

## Fast Charge Deep Cycle Lead-Carbon Battery HDC12-180

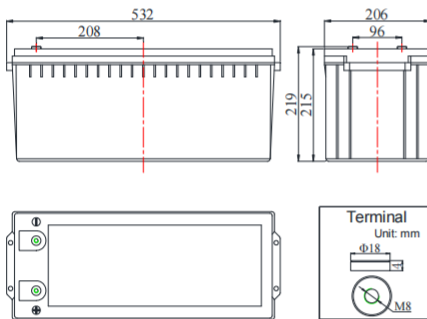
HDC series lead-carbon batteries use functional activated carbon and graphene as carbon materials, which are added to the negative plate of the battery to make lead carbon batteries have the advantages of both lead-acid batteries and super capacitors. It not only improves the ability of rapid charge and discharge, but also greatly prolongs the battery life. It is more suitable for the application of PSOC.

### General Features

- ✓ Combine the characteristics of lead acid battery and super capacitor
- ✓ Long life cycle service design, excellent PSOC and cyclic performance
- ✓ High power, rapid charging and discharging
- ✓ Unique grid and lead pasting design
- ✓ Extreme temperature tolerance
- ✓ Able to operate at -30°C -60°C
- ✓ Deep Discharge recovery capability

### Dimensions & Weight

Length(mm)	532±1
Width(mm)	206±1
Height(mm)	215±1
Total Height(mm)	219±1
Weight(kg)	58.5±3%



### Battery Discharge Table

Discharge Constant Current per Cell(Ampers at 25 °C)

F.V/Time	5min	10min	15min	20min	25min	30min	35min	40min	45min	60min	90min	2h	3h	4h	5h	6h	7h	8h	10h	12h	20h
1.60V	489.5	312.1	265.1	215.9	190.3	169.5	149.7	136.0	124.4	108.3	87.4	68.8	48.3	39.5	32.7	27.5	24.2	21.6	18.34	15.42	9.54
1.65V	480.6	306.3	260.4	212.4	187.1	166.4	146.8	133.5	122.2	106.1	85.7	67.4	47.3	38.8	32.1	26.9	23.8	21.2	17.99	15.15	9.36
1.67V	475.9	303.4	257.5	209.0	185.4	165.0	146.0	132.9	121.5	105.2	85.1	66.8	46.9	38.4	31.7	26.7	23.6	21.0	17.81	15.04	9.27
1.70V	466.2	297.9	252.6	205.2	181.9	161.7	143.6	130.6	119.5	103.0	83.4	66.2	46.5	38.0	31.6	26.5	23.4	20.8	17.44	14.78	9.20
1.75V	462.7	294.8	250.7	202.7	179.1	160.3	141.7	128.8	117.8	101.9	82.6	64.9	45.6	37.4	31.0	26.1	23.0	20.5	17.26	14.54	9.00
1.80V	448.0	285.3	242.0	198.2	173.8	155.1	137.5	125.1	114.3	98.7	80.0	62.3	43.8	35.6	29.8	25.1	22.0	19.7	16.71	14.06	8.73

Discharge Constant Power per Cell(Watts at 25 °C)

F.V/Time	5min	10min	15min	20min	25min	30min	35min	40min	45min	60min	90min	2h	3h	4h	5h	6h	7h	8h	10h	12h	20h
1.60V	917.1	588.3	500.0	409.1	362.1	323.8	285.9	260.7	238.5	207.8	167.5	132.0	92.7	75.8	62.7	52.6	46.4	41.5	35.1	29.7	18.54
1.65V	903.9	579.5	493.8	404.2	357.2	319.3	280.8	255.4	235.0	204.1	164.6	129.7	91.1	74.6	61.9	51.6	45.8	40.9	34.5	29.2	18.36
1.67V	897.5	574.7	489.2	400.1	354.3	316.4	279.3	254.6	233.6	202.0	163.4	128.5	90.4	73.8	61.2	51.4	45.4	40.5	34.3	29.0	18.27
1.70V	889.3	566.5	481.4	392.6	347.9	310.2	275.4	250.5	230.1	198.3	160.1	127.4	89.4	73.0	60.8	51.0	45.0	40.1	33.6	28.5	18.18
1.75V	884.6	561.8	478.3	387.5	343.0	307.4	271.9	247.6	226.4	196.1	158.5	124.8	87.6	71.9	59.6	50.2	44.2	39.3	33.2	28.1	17.82
1.80V	858.6	546.1	463.9	380.5	333.9	297.9	264.1	240.8	219.8	190.1	153.7	120.2	84.3	68.6	57.5	48.3	42.3	37.8	32.1	27.2	17.28

**Note:** The above data are average values, and can be obtained within 3 charge/discharge cycles. These are not minimum values. Cell and battery designs/specifications are subject to modification without notice. Contact **CSBattery** for the latest information.

