

# Extreme cyclic Battery

EXC-400



power the future



## • 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
- All extreme environment (Off-grid & bad-grid sites)

## • Benefits

- Extra long life design, design life is 25 years, help user reduce greatly operating cost
- Ultra-high cycling performance in both PSoC and deep cycling applications
- Super quick charge performance, reduce charging time by 50%
- More cost effective than nearest equivalent when used in energy storage system

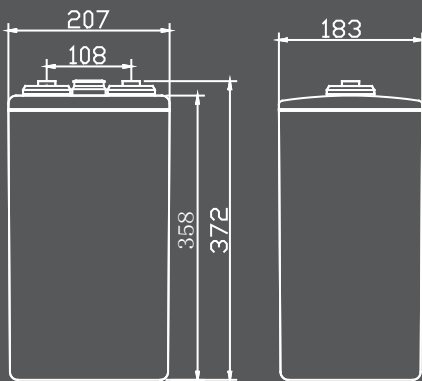
## • Technical Features

- Comply with GB/T 22473、BS EN61427-1: 2013、IEC61427-2: 2015 standards, etc
- Adopt lead carbon technology, reduce the cathode sulphation, ideal for PSoC cycle application and can deliver 7~8 times better cyclic life compared with normal VRLA
- Exceptional fast charge acceptability
- Distinctive design for premium quality, high reliability and stability

## • Technical Parameters

Normal Voltage	2V
Capacity	400 Ah @10hr to 1.80V per cell @ 25°C(77°F)
Weight	33.8 kg (74.5 lbs)
Dimensions	Length: 183 mm (7.20 in) Width: 207 mm (8.15 in) Height: 358 mm (14.09 in) Total height: 372 mm (14.65 in)
Internal Resistance (full charged)	0.26mΩ (According to IEC 60896-21)
Short- circuit current	6800A (According to IEC 60896-21)
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 ~ 50°C(-4°F ~ 122°F) Storage: -20°C ~ 40°C(-4°F ~ 104°F)
Recommended Operating Temperature	15°C ~ 25°C(59°F ~ 77°F)
Recommended Charging Current	80A
Charging Voltage @25°C(77°F)	2.30~2.35 V/cell
Terminal	M8
Capacity Affected by Temperature(C <sub>10</sub> )	105 % @ 40°C 90 % @ 0°C 40 % @ -20°C
Design life @25°C(77°F)	25 years

## • Dimensions :



## • Compliant standards :

- ★ GB/T 22473-2008
- ★ BS EN 61427-1: 2013
- ★ IEC 61427-2: 2015
- ★ IEC 60896-21/22

## • Attain certificate :

- ☑ ISO9001  
(NO.03009Q10083R2M)
- ☑ ISO14001  
(NO.03010E10145R0M)
- ☑ GB/T28001  
(NO.03010S10141 R0M)

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

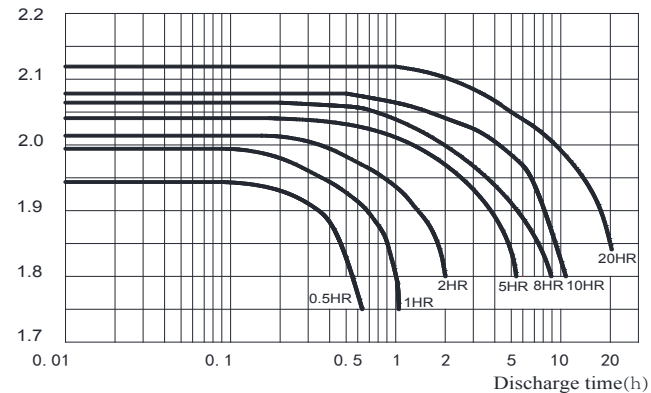
F.V/Time	15min	30min	1hr	3hr	5hr	8hr	10hr	20hr	48hr
1.75V	571.2	362.9	242.8	111.7	77.4	54.2	45.2	24.3	10.3
1.80V	467.9	340.2	226.8	108.4	75.6	53.1	44.1	23.8	10.2
1.85V	411.6	303.2	205.0	102.5	73.0	51.6	42.9	23.0	9.8
1.90V	350.3	260.4	181.4	95.8	70.2	49.7	41.5	22.5	9.6

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

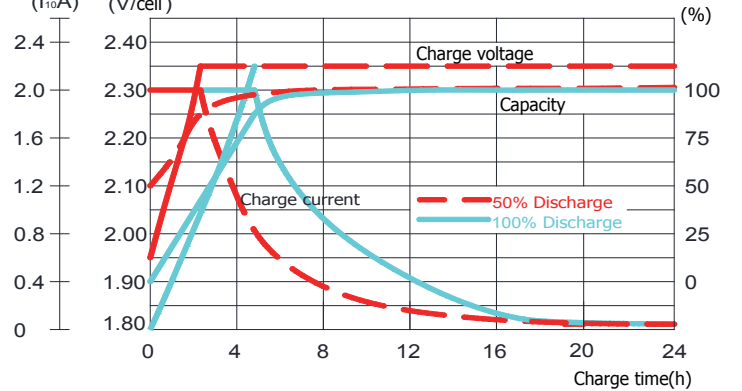
F.V/Time	15min	30min	1hr	3hr	5hr	8hr	10hr	20hr	48hr
1.75V	908	723	489	229	151	106	88	50.8	21.6
1.80V	865	697	478	221	147	103	86	49.8	21.2
1.85V	788	620	435	209	142	99	83	47.9	20.4
1.90V	685	523	375	194	138	92	78	46.4	19.7

## • Performance curve :

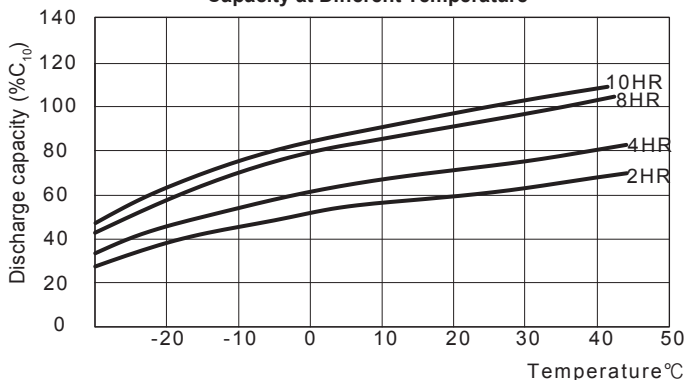
Upo (V) **Discharge Performance at Different Discharge Rate@25°C**



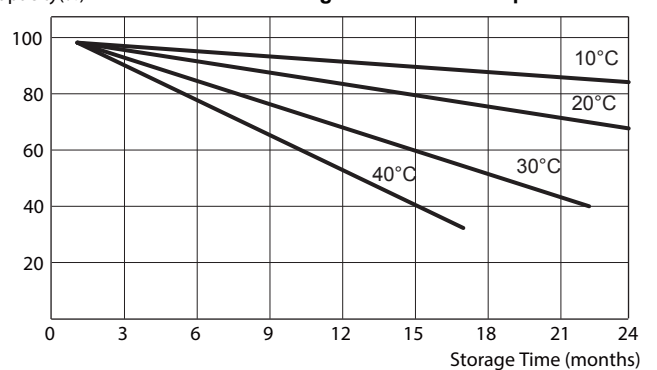
Current (I<sub>10</sub>A) Voltage (V/cell) **Constant Voltage Charge Characteristics@25°C** Capacity (%)



**Capacity at Different Temperature**



Capacity(%) **Curve of Self-discharge at Different Temperature**



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