APM Technologies

ELS Series DC Electronic Load System



High Stability

High Precision

High Efficiency

www.apmtechate.com

ELS Series DC Electronic Load System

The standardized DC electronic load system is formed with 7U height units. The maximum input current and power of a single cabinet is up to 3000A, 73.5kW. Support master-slave configuration to increase the input capacity to 294kW.

These cabinets use world famous circuit breaker to control the input of DC E-load moudle inside. After power on, the specified unit will be configured as a Master to control all of the slave units. In an emergency off situation the EMS will cut all units in the cabinet from AC supply, ensure safe operation.


30U


36U


42U

Input			Model	Size	Certificates
Rated Voltage	Rated Power	Rated Current			
200V	39600W	3000A	ELS200VDC39600W-7-30	30U[1]	CE
	44100W	3000A	ELS200VDC44100W-7-30	30U[1]	
	52800W	3000A	ELS200VDC52800W-7-36	36U[2]	
	58800W	3000A	ELS200VDC58800W-7-36	36U[2]	
	66000W	3000A	ELS200VDC66000W-7-42	42U[3]	
	73500W	3000A	ELS200VDC73500W-7-42	42U[3]	
600V	39600W	2880A	ELS600VDC39600W-7-30	30U[1]	CE
	44100W	3000A	ELS600VDC44100W-7-30	30U[1]	
	52800W	3000A	ELS600VDC52800W-7-36	36U[2]	
	58800W	3000A	ELS600VDC58800W-7-36	36U[2]	
	66000W	3000A	ELS600VDC66000W-7-42	42U[3]	
	73500W	3000A	ELS600VDC73500W-7-42	42U[3]	
1200V	39600W	1440A	ELS1200VDC39600W-7-30	30U[1]	CE
	52800W	1920A	ELS1200VDC52800W-7-36	36U[2]	
	66000W	2400A	ELS1200VDC66000W-7-42	42U[3]	

* This formula is the standard cabinet for EL series 7U model. It could extend to 294W. It is available to select cabinet with different specification according to exact situation. Detail please consults our area manager.

System Configuration

Cabinet Height	30U	36U	42U
Capacity for Loads	21U	28U	35U
Capacity (7U height unit)	3	4	5
PDU Height	3U	3U	3U
EMS Panel Height	1U	1U	1U
Cabinet Frame	2U	2U	2U
Reserved	3U	2U	1U

*Above standardized cabinets are configured with 7U loads.

Dimensions & Weight



❶ 560.0x1324.0x920.0 mm & 366kg



❷ 560.0x1590.0x920.0 mm & 475kg



❸ 560.0x1857.0x920.0 mm & 589kg

Optional Information

(1) LAN & GPIB interface card & cables



Features

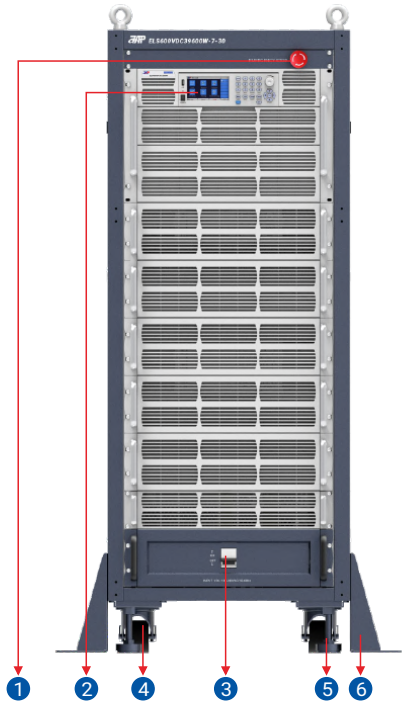
- Provides four kinds of basic working mode such as CV/CC/CR/CP, and CV+CC/CV+CR/CR+CC complex operating modes.
- Adjustable current slew rate, adjustable CV loop speed.
- Ultra high precision voltage & current measurement.
- Short circuit test mode.
- Auto mode function provides an easy way to do complicated test.
- V-monitor/I-monitor.
- Full protection: OCP, OPP, OTP, over voltage and reverse alarm.
- Equipped with Emergency Stop, physically off all managed DC eLoads at once.
- Back door with protect switch, safe to the operator.
- Front panel USB interface supports data import and export.
- Using standard SCPI communication protocol.

ELS Series DC Electronic Load System

Views

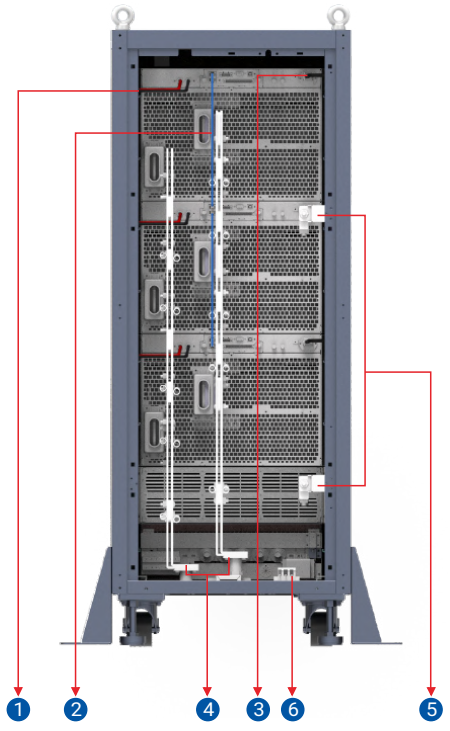
Front side (example model in 30U)

1. Emergency Stop, physically off AC input
2. Master control panel
3. AC input circuit breaker switch
4. Caster(with caster lock)
5. Stopper bolt
6. Support frame



Rear side (example model in 30U, remove the back door)

1. Remote sense connections
2. SYSTEM BUS, for master/slave system data transmission
3. AC input connection of the single unit
4. DC input (bus bars)
5. Protect switch
6. AC input



Connecting the cabinet

- This series electronic load is capable of connecting up to 20 units in parallel in Master-slave mode.
- User-created electronic load system can reach at most 558kW (twenty 27.9kW units in parallel).
- The standardized electronic load system can reach up to 294kW (twenty 14.7kW units in parallel).
- Different electronic loads can be connected in parallel in Mater-slave mode. But in no case should the input DC voltage be higher than the rated voltage of electronic loads.
- Use parallel bars to simplify the connection between multiple rack cabinets.
- This series electronic load convert the consumed electrical energy into heat and dissipate it. In order to avoid overheating, decrease the room temperature or derate the actual input power based on the ambient temperature.

