


SP Series Industrial Battery Unit

Installation instructions



WARNING:
Risk of Electrical Shock.
Disconnect Power before Installation.



IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. Servicing of this equipment should be performed by qualified service personnel.
2. All unused wires must be insulated to prevent shorting.
3. Turn off electrical power before and during installation and maintenance.
4. Keep tightly closed when in operation.
5. Use caution when handling batteries. Battery acid can cause burns to the skin and eyes. If acid is spilled on the skin or eyes, flush acid with fresh water and contact a physician immediately. Avoid possible shorting.
6. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
7. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
8. Do not use this equipment for other than intended use.
9. Unit to be installed only as per configuration described in this instruction manual.

SAVE THESE INSTRUCTIONS

Installation Instructions

1. Turn off unswitched AC power.

Wall mount

- a. Open the cover (See figure 1). Select the entry point for the AC conduit (top or side) and remove one of the plastic bushings. For units with remote emergency lighting: remove the second bushing to install the conduit for DC wires.
- b. Install the unit on the wall with 4 screws (not included).

Mounting on a vertical pole (option)

- a. The universal mounting bracket is an accessory ordered separately (See figure 2).
- b. The bracket can be installed using steel banding for routing around the pole. Standard banding (not provided) must be maximum 3/4-in in width. The bracket can also be mounted on a Superstrut® metal framing (1 5/8-in channel series) using 1/4-in bolts (not provided). Holes are placed at 9-in apart horizontally.
- c. Install the bracket, observing the indicator: TOP.
- d. Slide the unit into the tabs located on both sides of the unit until it sits on the bottom lip of the bracket (See figure 2).
- e. Screw the unit onto the bracket with the 4 screws, washers and nuts included in the bracket kit.

