



Lead - Carbon Solar series

Specifications						
Nominal Voltage	12V					
Nominal Operating Range	25°C ± 5°C					
	Length: 483 mm					
Dimensions	Width: 170 mm					
	Total Height : 241 mm					
Weight	47,0 Kg					
Int. Resistance (25 °C)	3,3 mΩ					
Float Service Lifetime	15 years					
Container Material	A.B.S. UL94-HB (UL94-V0 Optional).					

	Characteristics				
Canacity 250C	195,0 AH 100HR (1.85V)				
Capacity 25°C	151,5 AH 10HR (1.80V)				
Charging Voltage (25 °C)	Float use: 13,5 to 13,8 VDC				
	Cycle Use : 14,4 to 15,0 VDC				
Max Charging Current	45A (recomm. 15-22,5A)				
Self-Discharge (25°C)	less than 3% per month				
Max Discharge Current	1800A (5sec)				
	Discharge : -40 to +60°C				
Operating Temperature Range	Charge : -20 to +50°C				
	Storage : -20 to +50°C				

Compliant Standards
IEC 60896-21/22:2004
BS 6290-3/4
IEC 62485-2
IEC 61427
Eurobat Guide 2015 classification : Very Long Life

Applications
On/Off – Grid & Hybrid Energy Storage Systems
Distributed infrastructure / mobile telecoms & utilities
Traffic Lights / Emergency lighting
Power smoothing / load shifting / ramp control
Marine Signaling / Service applications
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Technology

NORTHBATT LC Lead - Carbon series is the latest product in the **NORTHBATT** Solar battery family. This product has been specially designed for Renewable Energy Sources such as solar and wind power storage system, based on international advanced lead-carbon technology. Grid alloy and structure, active material formula, battery case material and electrolyte compositions are optimized by high specific surface area Carbon materials with high electric conductivity and dispersibility to active material, improving utilizing rate, protect negative plate effectively and restrain the growth of lead sulfate crystallization. **NORTHBATT LC** series is mixture of Lead-acid battery and super capacitor, providing not only high energy density, but also high power, rapid charge and discharge as well as longer cycle life.

Features & Benefits

- Adopt lead carbon technology, combine the advantage of lead acid battery and supercapacitor.
- Reduce the cathode sulphation, ideal for PSOC cycle application. More than 3000 cycles at 50% D.o.D.
- Multiple plate grid alloy and special grid structure, extended battery life
- > Improve the conductivity of the plates, reduce battery internal resistance, improve the battery discharge performance.
- > Increase the specific surface area of negative plate, improve the reaction efficiency of the active substance.
- Restrain the grow-up of lead sulfate of lead sulfate, no negative plate sulfation when battery is used.
- Unique plates elongation resistance structure, solve the problem of plates creep elongation.
- 15 years design life.
- > Superior PSOC cycling performance, excellent deep cycling profile, very fast charging time, reduced charging time by 50%.

Constant Current Discharge Table : Amperes (25°C)

	TIME - AMPERE CONSTANT CURRENT DISCHARGE (25 °C)										
	F.V	15min	30min	1h	3h	5h	10h	20h	100h	120h	
	1.65V	283,81	174,73	102,01	42,42	28,48	15,76	8,31			
[A]	1.70V	277,75	171,70	102,01	41,81	28,18	15,66	8,26			
	1.75V	268,66	170,69	100,19	41,41	27,88	15,45	8,23			
	1.80V	250,48	162,61	97,67	41,11	27,17	15,15	8,19	1,96	1,70	
	1.85V	223,21	148,47	90,40	38,68	25,76	14,85	8,05	1,95	1,68	

Constant Power Discharge Table : Watts/cell (25°C)

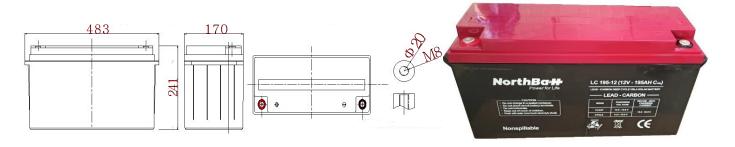
	TIME - WATTS/CELL CONSTANT POWER DISCHARGE (25 °C)									
	F.V	15min	30min	1h	3h	5h	10h	20h	100h	120h
F1 4 43	1.65V	506,01	319,16	192,91	80,50	54,24	30,30	16,46		
[W]	1.70V	499,95	319,16	191,90	80,09	53,83	30,00	16,36		
	1.75V	496,92	317,14	189,88	79,59	53,53	29,69	16,26		
	1.80V	469,65	310,07	188,87	79,29	52,92	29,39	16,26	3,92	3,33
	1.85V	420,16	283,81	175,74	75,45	50,50	28,89	16,06	3,89	3,21





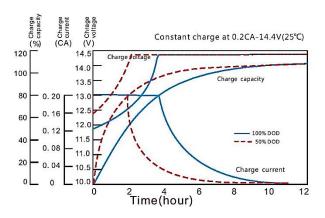
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Dimensions - Terminals

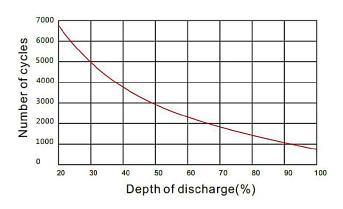


Performance Curves

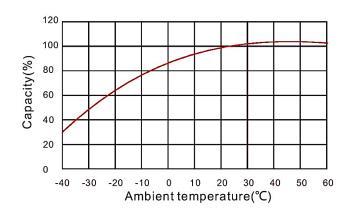
Charge characteristic Curve



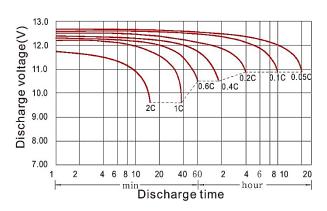
Life characteristics of cyclic use



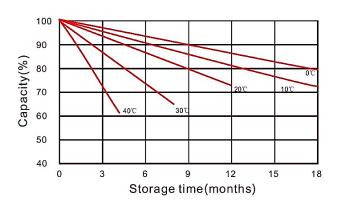
Temperature vs Capacity



Discharge characteristic Curve



Storage characteristic



OCV vs Capacity

