NEBULA

Regenerative Battery Pack Cycle Test System

MODEL NO.
BAT-NEH-5001000-V004

Nebula Electronics Co., Ltd.

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Technical Data

DC Characteristics

Voltage	35~1000V
Current	0.025A~600A/1200A/2400A
Power	500kW/per channel
Channels	2CH/4CH
Current Rise/Fall Time (10%-90%)	≤4ms
Switching Time (-90%-90%)	≤9ms
Regenerative Efficiency	95.5% (SiC based)
Driving Profile Simulation	20ms
Offline Operation	6 hrs
Galvanic Isolation	Yes, per channel
DC Contactors	Optional

Measurement Accuracy and Resolution

Current Ranges	5
Current Range Accuracy	0~150A: 0.03% F.S.
	150~ 300A:±0.03% F.S.
	300~450A:±0.03% F.S.
	450~600A:±0.03% F.S.
	600~1200A:±0.03% F.S.
Voltage Accuracy	10~40℃: ±0.01% F.S.
	0~45℃: ±0.02% F.S.
Current Resolution	0.1mA
Voltage Resolution	0.1mV

AC Characteristic

AC Input Voltage	323VAC~437VAC
AC Input Frequency	50~60Hz

Module Characteristic

Dimensions	W*240cm x L*125cm x H*210cm
Weight	3400kg
Cooling	Air
Operating Temperature	0℃~45℃
Installation Altitude	0~3000m
Relative Humidity	0%~90%
Protection Class	IP32
Communication Interface	CAN\CANFD\RS485

Control and Automation Software

Control and Automation SW	NEPTS: preloaded on industrial PC; life-time upgrade eligibility
HMI Option	Touch Screen, External Control PC or mobile phone
User Management	✔ Multi-user access right
External Device Management	✔ External measurement devices can be added (e.g. climate chamber, chiller, auxiliary V/T acquisition device)
Interface Configuration	Support configuration of Ethernet/CAN/RS485/USB3.0
Operation Modes	Constant Current, Constant Voltage, Constant Power, Constant Ramp, and Pulse Resistance
Test Sequence Editing	✔ User Definable Variable ✔ Formula Device (cyclic calculation) ✔ Condition-based Step (e.g. if/else) ✔ Upper Limit Monitoring based on Max. Current, Voltage, Power, Temperature
Data Plotting and Visualization	✔ Integrated Data Explorer/Viewer in form of both numeric table and graphical illustration (customizable)
Data Export Format	TXT, EXCEL, CSV, MDF3
Data Storage Option	USB Stick
	Local or Network Drive

Control and monitor third-party hardware such as temperature chambers, pumps, flow meters, heaters, valves, etc.

An easy way to add test steps, set control type and value, set termination conditions, and customize simulation profiles

Parallel any number of channels to increase current handling, while automatically compiling data

View, plot, and analyze battery test data in real-time, providing immediate information and insights

Communicate with an internal battery management system (BMS) via CAN bus or SM bus protocol

Review test data and export data into CSV or Excel format through Nebula NEPTS software

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Learn More About Nebula

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