

B2000-EC SERIES

CELL CHARGE-DISCHARGE TEST SYSTEM

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1 Summary

The B2000-EC series is a cell charge-discharge test system featuring high efficiency, high performance, and modularized design. It integrates data acquisition and monitoring during charging and discharging process, showing high accuracy and high dynamics while supporting multi-channel parallel connection. The B2000-EC series enjoys widespread applications in the EOL testing and R&D for cells of traction battery and energy storage battery, as well as tests performed by research institutes.



2 Product Highlights

2.1 Space Efficient

The overall dimensions for the 16-channel cabinet are 600*700*1850mm (W*D*H), with the footprint as small as 0.42m².



2.2 Modularized Design

The faulty modules can be replaced independently, no need of returning the equipment to factory. Just remove the faulty modules and the equipment will operate normally, ensuring testing efficiency to the maximum extent.



2.3 Integration of Optional Functions

The series can be integrated with temperature chamber, data acquisition and other functions and synchronize with the testing process to complete the life cycle testing of battery cells.

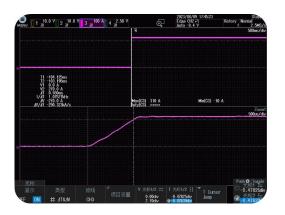


2.4 High Measurement Accuracy

Multiplex staggered BUCK topology plus high precision sampling chip and sampling algorithms, meeting the accuracy requirements of cell testing and reaching the current accuracy of ±0.02% ·F.S.

2.5 Quick Response

The output current reaches the set value quickly without overshoot in the current change curve. Roadmap test with 10ms resolution and roadmap accuracy of±0.02%·F.S., true to real road conditions.





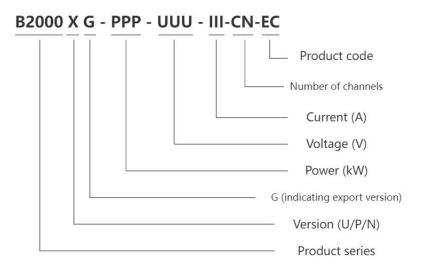
Response time≤1ms (0-90% sudden loading)

Switching time≤2ms (-90%-+90%)



3 Product Specifications

3.1 Model Description



3.2 Product Portfolio

Normal

Model	Single channel rated power [kW]	Voltage range [V]	Single channel rated current [A]	Number of channels	Dimensions (W*D*H) [mm]
B2000NG-9K6-6-100-16-EC	0.6	0-6	100	16	600-700-1850
B2000NG-9K6-6-200-8-EC	1.2	0-6	200	8	600-700-1050
B2000NG-19K2-6-200-16-EC	1.2	0-6	200	16	600-700-1850
B2000NG-14K4-6-300-8-EC	1.8	0-6	300	8	600-700-1050
B2000NG-28K8-6-300-16-EC	1.8	0-6	300	16	600-700-1850
B2000NG-12K-6-500-4-EC	3	0-6	500	4	600-700-1050
B2000NG-24K-6-500-8-EC	3	0-6	500	8	600-700-1850
B2000NG-14K4-6-600-4-EC	3.6	0-6	600	4	600-700-1050
B2000NG-28K8-6-600-8-EC	3.6	0-6	600	8	600-700-1850

Pro

Model	Single channel rated power [kW]	Voltage range [V]	Single channel rated current [A]	Number of channels	Dimensions (W*D*H) [mm]
B2000PG-9K6-6-100-16-EC	0.6	0-6	100	16	600-700-1850
B2000PG-19K2-6-200-16-EC	1.2	0-6	200	16	600-700-1850
B2000PG-14K4-6-300-8-EC	1.8	0-6	300	8	600-700-1050
B2000PG-28K8-6-300-16-EC	1.8	0-6	300	16	600-700-1850
B2000PG-12K-6-500-4-EC	3	0-6	500	4	600-700-1050
B2000PG-24K-6-500-8-EC	3	0-6	500	8	600-700-1850