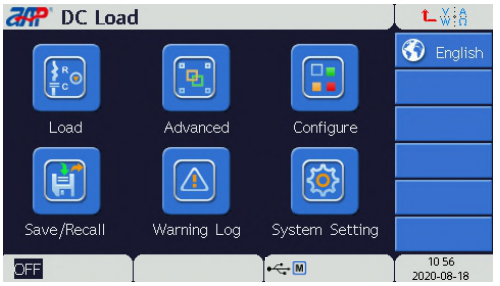


Function Introduction

Flippable Front Panel and Color Touch Screen

This series High Power DC Load is equipped with flippable front panel for 4U, 7U, 10U and 13U height models. Together with a large color touch screen provides simple and fast operation for customer. Real-time update of display input data, status and graphical display makes it more intuitive.





ELS Series DC Electronic Load System

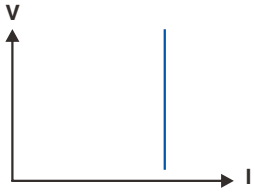
Multiple Operating Mode

Basic Operating Mode

This series High Power DC Load provides four kinds of basic operating mode including CV (constant voltage), CC (constant current), CR (constant resistance), CP (constant power), to satisfy a wide range of test requirements.

CC Mode

1. Load regulation test of DC power supply
2. Discharge time and life test for battery
3. Fuel cells test
4. Loading test for DC motor



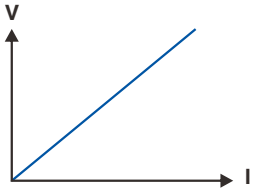
CV Mode

1. Charging station test
2. Current limit testing for Fold back type power supply
3. Fuel cells test
4. Current source test



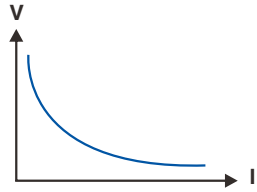
CR Mode

1. Slow start test for communication power supply
2. LED driver test
3. Loading test for automobile temperature controller



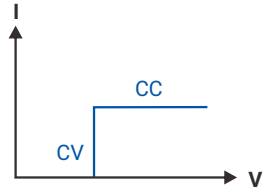
CP Mode

1. Testing for contanst power type power supply
2. Capacity and life test for battery

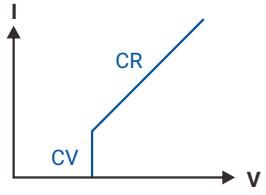


Complex Operating Mode

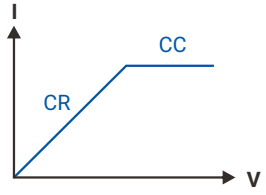
The CV+CC mode can be applied to the load simulation battery and test the charging station or the car charger.



The CV+CR mode can be used to simulate the dynamic characteristics of LED.

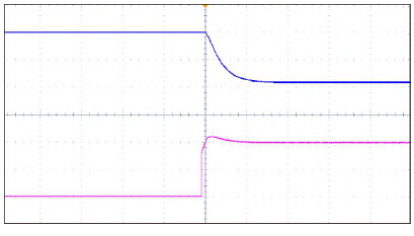


The CR+CC mode is suitable for power on testing.

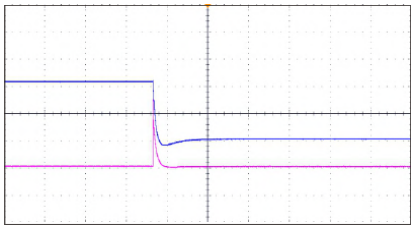


Adjustable CV Loop Speed

This series electronic load supports CV loop response speed setting to FAST, NORMAL or SLOW to satisfy different test requirements. This function may avoid the inaccurate measurement or testing fail caused by the response speed mismatch between the load and the power supply, which is possible to improve test efficiency and reduce costs on the equipments, time and expenses.



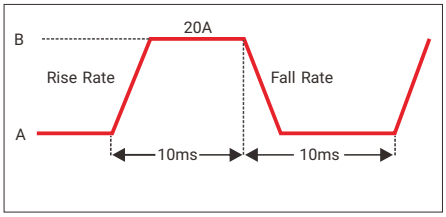
Slow speed of CV loop



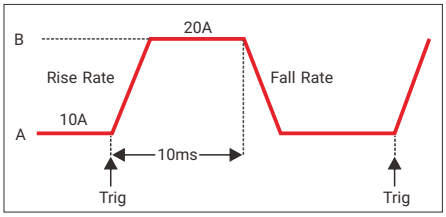
Normal speed of CV loop

Dynamic Load

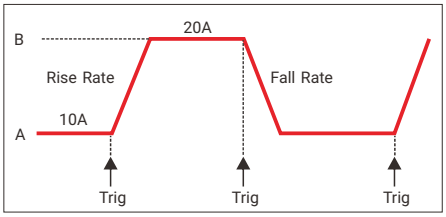
This series electronic load can be switched quickly between different values in the same operating mode, including CC dynamic mode, CV dynamic mode, CR dynamic mode and CP dynamic mode, CC/CR high speed dynamic mode up to 50kHz.
This function is suitable for transient test of power supply, test of battery protection characteristic and battery pulse charging etc. Dynamic mode test has continuous mode, pulse mode and toggle mode.