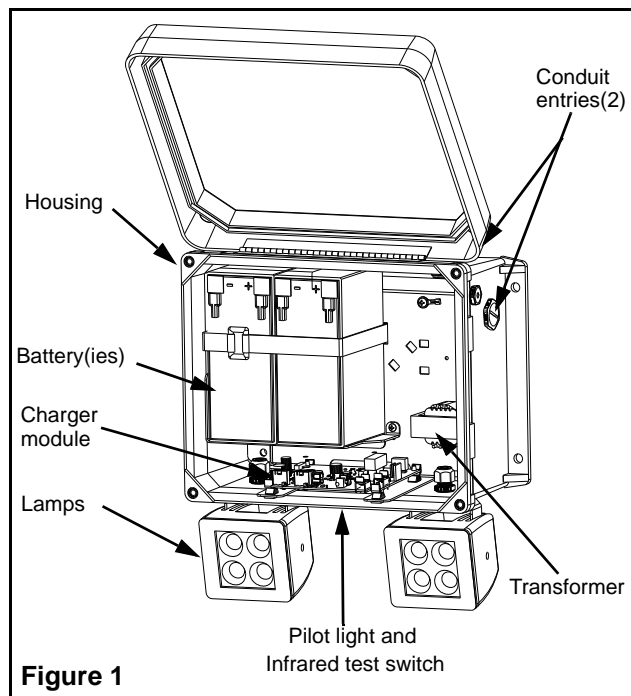


Figure 1

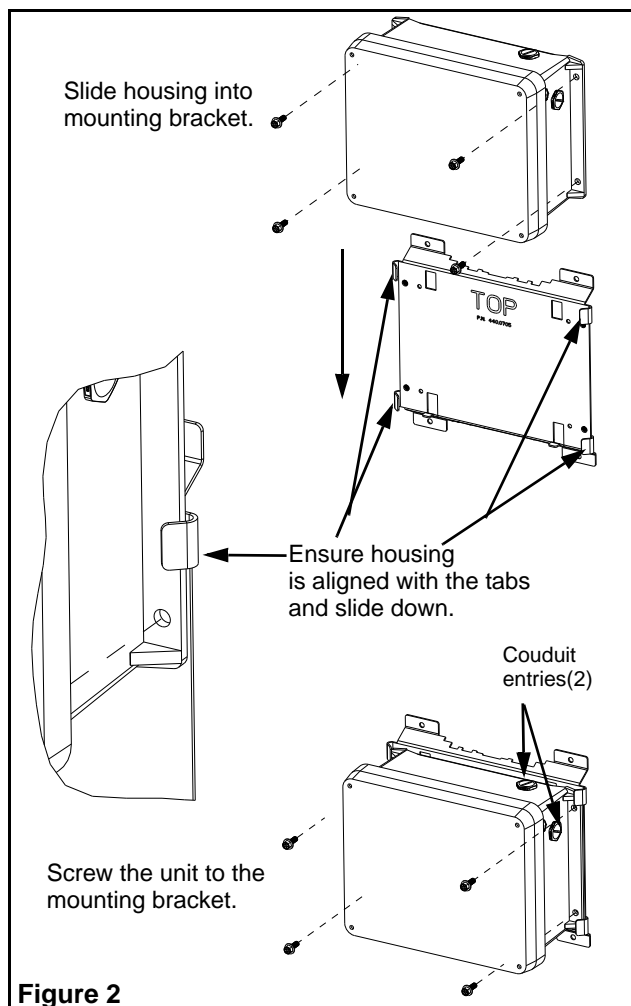


Figure 2

2. Install a water-tight hub (listed for Nema-4X) on the conduit, pass the hub through the cabinet hole and fasten the nut to secure a water-tight entry. If necessary, seal with silicone or equivalent caulking (not provided) to prevent water from leaking into the cabinet.
3. Units with remote emergency lighting: repeat the steps above to install the hub for the DC conduit.

WARNING: FAILURE TO ENSURE A WATER-TIGHT INSTALLATION OF THE CONDUIT AND HUB(S) WILL VOID THE MANUFACTURER WARRANTY.

4. Connect AC wires from building utility: install the ground wire.
 - a. Standard unit: connect the transformer primary wires to the utility: white wire to neutral; black (120Vac) or orange (277Vac) to line voltage (See figure 3).
 - Remote emergency lighting (option): connect the remote DC wires to the terminals of lamp circuit (Figure 3).

WARNING: LED EMERGENCY LIGHTS HAVE POLARIZED WIRES: OBSERVE POLARITY L+ AND L- FOR LOAD CONNECTION.

- b. RFI (option): Connect output line (black) from RFI filter to the transformer primary: black (120Vac) or orange (277Vac). Connect RFI filter module to the utility: white wire to neutral, black wire (120/277Vac) to line (See figure 4).
5. Insulate the unused transformer wire with the wire nut.

Option cold-weather: An electric heater and a thermostat are used to control the ambient temperature inside the equipment.

Connections for 120Vac line voltage (Figure 5):

- a. Install three red clips (provided) one on the yellow wire (heater), and white and black wires (transformer)
- b. Connect **white** wire (heater) to clip of **yellow** wire (heater)
- c. Connect **red** wire (heater) to clip of **white** wire (transformer)
- d. Connect **red** wire (thermostat) to clip of **black** wire (transformer).

