voltage*3	0~80V		0~80V	
Min. Operation Voltage (DC) *1 (Typical)	0.4V@12A	0.4V@120A	0.25V @ 3.5A	0.2V @ 35A
	0.8V@24A	0.8V@240A	0.5V @ 7A	0.5V @ 70A
Constant Current Mode				
Range	0~24A	0~240A	0~7A	0~70A
Resolution	6mA	60mA	0.5mA	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.
Constant Resistance Mode				
Range	6.25mΩ~25Ω (1200W/16V) 0.3125Ω~1.25kΩ (1200W/80V)		0.01Ω~100Ω (350W/16V)*4 1.25Ω~7.5kΩ (350W/80V)	
Resolution*5	40mS (1200W/16V) 80μS (1200W/80V)		6.25mS (350W/16V)*4 50μS (350W/80V)	
Accuracy	25Ω: 0.8S+ 0.8% 1.25kΩ: 0.08S+ 0.2%		100Ω: 0.1S+0.2% *4 12.5kΩ: 0.01S+0.1%	
Constant Voltage Mode				
Range	0~80V		0~80V	
Resolution	20mV		5mV	
Accuracy	0.05% + 0.1%F.S.		0.05% + 0.1%F.S.	
Constant Power Mode				
Range	0~120W	0~1200W	0~35W	0~350W
Resolution	30mW	300mW	2.5mW	25mW
Accuracy	0.5% + 0.5%F.S.		0.5% + 0.5%F.S.	
Dynamic Mode				
Dynamic Mode	C.C. Mode		C.C. MODE	
T1 & T2	0.025ms ~ 50ms / Res: 5μs 0.1ms ~ 500ms / Res: 25μs 10ms ~ 50s / Res: 2.5ms		0.025ms~50ms/Res: 5μs 0.1ms~500ms / Res: 25μs 10ms~50s / Res: 2.5ms	
Accuracy	1μs/1ms+100ppm		1μs /1ms+100ppm	
Slew Rate	0.004~1A/μs	0.04~10A/μs	0.001~0.25A/μs	0.01~2.5A/μs
Resolution	0.004A/μs	0.04A/μs	0.001A/μs	0.01A/μs
Accuracy	10% ± 20μs		10% ± 20μs	
Min. Rise Time	10μs (Typical)		10μs (Typical)	
Current	0~24A	0~240A	0~7A	0~70A
Resolution	6mA	60mA	0.5mA	5mA
Current Accuracy	0.4%F.S.		0.4% F.S.	
Measurement Section				
Voltage Read Back				
Range	0~16V	0~80V	0~16V	0~80V
Resolution	0.25mV	1.25mV	0.25mV	1.25mV
Accuracy	0.025% + 0.025%F.S.		0.025%+0.025% F.S.	
Current Read Back				
Range	0~24A	0~240A	0~7A	0~70A
Resolution	0.375mA	3.75mA	0.109375mA	1.09375mA
Accuracy	0.075% + 0.075%F.S.		0.05%+0.05% F.S.	
Power Read Back*2				
Range	0~120W	0~1200W	0~35W	0~350W
Accuracy	0.1% + 0.1%F.S.		0.1%+0.1% F.S.	
Protective Section				
Over Power Protection	≒ 124.8W	≒ 1248W	≒ 36W	≒ 360W
Over Current Protection	≒ 24.48A	≒ 244.8A	≒ 6.12A	≒ 61.2A
Over Temperature Protection	≒ 85°C		≒ 85°C	
Over Voltage Alarm*3	≒ 81.6V		≒ 81.6V	
General				
Short Circuit				
Current (CC)	-	≒ 240A	-	≒ 70A
Voltage (CV)	-	0V	-	0V
Resistance (CR)	-	≒ 0.00625Ω	-	≒ 0.01Ω
Power (CP)	-	≒ 1200W	-	≒ 350W
Input Resistance (Load Off)	100kΩ (Typical)		800kΩ (Typical)	
Temperature Coefficient	100PPM/°C (Typical)		100PPM/°C (Typical)	
Power	Supply from 6334A Mainframe		Supply from 6334A Mainframe	
Dimension (HxWxD)	172x329x495mm / 6.8x12.9x19.5inch		172x82x489.5mm / 6.8x3.2x19.3inch	
Weight	14 kg / 30.8 lbs		4.2kg / 9.3 lbs	
Operating Range	0~40°C		0~40°C	
EMC & Safety	CE		CE	

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

NOTE*2 : Power F.S.=Vrange F.S. x Irange F.S.

NOTE*3 : When the operating voltage exceeds the rated voltage for 1.02 times, a warning will occur and if it exceeds 1.1 times of the rated voltage, it would cause permanent damage to the device.

NOTE*4 : Please refer to user's manual for detail specifications.

NOTE*5 : S (siemens) is the SI unit of conductance, equal to one reciprocal ohm.

