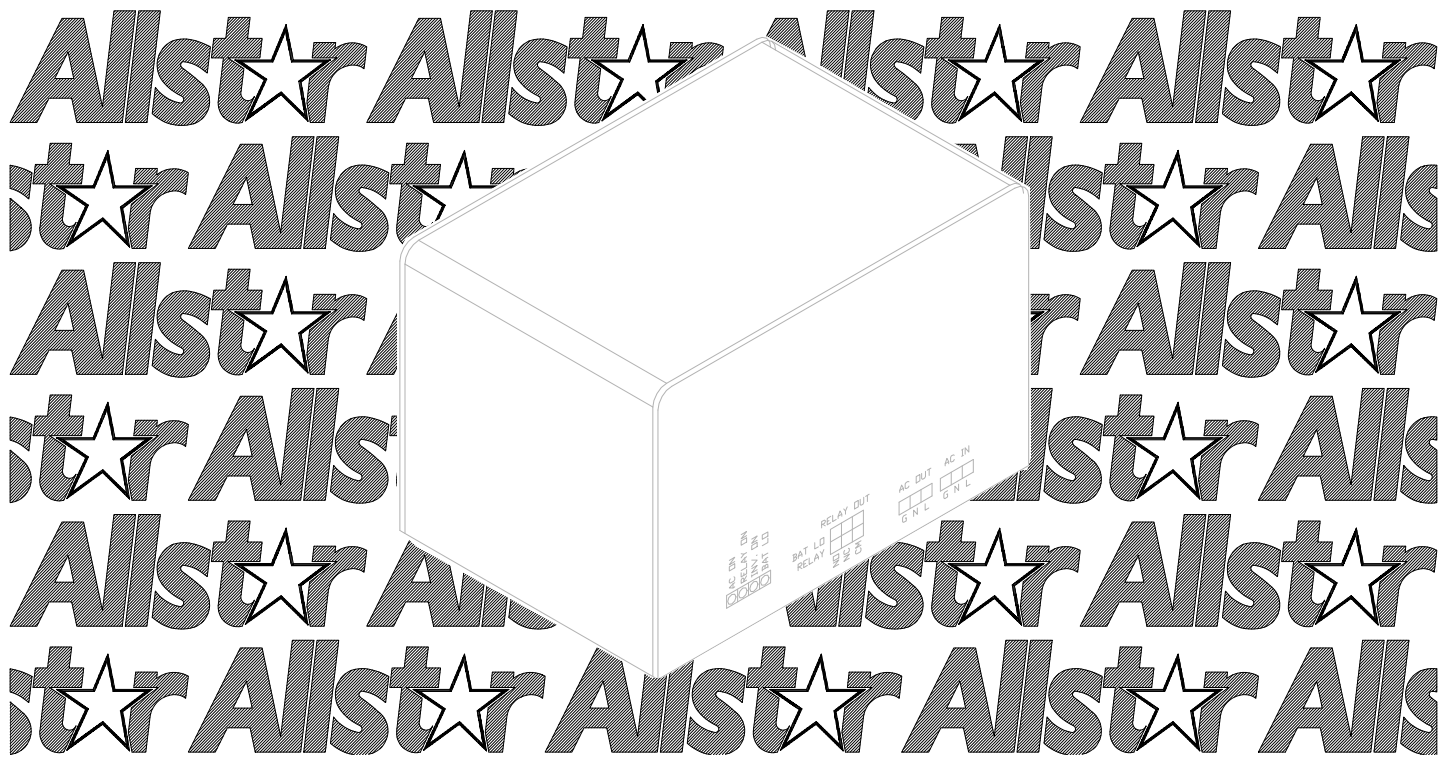


# **INSTALLATION AND OWNER'S MANUAL**

## **MODEL SPS-50 GATE OPERATOR**

## **STANDBY POWER SUPPLY**



107887

Serial #:
Date Installed:
Your Dealer:



**READ THIS MANUAL  
CAREFULLY BEFORE  
INSTALLATION OR USE**

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## ★ READ THESE STATEMENTS CAREFULLY AND FOLLOW THE INSTRUCTIONS CLOSELY.

The Warning and Caution boxes throughout this manual are there to protect you and your equipment. Pay close attention to these boxes as you follow the manual.


<b>WARNING</b>
Indicates a MECHANICAL hazard of INJURY OR DEATH. Gives instructions to avoid the hazard.


