

# Natron Energy - Blue Pack Critical Power Battery - Specifications

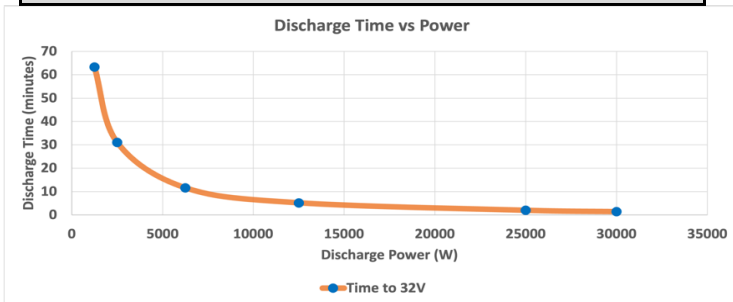
## Version 1.0

### 10-Feb-23

Performance		
Run Time, Load	1 min	35 kW
	2 min	25 kW
	3 min	18 kW
	4 min	14 kW
	5 min	11 kW
0-99% Recharge Time	<15 min	
Energy, 1 hour (1C rate)	1250 Wh	
Energy Efficiency (1C-1C)	>97%	
Coulombic Efficiency (1C-1C)	>99%	
Cycle life (90% energy utilization)	>50,000	
Watts Hours per liter	121 Wh/L	
Peak Power per liter	79 Wh/L	
Self Discharge Rate	.6% SOC/day	
Temperature Rise-1st 25kW discharge	12°C/53.6°F	
Temperature Rise-1st 100A discharge	-4.5°C/-23.9°F	
Watt Hours per Kg	16.6 Wh/kg	
Peak Power per Kg	512 W/kg	

Electrical	
Nominal Voltage	48 Vdc
Recommended Float Voltage	58 to 59 Vdc
Operating Range	32 to 59 Vdc
Survival Voltage Range	0 to 80 Vdc
Maximum Discharge Current	800 Amps
Maximum Charge Current	800 Amps
Maximum Allowable Voltage	58 Vdc
50% SOC Voltage	49 Vdc
Cutoff Voltage	38 Vdc
Nominal Energy, 1 hour	1250 Wh
Nominal Capacity, 1 hour	26.5 Ah
Charge Capabilities (25°C)	
0-99% Recharge Time	<15 minutes
Maximum Charge Voltage	58.5 Vdc
Maximum Inrush Current (1s)	4500 Amps
Series Operation	48Vdc to 480Vdc (10 pack string)
Parallel Operation	Up to 10 mW*

### Discharge Performance Curve



### Monitoring and Communications

Battery Voltage, Charge, Power, Temperature	
Supported Communication Protocols	Modbus TCP/IP

### Mechanical

Exterior Dimensions (H X W X D)	253 x 275 x 960mm 9.9 x 10.8 x 37.8 in
Mass	75kg/165lbs
Connections	Front Terminal Lugs McMaster Carr 6926K217 or equivalent
Orientation	Horizontal or Vertical (lugs facing up)

### Discharge Performance Data

Power (W)	Time to 38v	Time to 32v	Delta T to 38v in C	Delta T to 32v in C
1250	62.6	63.4	1.4	1.5
2500	30.7	31.1	12.6	1.7
6250	11.4	11.7	2.4	2.7
12500	5.0	5.2	5.3	6.0
25000	1.7	2.0	10.8	14.6
30000	1.2	1.5	11.4	15.9

### Thermal

Operating Temperature Range	-20 to +45°C/-4 to +113°F
Survival Temperature Range (1 Hr)	-50 to +50°C/-58 to +122°F
Optimal (Consult Factory for specific rating/duration)	-10 to +35°C/14 to 95°F
Recommended Storage Temperature Range*	10 to 20°C/50 to 68°F
Recommended Transportation Temperature Range	-20 to +45°C/-4 to +113°F
Humidity	10-90% Rh

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