CARBON BATTERY

LC700 | LC1200

THE REVOLUTIONARY ENERGY STORAGE

Unlike lithium batteries standard lead acid batteries have a big discharge capacity (up to C3*). Indeed, a much longer charging time (up to 10 hours, =0,1) must be accepted to prevent sulfatization which would shorten the lifetime of the battery. The new lead carbon technology provides a solution for this problem: Using carbon additives guarantees much less sulfatization of the negative electrode. Thus, the battery can be charged faster than a standard lead acid battery.

Modern lithium battery sytems can also be charged within less than an hour, but the discharge capacity is very low: It must not exceed 50-70% of the battery capacity (= C0,5-07).

The fast charging is a significant progress in lead carbon technology, since the charging current for the daily cycle mode can be adjusted at 20-40% of the battery capacity (= 0,2-0,4C). Therefore, it is possible to recharge a discharged battery within several hours.

Moreover, the lead carbon battery is ideal for partial state of charge (PSOC) applications. Hereby the cycle rate of the battery increases several times in comparison with the standard lead acid battery.

Despite its heavier weight and bigger volume per kilowatt hour the lead carbon battery is more cost effective than the lithium battery.

In terms of security the lead battery is tried and tested for a long time and has no competitors. For transport, storage and usage no special measures are required. Due to its carbon additive,

The lead carbon battery is suitable for a much bigger temperature range than the standard lead acid battery. Unlike lithium batteries it doesn't need a cooling system.

The recycling rate of 97% is one more pro argument for the lead carbon battery, since the recycling of lithium batteries remains an unresolved problem.

** C = battery capacity in Ah*

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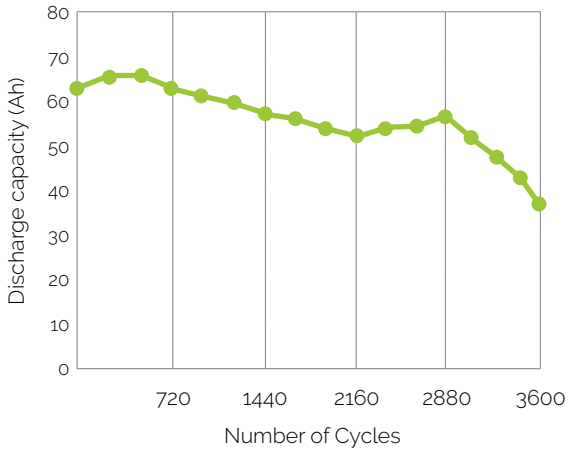
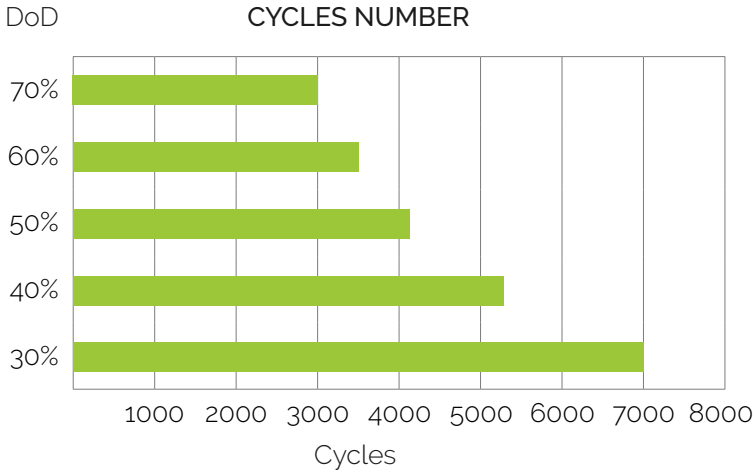
SPECIFICATIONS

Nominal voltage	12V
Max. current	Discharge: $4C_{10}A$
	Charge: $0{,}4C_{10}A$
Nominal capacity @25°C	60Ah (C_{10}) / 100Ah (C_{10})
Nominal capacity	700Wh / 1200Wh
Cycles	More than 3000 cycles at 70% DoD
Technology	Japan Technology
Design life	15 years at 25°C
Standards	IEC60896-21/22:2004, BS6290-4, Eurobat, installation compliant with EN50272-2

