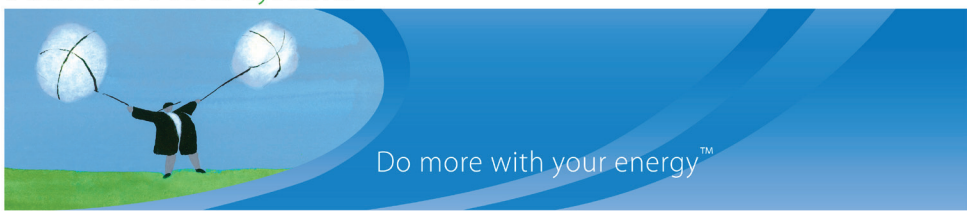

NEXTEK Power Systems




# Nextek Power Systems
# Speed Control
# Installation Procedure

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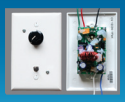



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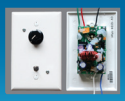

## ABOUT NEXTEK POWER SYSTEMS

Nextek Power Systems AC/DC integration technology represents a breakthrough in on-site electrical management, combining the availability of AC power with the quality and efficiency of a DC supply.

### NEXTEK BENEFITS

- Easy conversion of AC lighting fixtures to DC-powered units
- Easy conversion of AC grid power into DC power for commercial building applications
- Highly efficient management of peak loads
- Future-proof lighting and other systems to be developed
- Nextek Power Systems Direct Coupling® Technology, directly connects clean power generated at a building to its electronic loads inside cutting down on over-all power consumption, boosts electricity generated and stored on-site, and delivers a robust renewable energy ready network.

### DISCLAIMER

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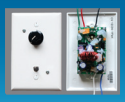




## 1.0 INTRODUCTION

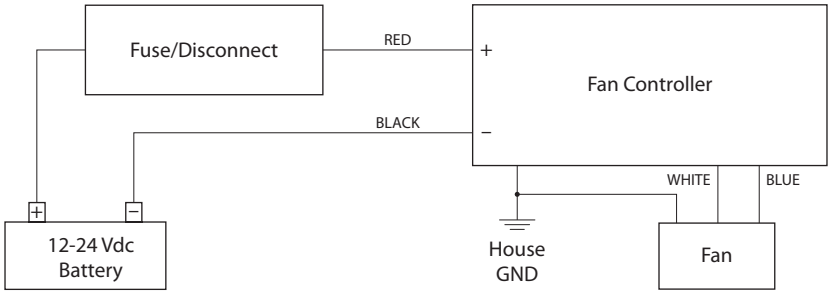
This unit outputs an adjustable 12 to 30Vdc from a input of 11 to 24Vdc. It has a voltage control POT with an on/off switch and an output voltage reverse switch to reverse the fans direction. It is overload protected by input and output self resetting fuses. This unit will fit in a single gang electrical box.

## 2.0 ELECTRICAL SPECIFICATIONS

| | |
|---|---|
| Input Voltage (nominal battery 12 or 24): | 11 - 30 VDC |
| Output Voltage (V) ± 2% | |
| Adjustable by POT | |
| Output voltage reversal with Toggle Switch: | 12.5 - 29.5 VDC |
| Output Current (Amps): | 1 |
| Short term (2 min.) Current limited: | 1.2 |

Note: limited by fusing characteristics

| | |
|---|---|
| Input Fuse: | 3 amp self resetting |
| Output Fuse: | 1.3 amp self resetting |
| Enclosure: | Open Frame for mount in single gange box |
| Quiescent Current: | 15 ma |
| With switch off: | 0.0 ma |
| Transient Protection: | All Inputs and Outputs |
| Efficiency: | 90 - 96% depending on loading and state of charge |

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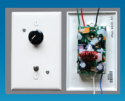

## 3.0 INSTALLATION PROCEDURE

To be installed and connected by qualified personnel only. Ensure all power sources are disconnected when making any connections to this unit.

1. The unit mounts much as a faceplate of a normal light switch single gange junction box.
2. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
3. Connect Ground:
   Using wire of sufficient gauge (min. #16 AWG), connect the green wire to the junction box ground. This connection is used for electrical noise reduction.

   Green wire = local electrical ground.

WARNING:
To avoid flash or burn injuries, extreme care must be taken when making battery connections. Do not short the battery or output.

4. Connect Load Positive:
   Using wire of sufficient gauge (min . #16 AWG), connect the white lead to the Fan (+) wire, environmentally seal connections if required .

   Load (+) = White wire this is the 24V Fan Connection

   Note: This connection may be reversed with the Controller Toggle Switch.
5. Connect Load Negative:
   Using wire of sufficient gauge (min . #16 AWG), connect the blue lead to the Fan (–) wire, environmentally seal connections if required .

