

# WBCS3000HP

## High Power Battery Test System



- *For high power applications*
- *Test of battery cells up to 4kWatt*
- *1 or 3 current ranges*
- *Potentiostat/Galvanostat circuit*
- *High accuracy*
- *Max 128 channels configuration*
- *Channel module type for easy maintenance*
- *LAN communication*

### Battery Charge/Discharge Test System

for high power application

The battery test system, **WBCS3000HP**, is designed for energy storage devices such as batteries, fuel cells, and supercapacitors. The **WBCS3000HP** is derived from the standard WBCS series battery cycler system and it provides continuous operation in high power applications where precise control of current and voltage is required.

The **WBCS3000HP** can be configured with custom specification not exceeding its maximum power (4kWatt), maximum voltage limitation (<80V : max voltage difference between the highest voltage and the lowest voltage) and max current limitation under 400Amp.

This offers high output/measure accuracy with 1 or 3 customizable current ranges depending on system power.

Each channel has its own power supply and emergency button to cell off for emergency.

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 **WBCS3000HP** has multiple safety features to protect the system under test and operator.

The **WBCS3000HP** 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.

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 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.
- Industrial rack mount system.
- 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	User specification*
Control current range	1 or 3 range depending on power
LED	Run: 1ea, Mode: 2ea
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	±0.1% f.s.
Current accuracy	±0.1% f.s.

### Voltage Control/Measurement

Full scale ranges	User specification*
Resolution(16 bits)	0.0015% f.s

### Current Control/Measurement

Full scale ranges	Depending on system specification Max. 400A
Resolution	16 bit(0.0015% f.s)
Communication	TCP/IP
Sampling time	- 8~16 channel system : 20msec - 17~32 channel system : 25msec - 33~128 channel system : 50msec

\* : User can specify the voltage range within <80V for difference between high and low voltage.

All specifications are subject to change without notice.



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