

**Reduced Height**

for installation in limited spaces

**Vent-free Top Surface**

minimizes intrusion of dust and debris

**AC Power LED**

indicates presence of AC supply

**Recess Design**

for easier handling

**Internal Fan**

for simplified mounting

**Modular Accessory Port**

for installation of AmpLife charge controller

**PRODUCT OVERVIEW**

DC Output Voltage	<b>13.4V (DC) @ Full Load</b>
Output Amperage	<b>90 Amps</b>
Input Voltage Range	<b>108-132 VAC</b>
Input Voltage Frequency	<b>47-63 Hz</b>

**APPLICATION**

Charging for 12V Battery Systems and Operation of 12VDC systems and accessories.

**DESCRIPTION**

The IOTA **SDC1-120-12-90** delivers solid conversion of 120 Vac voltage to 13.6 Vdc for both power conversion and battery charging applications. As a power converter, the **SDC1-120-12-90** tightly controls and regulates the DC output, enabling the user to safely operate any appropriate nominal DC load up to the converter's rated output current. As a battery charger, the **SDC1-120-12-90** will maintain the battery, delivering its full-rated current when the battery capacity falls sufficiently low. The **SDC1-120-12-90** minimizes undue stress to the battery by delivering the maximum current for only the necessary period of time. As the battery nears its full capacity, the **SDC1-120-12-90** will float-charge the battery to prevent self-discharge of the battery cells.

**TECHNICAL SPECIFICATIONS**

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)
Maximum Power Output, Continuous	1350 Watts
Ripple and Noise	<50 mV rms
Input Voltage Range	108 - 132 AC
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)†	1700/1700/500
Dimensions† †	12.5" x 7.75" x 2.9"
Weight	8 lbs

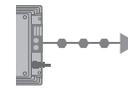
\*Requires a 30A breaker

\*\*Proportional = Fan speed proportional to case temperature.

†Primary to Chassis/Primary to Secondary/Secondary to Chassis

‡See reverse side for detailed mounting specifications.

IOTA REV 091415

**FEATURES**

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



2-Gauge max. connection capability decreases voltage drop for better battery charging and increased installation distance.



Proportional fan control for whisper-quiet operation.



Backed by IOTA with a full Three-Year Warranty



Optional AmpLife 4-stage charge control module for exceptional charging and battery life. Includes LED charge indicator.

**ADDITIONAL FEATURES INCLUDE...**

- Switch-mode technology
- Current limit, thermal and overload protection
- Lower operating temperature
- UL and CUL Listed



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# SDC1-120-12-90

BATTERY CHARGER/POWER CONVERTER

## MODELS

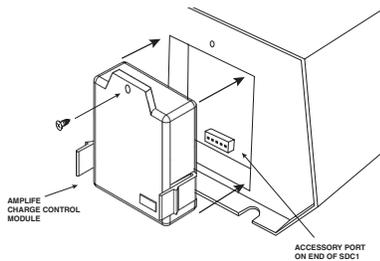
- SDC1-120-12-90 (UL Listed)\*
- SDC1-120-12-90 (Non-UL Listed)
- SDC1-120-12-90 AL1 (UL Listed)\*  
Includes 4-Stage AmpLife Controller
- SDC1-120-12-90 AL1 (Non-UL Listed)  
Includes 4-Stage AmpLife Controller

\*UL Listed models feature different input plug designs. See dimension section for examples of each UL and Non-UL Listed plug designs.

## AMPLIFE AL1 CHARGE CONTROL (optional)

The SDC1 features an accessory port on the fan end of the unit for installing an AmpLife Charge Control Module for automatic four-stage charging.

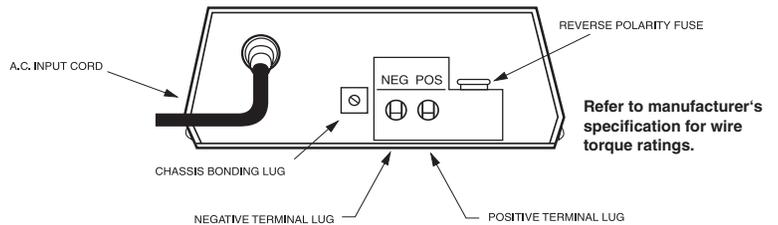
Installing the AmpLife Charge Control Module gives the user the benefit of automatic Bulk, Absorption, and Float stage charging. This increases the charging capacity of the IOTA charger, decreases charge times and insures proper and safe battery charging without over-charging. To install an AmpLife module into the charger, remove the fastening screw on the top of the port faceplate and detach the faceplate. Plug the control module into the port and secure in place using the original fastening screw. NOTE: the port faceplate and AmpLife control module are similar in appearance. You can recognize the AmpLife Charge Control Module by the presence of the LED indicator on the face.



## INSTALLATION OVERVIEW

Disconnect the positive side of the battery before installation. Connect the positive and negative terminal lugs to the 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 **SDC1-120-12-90** to the load side. Connect "Chassis Bonding Lug" on the **SDC1-120-12-90** to vehicle chassis or other grounding source.

When the **SDC1-120-12-90** AC input cord is connected to a 120 volt 3-wire grounded source, the blue LED indicator on the unit will illuminate. See specification table (page 1) for maximum current draw and required input voltages. For complete installation guidelines, refer to the installation manual.



## WARRANTY

The SDC1 Series Battery Charger and Power Converter is warranted from defects in materials or workmanship for three 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).

## DIMENSIONS

