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TECHNICAL PRODUCT INFORMATION

Test & measurement instruments
high - quality
moderate prices
excellent precision

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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.

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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	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 port	folio for details			
Main power cable 3.5m/channel		annel				
System	Voltage sensing signals	1/3.5m/c	hannel			
configuration	Temperature sampling signals	NTC, 2/5m	/channel			
	Network cable	5m				

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.

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让测试精准便捷	重运行 📕 NG 📕 Finish		祝聞 8X 🗸 显示设置
名 admin 超级管理员	● 通道1	● 通道3	● 通道4
	工学号: 2/7 始め地区: 3303V 対策部盤: 0.542AH 始地形成: 3375A 対策部盤: 0.546AH 始近形成: 3254/TV 万地电缆: 1755WH 正行戦化: 中和小振振: 和中振動: 1599WH 正時時間: 0050545 004 総合戦化: 1511C/1507C/457C/152C 正参徴性: 1541 工学参戦: 1541 工学参戦: 1541 正定文学: DL4間町、正空用成年et.dat 調査研究法: 売用	工会・4/7 転出気法・32569 死性電量・0.082AH 輸出規定・325789 死性電量・0.082AH 転出気法・557259 死性電量・0.283AH 転出気法・557259 死性電量・0.283AH 転出気法・557259 死性電量・0.2720H 低出気法・557259 死性電量・0.0000H 工具が同じ、0.0500000 低気振・1 工具が同じ、1 工具の同じ、1 工具の一具の一具の一具の一具の一具の一具の一見の一見の一見の一見の一見の一見の一見の一見の一見の一見の一見の一見の一見の	工 歩은 0 輸出地理: 0000V 決电音楽 0.0000H 輸出地理: 0000A 約电音樂 0.000H 輸出理: 0000A 約电音樂 0.000H 減低時間: 和高大 28电量 0.000H 正時間: 000000 副行時間: 000000 正子記載: / 正を記載: /
🗄 CAN 🗸 🗸	● 通道5	● 通道7	● 通道8
	工学学: 0 私世紀王 0.000V 売和田屋 0.000AH 林田田田 0.000A 加州田里 0.000AH 松田田田 0.000A 加州田里 0.000AH 田子明虹 0.000AH 田子明 1.000AH 田子明 1.000AH 1.00	1.9~만: 0 1.9~만: 0 MH田長型: 0.000/ 売車田豊重: 0.000/H 報告報告章: 0.000/H MH田長型: 0.000/H 新田長型: 0.000/H 新田長型: 0.000/H MH田長型: 0.000/H 新田長型: 0.000/H 新田長型: 0.000/H MHTRUE: 0.000/H 新田長型: 0.000/H 新田長型: 0.000/H MHTRUE: 0.000/H 新田長型: 0.000/H 新田長型: 0.000/H MHTRUE: 0.000/H 新田長型: 0.000/H 新田長型: 0.000/H TAPHR: 0.0000/H ゴム目和目: 1.9.412 0.000/H 0.000/H WHTRUE: 0.000/H ゴム目和目: 1.9.412 0.000/H 0.000/H WHTRUE: 0.0000/H ゴム目和目: 1.9.412 0.000/H 1.9.412 0.000/H WHTRUE: 1.9.412 1.9.412 1.9.412 1.9.412 1.9.412 1.9.412 Jarket: / 1.9.412 1.9.412 1.2.2.11 1.2.2.11 1.2.2.11 1.2.2.11 1.2.	王が完 0 執田氏臣 0,0007 売和日金 0,000AH 執田氏臣 0,000A 約年日登 0,000AH 執田氏臣 0,000A 約年日登 0,000AH 執田氏市 0,000AW 完和生意 0,000MH 近年時間 00,000A 年代日田 0,000A 年代日田 0,000A 年代日田 7,00A 年代日田 7,00A 日本時代 / 王が希知 / 王が希知 / 王が希知 / 王が希知 / 王が新聞 /

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.

新増工步	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
运行方式 天电 ↓ ●数 电流(A) 充电 □ 电流量令限制(A) 充电 □ 功率指令限制(W) 充电 ※は、電磁性の可能をおり、200 年20年まり、2010年20日ま100年110月1111111111111111111111111111111	工作模式 (加速) 何近、 何近、 何近、 何近、 何近、 何近、 何近、 何度、 御政、 の、 の、 の、 の、 の、 の、 の、 の、 の、 の	 μετά μετά μετά μετά μετά μετά μετά μετά			
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	条件3	条件4		执行动作
				- 10.7	10 100144

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						
THE		序号	工况列表	序号	时间(s)	电流(A)
I TWAY		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
丁况类型	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 -40 -50		0.8	0.9 1	1.1

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)

Poor view	(modulo)
Rear view	(module)

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