

Lead-Carbon Battery LLC-400



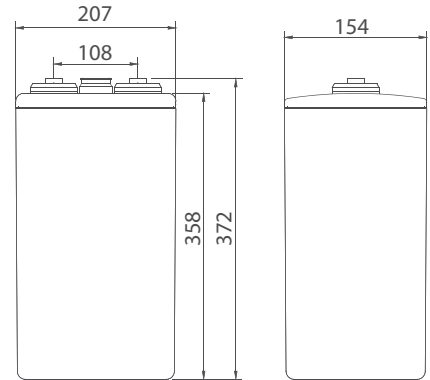
Main Applications

- ▣ 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	400 Ah @ 10hr to 1.80 V@ 25°C (77°F)
Weight	29.7 kg (65.5 lbs)
Dimensions	Length: 154 mm (6.06 in) Width: 207 mm (8.15 in) Height: 358 mm (14.09 in) Total height: 372 mm (14.65 in)
Internal Resistance (full charged)	0.31mΩ
Short- circuit Current	6800 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	60 A
Maximum Charging Current	120 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 ₁₀)	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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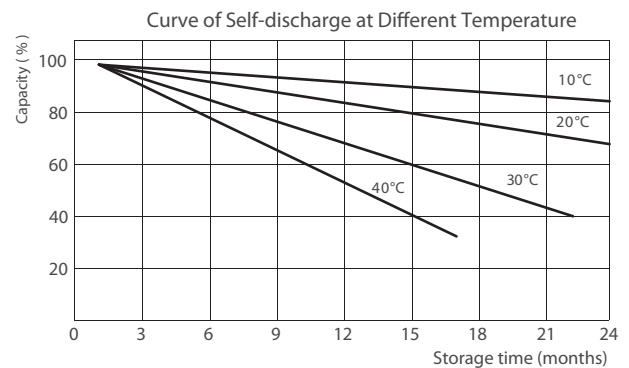
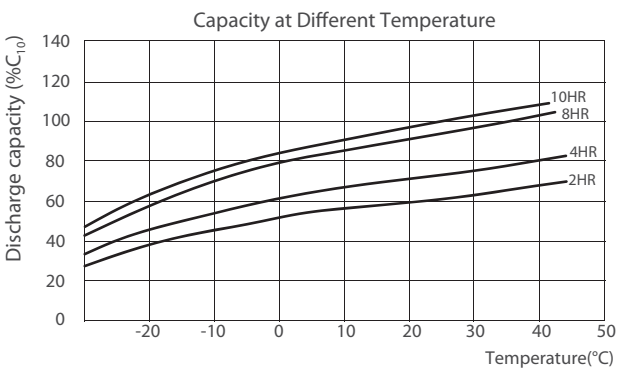
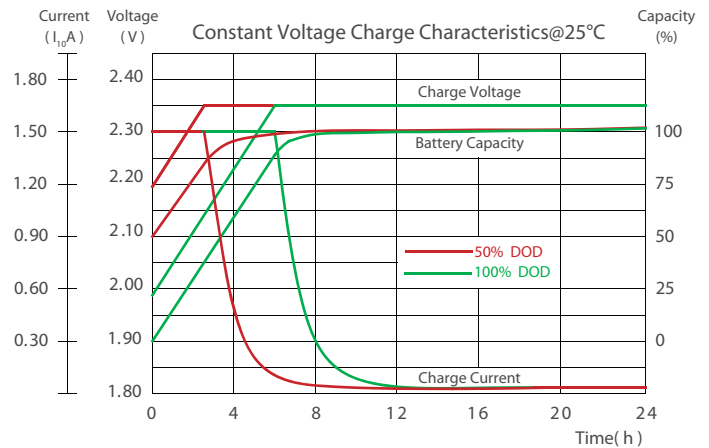
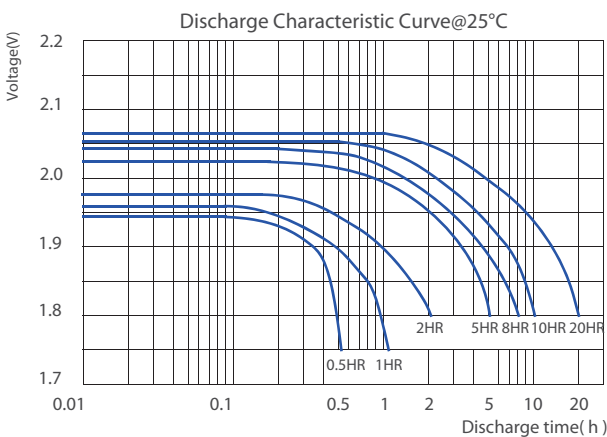
Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	15min	30min	1hr	3hr	5hr	8hr	10hr	20hr	48hr
1.75V	502	346	224	106	74	51	42	23.1	9.8
1.80V	454	324	216	103	72	50	42	22.7	9.7
1.85V	392	289	195	98	69	49	41	21.9	9.4
1.90V	298	234	169	82	58	41	34	19.4	9.1

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	865	666	418	208	139	95	84	45.2	20.6
1.80V	824	581	410	203	138	94	82	44.8	20.2
1.85V	750	542	402	199	135	93	79	42.5	19.5
1.90V	573	438	349	174	126	86	74	38.6	18.2

Performance Curve



*Declaration:

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