Kewell

B2000-EC SERIES

CELL CHARGE-DISCHARGE TEST SYSTEM

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Kewell

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.
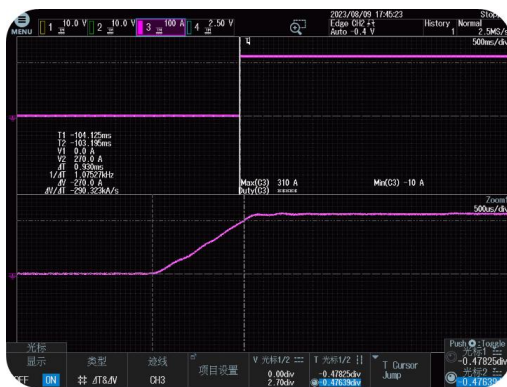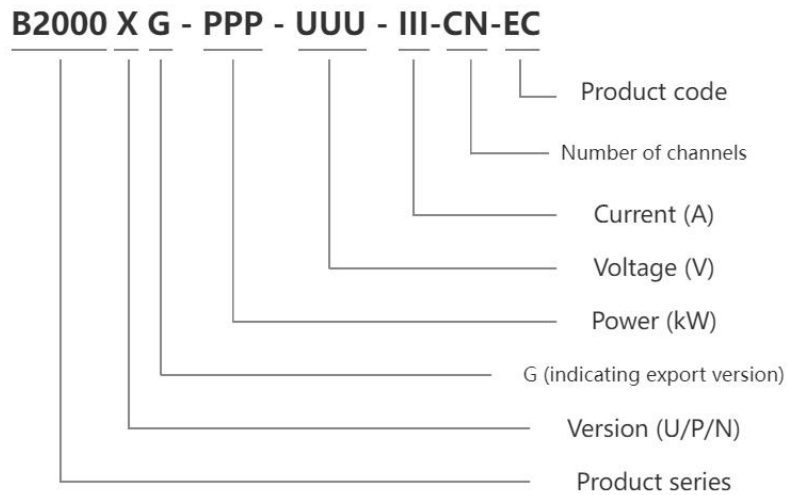

Response time≤1ms (0-90% sudden loading)   Switching time≤2ms (-90%-+90%)

3 Product Specifications

3.1 Model Description

B2000 X G - PPP - UUU - III-CN-EC

- Product code
- Number of channels
- Current (A)
- Voltage (V)
- Power (kW)
- G (indicating export version)
- Version (U/P/N)
- Product series

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**
Output parameters — 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%)
Min. cut-off current	100mA	25mA
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	
Input parameters — Grid voltage	380V±15%	
Grid frequency	50Hz±5Hz	
General parameters — Noise	< 70dB	
Ambient temperature	-10 ~ 40℃	
External communications interface	LAN	
Other interfaces	Voltage compensation / temperature sampling	
Dimensions	See product portfolio for details	
System configuration — Main power cable	3.5m/channel	
Voltage sensing signals	1/3.5m/channel	
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.
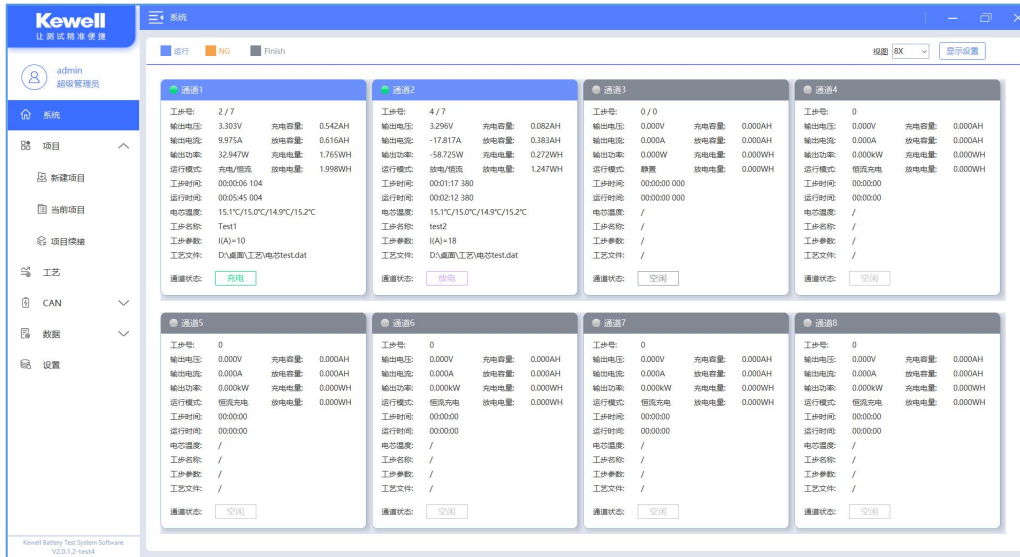
5.2 Various Charge/Discharge Modes