Continous Mode



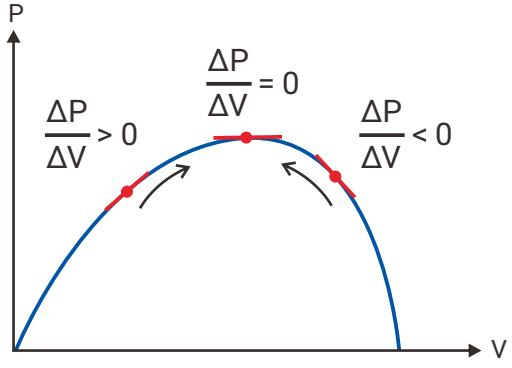
Pulse Mode



Toggle Mode

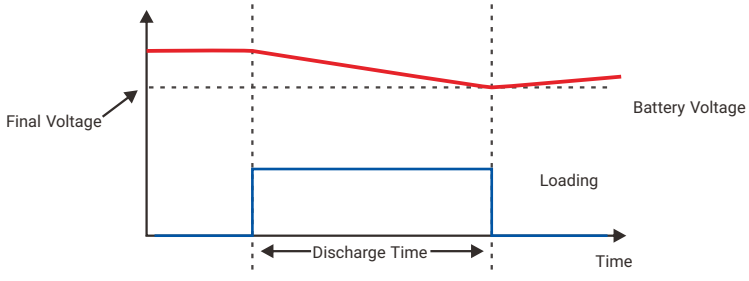
Maximum power point tracking (MPPT)

It can be applied to track the maximum power point of solar panels. Through the maximum power point tracking method, the maximum power point of the solar panel can be dynamically searched all the time, which can maximize the effectiveness of solar panels.



Battery Discharge Test

This series electronic load has battery discharge function, and can perform discharge test under CC, CR or CP mode. The DC load can set end volatge or time to stop loading correctly and make sure the battery is not damaged due to over discharge. The user can set stop conditions, whenever met any condition, the load will stop loading and counting automatically. During the test, users can observe battery's voltage, discharging time and already-discharged-capacity.



ELS Series DC Electronic Load System

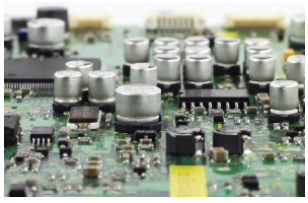
Applications



New energy



Automotive electronics



Electronic component



Power supply



Battery charge/discharge test



ATE systems



R/D design verification/quality assurance



Factory production online test

MODEL		ELS200VDC39600W-7-30		
Rated	Voltage	0~200V		
	Current	0~3000A		
	Power	0~39600W		
	Min. Operating Voltage	0.18V@432A	0.9V@2160A	1.8V@3000A
Static Mode				
Constant Current Mode	Range	0~432A	0~2160A	0~3000A
	Resolution	3mA	15mA	30mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~3960W	0~19800W	0~39600W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	0.8mΩ~8.3Ω(16V)	3.3mΩ~33.3Ω(80V)	83.3mΩ~166.6Ω(200V)
	Resolution	0.8mΩ(16V)	3.3mΩ(80V)	83.3mΩ(200V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	3mA/μs~28.8A/μs	15mA/μs~86.4A/μs	30mA/μs~172.8A/μs
	Slew Rate(Adv.)	3mA/μs~4.32A/μs	15mA/μs~21.6A/μs	30mA/μs~43.2A/μs
	Min. Rise Time(Pro.)	10μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	3mA/μs	15mA/μs	30mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~432A	0~2160A	0~3000A
	Resolution	3mA	15mA	30mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~3960W	0~19800W	0~39600W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		17.6V	88V	220V
OCP		440.64A	2203.2A	3060A
OPP		4078.8W	20394W	40788W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1324.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1531.0x1040.0 mm		
Unit Weight		366kg		
Shipping Weight		436kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1350VA		
Fuse		15A		

ELS Series DC Electronic Load System

MODEL		ELS200VDC44100W-7-30		
Rated	Voltage	0~200V		
	Current	0~3000A		
	Power	0~44100W		
	Min. Operating Voltage	0.18V@432A	0.9V@2160A	1.8V@3000A
Static Mode				
Constant Current Mode	Range	0~432A	0~2160A	0~3000A
	Resolution	3mA	15mA	30mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~4410W	0~22050W	0~44100W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	0.8mΩ~8.3Ω(16V)	3.3mΩ~33.3Ω(80V)	83.3mΩ~166.6Ω(200V)
	Resolution	0.8mΩ(16V)	3.3mΩ(80V)	83.3mΩ(200V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	3mA/μs~28.8A/μs	15mA/μs~86.4A/μs	30mA/μs~172.8A/μs
	Slew Rate(Adv.)	3mA/μs~4.32A/μs	15mA/μs~21.6A/μs	30mA/μs~43.2A/μs
	Min. Rise Time(Pro.)	10μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	3mA/μs	15mA/μs	30mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~432A	0~2160A	0~3000A
	Resolution	3mA	15mA	30mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~4410W	0~22050W	0~44100W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		17.6V	88V	220V
OCP		440.64A	2203.2A	3060A
OPP		4542.3W	22711.5W	45423W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1324.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1531.0x1040.0 mm		
Unit Weight		366kg		
Shipping Weight		436kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1350VA		
Fuse		15A		

