PSL-SC-1290 12.8V 9.0 AH
Rechargeable Lithium Battery
PSL SC – Serial Connection Capable 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
• 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

DIMENSIONS: inch (mm)

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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 6 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
9 AH at a Constant Current of 0.2C to 10V
Stored Energy
115 Wh
Cycle Life (@DOD100%)
2000 Cycles
Approximate Weight
2.1 lbs (1.0 kg)
Internal Resistance
≤100.0 mΩ
Max Charge Current
9.0 A
Max Discharge Current
15 A
Charge Cut-off Voltage
14.6 V
Recommended Discharge Cut-Off Voltage
11 V
Series & Parallel Connection
6 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
F2
**CAPACITY OF LiFePO4 vs. LEAD ACID AT VARIOUS CURRENTS OF DISCHARGE**

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

**DISCHARGE VOLTAGE PROFILES AT 0.5C DISCHARGE RATE VARIOUS AMBIENT TEMPERATURES**

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

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

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Rechargeable Lithium Battery

**PSL SC – Series Capable Series**

**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.

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**BMS TECHNICAL SPECIFICATIONS**

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