CAPACITY TEST CURVE

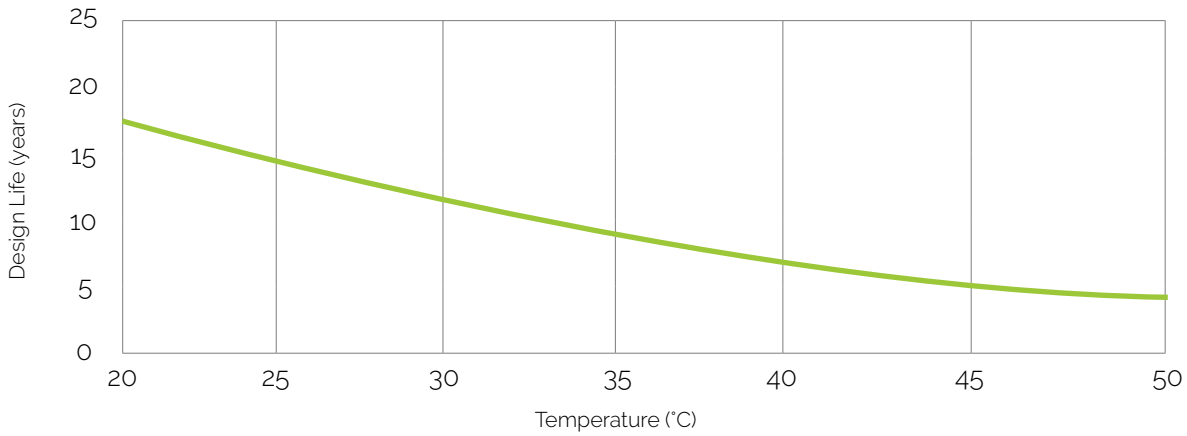


CYCLES NUMBER



TEMPERATURE EFFECT ON BATTERY DESIGN LIFE

Temperature range is -20°C to 55°C



CARBON BATTERY

DIMENSIONS & WEIGHT

LC 700
(LxWxH)
350x165,5x175 mm
25,5 kg

LC 1200
(LxWxH)
350x172x275 mm
45 kg

Battery type	Nominal voltage (A)	Nominal capacity (AH, 25°C)	Dimensions (mm)				Weight (kg)	Short circuit current (A)	Internal resistance (m Ω, 25°C)	Terminal Type	Terminal layout
		C10 1.80V/Cell	Length	Width	Height	Total height					
LC 700	12	50	350	165,5	175	175	25,5	1500	4,7	m6x 12	B
LC 1200	12	100	345	172	275	280	45,0	2000	4,1	m8x 18	B

CONSTANT CURRENT DISCHARGE DATA: 25°C

LC 700

End voltage (V/cell)	1h	2h	3h	5h	8h	10h	20h	50h	100h	120h	240h
1,70	30,3	21,8	15,8	11,2	7,53	5,78	3,14	1,26	0,651	0,561	0,297
1,75	29,7	21,3	15,4	11,0	7,34	5,71	3,09	1,24	0,639	0,555	0,295
1,80	28,9	20,6	14,8	10,6	7,00	5,46	2,96	1,19	0,627	0,545	0,291
1,85	27,9	19,7	14,0	10,0	6,50	5,16	2,80	1,14	0,601	0,528	0,281
1,90	26,0	18,2	12,9	9,11	5,94	4,57	2,55	1,04	0,563	0,491	0,258
1,95	23,5	16,2	11,2	7,72	5,16	3,92	2,04	0,83	0,452	0,402	0,215

LC 1200

End voltage (V/cell)	1h	2h	3h	5h	8h	10h	20h	50h	100h	120h	240h
1,70	102,2	75,2	49,1	33,4	26,1	19,6	11,6	4,74	2,52	2,20	1,174
1,75	100,0	74,1	48,2	32,7	25,7	19,5	11,5	4,68	2,48	2,18	1,166
1,80	98,9	72,5	46,5	31,4	25,1	19,0	11,3	4,58	2,44	2,14	1148
1,85	96,7	70,2	45,9	30,6	23,8	18,6	11,0	4,46	2,34	2,08	1112
1,90	92,3	66,5	42,2	28,1	22,0	17,1	10,0	4,08	2,22	1,94	1022
1,95	83,8	59,3	36,4	24,3	19,0	15,2	8,32	3,36	1,85	1,65	0,898