MODEL		ELS200VDC52800W-7-36		
Rated	Voltage	0~200V		
	Current	0~3000A		
	Power	0~52800W		
	Min. Operating Voltage	0.18V@576A	0.9V@2880A	1.8V@3000A
Static Mode				
Constant Current Mode	Range	0~576A	0~2880A	0~3000A
	Resolution	4mA	20mA	40mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~5280W	0~26400W	0~52800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	0.6mΩ~6.2Ω(16V)	2.5mΩ~25Ω(80V)	62.5mΩ~125Ω(200V)
	Resolution	0.6mΩ(16V)	2.5mΩ(80V)	62.5mΩ(200V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	4mA/μs~38.4A/μs	20mA/μs~115.2A/μs	40mA/μs~230.4A/μs
	Slew Rate(Adv.)	4mA/μs~5.76A/μs	20mA/μs~28.8A/μs	40mA/μs~57.6A/μs
	Min. Rise Time(Pro.)	10μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	4mA/μs	20mA/μs	40mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~576A	0~2880A	0~3000A
	Resolution	4mA	20mA	40mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~5280W	0~26400W	0~52800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		17.6V	88V	220V
OCP		587.52A	2937.6A	3060A
OPP		5438.4W	27192W	54384W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1590.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1854.0x1040.0 mm		
Unit Weight		475kg		
Shipping Weight		553kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1800VA		
Fuse		20A		

ELS Series DC Electronic Load System

MODEL		ELS200VDC58800W-7-36		
Rated	Voltage	0~200V		
	Current	0~3000A		
	Power	0~58800W		
	Min. Operating Voltage	0.18V@576A	0.9V@2880A	1.8V@3000A
Static Mode				
Constant Current Mode	Range	0~576A	0~2880A	0~3000A
	Resolution	4mA	20mA	40mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~5880W	0~29400W	0~58800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	0.6mΩ~6.2Ω(16V)	2.5mΩ~25Ω(80V)	62.5mΩ~125Ω(200V)
	Resolution	0.6mΩ(16V)	2.5mΩ(80V)	62.5mΩ(200V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	4mA/μs~38.4A/μs	20mA/μs~115.2A/μs	40mA/μs~230.4A/μs
	Slew Rate(Adv.)	4mA/μs~5.76A/μs	20mA/μs~28.8A/μs	40mA/μs~57.6A/μs
	Min. Rise Time(Pro.)	10μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	4mA/μs	20mA/μs	40mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~576A	0~2880A	0~3000A
	Resolution	4mA	20mA	40mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~5880W	0~29400W	0~58800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		17.6V	88V	220V
OCP		587.52A	2937.6A	3060A
OPP		6056.4W	30282W	60564W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1590.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1854.0x1040.0 mm		
Unit Weight		475kg		
Shipping Weight		553kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1800VA		
Fuse		20A		

MODEL		ELS200VDC66000W-7-42		
Rated	Voltage	0~200V		
	Current	0~3000A		
	Power	0~66000W		
	Min. Operating Voltage	0.18V@720A	0.9V@3000A	1.8V@3000A
Static Mode				
Constant Current Mode	Range	0~720A	0~3000A	0~3000A
	Resolution	5mA	25mA	50mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~6600W	0~33000W	0~66000W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	0.5mΩ~5Ω(16V)	2mΩ~20Ω(80V)	50mΩ~100Ω(200V)
	Resolution	0.5mΩ(16V)	2mΩ(80V)	50mΩ(200V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	5mA/μs~48A/μs	25mA/μs~144A/μs	50mA/μs~288A/μs
	Slew Rate(Adv.)	5mA/μs~7.2A/μs	25mA/μs~36A/μs	50mA/μs~72A/μs
	Min. Rise Time(Pro.)	10μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	5mA/μs	25mA/μs	50mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~720A	0~3000A	0~3000A
	Resolution	5mA	25mA	50mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~6600W	0~33000W	0~66000W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		17.6V	88V	220V
OCP		734.4A	3060A	3060A
OPP		6798W	33990W	67980W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1857.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x2165.0x1040.0 mm		
Unit Weight		589kg		
Shipping Weight		681kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		2250VA		
Fuse		25A		

ELS Series DC Electronic Load System

MODEL		ELS200VDC73500W-7-42		
Rated	Voltage	0~200V		
	Current	0~3000A		
	Power	0~73500W		
	Min. Operating Voltage	0.18V@720A	0.9V@3000A	1.8V@3000A
Static Mode				
Constant Current Mode	Range	0~720A	0~3000A	0~3000A
	Resolution	5mA	25mA	50mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~7350W	0~36750W	0~73500W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	0.5mΩ~5Ω(16V)	2mΩ~20Ω(80V)	50mΩ~100Ω(200V)
	Resolution	0.5mΩ(16V)	2mΩ(80V)	50mΩ(200V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	5mA/μs~48A/μs	25mA/μs~144A/μs	50mA/μs~288A/μs
	Slew Rate(Adv.)	5mA/μs~7.2A/μs	25mA/μs~36A/μs	50mA/μs~72A/μs
	Min. Rise Time(Pro.)	10μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	5mA/μs	25mA/μs	50mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~16V	0~80V	0~200V
	Resolution	0.1mV	0.5mV	2mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~720A	0~3000A	0~3000A
	Resolution	5mA	25mA	50mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~7350W	0~36750W	0~73500W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		17.6V	88V	220V
OCP		734.4A	3060A	3060A
OPP		7570.5W	37852.5W	75705W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1857.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x2165.0x1040.0 mm		
Unit Weight		589kg		
Shipping Weight		681kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		2250VA		
Fuse		25A		

