

The safe and environment-friendly energy storage
with extra discharge power

The technology

In a further development of a Japanese technology, carbon additives are used for the negative electrode in the LC+ battery, which guarantees considerably lower sulphation and thus by far the best number of cycles for lead-based batteries: At 70% depth of discharge 3000 cycles are achieved, at 50% depth of discharge over 4500. Batteries of this type have been in use in Japan for about 15 years, so that there is extensive experience over entire life cycles. For this reason, carbon batteries are currently used in military installations and in transportation..

The advantages

The carbon battery is not only much cheaper than lithium batteries, but also 97% recyclable with sales profit and, unlike lithium batteries, is not a dangerous good. Transport, storage and use do not require any special precautions or insurance. The technology of the LC+ series has been known and tested longer than any lithium battery in the world and has therefore already reliably proven its characteristics. In terms of UPS discharge capacity (up to C3), the carbon battery far surpasses lithium technology (up to C 0.7), making it ideal for use in emergency power supply: if a lot of energy is required, it can be called up at any time. In addition, the carbon battery does not require a Battery Management System (BMS), thus eliminating the potential source of danger "battery electronics".

The disadvantages

The carbon battery is slightly larger and heavier than lithium batteries, which must be considered during transport and installation.



LC+700

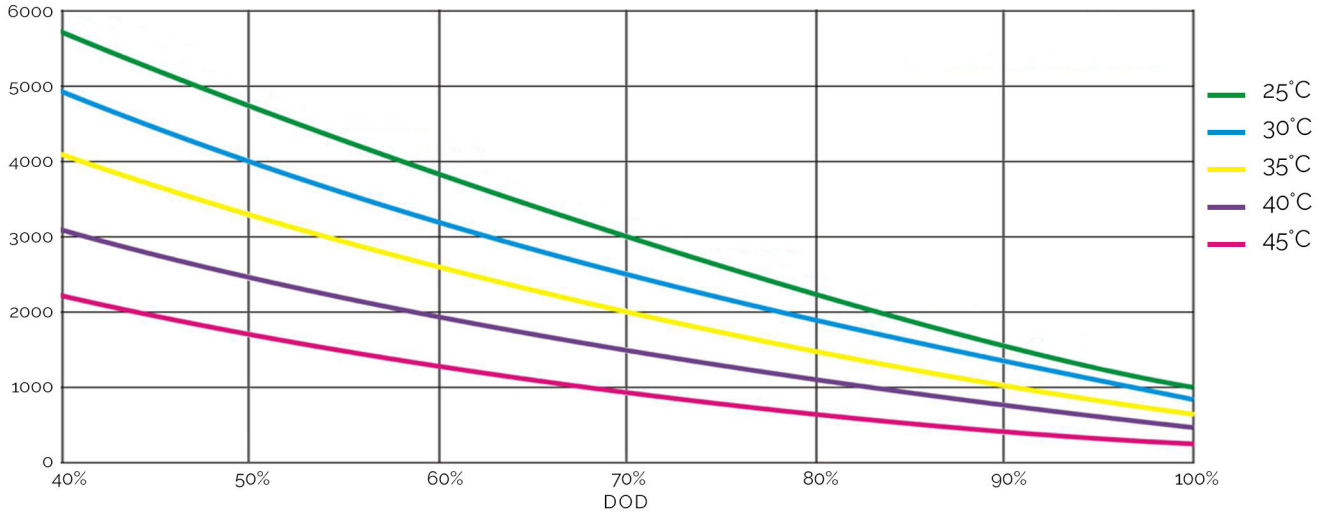


LC+1300

	LC+700	LC+1300
Nominal voltage	12V	
Maximum current	Discharge: C 0,4 Charge: C 0,2	
Nominal capacity at 25°C	50Ah (C ₁₀)	100AH (C ₁₀)
Nominal capacity at discharge with C0.1	700Wh (C _{0,1} = 5A)	1300Wh (C _{0,1} = 10A)
Cycles	More than 3000 cycles at 70% DoD	
Design life	15 years at 25°C	
Dimensions (mm) ; Weight (kg)	350x165,5x175 mm ; 25,5 kg	345x172x275mm ; 45 kg
Short circuit current (A)	1500 A	2000 A
internal resistance (mΩ, 25°C)	4,7 Ω	4,1 Ω
Terminals	m6x12	m8x18
Standards	IEC60896-21/22:2004, BS6290-4, Eurobat, Installation according to EN50272-2	

SPECIFICATIONS

Number of cycles vs. depth of discharge



C-rate vs. capacity

LC+700			LC+1300		
C-rate	current	capacity	C-rate	current	capacity
Co.1	5 A	700 Wh	Co.1	10 A	1300 Wh
Co.2	10 A	610 Wh	Co.2	20 A	1230 Wh
Co.4	20 A	550 Wh	Co.4	40 A	1100 Wh
C1.0	50 A	410 Wh	C1.0	100 A	800 Wh

(end of discharge voltage 10.8V ; temperature 25°C)

Discharge currents at 25°C, A

LC+700

end of discharge voltage per cell / per battery	1h	2h	3h	5h	8h	10h	20h	50h	100h	120h	240h
1,75 V / 10,5 V	27,50	20,20	13,00	9,00	6,84	5,24	3,09	1,24	0,639	0,555	0,295
1,80 V / 10,8 V	26,90	19,60	12,50	8,50	6,50	5,00	2,96	1,19	0,627	0,545	0,291
1,85 V / 11,1 V	26,00	18,70	12,00	8,00	6,00	4,80	2,80	1,14	0,601	0,528	0,281
1,90 V / 11,4 V	24,00	17,20	10,90	7,20	5,44	4,36	2,55	1,04	0,563	0,491	0,258
1,95 V / 11,7 V	21,60	15,20	9,30	6,20	4,66	3,75	2,04	0,83	0,452	0,402	0,215

LC+1300

end of discharge voltage per cell / per battery	1h	2h	3h	5h	8h	10h	20h	50h	100h	120h	240h
1,75 V / 10,5 V	55,00	40,60	26,40	18,00	13,70	10,50	6,18	2,48	1,278	1,110	0,590
1,80 V / 10,8 V	53,80	39,20	25,00	17,00	13,00	10,00	5,92	2,38	1,254	1,090	0,582
1,85 V / 11,1 V	52,00	37,40	24,00	16,00	12,00	9,60	5,60	2,28	1,200	1,056	0,562
1,90 V / 11,4 V	48,00	34,40	21,80	14,40	10,90	8,72	5,10	2,08	1,126	0,982	0,516
1,95 V / 11,7 V	43,20	30,40	18,60	12,40	9,32	7,50	4,08	1,66	0,904	0,804	0,430