PSL-BTP-12500 12.8V 50.0 AH
Rechargeable Lithium Battery
PSL BTC – Bluetooth® Enabled Series

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
• Bluetooth® communication capability for battery status through Power Sonic app
• 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
• Delivers twice the power of lead acid batteries, even at high discharge rates, while maintaining high energy capacity
• 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 and cover flame retardant to UL94:V0

APPROVALS
• UL 1642 cell certificate
• UN 38.3 Certified
• ISO9001:2015 – Quality management systems

DIMENSIONS: inch (mm)

GLOBAL HEADQUARTERS
(USA AND INTERNATIONAL EXCLUDING EMEA)
Power-Sonic Corporation
365 Cabela Dr Suite 300,
Reno, Nevada 89523
USA
T: +1 619 661 2020
E: customer-service@power-sonic.com

POWER-SONIC EMEA
(EMEA – EUROPE, MIDDLE EAST AND AFRICA)
Smitspol 4, 3861 RS Nijkerk,
The Netherlands
T NL: +31 33 7410 700
T UK: +44 1268 560 686
T FR: +33 344 32 18 17
E: salesEMEA@power-sonic.com

INTELLIGENT BATTERY MANAGEMENT SYSTEM
The PSL-BTP Series come 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.

BLUETOOTH® ENABLED
Monitor the State of Charge (SoC), State of Health (SoH), current, capacity, temperature, number of cycles, and voltage levels of the battery and individual cells from our Power Sonic app.

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

PERFORMANCE SPECIFICATIONS
Nominal Voltage
12.8 V
Rated Capacity
50.0 AH at a Constant Current of 0.33C to 9.2V
Stored Energy (Wh)
640 Wh
Cycle Life
(100% DOD) 2000 Cycles
Approximate Weight
(6.5 kg)
Internal Resistance
≤20.0 mΩ
Max Charge Current
50 A
Max Discharge Current
50 A
Charge Cut-off Voltage
15.2 V
Recommended Discharge Cut-Off Voltage
10 V
Series & Parallel Connection
Up to 4 batteries can be connected in parallel, CANNOT be connected in series

Operating Temperature Range
Charge
32°F (0°C) to 113°F (45°C)
Discharge
14°F (-10°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 (approximately 20% SOC)
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
MB

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Rechargeable Lithium Battery
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**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>
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<th>Category</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Over-charge protection voltage for each cell</td>
<td>3.8 V</td>
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<tr>
<td>Over-charge release voltage for each cell</td>
<td>3.6 V</td>
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<tr>
<td>Over-charge release method</td>
<td>Protection releases when all cell voltages drop below the over-charge release voltage</td>
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<tr>
<td>Over-discharge</td>
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<tr>
<td>Over-discharge protection voltage for each cell</td>
<td>2.4 V</td>
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<tr>
<td>Over-discharge release voltage for each cell</td>
<td>2.8 V</td>
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<tr>
<td>Over-discharge release method</td>
<td>Protection releases upon charging</td>
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<td>Over current</td>
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<tr>
<td>Discharge over current protection</td>
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<tr>
<td>Over-current delay time</td>
<td>50-200 mS</td>
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<td>Over current release condition</td>
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<tr>
<td>Battery temperature</td>
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<td>Over-temperature protection</td>
<td>65±5°C</td>
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<tr>
<td>Release temperature</td>
<td>50±5°C</td>
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<td>Short circuit protection</td>
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<td>Function condition</td>
<td>External short circuit</td>
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<td>Short circuit delay time</td>
<td>200 ms</td>
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<td>Release condition</td>
<td>Protection releases upon removing short circuit and charging</td>
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**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.