<b>CAUTION</b>
Indicates a MECHANICAL hazard of DAMAGE to your gate, gate operator, or equipment. Gives instructions to avoid the hazard.


<b>WARNING</b>
Indicates an ELECTRICAL hazard of INJURY OR DEATH. Gives instructions to avoid the hazard.


<b>CAUTION</b>
Indicates an ELECTRICAL hazard of DAMAGE to your gate, gate operator, or equipment. Gives instructions to avoid the hazard.

# PRE INSTALLATION NOTES



The Allstar Standby Power Supply is designed to provide back-up power to a gate operator when the main AC supply voltage is interrupted or disconnected. It eliminates the need for a separate motor and control circuit to be mechanically attached to the gate operator. The SPS-50 will provide the power and a signal to the gate operator to open the gate and leave it open until the main power is restored. Once the main power is restored, the SPS-50 will provide a signal to the gate operator and the operator will close (if a timer to close is used). It is not designed to continuously cycle the gate operator. Many local building codes require this type open only back-up vs. a continuous cycle back-up.

As the designer and installer of the GATE SYSTEM, you must advise the purchaser on the proper use of the gate system. You also have the primary responsibility of insuring that ALL possible operational hazards have been considered and eliminated. YOU MUST ADVISE and WARN the purchaser and the ultimate user of ANY HAZARDS that you have not been able to eliminate.



## NOTICE

**BEFORE ATTEMPTING INSTALLATION, READ THIS MANUAL CAREFULLY SO YOU WILL BE THOROUGHLY FAMILIAR WITH THE FEATURES OF THE ALLSTAR STANDBY POWER SUPPLY AND ITS PROPER INSTALLATION.**

The SPS-50 consists of control box and a battery pack. The SPS-50 control box senses the main power, charges the battery pack, converts the DC battery voltage to AC voltage (to power the operator) and provides control signals to activate the operator when the main power is interrupted. Additionally, the SPS-50 control box has a set of relay outputs that are activated if a low battery capacity is detected. These contact may be connected to an alarm system to alert the end user that battery maintenance is required.

Gate operators are designed to start and move gates weighing as much as 1000 pounds or more and are capable of producing high levels of force. It is important in the design of the total gate system that designers, installers and users be aware of the hazards that may be associated with the IMPROPER design, installation and use of vehicular gate systems and gate operators.



## NOTICE

THE IMPORTANT SAFEGUARDS AND INSTRUCTIONS IN THIS MANUAL CANNOT COVER ALL POSSIBLE CONDITIONS AND SITUATIONS WHICH MAY OCCUR DURING ITS USE. IT MUST BE UNDERSTOOD THAT COMMON SENSE AND CAUTION MUST BE EXERCISED BY THE PERSON(S) INSTALLING, MAINTAINING AND OPERATING THE EQUIPMENT DESCRIBED HEREIN. DO NOT USED THIS EQUIPMENT FOR ANY OTHER THAN ITS INTENDED PURPOSE - PROVIDING TEMPORARY POWER TO A GATE OPERATOR.



## WARNING!

**TO REDUCE THE RISK OF SEVERE INJURY OR DEATH: READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS AND GATE SYSTEM DESIGN PARAMETERS PROVIDED WITH THE GATE OPERATOR.**

Advise the purchaser to test the operation of the SPS-50 monthly and record the date tested on the log provided below.


<b>WARNING HIGH VOLTAGE</b>				
<b>ONLY A QUALIFIED TECHNICIAN SHOULD SERVICE THIS GATE OPERATOR</b>				
<b>PERIODICALLY TEST SENSITIVITY OF OVERLOAD</b>				
<b>*** READ MANUAL ***</b>				
<b>LOG DATE BATTERY TEST</b>				<b>DATES OPERATOR SERVICED</b>
<b>DATE TESTED</b>	<b>DATE TESTED</b>	<b>DATE TESTED</b>	<b>DATE TESTED</b>	

# ★ INSTALLING THE SPS-50

The SPS-50 is not weather proof and must be protected from exposure. Ideally, the unit should be located inside the operator, away from where water might infiltrate the operator. If there is no suitable space inside the operator, it may be located in an electrical enclosure outside the operator. The battery pack must be connected to the SPS-50 control box with the leads provided. Do not route low voltage wires in the same conduit as high voltage wires. Follow all local electrical codes or the national electrical code.

