

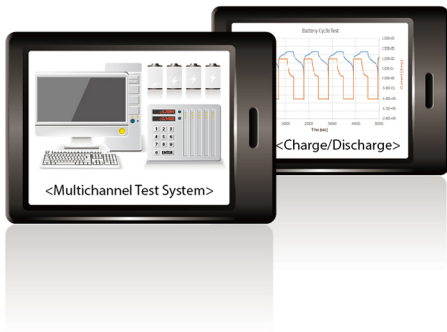


Q3100

Battery Cycle Test System

Test Systems On Demands
www.mcscience.com

High-speed data acquisition capability of Q3100 Battery Cycle Test System provides advanced feature of collecting battery's time-variant internal resistance during conventional charge/discharge and cycle tests. The Suequence Builder is a powerful tool for efficient design and management of test procedures. The Metadata Compiler is a smart tool for automatic extraction of test parameters and big data analysis.

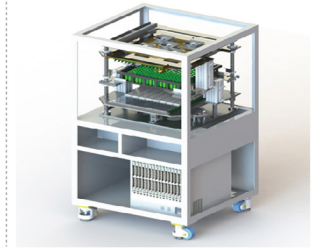
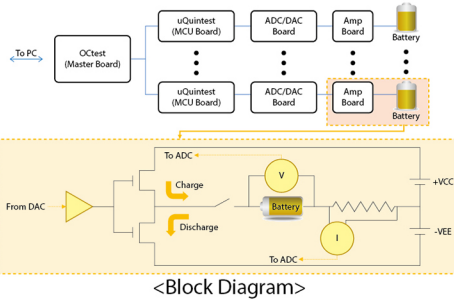
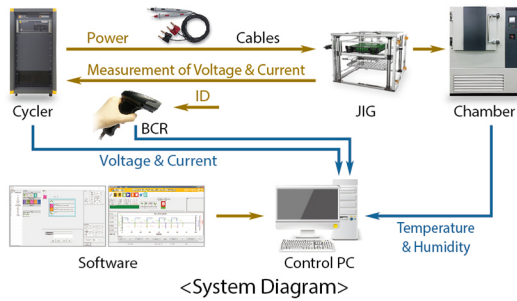


- Charge/Discharge & Cycle Test
- High Precision OCV Measurement
- AC/DC Internal Resistance
- TRA
- Sequence Builder
- Meta Data Compiler
- Big Data Manager

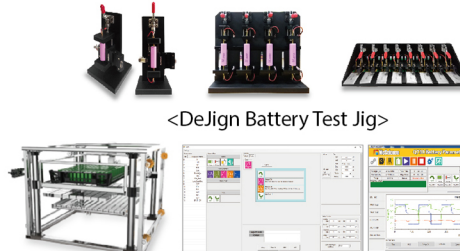


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System Configuration



System Components



System Specification

Hardware

Channel	64Channel		
Configuration	8Ch per 1subrack @ 5A		
Size(mm)	(W)700 x (D)2,000 x (H)1,000		
Weight	< 200kg		
Power	220V/15A/Ø1		
Communication	Ethernet		
Connection	4 wire Kelvin Cable		
Cycle	Control	CC/CV, CC, CP, CR, Pattern	
	Voltage	Setting range (resolution)	-2.0V ~ +5.5V (550µV)
		Reading range (resolution)	±5.5V (550µV) ±500mV + DC canceling (50µV) ±100mV + DC canceling (10µV)
		Reading resolution	550µV, 50µV, 10µV
Accuracy	±0.1% of F.S.		

Cycle	Current	-5A ~ +5A / -500mA ~ +500mA / -50mA ~ +50mA / -5mA ~ +5mA /
	Temperature	Thermocouple K-type (±1℃@-20℃~+85℃, ±2℃@-200℃~+700℃)
	Storage time interval	Minimum 100ms
	Measurement items	OCV, DCR, ACR, TRA
TRA	Rise/Fall time	<200µs @ Li-ion 5Ah load, 0->5A (10 ~ 90%)
	Time resolution	30µs
	Sampling time	100µs ~ 10s
	Voltage accuracy	±0.1%
ACR	Output	Current control
	Frequency	1KHz (Option : 1mHz ~ 1KHz)
Accuracy	±0.5%	

Software

Function	Charge/Discharge Mode Measurement Mode
Operation Mode	(Set Parameter) Charge/Discharge Mode, End Condition, Safety Condition, Save Condition (Measure Parameter) Charge/Discharge Characteristics, OCV, ACR, DCR, TRA
Measurement Mode	(TRA) Time vs. Voltage, Time vs. Current, TRA Resistance (ACR) Real Z at 1kHz, Option (1µHz ~ 10KHz) (DCR) $R_{DC} = (V1 - V2) / (I1 - I2)$, KS C IEC 61960-2 (OCV) Voltage Monitoring
Sequence Line	Max. 200 Line
Data File Format	Excel Compatible CSV Format (2 Type) - Charge/Discharge Data File - Measurement Data File
Charge/Discharge Mode	CC/CV, CC, CP, CR
End Condition	Time, Voltage, Current, Temperature, Capacity , Energy, Power, Delta T, Delta V
Safety Condition	Max./Min. Voltage, Max./Min. Current, Max./Min. Capacity , Max./Min. Temperature
Save Condition	Delta Time, Delta Current, Delta Voltage, Delta Temperature