

# Installation Instructions

## Si-50-PST



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## READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. Do not join battery connector until installation is completed and AC power is supplied to the emergency inverter.
2. This product is intended for use with an emergency LED lighting application at least 90 minutes in emergency mode.
3. An unswitched AC power source is required (120-277 VAC , 50/60 Hz) to power these units.
4. This product's chassis must be grounded.
5. This product is suitable for use in damp locations where the ambient temperature is 0°C minimum, to 50°C maximum. This product is not suitable for heated air outlets and wet or hazardous locations.
6. This product contains a rechargeable LiFePO4 or Lithium-ion battery. The battery must be recycled or disposed of properly.
7. Make certain all connectors are in accordance with the National Electrical Codes or Canadian Electrical Code and any local regulations.
8. This emergency inverter is suitable for both factory or field installation. For field installation, please see the instructions section.
9. Do not install near gas or electric heaters.
10. The use of accessory equipment is not recommended by the manufacturer may cause an unsafe condition.
11. Do not use this product for applications other than the intended use.
12. Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.
13. For Canadian applications, the output terminal should be in compliance with the accessibility requirement of the Canadian Electrical Code.
14. This device complies with part 15 of the FCC Rules. Operation is suitable to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference that may cause undesired operation.
15. To reduce the risk of electric shock, disconnect both normal and emergency power supplies and disconnect the battery connector of the emergency inverter before servicing.
16. Do not attempt to service the battery. It is a sealed, no-maintenance battery is used that is not field replaceable. Contact the manufacturer for information on service.
17. Servicing should be performed by qualified service personnel only.

# INSTALLATION

**CAUTION: DO NOT JOIN BATTERY CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED TO THE EMERGENCY INVERTER.**



**NOTE:** Make sure the necessary branch circuit wiring is available. An unswitched source of power is required.

This product is suitable for field installation. There are two (2) checks to determine if your luminaire is eligible for field installation.

1. The emergency unit must be fed with 120-277 Vac (+/- 10 %) or 120-347 Vac (+/- 10%) depending on model.
2. Verify the total power of emergency luminaire(s) is less than the maximum power capacity with different inverter models.

Emergency Inverter Model	Power Share Technology - PST * Luminaire(s) with 0-10 Dimming	Luminaire(s) without 0-10V Dimming
Si-50-PST	150W	50W

Maximum Power Capacity

Table 1

**NOTE:** \*When using the PST feature and connecting normal power loads of greater than the inverter power rating, the purple /white and pink/white lead wires **MUST** be connected to the luminaire(s) AC driver dimming leads. See Figure A wiring diagram.

**NOTE:** After installation, it will be necessary to measure the egress lighting illumination level to ensure it complies with national state and local code requirement.

**Installation of this emergency LED inverter will vary based on the luminaire type, however generally follow two steps.**

## STEP #1 INSTALLING THE EMERGENCY INVERTER

- ◆ Disconnect AC power from the LED luminaire.
- ◆ Mount the emergency inverter by the mounting tabs using appropriate screws(not provided). The luminaire’s installation instructions may provide guidance on the recommended mounting location.
- ◆ **Mounting Height:** Many factors influence emergency illumination levels, such as the lamp load selected, luminaire design, and environmental factors. Therefore end-use verification is necessary. For field installations, the mounting height of illumination must be measured in the end application to ensure the minimum lumens requirements on national, state, and local codes are satisfied.

Lumens can be calculated by the following formula:

$$\text{Lumens in Emergency Mode} = \text{Lumens per Watt of Fixture} * \text{Output Power of Chosen Product}$$
$$\text{_____ (Lumens)} = \text{_____ (lm/W)} * \text{_____ (W)}$$

## STEP #2 WIRING THE EMERGENCY INVERTER

Select the appropriate wiring diagram to connect the emergency inverter with 0-10V dimming function(Figure A) or without the 0-10V dimming function(Figure B).

Make sure all connections are in accordance with the National Electrical Code and any local regulations. After installation is complete, supply AC power to the emergency inverter and join battery connector. At this point, power should be connected to luminaire, and the Charging Indicator Light should illuminate indicating the battery is charging.

A short-term discharge test may be conducted after the emergency inverter has been charged for one hour. A 24-hour charging period must be performed before conducting a long-term discharge test.

**"CAUTION - This Unit Has More Than One Power Connection Point. To Reduce The Risk Of Electric Shock, Disconnect Both The Branch Circuit-Breakers Or Fuses And Emergency Power Supplies Before Servicing."**

## OPERATION

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During normal operation AC power is applied, to the inverter, and the charging indicator light is illuminated, which indicates that the battery is being charged. When power fails, the emergency inverter will automatically switch to emergency power (internal battery), operating for a minimum of 90 minutes. The emergency inverter will have around 3 second transfer time to emergency mode, the actual transfer time will be varied based on different type of AC luminaire. When AC power is restored, the emergency inverter returns to the charging mode.