The following items are included with the SPS-50:

1. 1- SPS-50 control box
2. 1- SPS-50 battery pack
3. 1- Relay output wire harness
4. 2- AC power in or power out wire harness
5. 1- Warning label
6. 1- Instruction Manual




## WARNING!

THE SPS-50 IS DESIGNED TO PROVIDE POWER TO A GATE OPERATOR WHEN THE MAIN AC POWER IS TURNED OFF. A GATE OPERATOR CONNECTED TO THE SPS-50 MAY START UNEXPECTEDLY WHEN THE MAIN AC POWER IS TURNED OFF. WHEN SERVICING THE GATE OPERATOR OF THE SPS-50 DISCONNECT THE BATTERY PACK.

The SPS-50 consists of control box and a battery pack. Connectors are located on the SPS-50 control box for AC IN, AC OUT, RELAY and BAT LO. Pre-wired harnesses are provided to mate with these connectors. The black and red wires are used to connect to the battery pack. The LED's indicate the status of the main AC voltage and the SPS-50 as follows:


- AC ON: Green LED on, AC line voltage present
- RELAY: Yellow LED on, relay NO output is closed to common, CM
- INV ON: Yellow LED on, the SPS-50 is providing power to the gate operator
- LO BAT: Red LED on, the LO BAT relay NO output is closed to common, CM

Refer to the figure below for the location of the connectors and LED's.



## WARNING!

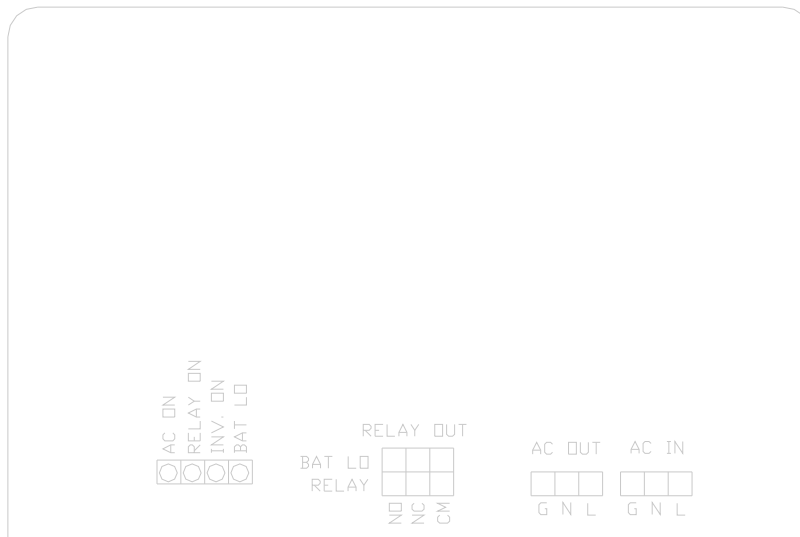
THE SPS-50 PRODUCES LETHAL VOLTAGES. THE BATTERY PACK IS CAPABLE OF SUPPLYING HAZARDOUS CURRENT. THE SPS-50 SHOULD BE INSTALLED BY A QUALIFIED TECHNICIAN.



## WARNING!

DANGEROUS VOLTAGES MAY BE PRESENT WHEN THE BATTERY PACK IS CONNECTED TO THE SPS-50 CONTROL BOX. DO NOT CONNECT THE BATTERY UNTIL INSTRUCTED TO DO SO. DISCONNECT THE BATTERY PACK BEFORE SERVICING.


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**Figure 1: Location of Connectors and LED's**

## Connecting the AC Line Voltage (Main Voltage)

The SPS-50 is designed to provide back-up power to the gate operator ONLY. Auxiliary devices such as loop detectors, card readers, phone entry systems, etc., must NOT be connected to the output of the SPS-50. These devices may overload the capacity of the SPS-50 and prevent proper gate operation.

	<b>WARNING!</b>
<b>RISK OF ELECTROCUTION. DO NOT BEGIN THE ELECTRICAL CONNECTION PROCEDURES UNTIL THE POWER IS TURNED OFF AT THE CIRCUIT BREAKER.</b>	

Electrically, the SPS-50 is wired in series with the incoming AC supply from the breaker box to the operator. The connector labeled AC IN is connected to the main AC supply. The AC OUT is connected to the operator.

Refer to the diagram on page 7 for the following:

Connect the incoming AC line to the AC IN as follows:

- L - AC Line In (live): Black
- N - AC neutral (common): White
- G- AC Ground (earth): Green

Connect the outgoing AC line to the AC OUT as follows:

- L - AC Line out: Black
- N - AC neutral: White
- G- AC Ground: Green

Refer to the instructions provided with the operator for the proper connections to the operators.