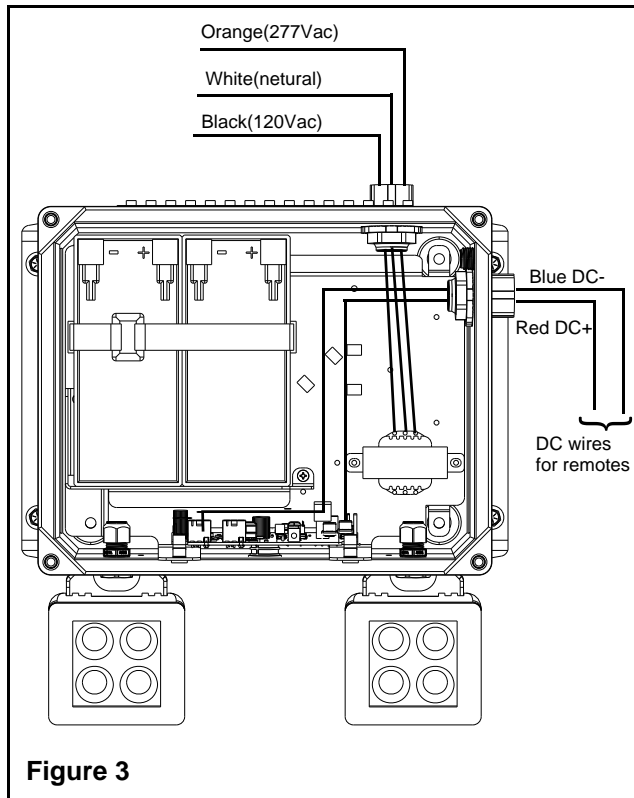
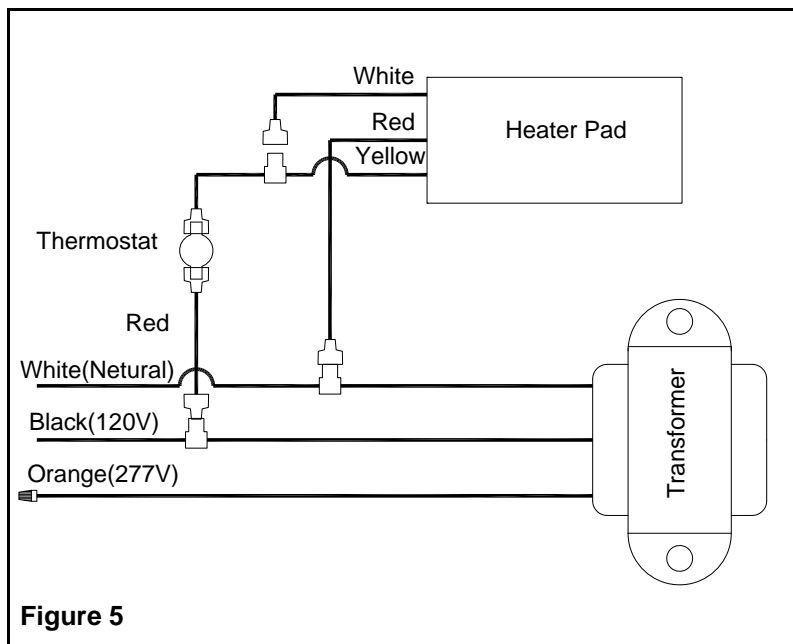


Figure 3

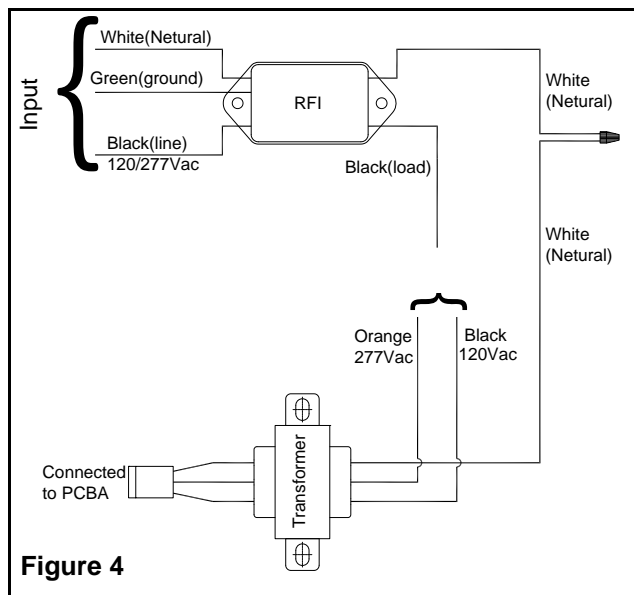


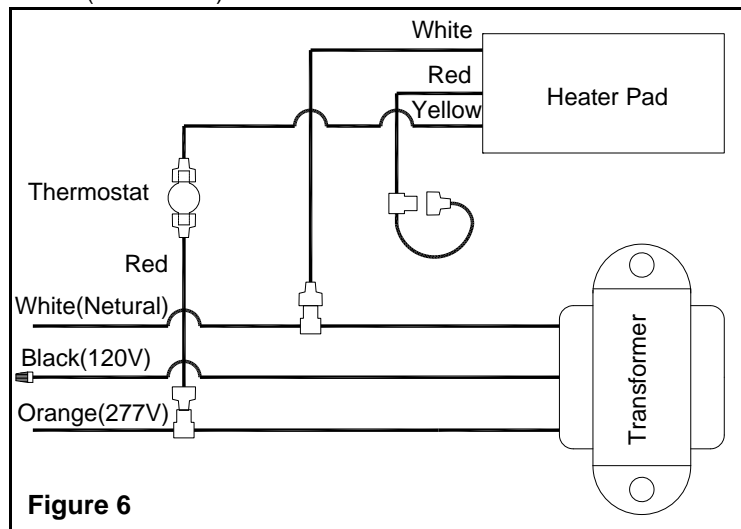
Figure 4

Maximum mounting height as per UL924 standards.

