**SmartPower 4820**

2U rack-mount lithium-ion battery system

SmartPower 4820, a powerful 48V LiFePO4 battery product, has been designed to provide power backup for remote or outside telecom plants like Access Terminals, Base Transceiver Stations, Base Station Controllers. According to customer needs, products can be expanded in parallel to meet the needs of the data center.

**Benefits**

- Increased energy in given space
- Easy installation and upscaling
- High operational reliability
- Optimized supervision strategy through remote control/diagnostic
- Excellent long life time
- Built-in intelligent BMS to protect the battery pack at any time and prolong its service life

**Standards**

**a. Product**

- IEC 60950
- IEC 62321
- IEC 62133

**b. MS certification**

- ISO 9001
- ISO 14001
- OHSAS 18001

**Specifications**

<table>
<thead>
<tr>
<th>Nominal Characteristics</th>
<th>SSIFP15S4820A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Voltage</td>
<td>48V</td>
</tr>
<tr>
<td>Typical Capacity</td>
<td>20Ah(25°C)</td>
</tr>
<tr>
<td>Typical Energy</td>
<td>960 Wh</td>
</tr>
<tr>
<td>Volumetric Energy Density</td>
<td>81.3 Wh/dm³</td>
</tr>
<tr>
<td>Gravimetric Energy Density</td>
<td>71.1 Wh/kg</td>
</tr>
<tr>
<td>Dimensions Width</td>
<td>442mm</td>
</tr>
<tr>
<td>Dimensions Height</td>
<td>89mm(2U)</td>
</tr>
<tr>
<td>Dimensions Depth</td>
<td>300mm</td>
</tr>
<tr>
<td>Typical Weight</td>
<td>13.5Kg</td>
</tr>
</tbody>
</table>

**Electrical Characteristics**

- Voltage Window: 40.5 ~ 54.0V
- Charge Voltage Range: 52.5 ~ 54.0V
- Max. Permanent Discharge Current: 20A
- Max. Permanent Charge Current: 20A
- Faradic Charge Efficiency: 99% (+20°C)
- Energy Charge Efficiency: 94% (+20°C)
- Communication Interface (optional feature): Modbus/SNMP/TACP
- Additional Features (optional feature): LCD Display

**Operation Environment**

- Charge Temperature: 0°C to +55°C
- Discharge Temperature: -20°C to +60°C
- Storage Temperature: -20°C to +60°C
- Protection Class: IP20
### Discharge Data

#### Constant Current Discharge Data (25°C)

<table>
<thead>
<tr>
<th>Voltage (V)</th>
<th>0.1C</th>
<th>0.2C</th>
<th>0.3C</th>
<th>0.4C</th>
<th>0.5C</th>
<th>0.6C</th>
<th>0.7C</th>
<th>0.8C</th>
<th>0.9C</th>
<th>1.0C</th>
</tr>
</thead>
<tbody>
<tr>
<td>45.0</td>
<td>8.333</td>
<td>4.033</td>
<td>2.600</td>
<td>1.908</td>
<td>1.417</td>
<td>1.033</td>
<td>0.833</td>
<td>0.600</td>
<td>0.333</td>
<td>0.225</td>
</tr>
<tr>
<td>43.5</td>
<td>9.450</td>
<td>4.658</td>
<td>3.083</td>
<td>2.333</td>
<td>1.842</td>
<td>1.542</td>
<td>1.258</td>
<td>0.967</td>
<td>0.883</td>
<td>0.750</td>
</tr>
<tr>
<td>42.0</td>
<td>10.137</td>
<td>5.078</td>
<td>3.377</td>
<td>2.605</td>
<td>2.092</td>
<td>1.700</td>
<td>1.492</td>
<td>1.292</td>
<td>1.150</td>
<td>1.033</td>
</tr>
<tr>
<td>40.5</td>
<td>10.183</td>
<td>5.092</td>
<td>3.400</td>
<td>2.625</td>
<td>2.100</td>
<td>1.717</td>
<td>1.542</td>
<td>1.300</td>
<td>1.175</td>
<td>1.042</td>
</tr>
</tbody>
</table>

### Performance Curve

- **Cycle Life vs. Depth of Discharge (DOD)**
- **Calendar Life at Different Temperature**
- **Discharge Curve at Different Temperature**
- **Discharge Curve at Different Rate (25°C)**
- **Charge Curve at Different Temperature**
- **Charge Curve at Different Rate (25°C)**

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