

# WBCS3000D series

## Mid Power Battery Test System dual channel module



- **For Mid power applications**
- **Test of battery cells up to 400Watt**
- **4 current ranges**
- **Potentiostat/Galvanostat circuit**
- **High accuracy**
- **Max 128 channels configuration**
- **Dual Channel module type for easy maintenance**
- **LAN communication**

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

The Mid power channel, **WBCS3000D series**, for battery test system are designed for energy storage devices such as batteries, fuel cells, and supercapacitors. The **WBCS3000D series** are derived from the standard WBCS series battery cyler system and it provides continuous operation in Mid power applications where precise control of current and voltage is required.

The **WBCS3000D series** can be configured with custom specification not exceeding its maximum power (400Watt). Please refer to the power configuration map.

*Typical models for WBCS3000D are*

- $\pm 5V @ 26Amp$  **WBCS3000D\_526B**
- $-1V to 10V @ 23Amp$  **WBCS3000D\_1023U**
- $-1V to 21V @ 14Amp$  **WBCS3000D\_2114U**
- $-1V to 43V @ 7Amp$  **WBCS3000D\_437U**

This module contains dual channels and this module has its own power supply.

Optional accessories for this system is auxiliary voltage measurement and temperature measurement

Extra channels can be added up to a maximum of 128 channels. Including watchdog functions, the **WBCS3000D series** has multiple safety features to protect the system under test and operator.

The **WBCS3000D series Mid power channel** requires independent 8channel controller. This does 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.

Independent 8channel controller uses Smart Interface(SI) software which 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 high power applications.
- 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
- The various safety functions are provided to protect the cell and system from being damaged.
- Emergency button per channel.
- 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

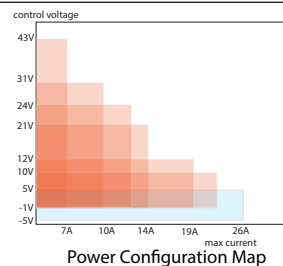
## ● Options

- Temperature Measurement
- Auxiliary Voltage Measurement

## ● Specifications

|                                    |                                     |
|------------------------------------|-------------------------------------|
| Control voltage range              | Refer to Power configuration map    |
| Control current range              | 4 range                             |
| LED                                | Run: 1ea, Mode: 2ea, Irange: 4ea    |
| Input impedance                    | 10 <sup>12</sup> Ohm for V<10V      |
| Cell connection                    | 4 probe type, alligator clip cables |
| Channel expansion up to            | 128                                 |
| Voltage accuracy                   | ±0.05% f.s.                         |
| Current accuracy                   | ±0.05% f.s.                         |
| <b>Voltage Control/Measurement</b> |                                     |
| Full scale ranges                  | Refer to power configuration map    |
| Resolution(16 bits)                | 0.0015% f.s                         |

## Current Control/Measurement



Maximum current depending on voltage range

- 1) Max 26A @ ± 5V
- 2) Max 23A @ -1V~+10V
- 3) Max 19A @ -1V~+12V
- 4) Max 14A @ -1V~+21V
- 5) Max 13A @ -1V~+24V
- 6) Max 10A @ -1V~+31V
- 7) Max 7A @ -1V~+43V

|               |   |
|---------------|---|
| Resolution    | 16 bit(0.0015% f.s)   |
| Communication | TCP/IP  |
| Sampling time | Without option<br>- 8~40 channels system: 10msec<br>- 41~80 channels system: 20msec<br>- 81~128 channels system: 50msec<br>With Option<br>- 8~16 channels system: 10msec<br>- 17~40 channels system: 20msec<br>- 41~80 channels system: 50msec<br>- 81~128 channels system: 50msec (2 SIF boards) |

All specifications are subject to change without notice.



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