B2000PG-14K4-6-600-4-EC	3.6	0-6	600	4	600-700-1050
B2000PG-28K8-6-600-8-EC	3.6	0-6	600	8	600-700-1850



4 Technical Parameters

4.1 Technical Specifications

		B2000-EC Series					
	Version	Normal	Pro				
	Voltage accuracy	±0.05%F.S.	±0.02%F.S.				
	Current accuracy	±0.05%F.S.	±0.02%F.S.				
	Power accuracy	±0.1%F.S.	±0.05%F.S.				
	Current response	≤2ms (0% ~ 90%)	≤1ms (0% ~ 90%)				
	Current switching	≤4ms (-90% ~ +90%)	≤2ms (-90% ~ +90%)				
Output	Min. cut-off current	100mA	25mA				
parameters	Min. working condition interval	20ms	10ms				
	Data logging time	10ms	1ms				
	Max. efficiency	80%					
	Display resolution	0.1mV/0.1mA					
	Setting resolution	Setting resolution 1mV/1mA					
	Multi-channel parallel connection	Yes					
	Grid voltage	380V±	15%				
Input parameters	Grid frequency	50Hz±5Hz					
	Noise	< 70dB					
	Ambient temperature	-10 ~	40°C				
General parameters	External communications interface	LAN					
	Other interfaces	Voltage compensation /	temperature sampling				
	Dimensions	See product por	tfolio for details				
	Main power cable	3.5m/cł	nannel				
System	Voltage sensing signals	1/3.5m/c	hannel				
configuration	Temperature sampling signals	NTC, 2/5m	n/channel				
	Network cable	5n	n				

4.2 Optional Configuration

	Optional Functions
Computer & Accessories	Processor: CORE i5, 16G memory, 128G SSD+1T HDD+win10+23.8" display (with mouse & keyboard))
Controllable I/O ports	On-demand
Temperature data acquisition instrument	On-demand
Alarm light	Optional three-color alarm tower light on the top



Current ranges	Four ranges within 300A: 50A, 100A, 200A, and 300A
Battery fixture	Customizable sizes



5 Product Features

5.1 Multi-channel Data Display

Support up to 32 channels to be displayed, and the layout can be switched between different modes.

admin		道行	NG	Finish											祝聞	8X ~	显示设置
3) 超级管理员		● 通道1				● 通道2				 通道3 				● 通道4			
		工步号: 输出电压:	2 / 7 3.303V	充电容量:	0.542AH	工步号: 输出电压:	4 / 7 3.296V	充电容量:	0.082AH	工步号: 输出电压:	0/0 0.000V	充电容量。	0.000AH	工步号: 输出电压:	0 0.000V	充电容量。	0.000AH
项目	^	输出电流: 输出功率:	9.975A 32.947W	放电容量: 充电电量:	0.616AH 1.765WH	输出电流: 输出功率;	-17.817A -58.725W	放电容量: 充电电量:	0.383AH 0.272WH	输出电流: 输出功率:	0.000A 0.000W	放电容量: 充电电量:	0.000AH 0.000WH	输出电流: 输出功率:	0.000A 0.000kW	放电容量: 充电电量:	0.000AH 0.000WH
圆 新建项目		运行模式 工步时间:	充电/恒流 00:00:06 104	放电电量:	1.998WH	运行模式: 工步时间:	放电/恒流 00:01:17 38	放电电量:	1.247WH	运行模式 工步时间:	静置 00:00:00 000	放电电量:	0.000WH	运行模式: 工步时间:	恒流充电 00:00:00	放电电量:	0.000WH
🗎 当前项目		运行时间: 电芯温度:		1 C/14.9°C/15.2°	c	运行时间: 电芯温度:) C/14.9°C/15.2°	9	运行时间: 电芯温度:	00:00:00 000			运行时间: 电芯温度:	00:00:00		
🔓 项目续接		工歩名称 工歩参数 工艺文件:	Test1 I(A)=10	〉中苏test.dat		工歩名称: 工歩参数: 工艺文件:	test2 I(A)=18	∑\#u∜test.dat		工歩名称: 工歩参数: 工艺文件:	1			工步名称 工步参数 工艺文件:	1		
工艺		通道状态	充电	, egote i cului		通道状态:	放电	1000 Conduct		通道状态:	空闲			通道状态	空闲		
CAN	\sim																
教展	\sim	● 通道5				🗢 iiiiii6				● 通道7				išiii 8			
8435		I#C:	0			I#5:	0			I#5:	0			工步号:	0		
设置		输出电压	0.000V 0.000A	充电容量:	0.000AH 0.000AH	输出电压:	0.000V	充电容量:	0.000AH 0.000AH	输出电压:	0.000V	充电容量:	0.000AH 0.000AH	输出电压:	0.000V 0.000A	充电容量:	0.000AH 0.000AH
		输出电流:	0.000kW	放电容量	0.000AH	输出电流: 输出功率;	0.000A 0.000kW	放电容量: 充电电量:	0.000WH	输出电流:	0.000A	放电容量	0.000AH	输出电流:	0.000kW	放电容量	0.000AH
		运行模式	何流充电	液中中量:	0.000WH	运行模式:	但流充电	治中中里:	0.000WH	福田の東	何派充电	按中中星:	0.000WH	运行模式	恒流充电	按中中量:	0.000WH
		工步时间	00:00:00	0.0.0.000		T#Phill:	00:00:00	0.0.0		T#BUR	00:00:00	the of Gallo		T#etilit	00:00:00	100 D 040	
		运行时间;	00:00:00			运行时间;	00:00:00			运行时间	00:00:00			运行时间。	00:00:00		
		电芯温度	1			电芯温度:	/			电芯温度:	/			电芯温度	1		
		工步名称	1			工步名称	1			工步名称	1			工步名称	1		
		工步参数	1			工步参数:	/			工步参数	7			工步参数	1		
		工艺文件:	1			工艺文件:	1			工艺文件:	/			工艺文件:	1		

