

In-Situ AC 임피던스 분석기



EIS Measurement During Charge and

Discharge Charging/Discharging

Cycler Function

DC + AC Output Ripple

Function Small Signal

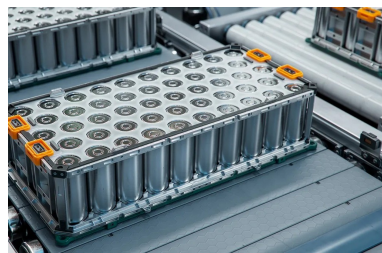
EIS Function

AC Impedance EIS Function

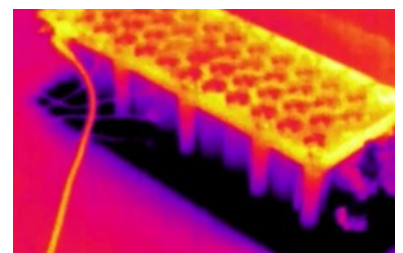
응용분야



배터리 셀 리플 인젝션



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충전용 리플 히팅 기능

주요사양

DC Current Level Gearing	10A, 200A ~ 600A
Ripple Current	0.01Hz - 1kHz @1000App (>1kHz amp. derate)
Super Accuracy	Current $\pm 0.02\%$ Voltage $\pm 0.02\%$
Fast Response	500us (10%~90%) 700us (-90%~90%)
EIS Current	0.01Hz - 2kHz@30App
Impedance function	Static EIS, Balanced EIS, In - situ fixed AC EIS

In-Situ AC Impedance Analyzer

| Specification sheet

Core Electrical Performance	
Parameter	Specification
DC voltage	20 Vdc.
DC current range levels	10 A / 200 A / 600 A
Current response time (10%~90%)	500 μ s
Current switching time (~90%~90%)	700 μ s
Voltage control / measurement accuracy	$\pm$ 0.02% (DC)
Current control / measurement accuracy	$\pm$ 0.02% (DC)
Minimum data acquisition interval	1 ms

In-Situ EIS and Ripple Capability	
Measurement mode	Specification
Supertimposed AC current for EIS	AC impedance analysis during charge / discharge
EIS frequency range	Up to 1000 App
Optional ripple-Heating current	Up to 1000 App
Ripple-heating frequency range	0.01-1 kHz; derating above 1 kHz
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Test control	Software-programmed sequences and online results

Measurement Concept		
Fens coregt	Equilibrium EIS	In-Situ EIS
Battery state	Electrochemical equilibrium	During charge or discharge
Excitation	Small AC signal, typically mA level	AC perturbation under active DC load
Observed variables	Static impedance response	SoC / Temperature / SoH / Current
Purpose	Baseline characterization	Real-time electrochemical dynamics

Analysis Functions and Applications	
Function	Application
Battery material evaluation	Capture statte electrochemical behavior
Power charactefzation (load)	Analyze dynamic battery response
SoC / SoH assesment	State estimation and sying analysis
Internal temperature monitoring	Non-destructive online condition tracking
Thermal runaway detection	Early warning of abnormal retection
Production and EOL screening	Process monitoring and defect identification
Life and fallure analysis	Cycle-life estimation, lithlum-plating and pre-failure warning