

# Lead-Carbon Battery LLC-1000



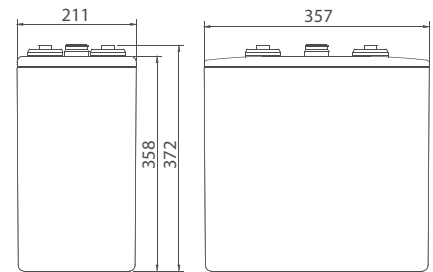
## Main Applications

- ▣ Renewable energy (wind & solar ) storage system
- ▣ Peak shifting of electrical power system
- ▣ Frequency regulation and load following service
- ▣ Smart-grid & micro-grid sites
- ▣ Off-grid & bad-grid sites

## Benefits

- ▣ Extra long life design, design life is 20 years
- ▣ Superior PSoC and deep cycling performance
- ▣ Excellent quick charge performance, reduce charging time by 30%
- ▣ High potential fuel savings when used with hybrid genset applications

## Dimensions



## Technical Parameters

Nominal Voltage	2 V
Capacity	1000 Ah @ 10hr to 1.80 V@ 25°C (77°F)
Weight	69 kg (152.1lbs)
Dimensions	Length: 357 mm (14.06 in) Width: 211 mm (8.31 in) Height: 358 mm (14.09 in) Total height: 372 mm (14.65 in)
Internal Resistance (full charged)	0.24 mΩ
Short-circuit Current	9100 A
Self Discharge @25°C(77°F)	Less than 4% after 30 days storage
Operating Temperature Range	Discharge: -40°C ~ 50°C(-40°F ~ 122°F) Charge: -20°C ~ 45°C(-4°F ~ 113°F) Storage:-20°C ~ 40°C(-4°F ~ 104°F)
Recommended Operating Temperature	15°C ~ 25°C (59°F ~ 77°F)
Recommended Charging Current	150 A
Maximum Charging Current	300 A
Charging Voltage @25°C(77°F)	Float: 2.23 V/cell Equalize: 2.35 V/cell
Terminal	M8
Container Materials	ABS/ABS V0 (Optional)
Capacity Affected by Temperature(C <sub>10</sub> )	105% @ 40°C(104°F) 85% @ 0°C(32°F) 60% @ -20°C(-4°F)
Design Life @25°C(77°F)	20 years

## Certification

- IEC 61427
- IEC 60896
- UL
- CE

## Technical Features

- ▣ Adopt lead- carbon capacitance technology, reduce the cathode sulphation, ideal for PSoC cycle application and can deliver 4~5 times better cyclic life compared with normal VRLA
- ▣ Better charge acceptability and faster recharge performance
- ▣ Exquisite design for premium quality, high reliability and stability

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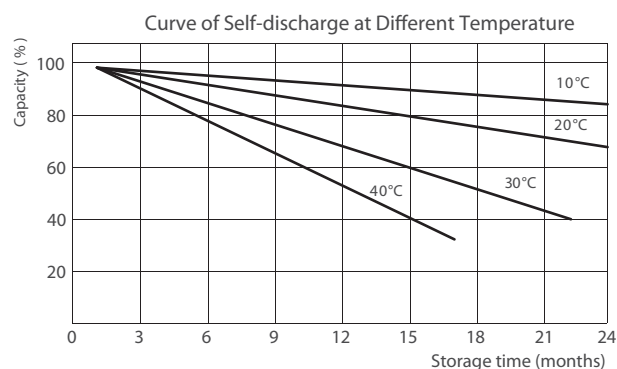
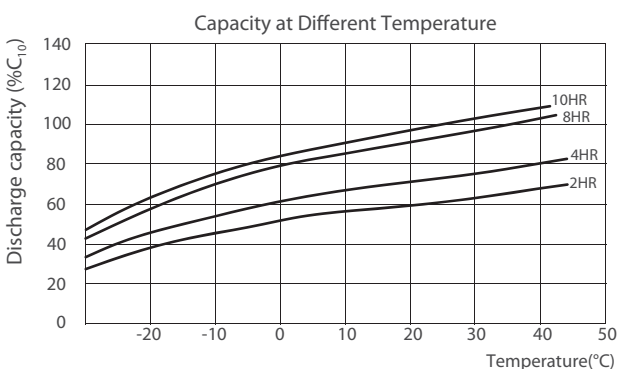
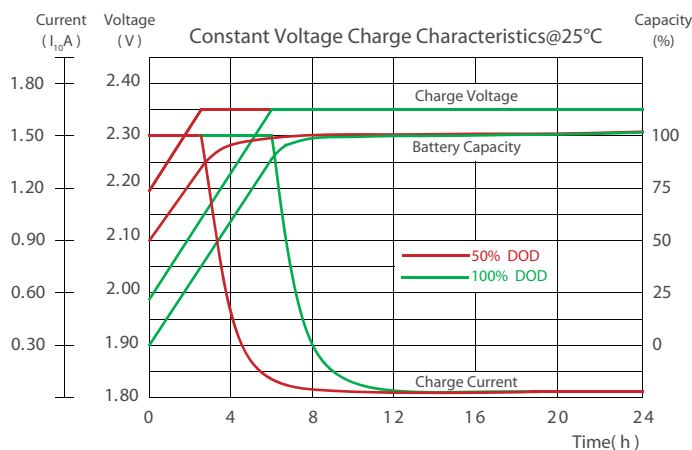
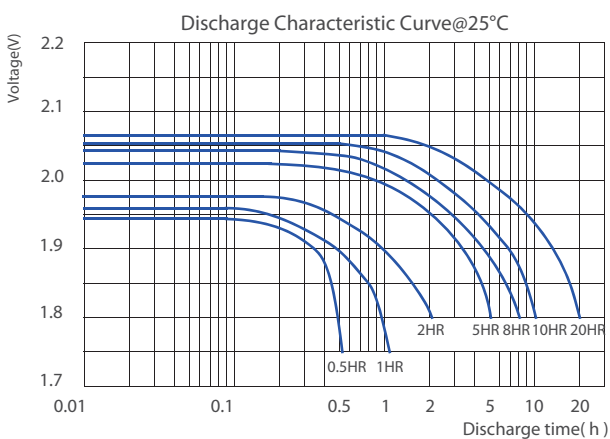
## Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	15min	30min	1hr	3hr	5hr	8hr	10hr	20hr	48hr
1.75V	1216	823	554	261	181	128	106	57.8	24.6
1.80V	1029	770	534	253	177	125	104	56.8	24.2
1.85V	906	684	482	239	171	120	101	54.8	23.4
1.90V	744	566	416	206	144	102	84	48.6	22.8

## Constant Power Discharge Characteristics Unit: W/cell (25°C, 77°F)

F.V/Time	15min	30min	1hr	3hr	5hr	8hr	10hr	20hr	48hr
1.75V	2010	1627	1035	520	348	238	210	113.0	51.4
1.80V	1925	1416	1015	508	345	236	206	112.0	50.6
1.85V	1733	1318	992	473	333	232	198	106.2	48.7
1.90V	1432	1059	858	412	288	204	168	96.4	45.6

## Performance Curve



### \*Declaration:

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