## Connecting the Relay Outputs

Two sets of relay outputs are available on the SPS-50. The set marked LO BAT are intended to be alarm contacts to alert of low battery capacity. These must be connect to a suitable alarm system (not provided).


The set marked RELAY are connected to the operator as follows:

- CM - Common, connected to the control input common terminal of the operator
- NO - Normally open, connected to the hold open terminal of the operator

If the operator uses a normally closed control circuit, the NC contact may be used. Refer to the instructions provided with the operator for the proper connections to the operator control panel.

## Applying Power and Connecting the Battery Pack

Follow the steps below when connecting the battery pack to the SPS-50:

	<b>CAUTION!</b>
<b>DO NOT CONNECT THE BATTERY PACK UNTIL AC POWER IS TURNED ON. ARCING WILL OCCUR AND THE SPS-50 WILL ACTIVATE THE GATE OPERATOR.</b>	

1. Turn the main power on. The AC LED on the SPS-50 should be on.
2. Test the operator for several open / close cycles
3. Connect the battery pack to the SPS-50. Connect the red wire to the red terminal on the batter pack and the black wire to the black terminal on the battery pack

**WARNING!:** Do not reverse the connections to the battery pack. Reversing the leads will permanently damage the SPS-50.

Typically, the batteries will require 24 hours of charging time after installation.

## Testing the SPS-50

After the batteries are charged, the SPS-50 may be tested. To test, turn the main power off and allow the SPS-50 to cycle the operator. There will be approximately a ten second delay between the loss of AC power and when the operator starts to open. After approximately 30 seconds, the SPS-50 will shut down the power to the operator.

After the completion of the test, turn the main AC power back on. After approximately ten seconds a reset pulse will be sent to the operator. If the operator is wired for auto timer to close, it should close at the end of the time delay period.

The SPS-50 will only provide back-up power for 2-5 cycles (depending on battery charge, temperature and gate size and weight). If the battery charge is too low, the SPS-50 will not be able to develop sufficient voltage to power the gate operator and the batteries must recharge before additional testing.

A monthly test should be made to ensure proper operation of the system.



# INSTALLING THE SPS-50

## Installing the Warning Labels

The warning labels should be placed to notify service personnel that the gate operator is connected to a back-up power supply unit.

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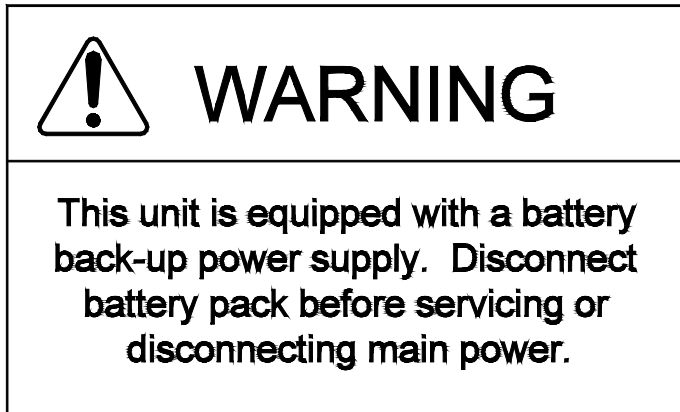


Figure 2: Warning Label

## Maintenance of Batteries

Typical battery life should be two years, however this will vary depending on use and climate. Should batteries need replacing, observe the following:

Servicing of batteries should be performed by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from the batteries.

