DLS-54-13

120VAC - 48VDC CHARGER/CONVERTER

PRODUCT OVERVIEW

DC Output Voltage	54.4V (DC) @ Full Load
Output Amperage	13 Amps
Input Voltage Range	108-132 VAC
Input Voltage Frequency	47-63 Hz

APPLICATION

Charging for 48V Battery Systems and Operation of 48VDC systems and accessories.

DESCRIPTION

The **DLS-54-13** battery charger/power converter from IOTA Engineering converts nominal 120V A.C. voltage to 54.4V D.C. As a power supply, its tightly controlled regulation allows the user to operate any appropriate nominal D.C. load up to the converter's rated output current. As a battery charger, the **DLS-27-25** will maintain the battery, delivering its full-rated current when the battery capacity falls sufficiently low. The voltage is set to deliver its maximum current for the necessary period of time that minimizes undue stress to the battery caused by heating of its cells. This helps to ensure the longest possible life of the battery. Over time, as the battery nears its full capacity, the converter will float-charge the battery to prevent self-discharge of its cells.

FEATURES

Clean and steady DC Output operates your loads the way they were intended, avoiding potential damage to systems from errant DC voltage.

Built-in protection features guard the unit against erratic line voltage that can occur from shore power or generator supplies.

Reverse Polarity Protection to protect against damage from incorrect battery hook-up, using readily available fuse types that are easy to replace.

Proportional fan control for whisper-quiet operation.

Compatible with IOTA IQ Smart Charger†† for automatic four-stage charging.

TECHNICAL SPECIFICATIONS

DC Output Voltage (No Load) approx.	54.4V (DC)
Output Voltage Tolerance (No Load)	+ or - .5%
Output Amperage, Max Continuous	13 Amps
Output Voltage (Full Load) approx.	>54V (DC)
Maximum Power Output, Continuous	700 Watts
Ripple and Noise	<100 mV rms
Input Voltage Range	108 - 132 AC
Input Voltage Frequency	47-63
Maximum AC Current (@108VAC)	12.6 Amps
Typical Efficiency	>80%
Max Inrush Current, Single Cycle	30 Amps
Short Circuit Protection	Yes
Overload Protection	>100%
Line Regulation	100 mV rms
Load Regulation	<1%
Fan Control*	Proportional
Thermal Protection	YES
Working Temperature Range	0° - 40° C
Storage Temperature	-20° to 80° C
Withstand Voltage**	1700/1700/500
Dimensions†	9.7″ x 6.7″ x 3.4″
Weight	5.0 lbs

*Proportional = Fan speed proportional to case temperature.
**Primary to Chassis/Primary to Secondary/Secondary to Chassis
†See reverse side for detailed mounting specifications.
††Use only the IQ-54V Model Smart Charger in conjunction with the DLS-54-13.

ADDITIONAL FEATURES INCLUDE...

- Switch-mode technology
- Current limit, thermal and overload protection
- Lower operating temperature
- Charging Jack option for normal and high-stage battery charging applications

IOTA POWERING YOUR WAY ®

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DLS-54-13

BATTERY CHARGER/POWER CONVERTER

MODELS

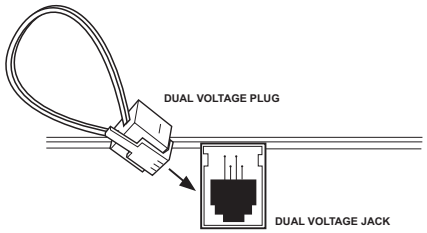
- ◯ DLS-54-13
- ◯ DLS-54-13/IQ4 (with integrated IQ Smart Charger)

DUAL VOLTAGE JACK

The **DLS-54-13** is equipped with a Dual Voltage Jack and Dual Voltage Plug that allows manual switching from a long-term float voltage of 54.4vdc to 59vdc. When the Dual Voltage Plug is inserted in the jack, the voltage increases to 59vdc for occasional fast charging. When the plug is removed, the voltage drops to 54.4vdc to reduce battery water loss.

The Dual Voltage Jack also allows for easy installation of an external IQ4 Smart Charger* for automatic 3-stage charging (optional). If the unit is equipped with an internal IQ4 smart charger, two-step charging is not needed and the Dual Voltage Jack is disabled. For details on 3-stage charging voltages, refer to the IQ4 instruction manual.

