Natron Energy

DATASHEET

BlueTray™4000

Rack-Mounted Battery Pack

Features

High Power

Up to twice the power of lead acid with full discharge in as fast as 30 seconds.

Long LIfe

Battery life exceeds rack life— >50,000 cycles.

Sustainable

No lead, acid, rare-earth metals, or conflict minerals. No thermal runaway.

Safe, high-power, long-life sodium-ion battery for critical power applications.

- Safe by design—constructed using safe, commodity materials
- Lower CAPEX and improved 5-year TCO compared to traditional batteries
- Significantly improves PUE (Power Usage Effectiveness)—no dedicated cooling required
- 0-99% SOC (State of Charge) in 8 minutes means quick return to service (for peak shaving, software defined power and other high cycle-rate applications)
- Sits at float charge indefinitely with no adverse effects
- 10x faster cycling ensures consistent availability
- Frequent rapid charging does not affect battery performance
- Half the footprint of lead acid batteries
- UL 9540A cell test results show no thermal runaway*

*Full UL report available upon request

UL 9540A Cell Test Results

Test	Method	Thermal Runway
1	Short circut	Not observed
2	Heating	Not observed
3	Nail penetration	Not observed
4	Overcharge	Not observed

For Critical Power Applications

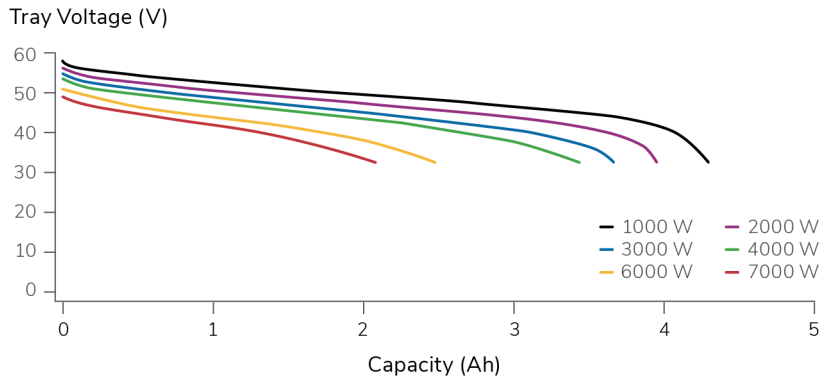
UPS

Data Centers, IT / Network closets, Industrial and other mission critical sites.

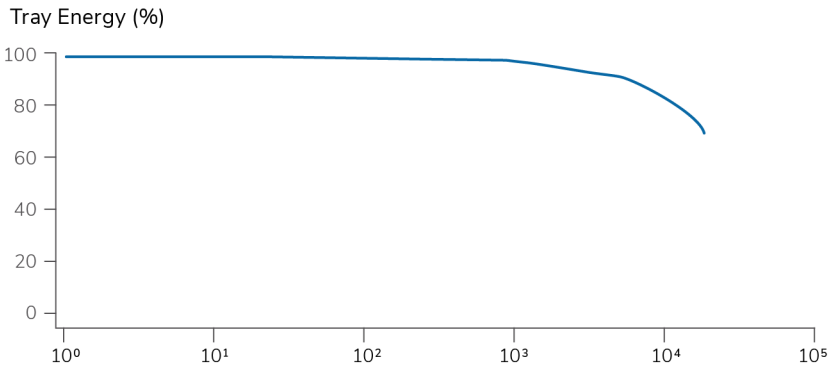
Telecom

Base Stations, 4/5 G, Edge, Fiber, Cable Landing Stations, and backup power for on and off-grid sites.

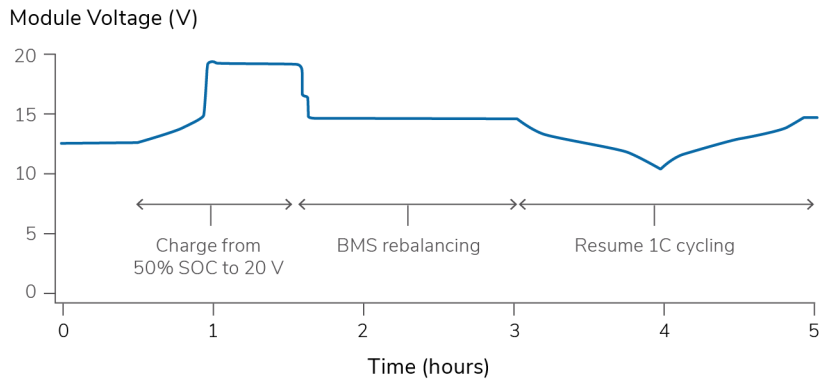
Discharge Preformance



Cycle Life, >90% Energy Utilization



Voltage During Overcharge Test



Additional Information

https://natron.energy/products

Mechanical drawings: https://natron.energy/products/drawings

Specifications

Performance

Run Time, Load	30 sec	5.7 kW
	1 min	5.5 kW
	2 min	4.0 kW
	3 min	3.1 kW
	5 min	2.0 kW
0-99% Recharge Time	8 min	
Energy, 1 hour	0.27kWh	
Capacity, 1 hour	5.6 Ah	
Energy Efficiency (1C-1C)	>90%	
Coulombic Efficiency (1C-1C)	>93%	
Cycle Life (90% Energy Utilization)	>25,000	

Thermal

Operating Temperature Range	-20° to 40° C
Survival Temperature Range (1 hr)	-20° to 50° C

Mechanical

Form Factor	1U Tray
Enclosure Dimensions (H x W x D)	43.7 x 431 x 600 mm
Rail Mount Width	483 mm
Mass	22 kg

Electrical

Nominal Voltage	50.3 V
Recommended Float Voltage	58 to 59.5 V
Operating Voltage Range	32 to 59.5 V
Survival Voltage Range	0 to 80 V
Maximum Discharge Current	142 A
Maximum Charge Current	72 A

Monitoring and Communications

Sate of health monitoring	
Precision cell voltage and temperature monitoring	
Supported communication protocols	Modbus RTU

Safety Certifications*

Completed	UL 1973 cells; Certified UL 9450A for cells: No thermal runaway
	UL 1973 Listed complete battery UL 991 Listed complete battery

*Full UL report available upon request

Updated: 10.09.20