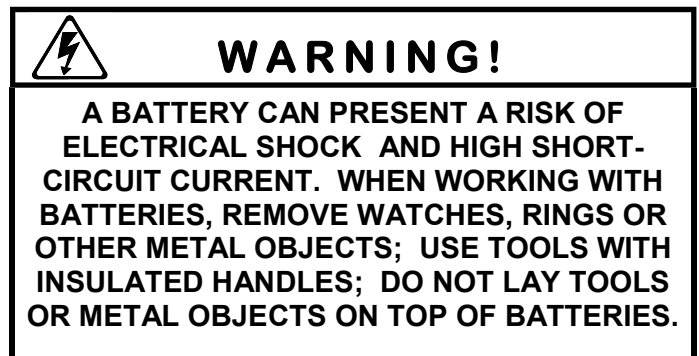
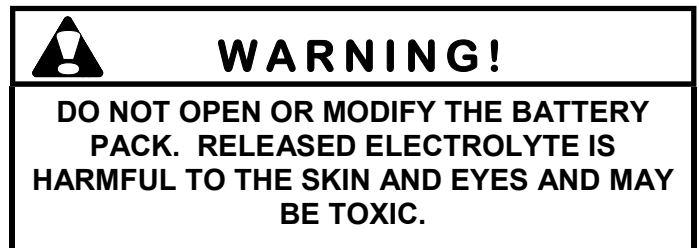
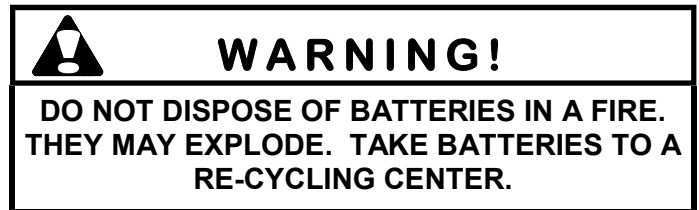
When replacing batteries replace with the same number and type. The SPS-50 uses a PowerSonic PS-1270 rechargeable maintenance free, 12 volt, 7.0 amp/hour battery.

When disconnecting the battery pack from the SPS-50 make sure main AC power is turned on.

## Final Installation Check List

Before leaving the installation:

- Check for any unsafe conditions
- Make sure all covers are replaced on electrical enclosures
- Check for proper installation of sprocket guards and warning signs
- Test all safety features and safety equipment
- Disable and do not place the gate operator in service if any unsafe conditions exists
- Review with the owner/end user of the system the proper operation and safety features of the gate system
- Leave the installation and maintenance manual with the owner/end user



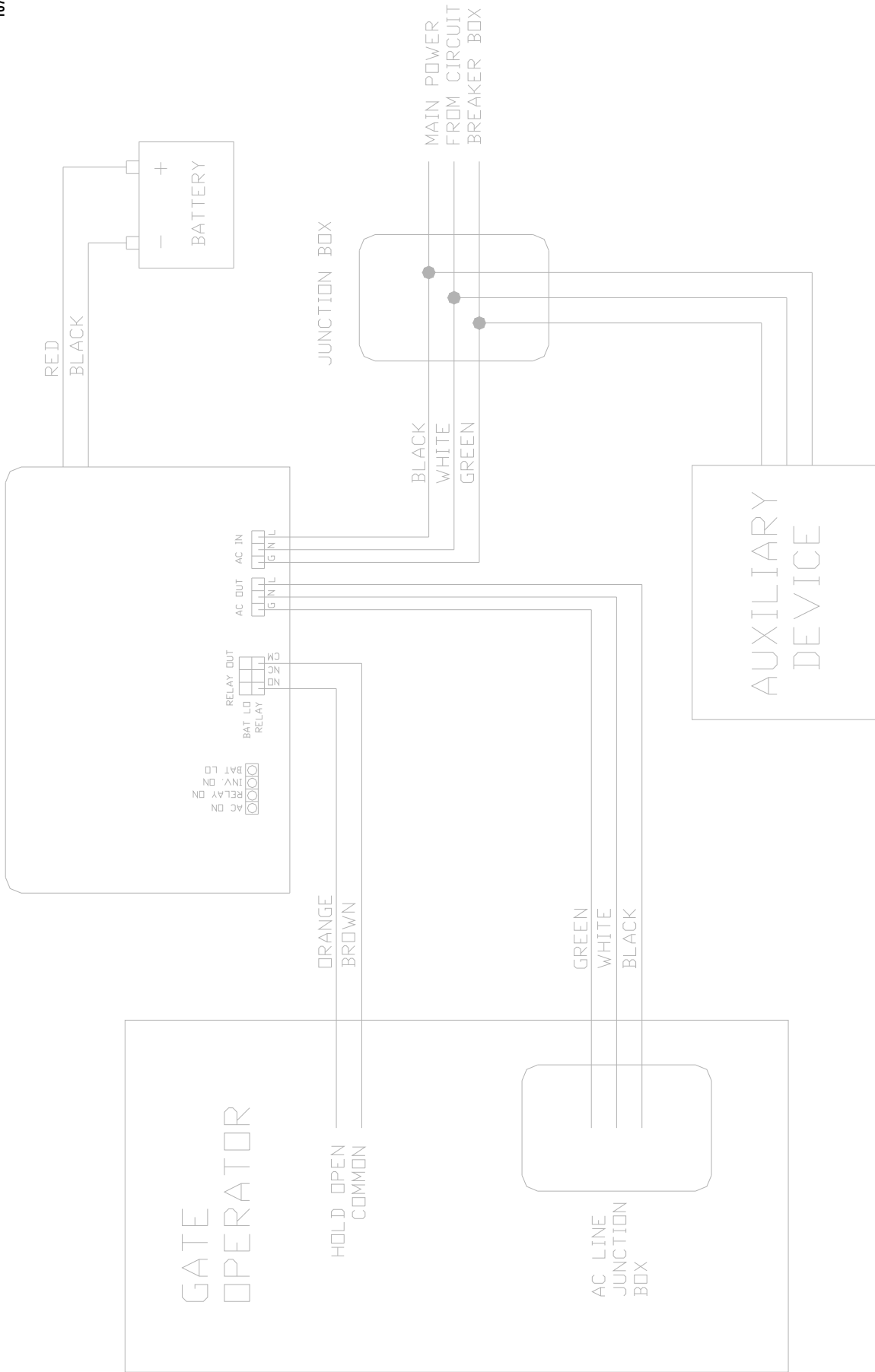
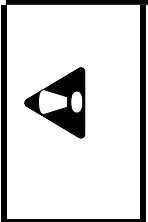