SPECIFICATIONS				
Model	63310A (100Wx2)			63313A *3
Power	100W			300W
Current	0~0.6A		0~2A	0~5A 0~20A
Voltage *1	0~500V			0~300V
Min. Operating Voltage	6V@2A			4V@20A
LED Mode				
Range	Operation Voltage: 0~100V/0~500V R _d Coefficient : 0.001~1 V _F : 0~100V/0~500V Current : 0~2A R _a : 1Ω~1kΩ/10Ω~10kΩ			Operating Voltage : 0~60V/0~300V R _d Coefficient : 0.001~1 V _F : 0~60V/0~300V LEDL @ CCH : 0~60V- 0~20A (R _d : 0.05Ω~50Ω) LEDL @ CCL : 0~60V- 0~5A (R _d : 0.8Ω~800Ω) LEDH @ CCL : 0~300V- 0~5A (R _d : 4Ω~4kΩ)
Resolution *2	V _o : 4mV/20mV I _o : 0.1mA R _d Coefficient : 0.001 R _a : 62.5μS/6.25μS V _F : 4mV/20mV			V _o : 1.2mV/6mV I _o : 100μA/400μA R _d Coefficient : 0.001 R _a : 400μS / 25μS / 5μS V _F : 1.2mV/ 6mV
Constant Resistance Mode				
Range	CRL : 3Ω~1kΩ (100W/100V) CRH : 10Ω~10kΩ (100W/500V)			CRL @ CCH : 0.2Ω~200Ω (300W/60V) CRL @ CCL : 0.8Ω~800Ω (300W/60V) CRH @ CCL : 4Ω~4kΩ (300W/300V)
Resolution*2	CRL : 62.5μS CRH : 6.25μS			CRL @ CCH : 100μS CRL @ CCL : 25μS CRH @ CCL : 5μS
Accuracy	1kΩ : 4mS+0.2% 10kΩ : 1mS+0.1%			200Ω : 0.2% (setting + range) 800Ω : 0.2% (setting + range) 4kΩ : 0.2% (setting + range)
Constant Voltage Mode				
Range	0~500V			0~300V
Resolution	20mV			6mV
Accuracy	0.05% + 0.1%F.S.			0.05% + 0.1%F.S.
Constant Current Mode				
Range	0~0.6A		0~2A	0~5A 0~20A
Resolution	12μA		40μA	100μA 400μA
Accuracy	0.1%+0.1% F.S.			0.1%+0.1% F.S. 0.1%±0.2% F.S.
Measurement Section				
Voltage Read Back				
Range	0~100V		0~500V	0~60V 0~300V
Resolution	2mV		10mV	1.2mV 6mV
Accuracy	0.025%+0.025% F.S.			0.025%+0.025% F.S.
Current Read Back				
Range	0~0.6A		0~2A	0~5A 0~20A
Resolution	12μA		40μA	100μA 400μA
Accuracy	0.05%+0.05% F.S.			0.05%+0.05% F.S.

NOTE*1 : If the operating voltage exceeds 1.1 times of the rated voltage, it would cause permanent damage to the device.

NOTE*2 : S (siemens) is the SI unit of conductance, equal to one reciprocal ohm.

NOTE*3 : Call for availability

Mainframe Model	6332A	6334A
Dimension (HxWxD)	194x275x550mm / 7.6x10.8x21.7inch	194x439x550mm / 7.6x17.3x21.7inch
Weight	15 kg / 33.1 lbs	21.5 kg / 47.4 lbs

Programmable DC Electronic Load

MODEL 63200 SERIES

Key Features

- Power Rating :
2600W, 5200W, 6500W, 10000W, 10400W,
14500W, 15600W
- Voltage range : 0 ~ 80V/0 ~ 600V/0 ~ 1000V
- 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
- Surge load capability
- Battery discharge timer



PROGRAMMABLE DC ELECTRONIC LOAD

MODEL 63200 SERIES

Chroma's 63200 series of programmable electronic loads are designed for a wide variety of dc power conversion products including; DC power sources, battery chargers, server power supplies, dc-dc converters, batteries and many others. The high power rating, parallel and synchronization capabilities, and the ability to provide up to 2.7 times of rated power for short duty cycle loading make 63200 series especially well-suited for high power applications such as switch-mode rectifiers and for discharging batteries packs and fuel cells.

The 63200 series offers 12 different models with power ranges from 2600 watts to 15600 watts, currents from 50A to 1000A and operating voltages from 0 to 1000V. By paralleling modules very large systems can be assembled existing 93.6kW. Four operating modes provide different load simulation methods designed for various applications. The CC/CR modes are designed to test constant voltage power supplies and converters. CV mode simulates the battery for testing battery chargers and current sources, and CP mode is ideal for battery testing by simulating real discharge profiles.

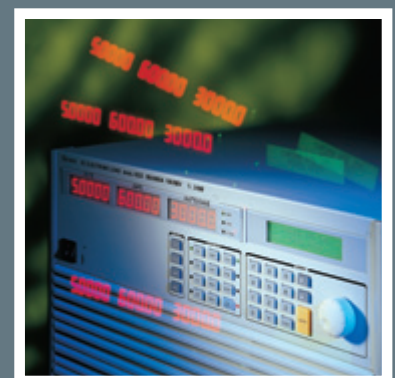
The 63200 series can sink rated current down to 1VDC even under the highest specified rise time. This unique feature guarantees the best

loading performance for low voltage/high current applications. With its 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 using an internal or external loading control signal. This feature provides unlimited load simulation and increased power.

The 63200 series also provides necessary measurement functions and short circuit simulations that extend the test capability for the most demanding engineering and automated test applications.

With front LCD displays and rotary knob, the 63200 loads offer versatile bench top operation. Users are also able to control the loads remotely via GPIB or RS-232 interface or with a USB adapter. Complex waveforms can also be created by driving the loads from an analog programming source (i.e. function generator).

63200 loads incorporate built-in fan speed controls to minimize audio noise. The self-diagnosis routines, built-in protection against OC, OP, OT, and an alarm indicating OV reverse polarity to ensure safe operation and reliability.



