NorthBatt
Power for Life

LC 320-12

Lead - Carbon Solar series

Specifications	
Nominal Voltage	12V
Nominal Operating Range	25°C ± 5°C
Dimensions	**Length** : 520 mm
	Width : 268 mm
	Total Height : 223 mm
Weight	71,0 Kg
Int. Resistance (25 ˚C)	2,7 mΩ
Float Service Lifetime	15 years
Container Material	A.B.S. UL94-HB (UL94-V0 Optional).

Characteristics	
Capacity 25ºC	320,0 AH 100HR (1.85V)
	252,5 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	75A (recomm. 25-50A)
Self-Discharge (25°C)	less than 3% per month
Max Discharge Current	3000A (5sec)
Operating Temperature Range	**Discharge** : -40 to +60°C
	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

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 (25ºC)

[A]	TIME - AMPERE CONSTANT CURRENT DISCHARGE (25 °C)									
	F.V	**15min**	**30min**	**1h**	**3h**	**5h**	**10h**	**20h**	**100h**	**120h**
	1.65V	472,68	291,89	170,69	70,70	47,47	26,26	13,84	.....	.....
	1.70V	462,58	286,84	169,68	69,69	46,97	26,06	13,74	.....	.....
	1.75V	447,43	283,81	166,65	68,98	46,46	25,76	13,72	.....	.....
	1.80V	417,13	271,69	162,61	68,48	45,25	25,25	13,64	3,26	2,83
	1.85V	371,68	247,45	150,49	64,44	43,03	24,75	13,43	3,20	2,78

Constant Power Discharge Table : Watts/cell (25ºC)

[W]	TIME - WATTS/CELL CONSTANT POWER DISCHARGE (25 °C)									
	F.V	**15min**	**30min**	**1h**	**3h**	**5h**	**10h**	**20h**	**100h**	**120h**
	1.65V	843,35	531,26	322,19	134,33	90,50	50,50	27,37	.....	.....
	1.70V	833,25	531,22	319,16	133,32	89,69	50,00	27,27	.....	.....
	1.75V	828,20	529,24	317,14	132,31	89,18	49,49	27,17	.....	.....
	1.80V	783,76	516,11	315,12	132,31	88,17	48,99	27,07	6,44	5,60
	1.85V	699,93	473,69	291,89	125,24	84,23	48,18	26,77	6,32	5,51

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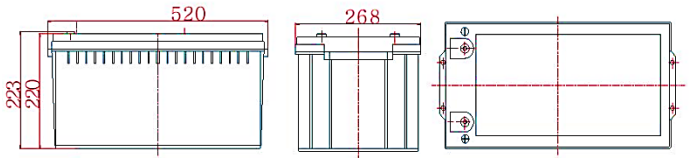
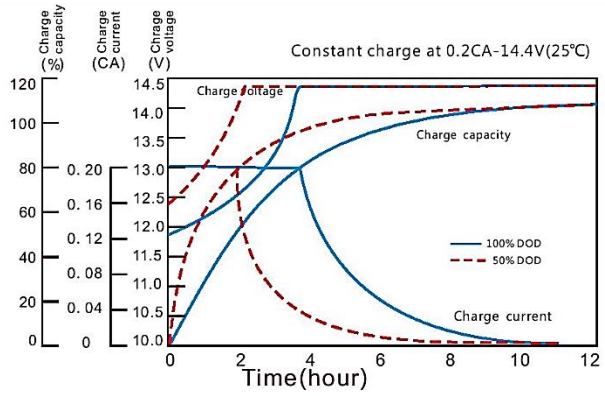
Dimensions - Terminals

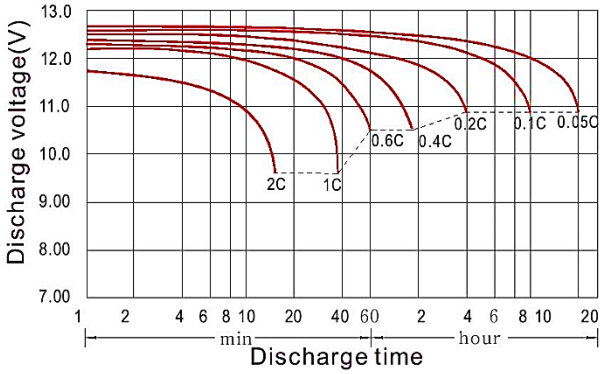


Performance Curves

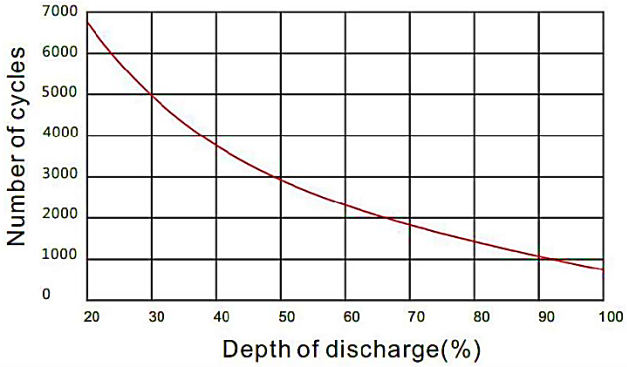
Charge characteristic Curve



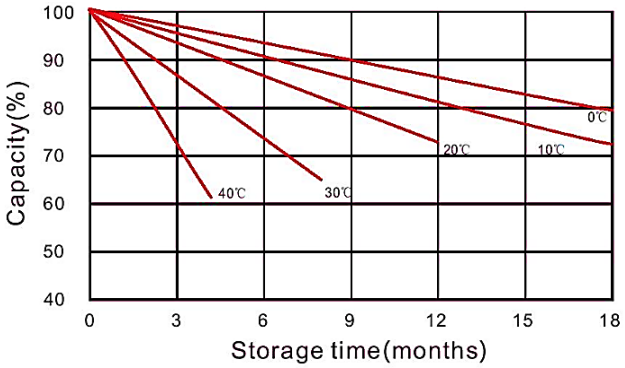
Discharge characteristic Curve



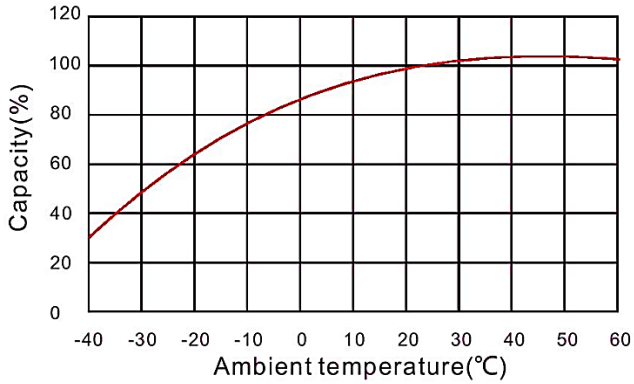
Life characteristics of cyclic use



Storage characteristic



Temperature vs Capacity



OCV vs Capacity