5.2 Various Charge/Discharge Modes

Support constant voltage, constant current, constant power, constant current to constant voltage, pulse current, ramp current, ramp voltage, ramp power, multiplying, etc.

新增工步			当前工步	⊳: 0/0				×
普通工步	矩阵模式	外设	工况文件		记录设置	清零设置	工步保护	工步变量
故 立 立 立 立 立 立 立 立 立 立 立 立 立 立 立 立	レー レー		(日正) (日正) (日正) (日正) (田) (H) (H) (H) (H) (H) (H) (H) (H) (H		i construction Δ Δ ((ms)) Δ Δ V(V) Δ Δ (Δ) Δ Δ Δ (Δ) Δ Δ Δ (Δ) Δ Δ (V)			
截止条件						说明:横向条件表示	与"逻辑判断,纵向条	件表示"或"逻辑判断
序号	条件1	条件2		¢¢	+3 	条件4		₩ ₩₩₩
							确认	取消

5.3 DC Internal Resistance Test

The series is equipped with standard DC internal resistance test methods for batteries. Users can set



the operating condition points (U/I) and it will obtain the test results automatically.

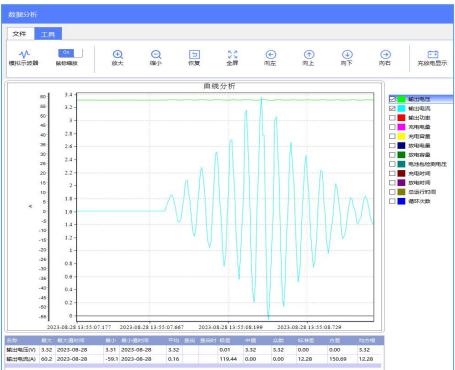
5.4 Simulation of Operating Conditions

Support EV driving cycle simulation tests in line with industry standards: NEDC, WLTC, WLTP, etc.; support real-time working condition data (time-current, time-power) in excel, csv and other formats.

工况文件						
工况导发		序号	工况列表	序号	时间(s)	电流(A)
LUG		1	10ms时间电流 (70A) _20230729141623.data	1	0.02	0
导入文件	30731094529-通道1-运行日志() 🦳	2	20ms相同40A_20230731095345.data	2	0.04	10
		3	20ms相同_20230731094410.data	3	0.06	-10
工况类型	时间(s)-电流(A) ~	4	50ms时间电流_20230729140539.data	4	0.08	20
				5	0.1	-20
时间列	1 ~			6	0.12	30
				7	0.14	-30
数值列	2 ~			8	0.16	40
				9	0.18	-40
工况名称	20ms相同-20230731094529-通道1-			10	0.2	50
				11	0.22	-50
	确认			12	0.24	40
				13	0.26	-40
				14	0.28	30
				15	0.3	-30
				16	0.32	20
				17	0.34	-20
		50 40 30 20 10 -10 -20 -30		\/~-/\		M

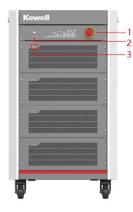
5.5 Data Analysis

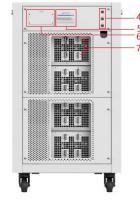
Display online data in real time, support analysis of historical data, select channels to view the corresponding waveform data.

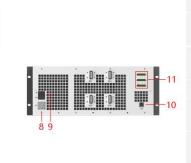




6 Appearance







Front view (Pro/Normal)

Rear view (Pro/Normal)

Rear view	(module)
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No.	Name
1	Emergency stop button
2	Power indicator light
3	Channel indicator lights
4	LAN communication interface
5	Manual switch of circuit breaker
6	AC master input
7	DC side output terminal block
8	AC input interface on module
9	Module power switch
10	Module communication interface
11	Temperature sampling, CAN and RS485 interfaces