200V Series System Specifications			
Battery Discharge Mode			
Battery Voltage	As CV Mode		
Current Resolution	As CC Mode		
Record	AH/WH		
Test Time	1s~100000s		
Time Resolution	1s		
Program Mode			
Step No.	300 Max.		
Dwell	0.1ms~4000s/9999h59min59s		
Spec Check	Voltage/Current/Power		
External Waveform Control/Monitor			
Control/Monitor	Voltage/Current		
Input/Ouput Range	0~10V		
Voltage Range	0~L_range F.S.	0~M_range F.S.	0~H_range F.S.
Current Range	0~L_range F.S.	0~M_range F.S.	0~H_range F.S.
Accuracy	0.4%F.S.		
Resolution	4mV		
Bandwidth	20kHz		
Input Impedance	10kΩ		
Short Circuit			
Current(CC)	Full range current value		
Voltage(CV)	Voltage value at the Max power in working mode		
Resistance(CR)	Min resistance value of CR Mode		
Master/Slave			
Parallel Interface	RJ45		
Parallel Quantity	Up to 20 single units in the entire system		
General			
Graphic Display	4.3” Color touch LCD		
Operation Key Feature	Soft key, Numeric key, Rotary Knob, USB port for transfer and upgrading firmware		
Rack Mount Handles	Yes		
FAN	Temperature Control		
Interface	RS232/RS485/USB(Standard), GPIB/LAN(Optional)		
Communication Response Time	30ms		
Storage Capacity	User defined settings (300 sets), OCP settings (10 sets), OPP settings (10 sets), Default settings (1 set), Factory setting (1 set)		
Environmental			
Operating Temperature	0~40°C		
Storage Temperature	-20~80°C		
Temperature Coefficient	100ppm/°C(Typical)		
Relative Humidity	10~90%RH		
Altitude	⩽2000m		
Regulatory Compliance			
Overvoltage Category	II		
Protection Degree	I		
Pollution Degree	II		
Input Impedance	266.6kΩ (Typical)/39600W, 200kΩ (Typical)/52800W, 160kΩ (Typical)/66000W		
Isolation Voltage	/		
Certificates	CE		

All specifications are subject to change without notice.

ELS Series DC Electronic Load System

MODEL		ELS600VDC39600W-7-30		
Rated	Voltage	0~600V		
	Current	0~2880A		
	Power	0~39600W		
	Min. Operating Voltage	0.8V@288A	4V@1440A	8V@2880A
Static Mode				
Constant Current Mode	Range	0~288A	0~1440A	0~2880A
	Resolution	3mA	15mA	30mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~3960W	0~19800W	0~39600W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	8.3mΩ~83.30Ω(80V)	33.3mΩ~333.3Ω(150V)	333.3mΩ~666.6Ω(600V)
	Resolution	8.3mΩ(80V)	33.3mΩ(150V)	333.3mΩ(600V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	3mA/μs~9A/μs	15mA/μs~45A/μs	30mA/μs~90A/μs
	Slew Rate(Adv.)	3mA/μs~2.88A/μs	15mA/μs~14.4A/μs	30mA/μs~28.8A/μs
	Min. Rise Time(Pro.)	20μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	3mA/μs	15mA/μs	30mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~288A	0~1440A	0~2880A
	Resolution	3mA	15mA	30mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~3960W	0~19800W	0~39600W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		88V	165V	660V
OCP		293.76A	1468.8A	2937.6A
OPP		4078.8W	20394W	40788W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1324.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1531.0x1040.0 mm		
Unit Weight		366kg		
Shipping Weight		436kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1350VA		
Fuse		15A		

MODEL		ELS600VDC44100W-7-30		
Rated	Voltage	0~600V		
	Current	0~3000A		
	Power	0~44100W		
	Min. Operating Voltage	0.8V@324A	4V@1620A	8V@3000A
Static Mode				
Constant Current Mode	Range	0~324A	0~1620A	0~3000A
	Resolution	3mA	15mA	30mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~4410W	0~22050W	0~44100W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	8.3mΩ~83.30Ω(80V)	33.3mΩ~333.3Ω(150V)	333.3mΩ~666.6Ω(600V)
	Resolution	8.3mΩ(80V)	33.3mΩ(150V)	333.3mΩ(600V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	3mA/μs~9A/μs	15mA/μs~45A/μs	30mA/μs~90A/μs
	Slew Rate(Adv.)	3mA/μs~2.88A/μs	15mA/μs~14.4A/μs	30mA/μs~28.8A/μs
	Min. Rise Time(Pro.)	20μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	3mA/μs	15mA/μs	30mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~324A	0~1620A	0~3000A
	Resolution	3mA	15mA	30mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~4410W	0~22050W	0~44100W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		88V	165V	660V
OCP		330.48A	1652.4A	3060A
OPP		4542.3W	22711.5W	45423W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1324.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1531.0x1040.0 mm		
Unit Weight		366kg		
Shipping Weight		436kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1350VA		
Fuse		15A		

ELS Series DC Electronic Load System

MODEL		ELS600VDC52800W-7-36		
Rated	Voltage	0~600V		
	Current	0~3000A		
	Power	0~52800W		
	Min. Operating Voltage	0.8V@384A	4V@1920A	8V@3000A
Static Mode				
Constant Current Mode	Range	0~384A	0~1920A	0~3000A
	Resolution	4mA	20mA	40mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~5280W	0~26400W	0~52800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	6.2mΩ~62.5Ω(80V)	25mΩ~250Ω(150V)	250mΩ~500Ω(600V)
	Resolution	6.2mΩ(80V)	25mΩ(150V)	250mΩ(600V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	4mA/μs~12A/μs	20mA/μs~60A/μs	40mA/μs~120A/μs
	Slew Rate(Adv.)	4mA/μs~3.84A/μs	20mA/μs~19.2A/μs	40mA/μs~38.4A/μs
	Min. Rise Time(Pro.)	20μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	4mA/μs	20mA/μs	40mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~384A	0~1920A	0~3000A
	Resolution	4mA	20mA	40mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~5280W	0~26400W	0~52800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		88V	165V	660V
OCP		391.68A	1958.4A	3060A
OPP		5438.4W	27192W	54384W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1590.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1854.0x1040.0 mm		
Unit Weight		475kg		
Shipping Weight		553kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1800VA		
Fuse		20A		