SPECIFICATIONS-1

Model	63201		63202		63203	
Power *1	260W	2600W	260W	2600W	520W	5200W
Current	0~30A	0~300A	0~5A	0~50A	0~60A	0~600A
Voltage *2	0~80V		0~600V		0~80V	
Min. Operating voltage	0.5V @ 15A	0.5V @ 150A	1.5V @ 2.5A	1.5V @ 25A	0.5V @ 30A	0.5V @ 300A
	1V @ 30A	1V @ 300A	3V @ 5A	3V @ 50A	1V @ 60A	1V @ 600A
Constant Current mode						
Range	0~30A	0~300A	0~5A	0~50A	0~60A	0~600A
Resolution	7.7mA	77mA	1.4mA	14mA	16mA	160mA
Accuracy	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.
Constant Resistance Mode						
Range	0.005~20Ω	0.25~1000Ω	0.25~1000Ω	10~40000Ω	0.0025~10Ω	0.125~500Ω
Resolution*3	52mS	1.04mS	1.2mS	28.8μS	104mS	2.1mS
Accuracy*4	0.104S+0.35%	0.9S+0.1%	0.0046S+0.35%	0.04S+0.1%	0.208S+0.35%*5	1.2S+0.1%
Accuracy*6 (Vin>7V)	0.104S+0.35%	0.0021S+0.35%	0.0046S+0.35%	114μS+0.35%	0.208S+0.35%	0.0042S+0.35%
Constant Voltage mode						
Range	0~16V	0~80V	0~150V	0~600V	0~16V	0~80V
Resolution	4mV	20mV	40mV	162mV	4mV	20mV
Accuracy	0.05%+0.1%F.S.		0.05%+0.1%F.S.		0.05%+0.1%F.S.	
Constant Power mode						
Range	0.6~260W	6~2600W	0.625~260W	6.25~2600W	1.2~520W	12~5200W
Resolution	7.5mW	75mW	3.125mW	31.25mW	22.5mW	225mW
Accuracy	0.5%+0.5%F.S.		0.5%+0.5%F.S.		0.5%+0.5%F.S.	
Dynamic mode						
Timing						
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)	
Current						
Range	0~30A	0~300A	0~5A	0~50A	0~60A	0~600A
Resolution	7.7mA	77mA	1.4mA	14mA	16mA	160mA
Accuracy	0.4%F.S.		0.4%F.S.		0.4%F.S.	
Measurement						
Voltage Read Back						
Range	0~16V	0~80V	0~150V	0~600V	0~16V	0~80V
Resolution	0.6mV	2.6mV	5.1mV	21mV	0.6mV	2.6mV
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Current Read Back						
Range	0~30A	0~300A	0~5A	0~50A	0~60A	0~600A
Resolution	1mA	10mA	0.18mA	1.8mA	2mA	20mA
Accuracy	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.	
Power Read Back						
Range	0~260W	0~2600W	0~260W	0~2600W	0~520W	0~5200W
Accuracy*7	0.3%+0.3%F.S.		0.3%+0.3%F.S.		0.3%+0.3%F.S.	
General						
Short Circuit						
current	30A	300A	5A	50A	60A	600A
Input Rating	1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz		1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz		1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz	
Dimension (H x W x D)	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 / 13.9 x 17.3 x 23.2 inch	
Weight	30 kg / 66.13 lbs		30 kg / 66.13 lbs		62 kg / 136.68 lbs	
Safety & EMC	CE		CE		CE	

SPECIFICATIONS-2

Model	63204		63205		63206	
Power*1	520W	5200W	650W	6500W	1040W	10400W
Current	0~10A	0~100A	0~18A	0~180A	0~60A	0~600A
Voltage*2	0~600V		0~80V		0~80V	
Min. Operating voltage	1.5V @ 5A	1.5V @ 50A	0.5V @ 9A	0.5V @ 90A	0.5V @ 30A	0.5V @ 300A
	3V @ 10A	3V @ 100A	1V @ 18A	1V @ 180A	1V @ 60A	1V @ 600A
Constant Current mode						
Range	0~10A	0~100A	0~18A	0~180A	0~60A	0~600A
Resolution	2.8mA	28mA	5.2mA	52mA	21mA	170mA
Accuracy	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.
Constant Resistance Mode						
Range	0.125~500 Ω	5~20000 Ω	0.008~32 Ω	0.4~1600 Ω	0.0025~10 Ω	0.125~500 Ω
Resolution*3	2.3mS	57.56μS	35mS	0.7mS	112.5mS	2.25mS
Accuracy*4	0.0046S+0.35%	0.08S+0.1%	0.07S+0.35%	0.75S+0.1%	0.225S+0.35% *5	1.2S+0.1%
Accuracy*6 (Vin>7V)	0.0046S+0.35%	115.51μS+0.35%	0.07S+0.35%	0.0014S+0.35%	0.225S+0.35%	0.0045S+0.35%
Constant Voltage mode						
Range	0~150V	0~600V	0~16V	0~80V	0~16V	0~80V
Resolution	40mV	162mV	4mV	20mV	4mV	20mV
Accuracy	0.05%+0.1%F.S.		0.05%+0.1%F.S.		0.05%+0.1%F.S.	
Constant Power mode						
Range	1.25~520W	12.5~5200W	0.36~650W	3.6~6500W	1.2~1040W	12~10400W
Resolution	6.25mW	62.5mW	4.6mW	46mW	22.5mW	225mW
Accuracy	0.5%+0.5%F.S.		0.5%+0.5%F.S.		0.5%+0.5%F.S.	
Dynamic mode						
Timing						
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)	
Current						
Range	0~10A	0~100A	0~18A	0~180A	0~60A	0~600A
Resolution	2.8mA	28mA	5.2mA	52mA	21mA	170mA
Accuracy	0.4%F.S.		0.4%F.S.		0.4%F.S.	
Measurement						
Voltage Read Back						
Range	0~150V	0~600V	0~16V	0~80V	0~16V	0~80V
Resolution	5.1mV	21mV	0.6mV	2.6mV	0.6mV	2.6mV
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Current Read Back						
Range	0~10A	0~100A	0~18A	0~180A	0~60A	0~600A
Resolution	0.35mA	3.5mA	0.7mA	7mA	2.6mA	21mA
Accuracy	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.	
Power Read Back						
Range	0~520W	0~5200W	0~650W	0~6500W	0~1040W	0~10400W
Accuracy*7	0.3%+0.3%F.S.		0.3%+0.3%F.S.		0.3%+0.3%F.S.	
General						
Short Circuit						
current	10A	100A	18A	180A	60A	600A
Input Rating	1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz		1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz		1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz	
Dimension (H x W x D)	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	
Weight	62 kg / 136.68 lbs		62 kg / 136.68 lbs		90 kg / 198.41 lbs	
Safety & EMC	CE		CE		CE	