LED Lamp wattage	Maximum mounting height
6 - Watts	30 Feet
10 - Watts	50 Feet
15 - Watts	60 Feet

Connections for 277Vac line voltage (Figure 6):

- Install three red clips (provided) one on the red wire (heater), and white and orange wires (transformer)
- Self-connect **red** wire (heater) on its own clip (electrical cap)
- Connect **white** wire (heater) to clip of **white** wire (transformer)
- Connect **red** wire (thermostat) to clip of **orange** wire (transformer).



- Executes one-minute monthly self-test
 - Executes a 30-minute self-test every 6th month
 - Executes a 90-minute self-test every 12th month
14. **Diagnostic:** The unit is equipped with a bi-color LED pilot light and indicates the following status:
- Green color: AC-on / self-test
 - Red color: Service alarm

A diagnostic label is placed on the unit cover.

O	Green	Steady	AC On
O	Green	Blinking	Testing Mode
O	Red	Steady On	Battery disconnect or Lamp disconnect
O	Red	One Blink	Battery Failure
OO	Red	Two Blinks	Charger Failure
OOO	Red	Three Blinks	Lamp Failure
OOOO	Red	Four Blinks	Heater Failure

Transfer time delay (Option)

This feature works when the AC power is restored: it keeps the emergency lights "on" for a period of: 5, 10 or 15 minutes (factory set). If the battery depletes before the end of the time delay, the lamps turn off and the unit goes in stand-by mode.

The Time Delay feature can be enabled or disabled in the field with the following procedure (See figure 7):

- Make sure that the battery and the AC main power are both disconnected.
- Disconnect the jumper JP4 to activate the Time Delay
- Continue with the standard installation

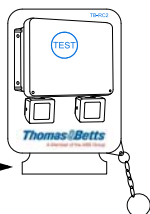
NEXUS (option): refer to page 4 for electrical connections and commissioning

- Install the batteries - if shipped separately - and connect the battery wires to the charger board. Each battery has its own cable and must be connected to the charger.
- Tighten the batteries and cables with the flexible Velcro strap.
- Close the cover and tighten the screws.
- Turn on AC power.

Manual Testing

The equipment comes standard with a one-key infrared remote control. Before starting manual testing remove plastic tab from battery compartment on remote control.

To initiate a test: orient the remote control towards the pilot light of the unit and press the TEST button.



- Test function** (power on, stand-by): press the TEST button, the unit will start a one-minute test. Pressing the button again will abort the test in progress.
- Load disconnect:** this option can be used during a power failure to save battery power during daylight hours. Press the TEST button, the emergency lights will turn off. By pressing the test button again the emergency lights will turn back on.
- On-charger manual test:** the unit also has a test button installed on the charger module located on the bottom of the unit (See figure 7). This is useful during maintenance, with the unit door open. The button performs the same functions as the remote control.

Automatic self-test and diagnostic (Option)

- Self-test:** Once power is supplied to the unit it will automatically initiate a routine self-test calendar as follows:
 - Verifies battery connection, battery failure, charger board failure and lamps failure

