PSL-SC-123000-G8D 12.8V 300AH

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
- Protection Circuit Module (PCM) monitors the current and voltage of the battery to provide optimum safety by protecting against over-charging and over-discharging
- PCM 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

APPLICATIONS

- Medical
- Solar
- Wind
- Mobility
- Data Center
- Transport
- Sports & Recreation
- Utility

PERFORMANCE SPECIFICATIONS

- Nominal Voltage: 12.8 V
- Rated Capacity: 300 AH at a Constant Current of 0.2C to 10V
- Stored Energy: 3840 Wh
- Cycle Life (@DOD100%): 2000 Cycles
- Approximate Weight: 77.8 lbs (35.3 kg)
- Internal Resistance: ≤20.0 mΩ
- Max Charge Current: 150 A
- Max Discharge Current: 150 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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UN38.3 PASSED CHEMISTRY

POWER-SONIC
TRUSTED BATTERY SOLUTIONS
**PSL-SC-123000-G8D 12.8V 300 AH**

Rechargeable Lithium Iron Phosphate Battery

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

**BENEFITS OF LITHIUM**

Lithium offers several performance benefits versus it’s sealed lead acid (SLA) equivalent. A lithium battery’s capacity is independent from the discharge rate and provides constant power throughout it’s 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.

**PCM TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over Charge</td>
<td></td>
</tr>
<tr>
<td>Over-charge protection</td>
<td>3.90 V</td>
</tr>
<tr>
<td>Over-charge release</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</td>
<td></td>
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<tr>
<td>Over-discharge protection</td>
<td>2.00 V</td>
</tr>
<tr>
<td>Over-discharge release</td>
<td>2.50 V</td>
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<tr>
<td>Over-discharge release method</td>
<td>Protection releases when all cell voltages rise above the over-discharge release voltage</td>
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<tr>
<td>Over current</td>
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<tr>
<td>Discharge over-current protection</td>
<td>430-470 A</td>
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<tr>
<td>Protection 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>Battery Temperature</td>
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</tr>
<tr>
<td>Over-temperature protection</td>
<td>75° C</td>
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<tr>
<td>Release temperature</td>
<td>65° C</td>
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<tr>
<td>Short circuit protection</td>
<td></td>
</tr>
<tr>
<td>Function condition</td>
<td>External short circuit</td>
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<tr>
<td>Short circuit delay time</td>
<td>250-500 ms</td>
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<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.

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**DISCHARGE VOLTAGE PROFILES AT 0.5C DISCHARGE RATE**

**DISCHARGE VOLTAGE PROFILES AT VARIOUS RATES 25°C AMBIENT TEMPERATURE**

**DISCHARGE VOLTAGE PROFILES AT VARIOUS CURRENTS OF DISCHARGE**

**CUMULATIVE CAPACITY OF LiFePO4 vs. LEAD ACID AT VARIOUS TEMPERATURES**

**CYCLE LIFE vs. VARIOUS TEMPERATURE 0.2C CHARGE/0.5C DISCHARGE @ 100% DOD**

**CHARGING CHARACTERISTICS (0.2C AMP @ 25°C)**