SPECIFICATIONS-3

Model	63207		63208		63209	
Power *1	1040W	10400W	1560W	15600W	1560W	15600W
Current	0~30A	0~300A	0~60A	0~600A	0~100A	0~1000A
Voltage*2	0~80V		0~80V		0~80V	
Min. Operating voltage	0.5V @ 15A	0.5V @ 150A	0.5V @ 30A	0.5V @ 300A	0.5V @ 50A	0.5V @ 500A
	1V @ 30A	1V @ 300A	1V @ 60A	1V @ 600A	1V @ 100A	1V @ 1000A
Constant Current mode						
Range	0~30A	0~300A	0~60A	0~600A	0~100A	0~1000A
Resolution	10.3mA	82mA	21mA	163mA	34.2mA	274mA
Accuracy	0.1%+0.2%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.	0.1%+0.2%F.S.
Constant Resistance Mode						
Range	0.005~20Ω	0.25~1000Ω	0.0025~10Ω	0.125~500Ω	0.0015~6Ω	0.075~300Ω
Resolution*3	55.7mS	1.1mS	110mS	2.22mS	186.5mS	3.73mS
Accuracy *4	0.111S+0.35%	0.9S+0.1%	0.22S+0.35% *5	1.2S+0.1%	0.373S+0.35% *5	1.2S+0.1%
Accuracy *6 (Vin>7V)	0.111S+0.35%	0.0022S+0.35%	0.22S+0.35%	0.0044S+0.35%	0.373S+0.35%	0.0075S+0.35%
Constant Voltage mode						
Range	0~16V	0~80V	0~16V	0~80V	0~16V	0~80V
Resolution	4mV	20mV	4mV	20mV	4mV	20mV
Accuracy	0.05%+0.1%F.S.		0.05%+0.1%F.S.		0.05%+0.1%F.S.	
Constant Power mode						
Range	0.744~1040W	6~10400W	1.2~1560W	12~15600W	2.5~1560W	20~15600W
Resolution	9.3mW	75mW	22.5mW	225mW	31.255mW	250mW
Accuracy	0.5%+0.5%F.S.		0.5%+0.5%F.S.		0.5%+0.5%F.S.	
Dynamic mode						
Timing						
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	6mA~1.5A/μs	50mA~12.5A/μs	12mA~3A/μs	100mA~25A/μs	20mA~5A/μs	166mA~41.6A/μs
Resolution	6mA/μs	50mA/μs	12mA/μs	100mA/μs	20mA/μs	166mA/μs
Accuracy	10% ± 20μs		10% ± 20μs		10% ± 20μs	
Min. Rise Time	20μs (typical)		20μs (typical)		20μs (typical)	
Current						
Range	0~30A	0~300A	0~60A	0~600A	0~100A	0~1000A
Resolution	10.3mA	82mA	21mA	163mA	34.2mA	274mA
Accuracy	0.4%F.S.		0.4%F.S.		0.4%F.S.	
Measurement						
Voltage Read Back						
Range	0~16V	0~80V	0~16V	0~80V	0~16V	0~80V
Resolution	0.6mV	2.6mV	0.6mV	2.6mV	0.6mV	2.6mV
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Current Read Back						
Range	0~30A	0~300A	0~60A	0~600A	0~100A	0~1000A
Resolution	1.3mA	11mA	2.7mA	21mA	4.5mA	36mA
Accuracy	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.	
Power Read Back						
Range	0~1040W	0~10400W	0~1560W	0~15600W	0~1560W	0~15600W
Accuracy*7	0.3%+0.3%F.S.		0.3%+0.3%F.S.		0.3%+0.3%F.S.	
General						
Short Circuit						
Current	30A	300A	60A	600A	100A	1000A
Input Rating	1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz		1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz		1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz	
Dimension (H x W x D)	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		762.8x546x700mm/ 30x21.5x27.6inch(cabinet)	
Weight	90 kg / 198.24 lbs		170 kg / 374.45 lbs		170 kg / 374.45 lbs	
Safety & EMC	CE		CE		CE	

SPECIFICATIONS-4

Model	63210		63211		63212	
Power *1	1450W	14500W	15600W	15600W	10000W	10000W
Current	0~15A	0~150A	0~30A	0~150A	0~30A	0~150A
Voltage*2	0~600V		10~1000V		10~1000V	
Min. Operating voltage	1.5V @ 7.5A	1.5V @ 75A	5V @ 15A	5V @ 75A	5V @ 15A	5V @ 75A
	3V @ 15A	3V @ 150A	10V @ 30A	10V @ 150A	10V @ 30A	10V @ 150A
Constant Current mode						
Range	0~15A	0~150A	0~30A	0~150A	0~30A	0~150A
Resolution	4.9mA	39mA	7.5mA	37.5mA	7.5mA	37.5mA
Accuracy	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.
Constant Resistance Mode						
Range	0.1~400Ω	5~20000Ω	0.2~200Ω	8~8000Ω	0.2~200Ω	8~8000Ω
Resolution*3	3.21mS	80.1μS	14.3mS	360μS	14.3mS	360μS
Accuracy *4	0.0128S+0.35%	0.092S+0.1%	28.7mS+0.5%	715μS+0.5%	28.7mS+0.5%	715μS+0.5%
Accuracy *6 (Vin>7V)	0.0128S+0.35%	317.7μS+0.35%	--	--	--	--
Constant Voltage mode						
Range	0~150V	0~600V	0~250V	0~1000V	0~250V	0~1000V
Resolution	40mV	162mV	62.5mV	250mV	62.5mV	250mV
Accuracy	0.05%+0.1%F.S.		0.05%+0.1%F.S.		0.05%+0.1%F.S.	
Constant Power mode						
Range	5~1450W	50~14500W	2.5~1560W	20~15600W	2.5~1000W	20~10000W
Resolution	25mW	250mW	390mW	3.9W	25mW	2.5W
Accuracy	0.5%+0.5%F.S.		0.5%+0.5%F.S.		0.5%+0.5%F.S.	
Dynamic mode						
Timing						
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	3mA~0.75A/μs	25mA~6A/μs	5mA~1.25A/μs	25mA~6.25A/μs	5mA~1.25A/μs	25mA~6.25A/μs
Resolution	3mA/μs	25mA/μs	5mA/μs	25mA/μs	5mA/μs	25mA/μs
Accuracy	10% ± 20μs		10% ± 20μs		10% ± 20μs	
Min. Rise Time	150 μs (typical)		24 μs (typical)		24 μs (typical)	
Current						
Range	0~15A	0~150A	0~30A	0~150A	0~30A	0~150A
Resolution	4.9mA	39mA	0.6mA	3mA	0.6mA	3mA
Accuracy	0.4%F.S.		0.4%F.S.		0.4%F.S.	
Measurement						
Voltage Read Back						
Range	0~150V	0~600V	0~250V	0~1000V	0~250V	0~1000V
Resolution	5.1mV	21mV	5mV	20mV	5mV	20mV
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Current Read Back						
Range	0~15A	0~150A	0~30A	0~150A	0~30A	0~150A
Resolution	0.64mA	5.1mA	0.6mA	3mA	0.6mA	3mA
Accuracy	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.	
Power Read Back						
Range	0~1450W	0~14500W	0~1560W	0~15600W	0~1000W	0~10000W
Accuracy*7	0.3%+0.3%F.S.		0.3%+0.3%F.S.		0.3%+0.3%F.S.	
General						
Short Circuit						
Current	15A	150A	30A	150A	30A	150A
Input Rating	1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz		1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz		1Ø 100/200Vac ± 10% V _{LN} 47~63Hz; 1Ø 115/230Vac ± 10% V _{LN} 47~63Hz	
Dimension (H x W x D)	762.8x546x700mm/ 30x21.5x27.6inch(cabinet)		762.8x546x700mm/ 30x21.5x27.6inch(cabinet)		762.8x546x700mm/ 30x21.5x27.6inch(cabinet)	
Weight	170 kg / 374.45 lbs		170 kg / 374.45 lbs		170 kg / 374.45 lbs	
Safety & EMC	CE		CE		CE	