   Load (–) = Blue wire this is the 24V Fan Connection

   Note: This connection may be reversed with the Controller Toggle Switch.
6. Connect Battery Negative:
   Using wire of sufficient gauge (min. #16 AWG), connect the black lead to the Battery (–) wire, environmentally seal connections if required.

   Battery (–) = Black wire this is the 12/24V negative Battery Connection

WARNING:
To avoid flash or burn injuries, extreme care must be taken when making battery connections. Do not short the battery or output.

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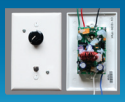



## 3.0 INSTALLATION PROCEDURE (cont)

7. Connect Battery Positive:
   Using wire of sufficient gauge (min . #16 AWG), connect the red lead to the battery or power source; environmentally seal the connections if required.

   Note: There will be a small spark as the battery charges the internal capacitors.

WARNING:
To avoid flash or burn injuries, extreme care must be taken when making battery connections. Do not short the battery or output.

Battery (+) = Red wire this is the 12/24 Vdc positive battery connection

8. Voltage adjustment:
   The output voltage, hence fan speed may be adjusted by adjusting the speed control POT .

   As well, the toggle switch can be used to reverse the output voltage i.e.: reverse the fan direction.

   Note: The toggle has a center position that disconnects the fan from the controller.

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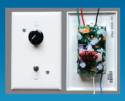

## 4.0 PRODUCT WARRANTY

The product is warranted to be free from defects in material and workmanship for a period of one (1) year from the date of purchase by a retail customer. The purchase date must be evidenced by a valid and original sales receipt. In lieu of sales receipt, factory will use code date on its label. Removal of the Solar Converters Inc. label or serial number will void the warranty.

Product liability, except where mandated by law, is limited to repair or replacement at the manufacturer's discretion. No specific claim of merchantability or use shall be assumed or implied beyond what is printed on the manufacturers printed literature. No liability shall exist from circumstances arising from the inability to use the product, or its inappropriateness for any specific purpose or actual use, or consequences thereof for any purpose. It is the user's responsibility to determine the suitability of the product for any particular use. Solar Converters Inc. shall not be liable for any damages or any kind including without limitation, special, incidental or consequential obligations and liabilities of Solar Converters Inc. and the remedies of Buyer set forth herein shall be Solar Converters Inc. sole and exclusive liability.

Failure to provide a safe and correct installation, safe operation, or care for the product will void the warranty. Personal safety, and compatibility with any other equipment is the ultimate responsibility of the end user. Any returned product that shows significant evidence of abuse may not be covered by this warranty. Installation must be preformed by a person with qualification to insure safe and effective operation and the installation thereof certifies that the installer has the technical qualifications to do so.

Solar Converters Inc. cannot guarantee the compatibility of its products with other components used in conjunction with Solar Converters Inc. products, including, but not limited to, solar modules, batteries, and system interconnects, and such loads as inverters, transmitters and other loads which produce "noise" or electromagnetic interference, in excess of the levels to which Solar Converters Inc. products are compatible. Solar Converters Inc. shall not assume responsibility for any damages to any system components used in conjunction with Solar Converters Inc. products nor for claims for personal injury or property damage resulting from the use of Solar Converters Inc. products or the improper operation thereof or consequential damages arising from the products or use of the products.

The warranties set forth herein are Solar Converters Inc. sole and exclusive warranties for or relating to the goods. Seller neither makes nor assumes any warranty or merchantability, any warranty fitness for any particular purpose, or any other warranty of any kind, express, implied or statutory. Solar Converters Inc. neither assumes nor authorizes any person or entity to assume for it any other liability or obligation in connection with the sale or use of the goods, and there are no oral agreements or warranties collateral to or affecting the sale of the goods.

### WARRANTY CLAIM PROCEDURE

In the event of product failure, follow this warranty claim procedure.

1. Make sure the problem you are having is actually due to the suspected product and not some other part of the system. You may call technical support for advanced troubleshooting assistance.
2. If you determine that a Solar Converters Inc. product is actually defective, describe on paper, in detail the exact nature of the failure.
3. The product must be,accompanied by proof of the date of purchase satisfactory to Solar Converters Inc.
4. Return the product and description to the business office address, along with your address and a daytime phone number. Purchasers must prepay all delivery costs or shipping charges as well as any other charges encountered , in shipping any defective Solar Converters Inc. product under this warranty policy. No shipment will be accepted Freight Collect.
5. Any return shipment from Solar Converters Inc. will be via Canada Post. Foreign shipments will ship best way Special shipping arrangements are available at the customer's expense.

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| REVISION HISTORY | | DATE |
|---|---|---|
| A | First Draft | March 30, 2011 |
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