

5V 10Ma Coin Cell Battery Tester 8 Channel Battery Testing Equipment

Item Number: DC01



Introduction

5V 10mA coin cell battery tester with 8-channel for electrode research battery performance testing formation grading pulse studies DCIR analysis and reliable small-scale battery evaluation across multiple chemistries with programmable charge discharge control and precise independent channel regulation

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Application	Description	Key Benefit
Electrode Material Research	Evaluate new cathode, anode, conductive additive, binder, and coating formulations in laboratory coin cells using programmable charge and discharge profiles.	Produces controlled electrical data for comparing material formulations and development batches.
Lithium Ion Coin Cell Testing	Characterize small lithium-ion cells through formation, cycling, capacity measurement, rate evaluation, and voltage-based cutoff control.	Provides repeatable multi-channel testing for early-stage cell chemistry development.
Nickel Metal Hydride Cell Evaluation	Test Ni-MH coin cells with constant-current, constant-power, or customized cycling procedures.	Supports chemistry-specific performance screening with flexible operating modes.
Zinc Manganese Watch Battery Testing	Evaluate zinc-manganese watch batteries and other small primary cells under controlled low-current conditions.	The low-current ranges help improve control when testing miniature batteries.
Small Scale Battery Formation	Apply programmable constant-current, constant-voltage, or constant-current constant-voltage formation sequences to newly assembled cells.	Enables consistent formation procedures across multiple samples at the same time.
Capacity Grading and Batch Comparison	Run repeated charge and discharge cycles with capacity, energy, voltage, and current cutoff conditions for cell sorting.	Helps identify variation between cells and supports research-scale quality screening.
Battery Pack and Cell Group Testing	Perform coordinated laboratory tests on individual cells or small battery groups using defined cycling and protection parameters.	Provides structured comparative data before larger-scale pack development.
Pulse and DCIR Characterization	Apply customized current or power pulses and calculate DCIR from user-defined measurement points.	Reveals transient response and resistance behavior relevant to power capability analysis.

Category	Parameter	Specification
Identification	Model	DC01
Channels	Total equipment channels	8
Input	Input power supply	AC 220V $\pm$ 10% / 50Hz
Input	Input active power	25W
Resolution	AD resolution	16bit
Resolution	DA resolution	16bit
Measurement	Input impedance	$\geq$ 1G Ω
Voltage	Constant-voltage control range	25mV~5V
Voltage	Minimum discharge voltage	-5V
Voltage	Accuracy	$\pm$ 0.05% of FS

Category	Parameter	Specification
Voltage	Stability	$\pm 0.05\%$ of FS
Current	Output range per channel Range 1	5 μ A~1mA
Current	Output range per channel Range 2	1mA~5mA
Current	Output range per channel Range 3	5mA~10mA
Current	Accuracy	$\pm 0.05\%$ of FS
Current	Constant-voltage cutoff current Range 1	2 μ A
Current	Constant-voltage cutoff current Range 2	0.01mA
Current	Constant-voltage cutoff current Range 3	0.02mA
Current	Stability	$\pm 0.05\%$ of FS
Power	Maximum output power per channel	0.05W
Power	Stability	$\pm 0.1\%$ of FS
Response	Current response time	<500 μ s (10%FS~90%FS)
Time	Step time range	$\leq (365 \times 24)$ hours/step
Time	Supported time format	00:00:00:00 (h, min, s, ms)
Data Recording	Minimum time interval	100ms
Data Recording	Minimum voltage interval	10mV
Data Recording	Minimum current interval Range 1	2 μ A
Data Recording	Minimum current interval Range 2	0.01mA
Data Recording	Minimum current interval Range 3	0.02mA
Data Recording	Recording frequency	10Hz
Charging	Charging modes	Constant-current charging, constant-voltage charging, constant-current constant-voltage charging, constant-power charging
Charging	Cutoff conditions	Voltage, current, relative time, capacity, energy, $-\Delta V$
Discharging	Discharging modes	Constant-current discharging, constant-power discharging, constant-resistance discharging, constant-voltage discharging, constant-current constant-voltage discharging
Discharging	Cutoff conditions	Voltage, current, relative time, capacity, energy
Pulse Mode	Charging modes	Constant-current mode, constant-power mode
Pulse Mode	Discharging modes	Constant-current mode, constant-power mode
Pulse Mode	Minimum pulse width	500ms
Pulse Mode	Maximum pulses per pulse step	32 different pulses
Pulse Mode	Continuous charge discharge switching	One pulse step can switch continuously from charging to discharging
Pulse Mode	Cutoff conditions	Voltage, relative time
DCIR	DCIR testing	Supports customized sampling points for DCIR calculation
Cycling	Cycle test range	1~65535 cycles
Cycling	Steps per single cycle	254
Cycling	Nested loop function	Maximum 3 levels of nested loops
Protection	Power-failure data protection	Supported

Category	Parameter	Specification
Protection	Offline testing	Supported
Protection	User-defined safety conditions	Voltage upper limit, voltage lower limit, current upper limit, current lower limit, capacity upper limit, delay time
Enclosure	IP protection rating	IP20
Channel Design	Current and voltage source architecture	Dual-loop structure
Channel Control	Channel control mode	Independent control
Measurement Connection	Voltage and current detection sampling	Four-wire connection
Noise	Operating noise	<45dB
Database	Test data management	Centralized management using MySQL database
Host Communication	Communication protocol	TCP/IP based
Server Operating System	Supported operating system	Windows 7
Data Export	Output formats	EXCEL2003,2010, TXT
Storage	Server disk configuration	500GB
Communication Interface	Interface	Network port
Leakage	Leakage current	0.005μA
Operating Environment	Working temperature range	0°C~40°C
Operating Environment	Measurement accuracy condition	Within 25±10°C, accuracy drift 0.005% of FS /°C
Storage Environment	Storage temperature range	-10°C~50°C
Operating Environment	Working relative humidity	≤70% RH (without water vapor condensation)
Storage Environment	Storage relative humidity	≤80% RH (without water vapor condensation)
Fixture	Fixture type	Upper and lower fixtures
Accessories	Available accessories	Tester fixture, alligator fixture, polymer fixture, cable lug
Dimensions	Each unit chassis dimensions W×D×H	1U (19"), 48331048 mm