MODEL		ELS600VDC58800W-7-36		
Rated	Voltage	0~600V		
	Current	0~3000A		
	Power	0~58800W		
	Min. Operating Voltage	0.8V@432A	4V@2160A	8V@3000A
Static Mode				
Constant Current Mode	Range	0~432A	0~2160A	0~3000A
	Resolution	4mA	20mA	40mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~5880W	0~29400W	0~58800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	6.25mΩ~62.5Ω(80V)	25mΩ~250Ω(150V)	250mΩ~500Ω(600V)
	Resolution	6.25mΩ(80V)	25mΩ(150V)	250mΩ(600V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	4mA/μs~12A/μs	20mA/μs~60A/μs	40mA/μs~120A/μs
	Slew Rate(Adv.)	4mA/μs~3.84A/μs	20mA/μs~19.2A/μs	40mA/μs~38.4A/μs
	Min. Rise Time(Pro.)	20μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	4mA/μs	20mA/μs	40mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~432A	0~2160A	0~3000A
	Resolution	4mA	20mA	40mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~5880W	0~29400W	0~58800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		88V	165V	660V
OCP		440.64A	2203.2A	3060A
OPP		6056.4W	30282W	60564W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1590.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1854.0x1040.0 mm		
Unit Weight		475kg		
Shipping Weight		553kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1800VA		
Fuse		20A		

ELS Series DC Electronic Load System

MODEL		ELS600VDC66000W-7-42		
Rated	Voltage	0~600V		
	Current	0~3000A		
	Power	0~66000W		
	Min. Operating Voltage	0.8V@480A	4V@2400A	8V@3000A
Static Mode				
Constant Current Mode	Range	0~480A	0~2400A	0~3000A
	Resolution	5mA	25mA	50mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~6600W	0~33000W	0~66000W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	5mΩ~50Ω(80V)	20mΩ~200Ω(150V)	200mΩ~400Ω(600V)
	Resolution	5mΩ(80V)	20mΩ(150V)	200mΩ(600V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	5mA/μs~15A/μs	25mA/μs~75A/μs	50mA/μs~150A/μs
	Slew Rate(Adv.)	5mA/μs~4.8A/μs	25mA/μs~24A/μs	50mA/μs~48A/μs
	Min. Rise Time(Pro.)	20μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	5mA/μs	25mA/μs	50mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~480A	0~2400A	0~3000A
	Resolution	5mA	25mA	50mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~6600W	0~33000W	0~66000W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		88V	165V	660V
OCP		489.6A	2448A	3060A
OPP		6798W	33990W	67980W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1857.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x2165.0x1040.0 mm		
Unit Weight		589kg		
Shipping Weight		681kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		2250VA		
Fuse		25A		

MODEL		ELS600VDC73500W-7-42		
Rated	Voltage	0~600V		
	Current	0~3000A		
	Power	0~73500W		
	Min. Operating Voltage	0.8V@540A	4V@2700A	8V@3000A
Static Mode				
Constant Current Mode	Range	0~540A	0~2700A	0~3000A
	Resolution	5mA	25mA	50mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~7350W	0~36750W	0~73500W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	5mΩ~50Ω(80V)	20mΩ~200Ω(150V)	200mΩ~400Ω(600V)
	Resolution	5mΩ(80V)	20mΩ(150V)	200mΩ(600V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	5mA/μs~15A/μs	25mA/μs~75A/μs	50mA/μs~150A/μs
	Slew Rate(Adv.)	5mA/μs~4.8A/μs	25mA/μs~24A/μs	50mA/μs~48A/μs
	Min. Rise Time(Pro.)	20μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	5mA/μs	25mA/μs	50mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~80V	0~150V	0~600V
	Resolution	0.5mV	1mV	5mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~540A	0~2700A	0~3000A
	Resolution	5mA	25mA	50mA
	Accuracy	0.04%+0.04%F.S.		
Power	Range	0~7350W	0~36750W	0~73500W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		88V	165V	660V
OCP		550.8A	2754A	3060A
OPP		7570.5W	37852.5W	75705W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1857.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x2165.0x1040.0 mm		
Unit Weight		589kg		
Shipping Weight		681kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		2250VA		
Fuse		25A		

ELS Series DC Electronic Load System

600V Series System Specifications			
Battery Discharge Mode			
Battery Voltage	As CV Mode		
Current Resolution	As CC Mode		
Record	AH/WH		
Test Time	1s~100000s		
Time Resolution	1s		
Program Mode			
Step No.	300 Max.		
Dwell	0.1ms~4000s/9999h59min59s		
Spec Check	Voltage/Current/Power		
External Waveform Control/Monitor			
Control/Monitor	Voltage/Current		
Input/Ouput Range	0~10V		
Voltage Range	0~L_range F.S.	0~M_range F.S.	0~H_range F.S.
Current Range	0~L_range F.S.	0~M_range F.S.	0~H_range F.S.
Accuracy	0.4%F.S.		
Resolution	4mV		
Bandwidth	20kHz		
Input Impedance	10kΩ		
Short Circuit			
Current(CC)	Full range current value		
Voltage(CV)	Voltage value at the Max power in working mode		
Resistance(CR)	Min resistance value of CR Mode		
Master/Slave			
Parallel Interface	RJ45		
Parallel Quantity	Up to 20 single units in the entire system		
General			
Graphic Display	4.3” Color touch LCD		
Operation Key Feature	Soft key, Numeric key, Rotary Knob, USB port for transfer and upgrading firmware		
Rack Mount Handles	Yes		
FAN	Temperature Control		
Interface	RS232/RS485/USB(Standard), GPIB/LAN(Optional)		
Communication Response Time	30ms		
Storage Capacity	User defined settings (300 sets), OCP settings (10 sets), OPP settings (10 sets), Default settings (1 set), Factory setting (1 set)		
Environmental			
Operating Temperature	0~40°C		
Storage Temperature	-20~80°C		
Temperature Coefficient	100ppm/°C(Typical)		
Relative Humidity	10~90%RH		
Altitude	≤2000m		
Regulatory Compliance			
Overvoltage Category	II		
Protection Degree	I		
Pollution Degree	II		
Input Impedance	333.3kΩ (Typical)/39600W, 250kΩ (Typical)/52800W, 200kΩ (Typical)/66000W		
Isolation Voltage	/		
Certificates	CE		

All specifications are subject to change without notice.

