Home Energy Storage Solutions

Lead Carbon Battery Technology:
Breakthrough in ESS Application
Lead Carbon Battery Technology

Lead Carbon battery add carbon material with high capacitance or highly conductive into the negative electrode, combine the advantages of lead acid battery and super capacitors. Lead carbon battery provide not only high energy density, but also high power, rapid charge and discharge, longer cycle life.

![Traditional lead acid battery](image1)  ![Parallel inside Pb-C battery](image2)  ![Super Pb-C battery](image3)

Battery Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Nominal voltage (V)</th>
<th>Nominal capacity (Ah)</th>
<th>Dimensions (mm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12REXC70</td>
<td>12</td>
<td>60</td>
<td>70</td>
<td>280</td>
</tr>
<tr>
<td>12REXC200</td>
<td>12</td>
<td>165</td>
<td>200</td>
<td>432</td>
</tr>
<tr>
<td>6REXC300</td>
<td>6</td>
<td>250</td>
<td>300</td>
<td>333</td>
</tr>
</tbody>
</table>

Benefit and Feature

- Combine the advantage of lead acid battery and supercapacitor
- Extra long cycle life
- Special construction and formulation design
- Excellent recharge acceptance performance, super fast charge/large discharge performance
- Ideal for PSOC cycle application
- Lead Carbon technology
- Module cabinet design, easy enlarge capacity
- Comply with IEC61427, IEC60896 etc. standard

Application

- Home energy storage system
- Hybrid energy system such as solar and wind energy
- Generator and battery hybrid energy system
- Emergency lighting system
- Other standby, cyclic system

Battery Parameter

- Nominal Voltage: 12V or 6V
- Charge Voltage: Float use: 2.27Vpc (25℃ )
- Equalization and cycle use: 2.35Vpc (25℃ )
- Terminal: M6 or M8 copper insert
- Container: ABS
- Plate: Lead carbon(negative plate)
- Operation Temp.: Optimum temperature: 15℃ to 25℃
- Max. temperature: -20℃ to +50℃
### Battery storage System
for home energy storage system (24/48V)

<table>
<thead>
<tr>
<th>Home System</th>
<th>Nominal Energy</th>
<th>Nominal Voltage</th>
<th>Battery Type</th>
<th>Number of string</th>
<th>Numbers of battery(pcs)</th>
<th>Modular Cabinet Dimensions(mm)</th>
<th>Total Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REXC pack 7.9/48</td>
<td>7.9kWh</td>
<td>48V</td>
<td>12REXC200</td>
<td>1, series</td>
<td>4</td>
<td>Length 650 Width 250 Height 920</td>
<td>350</td>
</tr>
<tr>
<td>REXC pack 6.0/24</td>
<td>6.0kWh</td>
<td>24V</td>
<td>6REXC300</td>
<td>1, series</td>
<td>4</td>
<td>Length 650 Width 250 Height 770</td>
<td>280</td>
</tr>
<tr>
<td>REXC pack 15.8/48</td>
<td>15.8kWh</td>
<td>24V</td>
<td>12REXC200</td>
<td>2, parallel</td>
<td>8</td>
<td>Length 650 Width 250 Height 920</td>
<td>700</td>
</tr>
<tr>
<td>REXC pack 12.0/48</td>
<td>12.0kWh</td>
<td>48V</td>
<td>6REXC300</td>
<td>2, parallel</td>
<td>8</td>
<td>Length 650 Width 250 Height 770</td>
<td>560</td>
</tr>
<tr>
<td>REXC pack 12.0/24</td>
<td>12.0kWh</td>
<td>48V</td>
<td>6REXC300</td>
<td>2, serial</td>
<td>8</td>
<td>Length 650 Width 250 Height 770</td>
<td>560</td>
</tr>
</tbody>
</table>

### Battery storage System
for home energy storage system (high voltage)

<table>
<thead>
<tr>
<th>System Capacity</th>
<th>Nominal Capacity</th>
<th>Nominal Voltage</th>
<th>Battery Type</th>
<th>Number of string</th>
<th>Number of battery(pcs)</th>
<th>Battery cabinet dimensions (mm)</th>
<th>Total Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REXC pack 13.6/22B</td>
<td>13.6kWh</td>
<td>228V</td>
<td>12REXC70</td>
<td>1, series</td>
<td>19</td>
<td>Length 780 Width 350 Height 1150</td>
<td>730</td>
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</tbody>
</table>
REX-C 12V series batteries have extra long cycle life at overcharge/inadequate charge PV cycle conditions. Pb-C battery obtain 20 cycle units, total 2960 cycles according to IEC61427-2005 (as left fig.), 4 times cycle life compare traditional lead acid battery.

REX-C 12V series batteries have excellent fast charge performance. (shown as left fig.)

REX-C 12V have excellent partial state of charge (PSoC) cycle life as simulate energy storage cycle test. Left fig. show Pb-C batteries cycle test result at 60% DOD from SoC80% to SoC40% PSoC cycle.

REX-C 12V series cycle life vs DOD:
3000 cycles at 50% DoD;
2200 cycles at 60% DoD.