

5V12A Battery Tester 64 Channel Battery Test System

Item Number: DC05



Introduction

5V12A battery tester with 64 independent channels, 12A output, 60W per channel, precision voltage and current control, flexible cycling, safety protection, database management and export for battery research laboratories and pilot production workflows with reliable repeatability across demanding test programs.

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Application	Description	Key Benefit
Lithium Ion Cell Research	Run controlled formation, capacity, rate capability, and cycle-life protocols on laboratory-scale lithium-ion cells across 64 independent channels.	High parallel capacity improves sample throughput and supports statistically meaningful comparisons.
Polymer Battery Development	Apply constant-current constant-voltage charging, voltage limits, current limits, and optional temperature monitoring to polymer battery prototypes.	Flexible modes and configurable protection support controlled development of sensitive cell designs.
Battery Material Evaluation	Evaluate electrodes and experimental materials through repeatable charge-discharge, constant-power, constant-resistance, and cycling procedures.	Consistent electrical control helps isolate material performance differences from test variation.
Quality Control and Incoming Inspection	Compare production cells, incoming materials, or assembled batteries against defined voltage, current, capacity, and time criteria.	Independent channels enable parallel verification with centralized records and exportable results.
Academic and Advanced Materials Research	Build multistep test programs for university and research institute projects involving new chemistries, formats, and electrochemical behavior.	Nested cycles and up to 254 steps per cycle accommodate complex experimental protocols.
Long Duration Reliability Testing	Operate extended test sequences with step durations of up to 365 days while recording data at defined time, voltage, and current intervals.	Long-term automation supports repeatable endurance studies with reduced operator intervention.

Parameter	Specification
Site-facing identifier	DC05
Input power supply	AC 380V $\pm 10\%$ / 50Hz
Input active power	5486W
Resolution	AD: 16bit; DA: 16bit
Input impedance	$\geq 100k\Omega$
Constant-voltage control range	0.025V~5V
Minimum discharge voltage	0V
Voltage accuracy	$\pm 0.05\%$ of FS
Voltage stability	$\pm 0.05\%$ of FS
Per-channel output current range	0.06A~12A
Current accuracy	$\pm 0.05\%$ of FS
Constant-voltage cutoff current	0.024A
Current stability	$\pm 0.05\%$ of FS

Parameter	Specification
Maximum single-channel output power	60W
Power stability	± 0.1% of FS
Current response time	Maximum current rise time 20ms (10% to 90% or 90% to 10%)
Channel source architecture	Constant-current source and constant-voltage source use a dual closed-loop structure
Channel control mode	Independent control
Voltage and current detection sampling	Four-wire connection
Energy-saving efficiency	>65% (compared with conventional equipment)
Noise	<85dB

Category	Parameter	Specification
Time	Step time range	≤(365*24) hours/step; time format supports 00:00:00.000 (h, min, s, ms)
Data recording	Data recording conditions	Minimum time interval: 1s; minimum voltage interval: 10mV; minimum current interval: 24mA
Data recording	Recording frequency	1Hz
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, -ΔV
Discharging	Discharge modes	Constant-current discharge, constant-power discharge, constant-resistance discharge, constant-voltage discharge, constant-current constant-voltage discharge
Discharging	Cutoff conditions	Voltage, current, relative time, capacity
Cycling	Cycle test range	1~65535 times
Cycling	Steps per single cycle	254
Cycling	Nested cycling	Nested cycling supported, maximum 3 levels

Parameter	Specification
Power-loss data protection	Included
Offline testing	Supported
User-defined safety protection	Supported; configurable parameters include upper voltage limit, lower voltage limit, upper current limit, lower current limit, upper capacity limit, and delay time
Anti-reverse-connection protection	Included
Database	MySQL database for centralized test data management
Host-computer communication	Based on TCP/IP protocol
Data output formats	EXCEL 2003, EXCEL 2010, TXT
Server disk configuration	500GB
Server operating system	Windows 7
Communication interface	Ethernet port

Parameter	Specification
Operating temperature range	0°C~40°C; within 25±10°C, measurement accuracy is guaranteed with accuracy drift of 0.005% of FS /°C
Storage temperature range	-10°C~50°C
Operating relative humidity	≤70% RH, without water vapor condensation
Storage relative humidity	≤80% RH, without water vapor condensation

Parameter	Specification
Total equipment channels	64
Fixture type	Alligator fixture
Available fixture options	Alligator fixture, polymer fixture, lug fixture; one fixture selected from these options
Single-unit chassis dimensions WDH	18U (19"), 6006001000mm
Fixture reference	Test instrument fixture images are for reference only; actual product shall prevail
Fixture selection note	Accessory fixture images are for reference only; actual configuration shall prevail

Parameter	Specification
Auxiliary channel types	Temperature, voltage
Temperature range with thermistor	-25°C~120°C
Temperature range with thermocouple	-200°C~260°C
Temperature accuracy	±1°C
Temperature resolution	0.1°C
Auxiliary voltage range	0V~5V
Auxiliary voltage accuracy	± 0.1% of FS
Temperature auxiliary channels per channel	Configurable as required, maximum 248 temperature auxiliary channels
Voltage auxiliary channels per channel	Configurable as required, maximum 248 voltage auxiliary channels
Auxiliary channel protection conditions	Configurable upper temperature limit, lower temperature limit, upper voltage limit, lower voltage limit, and single-cell voltage difference
Compatibility note	Not compatible with battery packs using protection boards with a soft-start function