12V  
180Ah

Lead Carbon  
Technology

Deep  
Cycle



**COMPLIED STANDARDS**

IEC 60869-21-22	JIS C8704	YD/T799
BS6290 part4	GB/T 19638	UL 1989



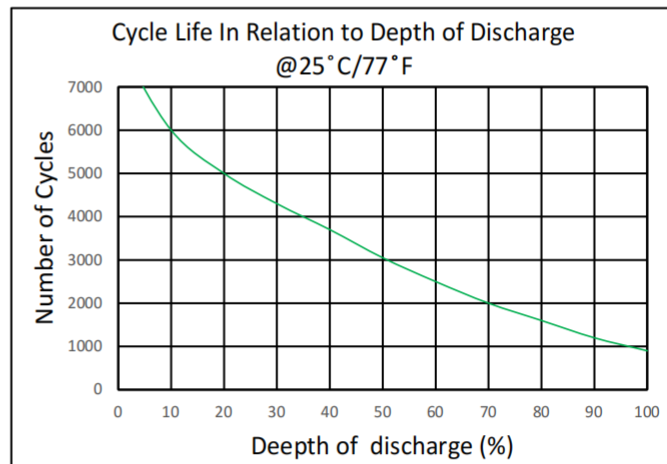
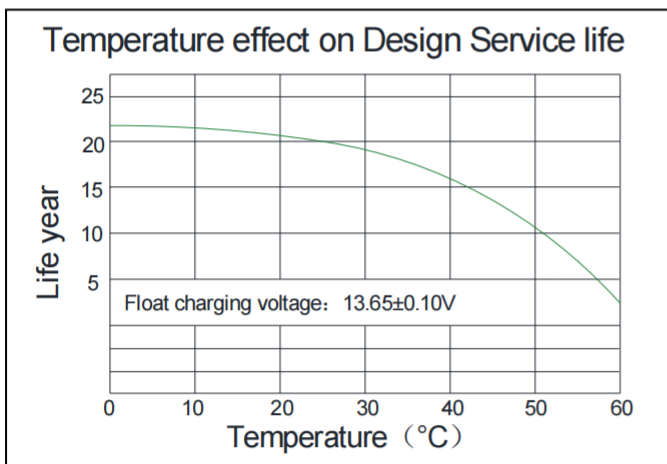
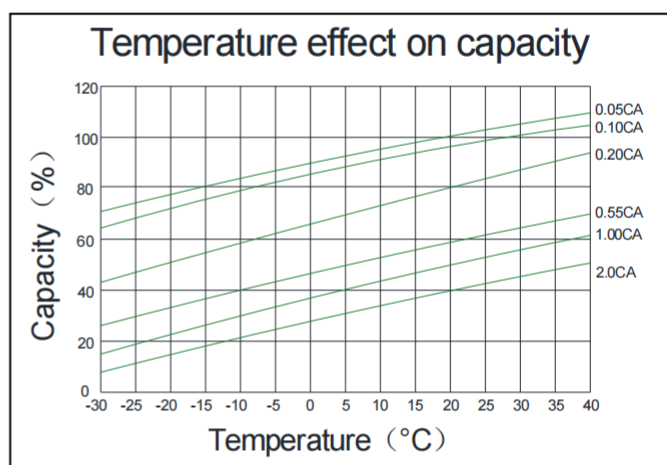
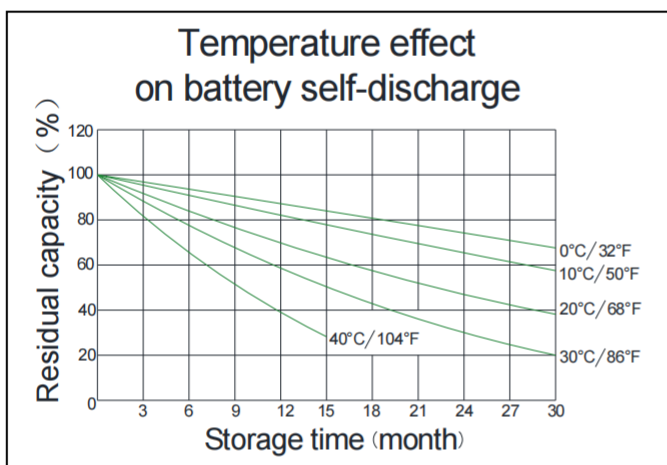
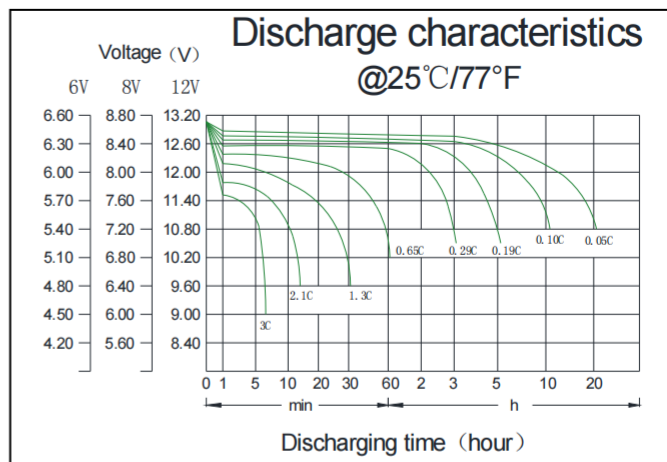
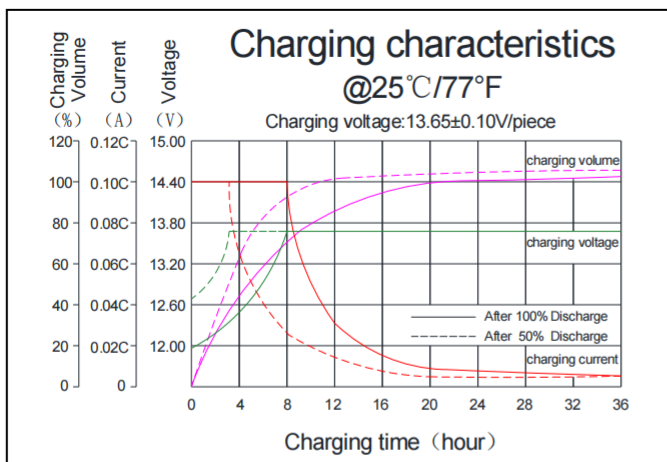
### Applications