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


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.
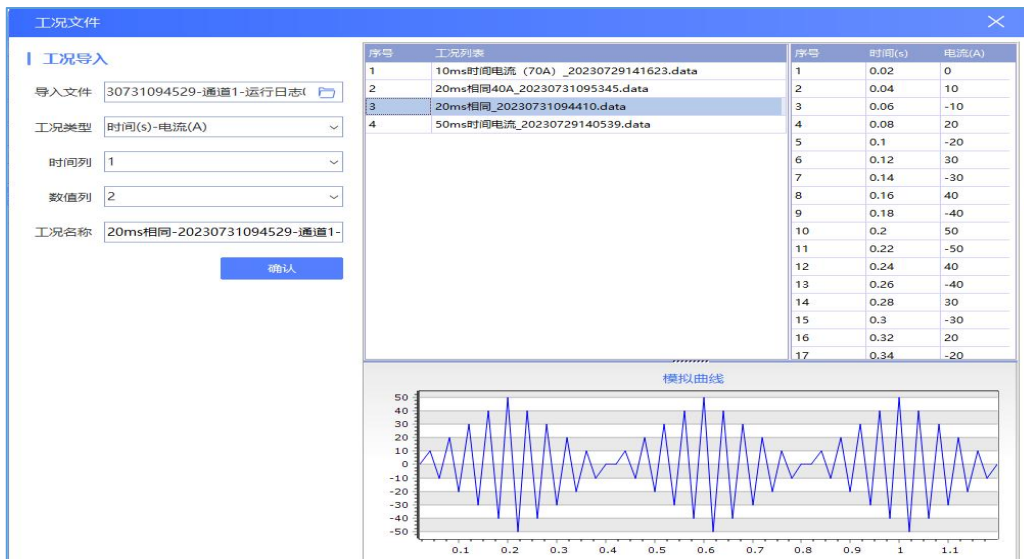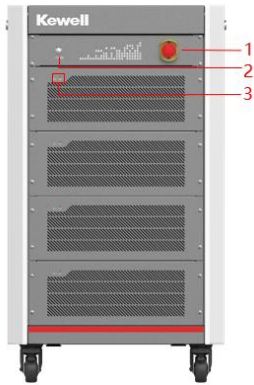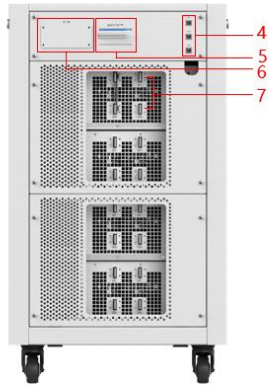

5.5 Data Analysis

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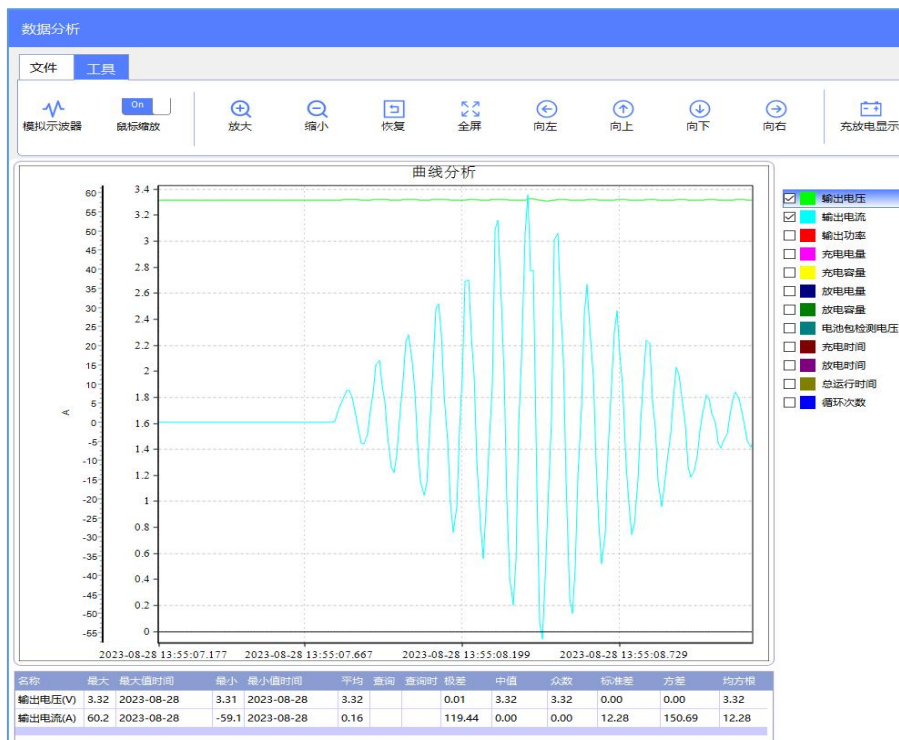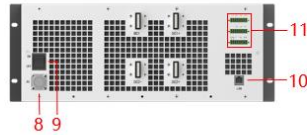
6 Appearance

Front view (Pro/Normal)   Rear view (Pro/Normal)   Rear view (module)

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