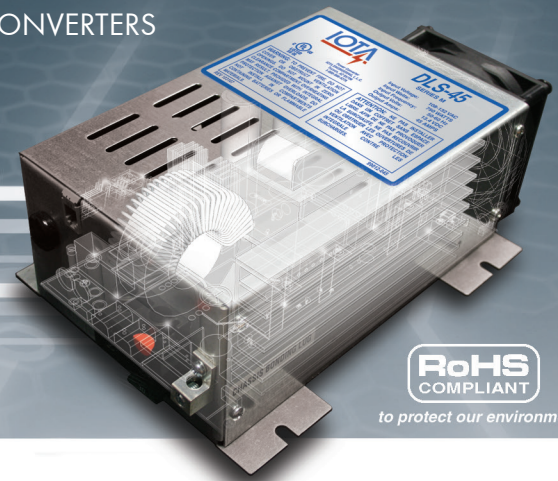


# DLS SERIES BATTERY CHARGERS & POWER CONVERTERS

DUAL-STATE  
LINE / LOAD CONTROL  
SWITCH-MODE

CONVERTS **120VAC** TO **12VDC** **90AMP**



RoHS  
COMPLIANT

to protect our environment

## DLS 90 Battery Charger / Power Converter



The IOTA® 120VAC to 12VDC **DLS 90** Series Converter/Charger design provides clean, steady output for efficient battery charging and confident operation of your DC equipment. The durable engineering of the DLS Series combines reliable AC/DC performance with whisper-quiet operation and lower operating temperature.

### Dual-State Charging

IOTA's Dual-State Charging design allows the unit to function as both a constant voltage or a constant current charger and automatically selects the optimal charging method for your battery's needs, resulting in safer, faster, and more efficient charging.

### Line / Load Control

The tight line/load control of the DLS allows for clean conversion of AC voltage into steady and reliable DC power for your battery or load. By preventing erratic DC output, the DLS Series allows confident operation of onboard and sensitive equipment for optimal life and prevents damage or equipment shutdown from unexpected overloads.

### Switch-Mode Technology

The IOTA DLS Series uses state-of-the-art switch mode technology, which minimizes wasted power by significantly reducing high dissipation states. The switch-mode design allows for reliable, efficient performance in a compact chassis with lower operating temperature.

See reverse side for complete model specifications

Also available with the IQ4 charge controller built into the unit. Models with internal IQ4 are designated by '/IQ4' at the end of the model name.

Compatible with Deep-Cycle, VRLA, Gel, AGM, Flooded Lead-Acid, and Select NiFe and Lithium Battery Types\*

## ADDITIONAL FEATURES



Built-in protection features against low transient AC line voltage, and current limit and thermal overload protection.



Lower operating temperature for longer component life and safer operation in limited compartment spaces.



Proportional Fan Control provides 'whisper-quiet' operation, utilizing the fan only when needed and at minimal speeds, eliminating sudden and obtrusive start-up noise.



External Reverse Polarity automotive blade-type protect the unit in the event of incorrect battery hook-up.



Dual Voltage jack allows for manual selection between Normal and Absorption Phase charging as well as easy installation of the IQ4 Smart Charge Controller.



Can be used with the optional IQ Smart Charge Controller for automatic multi-stage charging to prevent battery sulfation and stratification.



Backed by IOTA's Two-Year Warranty.

**IOTA**  
POWERING YOUR WAY®

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\*Some battery technologies require proper battery management systems and may require a specific IQ smart charging control profile for optimal performance. Contact our Technical Services Team for the right IOTA charging solution for your application.

Rev. 120221

## RATINGS AND SPECIFICATIONS

## DLS 90

DC Output Voltage (No Load) approx.	13.6V (DC)
Output Voltage Tolerance (No Load)	+ or - .7%
Output Amperage, Max Continuous	90 Amps
Output Voltage (Full Load) approx.	>13.4V (DC)
Max. Power Output, Continuous	1200W / 1350W
Ripple and Noise	<150 / <50 mV rms
Input Voltage Range	108 - 132 VAC
Input Voltage Frequency	47-63
Maximum AC Current (@108Vac)	21.8 Amps
Typical Efficiency	>80%
Max Inrush Current, Single Cycle	40 Amps
Short Circuit Protection	Yes
Overload Protection	>100%
Line Regulation	100 mV rms
Load Regulation	<1.5%
Fan Control	PROPORTIONAL
Thermal Protection	YES
Working Temperature Range	0° - 40° C
Storage Temperature	-20° to 80° C
Withstand Voltage (VDC) <sup>†</sup>	1700/1700/500
Weight	7.8 lbs