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

NOTE*2 : If the operating voltage exceeds the rated voltage for 1.1 times, it would cause permanent damage to the device.

NOTE*3 : S (siemens) is the SI unit of conductance, equal to one reciprocal ohm.

NOTE*4 : The Vin must be greater than min. operating voltage of each model.

NOTE*5 : Setting error will be 1% for R<0.005Ω at CRL range.

NOTE*6 : The Vin must be greater than 7V of each model.

NOTE*7 : Power F.S. = Vrange x Irange F.S.



PROGRAMMABLE DC ELECTRONIC LOAD

MODEL 63600 SERIES

Chroma's 63600 series DC electronic loads are designed for testing multi-output AC/DC power supplies, DC/DC converters, chargers, batteries, server power supplies, and power electronic components. They are excellent for research, development, production, and incoming inspection applications.

The 63600's state of the art design uses DSP technology to simulate non-linear loads using a unique CZ operation mode allowing realistic loading behavior.

The 63600 series can draw its rated current under very low voltage (0.4V typical). This unique feature guarantees the best loading performance for modern Point-of-Load conditions and fuel cells.

The 63600 series can simulate a wide range of dynamic loading applications, with programmable load levels, slew rates, duration, and conducting voltage. The 63600 also has a dynamic sweep function to meet the test requirements of ATX

power supplies. The instrument allows up to 100 sets of system operating status which can be stored in the EEPROM and recalled instantly for automated testing application.

Real time measurement of voltage and current are integrated into each 63600 load module using a 16-bit measurement circuit with three current ranges. The user can perform online voltage measurements and adjustments or simulate short circuit tests using the simple keypad on the front panel.

With the VFD display and rotary knob, the 63600 loads offer versatile front panel operation. Users are able to control the 63600 family remotely via Ethernet, USB, or GPIB interface.

Also included in the 63600 are self-diagnostic routines and full protections against OP, OC, OT and alarm indicating OV, reverse polarity. This ensures the quality and reliability of the 63600 and provides protection to units under test.

Programmable DC Electronic Load

MODEL 63600 SERIES

Key Features :

- Max. power : 100W × 2(Dual), 300W & 400W
- Voltage range : up to 600V
- 5 module mainframe Max. 2000W, load modules up to 400W/ea
- Up to 10 channels in one mainframe, fit for testing multiple output SMPS
- 0.4V @ 80A (Typical) low voltage operating characteristics
- Flexible CC, CR, CV and CP operation modes
- CZ mode for turn on capacitive load simulation
- Parallel mode for high current and power application up to 2kW
- Multi channel synchronous control
- Auto frequency sweep up to 50kHz
- Real time power supply load transient response simulation and Vpk+/- measurement
- User defined waveform
- Max. Power Point Tracking
- User programmable 100 sequential front panel input status for user-friendly operation
- Precision voltage and current measurement
- Precision high speed digitizing measurement/ data capture
- Voltage, current and P_{max} measurement for OCP/OLP testing
- Timing measurement for batteries
- Short circuit simulation
- Self-test at power-on
- Full protection : OC, OP, OT protection and OV alarm
- Ethernet, USB and GPIB interfaces



MAINFRAME SPECIFICATION

Model	63600-1*	63600-2	63600-5
Number of slots	1 slot	2 slots	5 slots
Operating temperature	0~40°C	0~40°C	0~40°C
Input Rating	1Ø 100~115V ± 10% V _{LNr} 1Ø 190~230V ± 10% V _{LNr} Switchable, 47~63Hz	1Ø 100~115V ± 10% V _{LNr} 1Ø 190~230V ± 10% V _{LNr} Switchable, 47~63Hz	1Ø 100~115V ± 10% V _{LNr} 1Ø 190~230V ± 10% V _{LNr} Auto Range, 47~63Hz
Mainframe dimension (HxWxD)	177x70.22x554.9mm / 7.0x2.76x21.8 inch	177x210x554mm / 7.0x8.27x21.8 inch	177x447x554mm / 7.0x17.6x21.8 inch (Full Rack)
Weight	7.5kg / 16.53lbs	11.5kg / 23.35lbs	15.6kg / 34.39lbs