## MAINTENANCE

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Although no routine maintenance is required to keep the emergency inverter functional, it should be checked periodically to ensure that it is working. The following schedule is recommended:

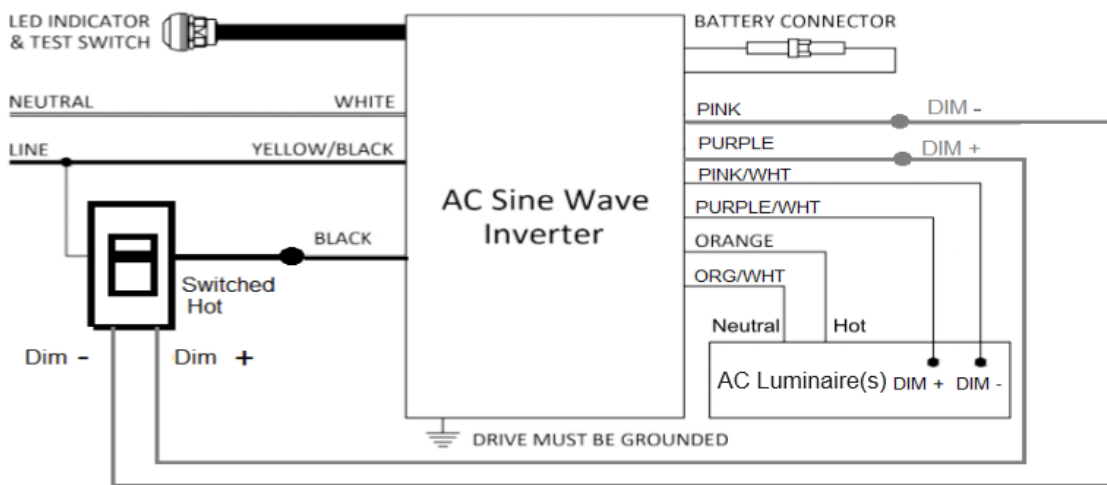
1. Visually inspect the charging indicator light monthly. It should be illuminated. If the charging indicator is off. Contact technical support.
2. Test the emergency operation of the fixture at 30-day intervals for a minimum of 30 seconds. The LED load should operate at reduced illumination.
3. Conduct a 90-minute discharge test once a year. The LED load should operate at reduced illumination for at least 90 minutes.

! REFER ANY SERVICING INDICATED BY THESE CHECKS TO QUALIFIED PERSONNEL!

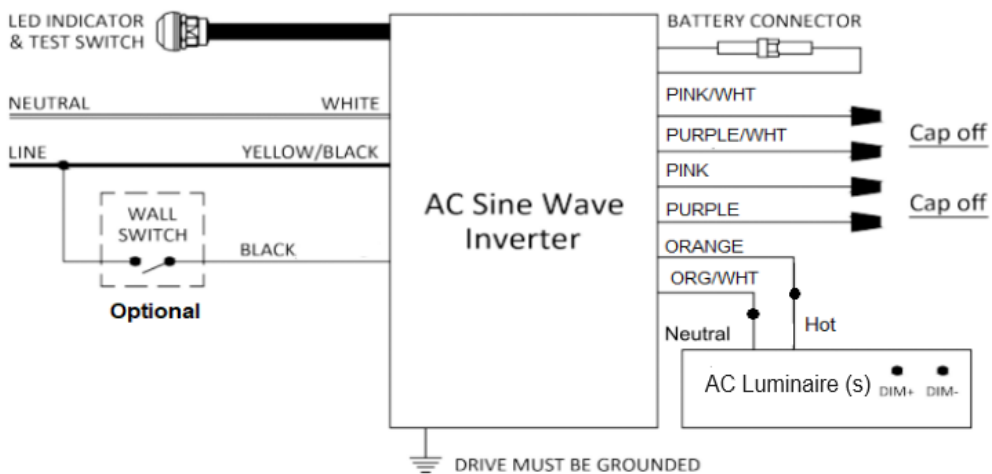


**RE-CHARGE BATTERY for 24HRS/48HRS BEFORE 1YR Anniversary Date of Manufacture.**  
**RECARGUE LA BATERÍA por 24 HORAS/48 HORAS ANTES DE 1 AÑO Aniversario Fecha de fabricación.**

## SYSTEM WIRING DIAGRAM

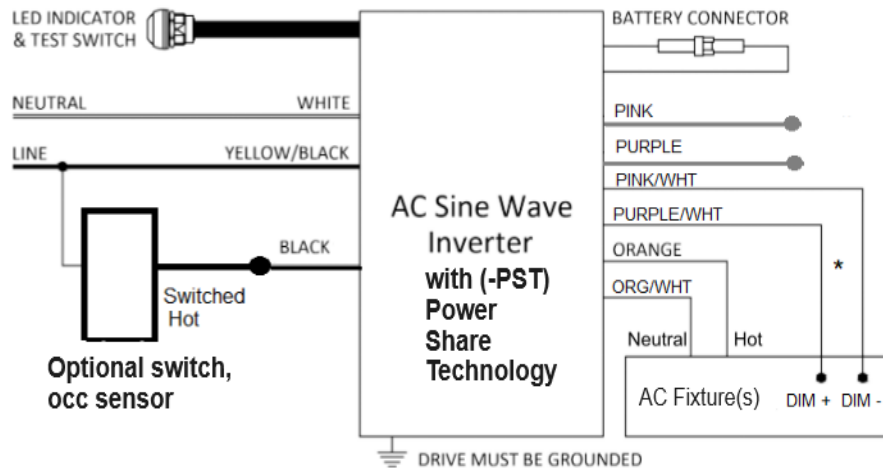


**Figure A. Wiring Diagram with 0-10V Dimmer**  
See Table 1 for maximum connected load.



**Figure B. Wiring Diagram without 0-10V Dimmer**  
See Table 1 for maximum connected load.

NOTE B: A short-term discharge test may be conducted after the emergency inverter has been charged for one hour. A 24-hour charging period must be performed before conducting a long-term discharge test.



**Figure C. Wiring Diagram for High Power loads greater than the inverter power but when no dimmer is used- such as a highbay. Purple/White(+) and Pink/White(-) MUST be connected from micro inverter to the AC driver dim leads with proper polarity.**

See Table 1 for maximum connected normal power load.