<sup>†</sup>Primary to Chassis/Primary to Secondary/Secondary to Chassis

## ADDITIONAL FEATURES



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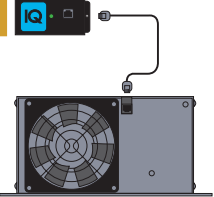


External Reverse Polarity automotive blade-type protect the unit in the event of incorrect battery hook-up.



The DLS Series Battery Charger/Power Converter is warranted from defects in materials or workmanship for two years from date of retail purchase, and limits the remedies to repair or replacement. This warranty is valid only in the continental United States and Canada. For complete warranty details, contact Customer Service or visit [www.iotaengineering.com](http://www.iotaengineering.com).

## IQ SMART CHARGING OPTIONS



Optional IOTA IQ Charge Controllers enhance performance of your IOTA DLS Battery Charger to accommodate the unique demands of your battery application, providing automatic charge control for faster overall charging and better maintenance for optimal battery life.

### IQ4 - Great for Storing Your Flooded Lead-Acid Batteries

Delivers 4 basic charging functions: BULK, ABSORPTION, FLOAT, and a seven-day MAINTENANCE cycle for stored flooded lead acid batteries, such as in an RV that is parked for extended periods of time. **54V, Parallel Charging**, and **internal** options also available.

### IQ-TURBO - Rapid Charging for Continually-Cycled Batteries

The IQ-Turbo delivers a powerful yet controlled BULK charge to help charge batteries in minimal time for batteries that are used frequently but have limited time for re-charging from a generator, solar panel system, or other auxiliary supply.

### IQ-EQUALIZER - On-Demand Bulk Charging

The IQ-Equalizer is a useful charge control tool that initiates a constant current BULK charge to your flooded lead acid battery, ensuring that all cells receive an adequate, complete charge in an abbreviated timespan.

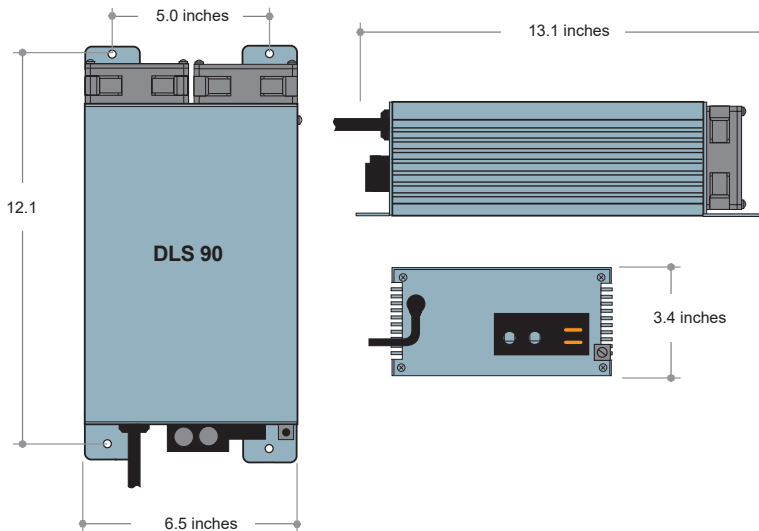
### IQ-LIFEPO - for Lithium-Iron Batteries with BMS

The IQ-LIFEPO is tailored for use with today's state-of-the-art LiFePO4 batteries that use a Battery Management System. The IQ-LIFEPO allows the DLS to deliver proper voltage to charge the larger 4-cell design of the battery when needed.

### IQ-AGM - Tailored Absorption Charging for AGM batteries

The IQ-AGM provides preferred charging for AGM (Absorbed Glass Matt) batteries by skipping the Bulk cycle and holding the battery at an optimized ABSORPTION stage before reverting to the FLOAT stage.

## DIMENSIONS



### A.C POWER CORD

The DLS 90 utilizes a standard NEMA 5-15 cord (approx. 36-inch length) for connection to a 15A receptacle.