Figure 3: Wiring Diagram



**RISK OF ENTRAPMENT.**  
**THE SPS-50 IS DESIGNED TO PROVIDE POWER TO A GATE OPERATOR WHEN THE MAIN AC POWER IS TURNED OFF. A GATE OPERATOR CONNECTED TO THE SPS-50 MAY START UNEXPECTEDLY WHEN THE MAIN AC POWER IS TURNED OFF.**



# TECHNICAL SPECIFICATIONS

INPUT VOLTAGE: 105 - 125 VAC  
SURGE PROTECTION: MOV, TRANZORB  
BATTERY: 24 VDC, 7 AH  
RECHARGE TIME: 8 HOURS

OUTPUT VOLTAGE: 115 VAC  $\pm$  10%  
OUTPUT FREQUENCY: 60 HZ  
OUTPUT CURRENT: 5 AMPS  
SURGE CURRENT: 9 AMPS  
OUTPUT POWER: 500 WATTS  
SURGE POWER: 1000 WATTS  
RELAY OUTPUT: DPDT, 2 AMPS

*Specifications subject to change without notice. Consult the factory.*



**CAUTION!**

**DO NOT EXCEED THE OUTPUT CAPACITY OF THE SPS-50.  
CONNECTING A MOTOR LOAD LARGER THAN RECOMMENDED WILL  
DAMAGE THE SPS-50 AND VOID THE WARRANTY.**

## Manufacturer's Limited Warranty

Linear LLC warrants its Allstar brand SPS-50 to be free from defect in material and workmanship for a period of one (1) year from the date of purchase for single family home or for multi-family and commercial use. To obtain service contact your dealer.

To obtain service under this warranty the buyer must obtain authorization instructions for the return of any goods from Linear before returning the goods. The goods must be returned with complete identification, with copy of proof-of-purchase, freight prepaid and in accordance with Linear's instructions or they will not be accepted. In no event will Linear be responsible for goods returned without proper authorization or identification.

Goods returned to Linear for warranty repair within the warranty period, which upon receipt by Linear are confirmed to be defective and covered by this limited warranty, will be repaired or replaced at Linear's sole option, at no cost and returned pre-paid. Defective parts will be repaired or replaced with new or factory rebuilt parts at Linear's sole option.

This limited warranty does not cover non-defect damage, damage caused by unreasonable use, damage caused by improper installation or care, vandalism or lightning, fire or excessive heat, flood or other acts of God (including, but not limited to misuse, abuse or alterations, failure to provide reasonable and necessary maintenance), labor charges for dismantling or reinstalling a repaired or replaced unit, or replacement batteries.

These warranties are in lieu of all other warranties, either expressed or implied. All implied warranties of merchantability and/or fitness for a particular purpose are hereby disclaimed and excluded. Under no circumstances shall Linear be liable for consequential, incidental or special damages arising in connection with the use or inability to use this product. In no event shall Linear's liability for breach of warranty, breach of contract, negligence or strict liability exceed the cost of the product covered hereby. No person is authorized to assume for Linear any other liability in connection with the sale of this product.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state. Warranty effective after October 1st, 2007.

For Information:

877-441-9300 800-421-1587 [www.allstarcop.com](http://www.allstarcop.com)



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