MODEL		ELS1200VDC39600W-7-30		
Rated	Voltage	0~1200V		
	Current	0~1440A		
	Power	0~39600W		
	Min. Operating Voltage	2V@144A	10V@720A	20V@1440A
Static Mode				
Constant Current Mode	Range	0~144A	0~720A	0~1440A
	Resolution	1.2mA	6mA	12mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~150V	0~600V	0~1200V
	Resolution	1mV	5mV	10mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~3960W	0~19800W	0~39600W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	8.3mΩ~83.3Ω(150V)	33.3mΩ~333.3Ω(600V)	333.3mΩ~666.6Ω(1200V)
	Resolution	8.3mΩ(150V)	33.3mΩ(600V)	333.3mΩ(12000V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	1.2mA/μs~4.8A/μs	6mA/μs~24A/μs	12mA/μs~48A/μs
	Slew Rate(Adv.)	1.2mA/μs~1.44A/μs	6mA/μs~7.2A/μs	12mA/μs~14.4A/μs
	Min. Rise Time(Pro.)	20μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	1.2mA/μs	6mA/μs	12mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~150V	0~600V	0~1200V
	Resolution	1mV	5mV	10mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~144A	0~720A	0~1440A
	Resolution	1.2mA	6mA	12mA
	Accuracy	0.04%+0.06%F.S.		
Power	Range	0~3960W	0~19800W	0~39600W
	Resolution	120mW	600mW	1200mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		165V	660V	1320V
OCP		146.88A	734.4A	1468.8A
OPP		4078.8W	20394W	40788W
Over Temperature		70-75℃		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1324.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1531.0x1040.0 mm		
Unit Weight		366kg		
Shipping Weight		436kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1350VA		
Fuse		15A		

ELS Series DC Electronic Load System

MODEL		ELS1200VDC52800W-7-36		
Rated	Voltage	0~1200V		
	Current	0~1920A		
	Power	0~52800W		
	Min. Operating Voltage	2V@192A	10V@960A	20V@1920A
Static Mode				
Constant Current Mode	Range	0~192A	0~960A	0~1920A
	Resolution	1.6mA	8mA	16mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~150V	0~600V	0~1200V
	Resolution	1mV	5mV	10mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~5280W	0~26400W	0~52800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	6.2mΩ~62.5Ω(150V)	25mΩ~5500Ω(600V)	250mΩ~500Ω(1200V)
	Resolution	6.2mΩ(150V)	25mΩ(600V)	250mΩ(1200V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	1.6mA/μs~6.4A/μs	8mA/μs~32A/μs	16mA/μs~64A/μs
	Slew Rate(Adv.)	1.6mA/μs~1.92A/μs	8mA/μs~9.6A/μs	16mA/μs~19.2A/μs
	Min. Rise Time(Pro.)	20μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	1.6mA/μs	8mA/μs	16mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~150V	0~600V	0~1200V
	Resolution	1mV	5mV	10mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~192A	0~960A	0~1920A
	Resolution	1.6mA	8mA	16mA
	Accuracy	0.04%+0.06%F.S.		
Power	Range	0~5280W	0~26400W	0~52800W
	Resolution	160mW	800mW	1600mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		165V	660V	1320V
OCP		195.84A	979.2A	1958.4A
OPP		5438.4W	27192W	54384W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1590.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x1854.0x1040.0 mm		
Unit Weight		475kg		
Shipping Weight		553kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		1800VA		
Fuse		20A		

MODEL		ELS1200VDC66000W-7-42		
Rated	Voltage	0~1200V		
	Current	0~2400A		
	Power	0~66000W		
	Min. Operating Voltage	2V@240A	10V@1200A	20V@2400A
Static Mode				
Constant Current Mode	Range	0~240A	0~1200A	0~2400A
	Resolution	2mA	10mA	20mA
	Accuracy	0.05%+0.05%F.S.		
Constant Voltage Mode	Range	0~150V	0~600V	0~1200V
	Resolution	1mV	5mV	10mV
	Accuracy	0.025%+0.025%F.S.		
Constant Power Mode	Range	0~6600W	0~33000W	0~66000W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.2%+0.2%F.S.		
Constant Resistance Mode	Range	5mΩ~50Ω(150V)	20mΩ~200Ω(600V)	200mΩ~400Ω(1200V)
	Resolution	5mΩ(150V)	20mΩ(600V)	200mΩ(1200V)
	Accuracy	Vin/Rset*(0.2%)+0.2% IF.S.		
Dynamic Mode				
CCD/CRD	T1&T2(Pro.)	0.02ms~300s		
	T1&T2(Adv.)	0.05ms~300s		
	Resolution	1μs		
	Accuracy	1μs+100ppm		
	Slew Rate(Pro.)	2mA/μs~8A/μs	10mA/μs~40A/μs	20mA/μs~80A/μs
	Slew Rate(Adv.)	2mA/μs~2.4A/μs	10mA/μs~12A/μs	20mA/μs~24A/μs
	Min. Rise Time(Pro.)	20μs(Typical)		
	Min. Rise Time(Adv.)	50μs(Typical)		
	Resolution	2mA/μs	10mA/μs	20mA/μs
	Accuracy	5%±10us		
Measurement				
Voltage	Range	0~150V	0~600V	0~1200V
	Resolution	1mV	5mV	10mV
	Accuracy	0.015%+0.015%F.S.		
Current	Range	0~240A	0~1200A	0~2400A
	Resolution	2mA	10mA	20mA
	Accuracy	0.04%+0.06%F.S.		
Power	Range	0~6600W	0~33000W	0~66000W
	Resolution	200mW	1000mW	2000mW
	Accuracy	0.1%+0.1%F.S.		
Sampling Frequency		500kHz		
Protection				
OVP		165V	660V	1320V
OCP		244.8A	1224A	2448A
OPP		6798W	33990W	67980W
Over Temperature		70-75°C		
Overvoltage Safety Value		110%VF.S.		
Reverse Alarm		Yes		
Alarm Tone		Yes		
Mechanical				
Dimensions(WxHxD)		560.0x1857.0x920.0 mm		
Package Dimensions(WxHxD)		830.0x2165.0x1040.0 mm		
Unit Weight		589kg		
Shipping Weight		681kg		
AC Input				
Voltage		100~240Vac		
Frequency		50~60Hz		
Power		2250VA		
Fuse		25A		

