PSL-SC-121000-G27 12.8V 100 AH
Rechargeable Lithium Iron Phosphate Battery
PSL-SC – LiFePO4 Series Connection Range

BATTERY FEATURES
• Super safe lithium iron phosphate (LiFePO4) chemistry reducing the risk of explosion or combustion due to high impact, over-charging or short circuit situation
• Battery Management System (BMS) controls the parameters of the battery to provide optimum safety by protecting against over-charging and over-discharging
• BMS enhanced design balances the battery cells, optimizing battery performance
• Higher capacity or voltage capability through parallel or serial connections
• Delivers twice the power of lead acid batteries, even at high discharge rates, while maintaining constant power
• Faster charging and lower self-discharge
• Up to 10 times more cycles than lead acid batteries
• Compact and only 40% of the weight of comparable lead acid batteries
• Rugged impact resistant ABS case

APPROVALS
• UL 1642 cell certificate
• IEC 62133 cell certificate
• UN 38.3 certified
• ISO9001:2015 - Quality management systems

INTELLIGENT BATTERY MANAGEMENT SYSTEM
The PSL-SC Series comes with an intelligent battery management system which monitors current and voltages during charge and discharge. This protects the battery from over-charge and over-discharge.

The BMS embeds smart balancing algorithms that control all cell voltages in the battery, making sure they are constantly at the same voltage level, optimizing battery capacity.

SERIAL CONNECTION CAPABLE
The SC series allows for up to 4 batteries connected in series or 4 in parallel, but not concurrently. The batteries must all be matched at voltage levels, capacity, state of charge, date of manufacturing, and chemistry.

APPLICATIONS
• Medical
• Solar
• Wind
• Mobility
• Data Center
• Transport
• Sports & Recreation
• Utility

PERFORMANCE SPECIFICATIONS
Nominal Voltage 12.8 V
Rated Capacity 100 AH at a Constant Current of 0.2C to 10V
Stored Energy 1280 Wh
Cycle Life (@DOD100%) 2000 Cycles
Approximate Weight 28.2 lbs (12.8 kg)
Internal Resistance ≤30.0 mΩ
Max Charge Current 100 A
Max Discharge Current 100 A
Charging Voltage 14.6 V
Recommended Discharge Cut-Off Voltage 11 V
Series & Parallel Connection 4 in series or 4 in parallel
Operating Temperature Range
Charge 32°F (0°C) to 113°F (45°C)
Discharge -4°F (-20°C) to 140°F (60°C)
Recommended 59°F (15°C) to 95°F (35°C)
Self-Discharge Rate ≤3%/month
Long Term Storage Charge every 6 months or as soon as OCV is 12.8V
Power Sonic Chargers Contact us for information on a suitable charger.
Life Expectancy (years) 5 years at one cycle per day
Short Circuit Protection Automatically recover after removal of short
Dimensional Tolerances +/- 0.04 in. (+/- 1mm) for length and width
+/- 0.08 in. (+/- 2mm) for height dimensions
Terminal Type T11

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DIMENSIONS: inch (mm)
L: 12.08 (307)
W: 6.61 (168)
HT: 8.70 (221)
**PSL-SC-121000-G27 12.8V 100 AH**

Rechargeable Lithium Iron Phosphate Battery

**PSL-SC – LiFePO4 Series Connection Range**

### BENEFITS OF LITHIUM

Lithium offers several performance benefits versus its sealed lead acid (SLA) equivalent. A lithium battery’s capacity is independent from the discharge rate and provides constant power throughout its discharge. The degradation of a lithium battery at a high temperature is significantly reduced in comparison to SLA.

Lithium has ten times the cycle life as SLA at room temperature. Even at an elevated temperature, lithium still has increased cycle life over SLA at room temperature.

Lastly, Lithium charging follows a similar charging profile as SLA, Constant Current Constant Voltage (CC/CV). However, lithium can be charged faster, without the need for a maintenance float charge.

### BMS TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over-charge protection for each cell</td>
<td>3.90 V</td>
</tr>
<tr>
<td>Over-charge release for each cell</td>
<td>3.60 V</td>
</tr>
<tr>
<td>Over-charge release method</td>
<td>Protection releases when all cell voltages drop below the over-charge release voltage</td>
</tr>
<tr>
<td>Over-discharge protection for each cell</td>
<td>2.00 V</td>
</tr>
<tr>
<td>Over-discharge release for each cell</td>
<td>2.50 V</td>
</tr>
<tr>
<td>Over-discharge release method</td>
<td>Protection releases when all cell voltages rise above the over-discharge release voltage</td>
</tr>
<tr>
<td>Over-current protection</td>
<td>290-310 A</td>
</tr>
<tr>
<td>Over-current delay time</td>
<td>31 ms</td>
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<tr>
<td>Over-current release method</td>
<td>Remove load for the over-current protection to release</td>
</tr>
<tr>
<td>Discharge over-temperature protection</td>
<td>65° C</td>
</tr>
<tr>
<td>Release temperature</td>
<td>55° C</td>
</tr>
<tr>
<td>Battery temperature</td>
<td></td>
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<tr>
<td>Short circuit protection</td>
<td></td>
</tr>
<tr>
<td>Function condition</td>
<td>External short circuit</td>
</tr>
<tr>
<td>Short circuit delay time</td>
<td>250-500 ms</td>
</tr>
<tr>
<td>Release condition</td>
<td>Remove load for the short circuit protection to release</td>
</tr>
</tbody>
</table>

### FURTHER INFORMATION

Please refer to our website [www.power-sonic.com](http://www.power-sonic.com) or email us at technical-support@power-sonic.com for a complete range of useful downloads, such as product catalogs, material safety data sheets (MSDS), ISO certification, etc.