* None digital interface option

SPECIFICATIONS-1

Model	63610-80-20			63630-80-60		
Configuration	100Wx2			300W		
Voltage *1 *8	0~80V			0~80V		
Current	0~0.2A	0~2A	0~20A	0~0.6A	0~6A	0~60A
Power *2	0~16W	0~30W	0~100W	0~30W	0~60W	0~300W
Static Mode						
Typical Min. Operating Voltage (DC)	0.5V@0.2A	0.5V@2A	0.5V@20A	0.5V@0.6A	0.5V@6A	0.5V@60A
Constant Current Mode						
Range	0~0.2A	0~2A	0~20A	0~0.6A	0~6A	0~60A
Resolution	0.01mA	0.1mA	1mA	0.01mA	0.1mA	1mA
Accuracy	0.1%+0.1%F.S.			0.1%+0.1%F.S.		
Constant Resistance Mode						
Range	CRL : 0.04~80Ω (100W/6V) CRM: 1.44~2.9kΩ (100W/16V) CRH : 5.76~12kΩ (100W/80V)			CRL : 0.015~30Ω (300W/6V) CRM: 0.3~600Ω (300W/16V) CRH : 1.5~3kΩ (300W80V)		
Resolution *9	0.3288mS			0.9864mS		
Accuracy *3	0.1%+0.075S (6V) 0.1%+0.01S (16V) 0.1%+0.00375S (80V)			0.1%+0.2S (6V) 0.1%+0.03S (16V) 0.1%+0.01S (80V)		
Constant Voltage Mode						
Range	0~6V	0~16V	0~80V	0~6V	0~16V	0~80V
Resolution	0.1mV	1mV	1mV	0.1mV	1mV	1mV
Accuracy	0.05%+0.1%F.S.			0.05%+0.1%F.S.		
Constant Power Mode						
Range	0~2W	0~10W	0~100W	0~6W	0~30W	0~300W
Resolution *9	1mW	10mW	100mW	3.2mW	32mW	320mW
Accuracy *4	0.3%+0.3%F.S.			0.3%+0.3%F.S.		
Dynamic Mode - CC						
Min. Operating Voltage	1.5V			1.5V		
Frequency	100Hz~50kHz/0.01Hz~1kHz			100Hz~50kHz/0.01Hz~1kHz		
Duty	1~99% (Min. Rise Time Dominated)			1~99% (Min. Rise Time Dominated)		
Accuracy	1μs/1ms+100ppm			1μs/1ms+100ppm		
Slew Rate	0.04A/ms~0.02A/μs	0.4A/ms~0.2A/μs	4A/ms~2A/μs	0.12A/ms~0.06A/μs	1.2A/ms~0.6A/μs	12A/ms~6A/μs
Resolution	0.01mA/μs	0.1mA/μs	1mA/μs	0.01mA/μs	0.1mA/μs	1mA/μs
Accuracy	10% ± 20μs			10% ± 20μs		
Min. Rise Time	10 μs			10 μs		
Current						
Range	0~0.2A	0~2A	0~20A	0~0.6A	0~6A	0~60A
Resolution	0.01mA	0.1mA	1mA	0.01mA	0.1mA	1mA
Ext Wave Mode(20kHz) : CC						
Range	0~0.2A	0~2A	0~20A	0~0.6A	0~6A	0~60A
Level	0~10V			0~10V		
Accuracy	0.5%F.S.			0.5%F.S.		

SPECIFICATIONS-1

Measurement						
Voltage Read Back						
Range	0~6V	0~16V	0~80V	0~6V	0~16V	0~80V
Resolution	0.1069mV	0.2849mV	1.3537mV	0.1069mV	0.2849mV	1.3537mV
Accuracy *5	0.025%+0.01%F.S.		0.01%+0.025%F.S.	0.025%+0.01%F.S.		0.01%+0.025%F.S.
Current Read Back						
Range	0~0.2A	0~2A	0~20A	0~0.6A	0~6A	0~60A
Resolution	0.003349mA	0.034628mA	0.329561mA	0.009942mA	0.101748mA	1.009878mA
Accuracy *5	0.05%+0.05%F.S.			0.05%+0.05%F.S.		
Power Read Back						
Range	0~16W	0~30W	0~100W	0~30W	0~60W	0~300W
Accuracy *5	0.1%+0.1%F.S.			0.1%+0.1%F.S.		
Voltage Monitor						
Bandwidth	20 kHz			20 kHz		
Range	0~6V	0~16V	0~80V	0~6V	0~16V	0~80V
Output	0~10V			0~10V		
Accuracy	0.5%F.S.			0.5%F.S.		
Current Monitor						
Bandwidth	20 kHz			20 kHz		
Range	0~0.2A	0~2A	0~20A	0~0.1A	0~1A	0~10A
Output	0~10V			0~10V		
Accuracy	0.5%F.S.			0.5%F.S.		
General						
Program mode						
Sequence No.	100/Program			100/Program		
Dwell / SEQ	0.1ms ~ 30s (Resolution : 0.1ms)			0.1ms ~ 30s (Resolution : 0.1ms)		
Load Setting	Refer to Static mode specifications			Refer to Static mode specifications		
Spec Check	Voltage/Current/Power			Voltage/Current/Power		
Protection						
Over Power	Yes			Yes		
Over Current	Yes			Yes		
Over Voltage Alarm*8	Yes			Yes		
Over Temperature	Yes			Yes		
Reverse	Yes			Yes		
Interface						
USB	Standard			Standard		
Ethernet	Optional			Optional		
GPIB	Optional			Optional		
System BUS	Master/Slave			Master/Slave		
Dout						
No. of bits	2 bits per mainframe			2 bits per mainframe		
Level - H	1.8V/3.3V/5V switchable			1.8V/3.3V/5V switchable		
Level - L	<0.6V@I _{sink} =10mA			<0.6V@I _{sink} =10mA		
Drive	Pull_up resistor = 4.7kΩ			Pull_up resistor = 4.7kΩ		
Din (TTL Compatible, Rising Edge)						
No. of bits	2 bits per mainframe			2 bits per mainframe		
External Trig. for Digitizing						
No. of bits	1 bit per mainframe			1 bit per mainframe		
External Trig. for Auto Sequences (TTL Compatible, Rising Edge)						
No. of bits	1 bit per mainframe			1 bit per mainframe		
Load ON - O/P						
Level	TTL Compatible, Level, Active High			TTL Compatible, Level, Active High		
Short ON - O/P						
No. of channels	2 channels per 63600-1 mainframe 4 channels per 63600-2 mainframe 10 channels per 63600-5 mainframe			2 channels per 63600-1 mainframe 4 channels per 63600-2 mainframe 10 channels per 63600-5 mainframe		
Level	TTL Compatible, Level, Active High			TTL Compatible, Level, Active High		
Short circuit						
Current *6	Set to 100% of rated current			Set to 100% of rated current		
Input Resistance (Load Off)	700kΩ (Typical)			700kΩ (Typical)		
Dimensions (HxWxD)	142x86x514mm / 5.6x3.4x20.2 inch			142x86x514mm / 5.6x3.4x20.2 inch		
Weight	5kg / 11 lbs			4kg / 8.8 lbs		
Operating Temperature	0~40°C			0~40°C		
Storage Temperature	-20~80°C			-20~80°C		
Power	Supply from mainframe			Supply from mainframe		
EMC & Safety	CE			CE		