- Home Energy storage system
- Smart Power grid system
- Solar & Wind Power system
- Wheel chair, Golf Car
- Telecom systems
- BTS Stations
- Micro-grid system

### Technical Specifications

<b>Nominal Voltage</b>		<b>12V(6 cells per unit)</b>
<b>Design Floating Life @25°C</b>		<b>20 Years</b>
<b>Nominal Capacity @25°C(20 hour rate@9.00A,10.50V)</b>		<b>180.0Ah</b>
<b>Capacity @25°C</b>	<b>10 hour rate (16.71A,10.8V)</b>	<b>167.1Ah</b>
	<b>5 hour rate (31.0A,10.5V)</b>	<b>155.0Ah</b>
	<b>1 hour rate (108.3A,9.6V)</b>	<b>108.3Ah</b>
<b>Internal Resistance</b>	<b>Full Charged Battery@25°C</b>	<b>≤3.6mΩ</b>
<b>Ambient Temperature</b>	<b>Discharge</b>	<b>-30°C~60°C</b>
	<b>Charge</b>	<b>-30°C~60°C</b>
	<b>Storage</b>	<b>-30°C~60°C</b>
<b>Max. Discharge Current@25°C</b>		<b>1800A(5s)</b>
<b>Capacity affected by Temperature (10 hr Capacity )</b>	<b>40°C</b>	<b>108%</b>
	<b>25°C</b>	<b>100%</b>
	<b>0°C</b>	<b>90%</b>
	<b>-15°C</b>	<b>70%</b>
<b>Self-Discharge@25°C per Month</b>		<b>3%</b>
<b>Charge (Constant Voltage) @25°C</b>	<b>Standby Use</b>	<b>Initial Charging Current Less than 45.0A Voltage 13.6-13.8V</b>
	<b>Cycle Use</b>	<b>Initial Charging Current Less than 45.0A Voltage 14.4-14.7V</b>

### Performance Characteristics



### Battery Discharge Capacity

Long time discharge capacity for Offer Grid solar/wind application						
Capacity	C20(Ah)	C48(Ah)	C72(Ah)	C100(Ah)	C120(Ah)	C240(Ah)
	F.V=1.75VPC					
<b>HDC12-180</b>	180.00	184.80	189.60	222.00	199.62	204.84