

## WBCS3000M Series

### Mid Power Battery Test System



WBCS3000M2



WBCS3000M1

- *For mid power applications*
- *Test of battery cells up to 100Watt or 200Watt depending on systems*
- *4 current ranges*
- *Potentiostat/Galvanostat circuit*
- *High accuracy*
- *Max 128 channels configuration*
- *Plugin channels for easy maintenance*
- *LAN communication*

### Battery Charge/Discharge Test System for mid power application

The battery test system, **WBCS3000M Series**, is designed for energy storage devices such as batteries, fuel cells, and supercapacitors. The **WBCS3000M1** and **WBCS3000M2** are derived from the standard WBCS series battery cyclers for mid power application and maximum power of each channel is 100Watt and 200Watt, respectively.

The system can be configured with custom specification not exceeding its maximum power. For example, **WBCS3000M1** can test the batteries at  $\pm 10A$  up to 5V, while **WBCS3000M2** can test the batteries at  $\pm 20A$  up to 5V. The **WBCS3000M Series** offer high output/measure accuracy with 4 customizable current ranges.

Up to 8 independent channels can be installed per substation and extra channels can be added up to a maximum of 128 channels.

The **WBCS3000M Series** do not only support various techniques for battery studies, but also carries out electrochemical techniques such as corrosion test techniques, electro-analytical techniques, cyclic voltammetry, chronoamperometry, and potentiometry, etc. and this feature allows user to perform general Echem experiments.

The Smart Interface(SI) software is a convenient and powerful tool allowing:

- easily making schedule files by using schedule editor
- selecting pre-defined techniques
- classifying/grouping channels by user's purpose
- monitoring detailed test data
- providing general/cycle graph format
- converting the data to ASCII or excel format

## ● Features

- Suitable for energy storage device and mid power applications
- The system provides a maximum output power of 100Watt for WBCS3000M1 or 200Watt for WBCS3000M2 system.
- Potentiostat/Galvanostat circuit : no time delay between the charge and discharge cycles
- Supports techniques for battery studies such as CC/CV test, CC/CC test, CV test, as well GITT/PITT test for calculation of diffusion coefficient.
- The various safety functions are provided to protect the cell and system from being damaged.
- The obtained data can be analyzed by IVMAN™ software without license code for further analysis.

## ● For Energy Test

- Charge/Discharge(CC/CV) Test
- Constant Current Charge/Discharge(CC/CC) Test
- IV Curve Test
- Electrochemical Voltage Spectroscopy(EVS) Test
- Galvanostatic Intermittent Titration Technique(GITT) Test
- Potentiostatic Intermittent Titration Technique(PITT) Test
- Cyclic Voltammetry
- Potentiostatic Experiment With Half Cell

## ● Options

- Temperature Measurement
- Auxiliary Voltage Measurement
- Battery Jig

## ● Specifications

Control voltage range	±5V(standard)*
Control current range	4 ranges
LED	Run: 1ea, Mode: 2ea
Input impedance	10 <sup>12</sup> Ohm
Cell connection	4 probe type, alligator clip cables
Channel expansion up to	128
Rise time	<50usec
Voltage accuracy	±0.02% f.s.
Current accuracy	±0.05% f.s.

### Voltage Control/Measurement

Full scale ranges	±5V(standard)*
Resolution(16 bits)	0.15mV(standard)*

### Current Control/Measurement

Full scale ranges	Depending on system specification Max. 100Watt for WBCS3000M1 Max. 200Watt for WBCS3000M2
Resolution	16 bit(0.0015% f.s)
Communication	TCP/IP
Sampling time	Without option - 8~40 channels system: 10msec - 41~80 channels system: 20msec - 81~128 channels system: 50msec With Option - 8~16 channels system: 10msec - 17~40 channels system: 20msec - 41~80 channels system: 50msec - 81~128 channels system: 50msec (2 SIF boards)

All specifications are subject to change without notice.



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