SPECIFICATIONS-2

Model	63630-600-15			63640-80-80		
Configuration	300W			400W		
Voltage *1 *8	0~600V			0~80V		
Current	0~0.15A	0~1.5A	0~15A	0~0.8A	0~8A	0~80A
Power *2	0~90W	0~300W	0~300W	0~60W	0~60W	0~400W
Static Mode						
Typical Min. Operating Voltage (DC)	2V@0.15A	2V@1.5A	2V@15A	0.4V@0.8A	0.4V@8A	0.4V@80A
Constant Current Mode						
Range	0~0.15A	0~1.5A	0~15A	0~0.8A	0~8A	0~80A
Resolution	0.005mA	0.05mA	0.5mA	0.01mA	0.1mA	1mA
Accuracy	0.1%+0.1%F.S.			0.1%+0.1%F.S.		
Constant Resistance Mode						
Range	CRL : 0.133~270 Ω (300W/80V) CRM: 1.92~4k Ω (300W/150V) CRH: 208~200k Ω (300W/600V)			CRL : 0.01~20 Ω (400W/6V) CRM: 0.36~720 Ω (400W/16V) CRH : 1.45~2.9k Ω (400W/80V)		
Resolution *9	0.2435mS			1.322mS		
Accuracy *3	0.1%+0.02S (80V) 0.1%+0.0005S (150V) 0.1%+0.0003S (600V)			0.1%+0.275S (6V) 0.1%+0.036S (16V) 0.1%+0.01375S (80V)		
Constant Voltage Mode						
Range	0~80V	0~150V	0~600V	0~6V	0~16V	0~80V
Resolution	1mV	10mV	10mV	0.1mV	1mV	1mV
Accuracy	0.05%+0.1%F.S.			0.05%+0.1%F.S.		
Constant Power Mode						
Range	0~6W	0~30W	0~300W	0~8W	0~40W	0~400W
Resolution *9	5.625mW	56.25mW	562.5mW	4mW	40mW	400mW
Accuracy *4	0.3%+0.3%F.S.			0.3%+0.3%F.S.		
Dynamic Mode - CC						
Min. Operating Voltage	3V			1.5V		
Frequency	100Hz~50kHz/0.01Hz~1kHz			100Hz~50kHz/0.01Hz~1kHz		
Duty	1~99% (Min. Rise Time Dominated)			1~99% (Min. Rise Time Dominated)		
Accuracy	1μs/1ms+100ppm			1μs/1ms+100ppm		
Slew rate	0.03A/ms~0.015A/μs	0.3A/ms~0.15A/μs	3A/ms~1.5A/μs	0.16A/ms~0.08A/μs	1.6A/ms~0.8A/μs	16A/ms~8A/μs
Resolution	0.005mA/μs	0.05mA/μs	0.5mA/μs	0.01mA/μs	0.1mA/μs	1mA/μs
Accuracy	10% ± 20μs			10% ± 20μs		
Min. Rise Time	10 μs			10 μs		
Current						
Range	0~0.15A	0~1.5A	0~15A	0~0.8A	0~8A	0~80A
Resolution	0.005mA	0.05mA	0.5mA	0.01mA	0.1mA	1mA
Ext Wave Mode(20kHz) : CC						
Range	0~0.15A	0~1.5A	0~15A	0~0.8A	0~8A	0~80A
Level	0~10V			0~10V		
Accuracy	0.5%F.S.			0.5%F.S.		
Measurement						
Voltage Read Back						
Range	0~80V	0~150V	0~600V	0~6V	0~16V	0~80V
Resolution	1.4194mV	2.661mV	10.645mV	0.1069mV	0.2849mV	1.3537mV
Accuracy *5	0.025%+0.01%F.S.		0.01%+ 0.025%F.S.	0.025%+0.01%F.S.		0.01%+ 0.025%F.S.
Current Read Back						
Range	0~0.15A	0~1.5A	0~15A	0~0.8A	0~8A	0~80A
Resolution	0.00275mA	0.0266mA	0.255mA	0.013695mA	0.138766mA	1.31406mA
Accuracy *5	0.05%+0.05%F.S.			0.05%+0.05%F.S.		
Power Read Back						
Range	0~90W	0~300W	0~300W	0~60W	0~60W	0~400W
Accuracy *5	0.1%+0.1%F.S.			0.1%+0.1%F.S.		
Voltage Monitor						
Bandwidth	20 kHz			20 kHz		
Range	0~80V	0~150V	0~600V	0~6V	0~16V	0~80V
Output	0~10V			0~10V		
Accuracy	0.5%F.S.			0.5%F.S.		
Current Monitor						
Bandwidth	20 kHz			20 kHz		
Range	0~0.15A	0~1.5A	0~15A	0~0.8A	0~8A	0~80A
Output	0~10V			0~10V		
Accuracy	0.5%F.S.			0.5%F.S.		