ELS Series DC Electronic Load System

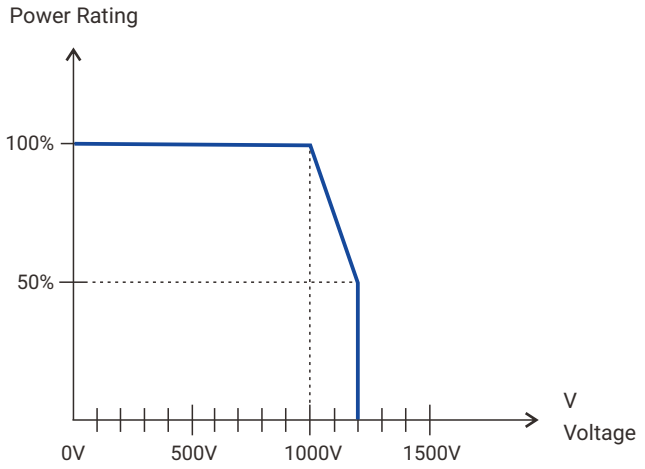
1200V Series System Specifications			
Battery Discharge Mode			
Battery Voltage	As CV Mode		
Current Resolution	As CC Mode		
Record	AH/WH		
Test Time	1s~100000s		
Time Resolution	1s		
Program Mode			
Step No.	300 Max.		
Dwell	0.1ms~4000s/9999h59min59s		
Spec Check	Voltage/Current/Power		
External Waveform Control/Monitor			
Control/Monitor	Voltage/Current		
Input/Ouput Range	0~10V		
Voltage Range	0~L_range F.S.	0~M_range F.S.	0~H_range F.S.
Current Range	0~L_range F.S.	0~M_range F.S.	0~H_range F.S.
Accuracy	0.4%F.S.		
Resolution	4mV		
Bandwidth	20kHz		
Input Impedance	10kΩ		
Short Circuit			
Current(CC)	Full range current value		
Voltage(CV)	Voltage value at the Max power in working mode		
Resistance(CR)	Min resistance value of CR Mode		
Master/Slave			
Parallel Interface	RJ45		
Parallel Quantity	Up to 20 single units in the entire system		
General			
Graphic Display	4.3” Color touch LCD		
Operation Key Feature	Soft key, Numeric key, Rotary Knob, USB port for transfer and upgrading firmware		
Rack Mount Handles	Yes		
FAN	Temperature Control		
Interface	RS232/RS485/USB(Standard), GPIB/LAN(Optional)		
Communication Response Time	30ms		
Storage Capacity	User defined settings (300 sets), OCP settings (10 sets), OPP settings (10 sets), Default settings (1 set), Factory setting (1 set)		
Environmental			
Operating Temperature	0~40°C		
Storage Temperature	-20~80°C		
Temperature Coefficient	100ppm/°C(Typical)		
Relative Humidity	10~90%RH		
Altitude	≤2000m		
Regulatory Compliance			
Overvoltage Category	II		
Protection Degree	I		
Pollution Degree	II		
Input Impedance	666.6kΩ (Typical)/39600W, 500kΩ (Typical)/52800W, 400kΩ (Typical)/66000W		
Isolation Voltage	/		
Certificates	CE		

All specifications are subject to change without notice.

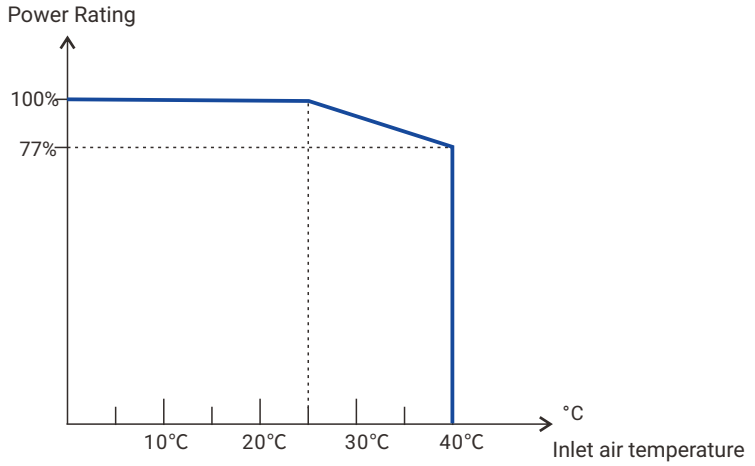
PS：

1. Min. operation voltage is applied for current high range.
2. F.S. in power accuracy formula equals to V range F.S. times Irange F.S.
3. Minimum rise time is valid only for loading current > 5%F.S.
4. The current slope accuracy is determined by the time unit TAB. The accuracy range of TAB is: Tmin (minimum rise time) ≤ TAB and

   TAB ∈ (TSET (theoretical set time) * 0.95-10uS, TSET (theoretical set time) * 1.05 + 10uS)
5. For current slope measurement, it is recommended to use a current probe with a bandwidth ≥ 2 MHz and an oscilloscope with a bandwidth ≥ 100 MHz.
6. To ensure the current slope is normal, the instantaneous voltage at the load end must be greater than the minimum load voltage of the H range.
7. If the operating voltage exceeds the rated voltage for 1.1 times, it will cause permanent damage to the unit.
8. The over temperature protection sampling point is located in the vent.
9. The measured noise is 79dB which is tested under the condition of 40°C ambient temperature with full power for 5 minutes and 1 meter away from the rear panel.
10. The power rating specifications of 1200V models as below.



11. All the specifications are tested at temperature of 25°C, unless otherwise noted.
    See the diagram below for power derating.



12. Each model size indicated here does not include the wheel and the protective cover.

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