



Battery Formation System 17000 Series

Discharge Energy Recycling Lithium Cell Formation System

Chroma 17000 series is specifically designed for the formation of Lithium Ion and Lithium Polymer secondary batteries. The 17000 series is a complete turn-key system, including carrier trays, robust battery probe contacts, high quality charge/discharge modules and intuitive software all under computer control.

Patented Battery Voltage Tracking (BVT) DC-DC conversion power modules minimize power consumption in battery charging, and Energy Recycle Modules (ERM) recycle the discharged energy directly back to the DC power system for increased power efficiency. These power saving designs provide a planet friendly solution along with cost savings by reduced energy consumption.

The intuitive software provides a flexible selection in charge / discharge channel, current rating, and modules under test. These features allow the Series 17000 to be used for final cell development, pilot line production, high volume production and Ongoing Reliability Monitoring / Quality Control.

Key Features

- Initial Contact and polarity check
- Single Step Charge: Constant current (CC) to set voltage, then Constant Voltage (CV) to set current.
- CC discharge to set voltage, then reset to stand-by mode. (with ERM energy recycling)
- End of charge / discharge selectable as Time, Voltage, Current or Amp-hour.
- Discrete channels yielding individual testing through the complete formation process.
- Data Sampling up to 20x per min.
- Data Logging of: Time, Voltage, Current, Capacity (Ah), and Temperature.
- System Safety / Test Reliability through PLC/IPC monitoring of all sensors (Temperature, smoke, device type and battery tray position)
- Systems are linked as a LAN offering remote monitoring and control.
- Up to 99 test steps per formation process
- Data backup on power failure provides quick operator startup when power is restored.
- Automated handling and sorting available.

MODEL 17000

Advantages:

- ERM (Energy Recycling Module) Recycles discharged energy
- BVT (Battery Voltage Tracking) reduces power consumption while battery charging
- Energy savings monitor: Tracks kW, kWh, reduced CO₂ or planted-tree display
- Linear charge / discharge, for low ripple current
- Plug-in module design simplifies service and maintenance
- Real-time outer-loop resistance check

System Shown - 2400 channels

- 5V/3A (i.e. 18500R - 26800R)
- 100 channels / tray
- 24 trays in 3 bays
- IPC, LCD monitor, HMI and PLC are provided for each tray group.



Modular Design

Plug-in modules maximize uptime while simplifying service and maintenance.
(Hot-Swappable DC Power Supply and the Charge / Discharge Sub-Systems Shown.)



Charge/Discharge Module Specifications

Item		Specifications			
Frame model		17100-5-3	17100-5-5	17100-5-20	17100-5-120
Maximum current		3A	5A	20A	120A
Channels / Tray		100	60	15	2
Channels / System		2400	1440	360	48
Control method		Charge: CC – CV / Discharge: CC			
Output	Voltage (mV)	0 ~ 5000			
	Current	0 ~ 3000 mA	0 ~ 5000 mA	0 ~ 20.00A	0-120.0A
Constant Voltage	Setting Range (mV)	0 ~ 5000			
	Accuracy (mV)	± 2			
	Setting Resolution (mV)	1			
	Reading Range (mV)	-4999.9 to +4999.9			
	Reading Resolution (mV)	0.1			
Constant Current	Upper limit Voltage (mV)	0 ~ 5000			
	Setting Range	0 ~ 3000 mA	0 ~ 5000 mA	0 ~ 20.00A	0-120.0A
	Accuracy (mA)	± 2	± 5	± 20	± 120
	Setting Resolution (mA)	1	2	10	100
	Reading Range (mA)	0 ~ 3100.0	0 ~ 5200.0	0 ~ 21.000	0 ~ 125.00
Data	Reading Resolution (mA)	0.1	0.2	1	10
	Sampling (per hour)	4x to 1200x			

Ordering Information

17000 BATTERY FORMATION SYSTEM

17100-5-3 BATTERY FORMATION TESTER 5V/3A/100 channels

62000B-24-62 DC POWER SUPPLY 24V/62A

Developed and Manufactured by :

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