SPECIFICATIONS-2

General		
Program mode		
Sequence No.	100/Program	100/Program
Dwell / SEQ	0.1ms ~ 30s (Resolution : 0.1ms)	0.1ms ~ 30s (Resolution : 0.1ms)
Load Setting	Refer to Static mode specifications	Refer to Static mode specifications
Spec Check	Voltage/Current/Power	Voltage/Current/Power
Protection		
Over Power	Yes	Yes
Over Current	Yes	Yes
Over Voltage Alarm*8	Yes	Yes
Over Temperature	Yes	Yes
Reverse	Yes	Yes
Interface		
USB	Standard	Standard
Ethernet	Optional	Optional
GPIB	Optional	Optional
System BUS	Master/Slave	Master/Slave
Dout		
No. of bits	2 bits per mainframe	2 bits per mainframe
Level - H	1.8V/3.3V/5V switchable	1.8V/3.3V/5V switchable
Level - L	<0.6V@I _{sink} =10mA	<0.6V@I _{sink} =10mA
Drive	Pull_up resistor = 4.7k Ω	Pull_up resistor = 4.7k Ω
Din (TTL Compatible, Rising Edge)		
No. of bits	2 bits per mainframe	2 bits per mainframe
External Trig. for Digitizing		
No. of bits	1 bit per mainframe	1 bit per mainframe
External Trig. for Auto Sequences (TTL Compatible, Rising Edge)		
No. of bits	1 bit per mainframe	1 bit per mainframe
Load ON - O/P		
Level	TTL Compatible, Level, Active High	TTL Compatible, Level, Active High
Short ON - O/P		
No. of channels	2 channels per 63600-1 mainframe 4 channels per 63600-2 mainframe 10 channels per 63600-5 mainframe	2 channels per 63600-1 mainframe 4 channels per 63600-2 mainframe 10 channels per 63600-5 mainframe
Level	TTL Compatible, Level, Active High	TTL Compatible, Level, Active High
Short circuit		
Current *6	Set to 100% of rated current	Set to 100% of rated current
Input Resistance (Load Off)	2M Ω (Typical)	700k Ω (Typical)
Dimensions (HxWxD)	142x86x514mm / 5.6x3.4x20.2 inch	142x86x514mm / 5.6x3.4x20.2 inch
Weight	5kg / 11 lbs	4.5kg / 9.9 lbs
Operating Temperature	0~40°C	0~40°C
Storage Temperature	-20~80°C	-20~80°C
Power	Supply from mainframe	Supply from mainframe
EMC & Safety	CE	CE

NOTE*1 : The maximum current loading below the minimum operating voltage (0.5V) will follow a derating curve.

NOTE*2 : The 400W power rating of the 63640-80-80 specified at an ambient temperature of 35°C, please refer to the power rating curve on the right.

NOTE*3 : Does not apply to setting current < 0.25% full scale current in high range. Does not apply to setting current < 0.05% full scale current in low and middle range.

NOTE*4 : The full scale is V_{max} x I_{max}.

NOTE*5 : The DC level measurements are made over a period of 20ms, and does not measure any transient signals in the DC measurements.

NOTE*6 : Its limits are the maximum power and maximum current of the current range.

NOTE*7 : The 63600 is guaranteed to meet specified performance at temperature range of 25 ± 5°C.

NOTE*8 : If the operating voltage exceeds the rated voltage for 1.1 times, it would cause permanent damage to the device.

NOTE*9 : Please refer to user's manual for detail specifications, and S (siemens) is the SI unit of conductance, equal to one reciprocal ohm.

По вопросам продаж и поддержки обращайтесь:

Архангельск (8182)63-90-72	Калининград (4012)72-03-81	Новосибирск (383)227-86-73	Сочи (862)225-72-31
Астана +7(7172)727-132	Калуга (4842)92-23-67	Омск (3812) 21-46-40	Ставрополь (8652)20-65-13
Астрахань (8512) 99-46-04	Кемерово (3842)65-04-62	Орел (4862)44-53-42	Сургут (3462) 77-98-35
Барнаул (3852) 73-04-60	Киров (8332)68-02-04	Оренбург (3532)37-68-04	Тверь (4822)63-31-35
Белгород (4722)40-23-64	Краснодар (861)203-40-90	Пенза (8412)22-31-16	Томск (3822)98-41-53
Брянск (4832)59-03-52	Красноярск (391)204-63-61	Пермь (342)205-81-47	Тула (4872)74-02-29
Владивосток (423)249-28-31	Курск (4712)77-13-04	Ростов-на-Дону (863)308-18-15	Тюмень (3452)66-21-18
Волгоград (844)278-03-48	Липецк (4742)52-20-81	Рязань (4912)46-61-64	Ульяновск (8422)24-23-59
Вологда (8172)26-41-59	Магнитогорск (3519)55-03-13	Самара (846)206-03-16	Уфа (347)229-48-12
Воронеж (473)204-51-73	Москва (495)268-04-70	Санкт-Петербург (812)309-46-40	Хабаровск (4212) 92-98-04
Екатеринбург (343)384-55-89	Мурманск (8152)59-64-93	Саратов (845)249-38-78	Челябинск (351)202-03-61
Иваново (4932)77-34-06	Набережные Челны (8552)20-53-41	Севастополь (8692) 22-31-93	Череповец (8202)49-02-64
Ижевск (3412)26-03-58	Нижний Новгород (831)429-08-12	Симферополь (3652) 67-13-56	Ярославль (4852)69-52-93
Казань (843)206-01-48	Новокузнецк (3843)20-46-81	Смоленск (4812)29-41-54	

сайт: chrn.nt-rt.ru || эл. почта: cmr@nt-rt.ru