

WBCS3000Le

Low Current Battery Test System



- *For low power applications*
- *Perfect for coin cell test at various C-rates*
- *$\pm 100\text{mA}$ current over 4 current ranges*
- *Applied voltage range of $\pm 5\text{V}$*
- *Potentiostat/Galvanostat circuit*
- *High accuracy*
- *Max 128 channels configuration*
- *Plugin channels for easy maintenance*
- *LAN communication*

Battery Charge/Discharge Test System for low current application

The battery test system, **WBCS3000Le**, is designed for low current applications and allows users to make the right choice for their battery studies.

Coin cells are often used to test the capacities and rate capabilities of new materials in the initial stage and the **WBCS3000Le** can be a perfect choice for coin cell testing at high C-rates and half cell testing. Not only does the **WBCS3000Le** 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 **WBCS3000Le** has four current control ranges of $100\mu\text{A}$ to 100mA and voltage range of -5V to $+5\text{V}$ and these specification are fixed. The accuracy for current and voltage on these channels is $\pm 0.02\%$ FSR. The sampling time is 20msec.

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

The compact size **WBCS3000Le** can communicate with the computer by the way of a Local Area Network(LAN).

● Features

- 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, C-rate/CV test, CV test, as well GITT/PITT test for calculation of diffusion coefficient.
- Tests the coin cell to charge-discharge cycles at the required C-rate.
- High sampling rate for calculating dynamic charge/discharge capacity ratings.
- 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

- Battery Jig
- Test Cell
- Dilatometer

● Specifications

Control voltage range	±5V
Control current range	100mA, 10mA, 1mA, 100uA(4 ranges)
LED	Run: 1ea
Input impedance	10 ¹² Ohm
Cell connection	4 probe type, alligator clip cables
Max channels	128
Rise time	<50usec
Voltage accuracy	±0.02% f.s.
Current accuracy	±0.02% f.s.
Voltage Control/M Measurement	
Full scale ranges	±5V
Resolution(16 bits)	0.15mV
Current Control/M Measurement	
Full scale ranges	Max. 100mA@5V
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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