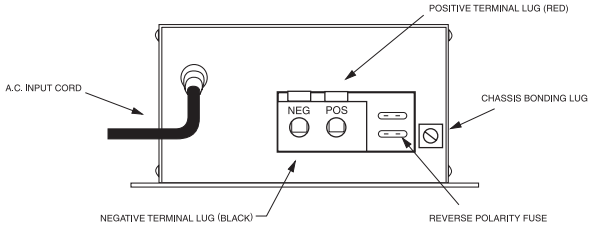
*Use only the IQ-54V Model Smart Charger in conjunction with the DLS-54-13.



INSTALLATION OVERVIEW

Disconnect the positive side of the battery before installation. Connect the positive (red) and negative (black) terminal lugs to battery or load. Always use the proper size wire based on the amperage of the converter and the battery. When connecting to a battery, a breaker should be installed within 18″ of the battery, connecting the battery positive to the line side of the breaker, and the DLS to the load side. Connect “Chassis Bonding Lug” on the DLS to vehicle chassis or other grounding source.

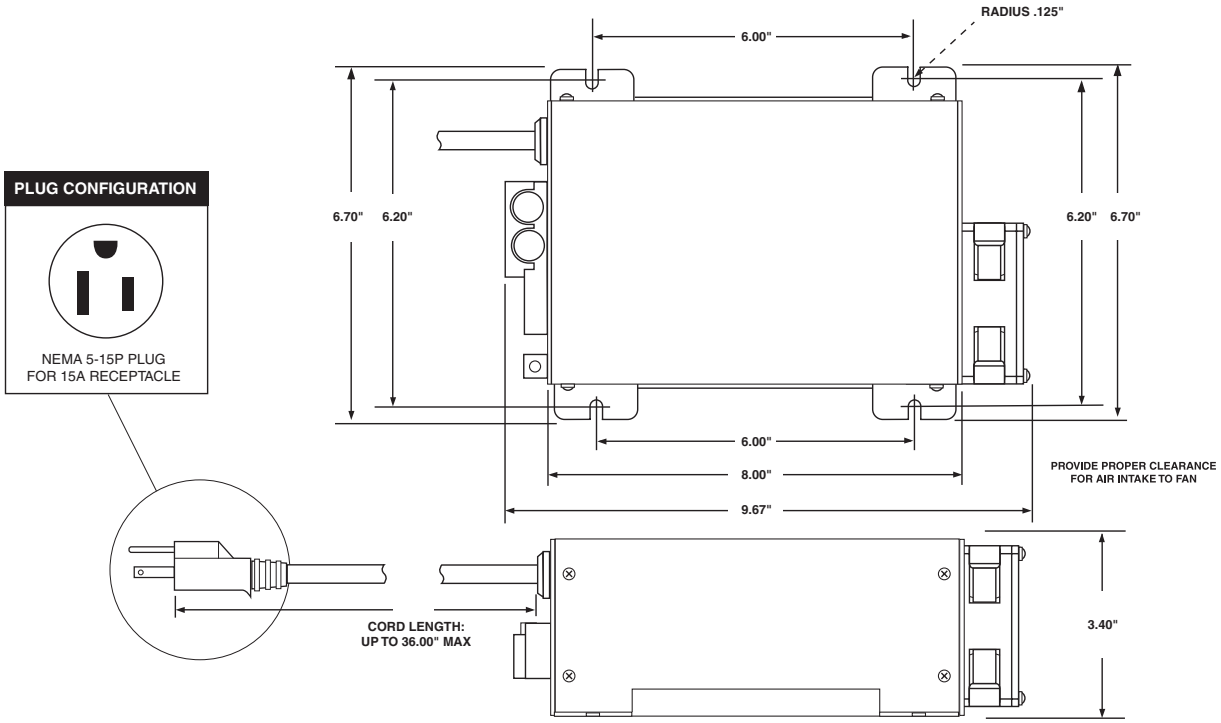
Plug the DLS A.C. input cord into a 120 volt 3-wire grounded source. See chart for maximum current draw and required input voltages. For complete installation guidelines, refer to the installation manual.



WARRANTY

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.

MOUNTING FOOTPRINT



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