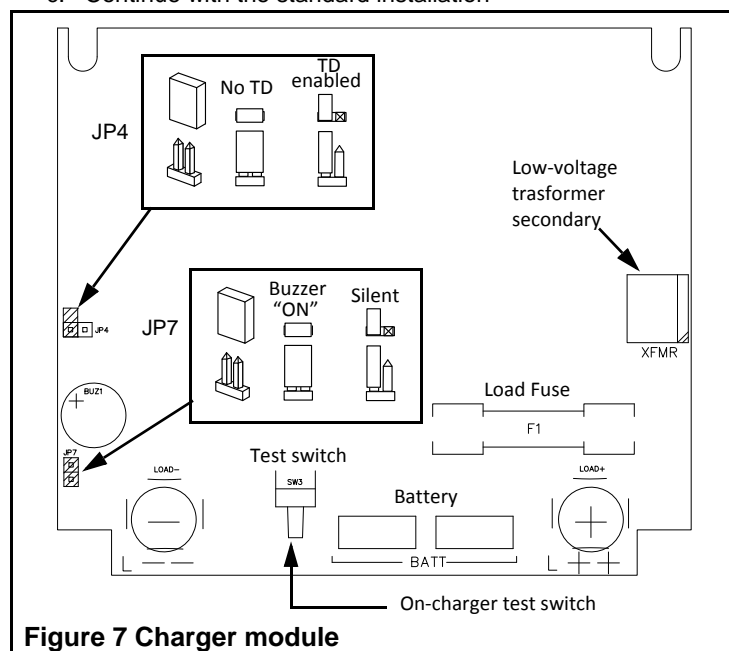


Figure 7 Charger module

Audible service alarm (Option)

This function acts in case of a Service alarm by generating a beep every two seconds.

During a service alarm the beep can be silenced by pressing the remote control test switch.

The audible service alarm can also be permanently disabled in the field by disconnecting the jumper JP7 (See figure 7).

NEXUS (Option)

- a. NEXUS wireless (-NEXRF): the equipment has the antenna installed inside the housing (Figure 8).

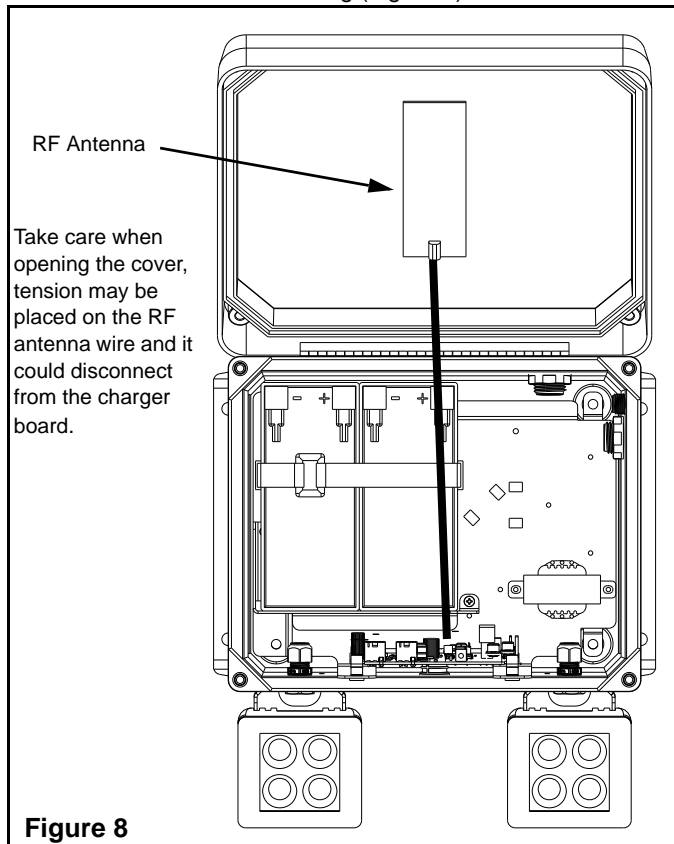


Figure 8

- b. NEXUS wired (-NEX): Install a water-tight hub (listed for Nema-4X) on the conduit and pass the hub through the cabinet hole fastening the nut to ensure a water-tight entry. If necessary, seal with silicone or equivalent caulking (not provided) to prevent water leaking into the cabinet. Route the Nexus data cables into the unit through the conduit and strip 1in(25mm) of the double insulation (see detail in figure 9). The two cables are identical and both contain 2 wires of different colors: color A and color B. Gather the color A wire from each cable, and connect them to the same pole on the terminal block. Gather the color B wire from each cable, and connect them to the other pole on the terminal block. The result must be 2 wires of the same color in each pole on the terminal block (see details in figure 9).

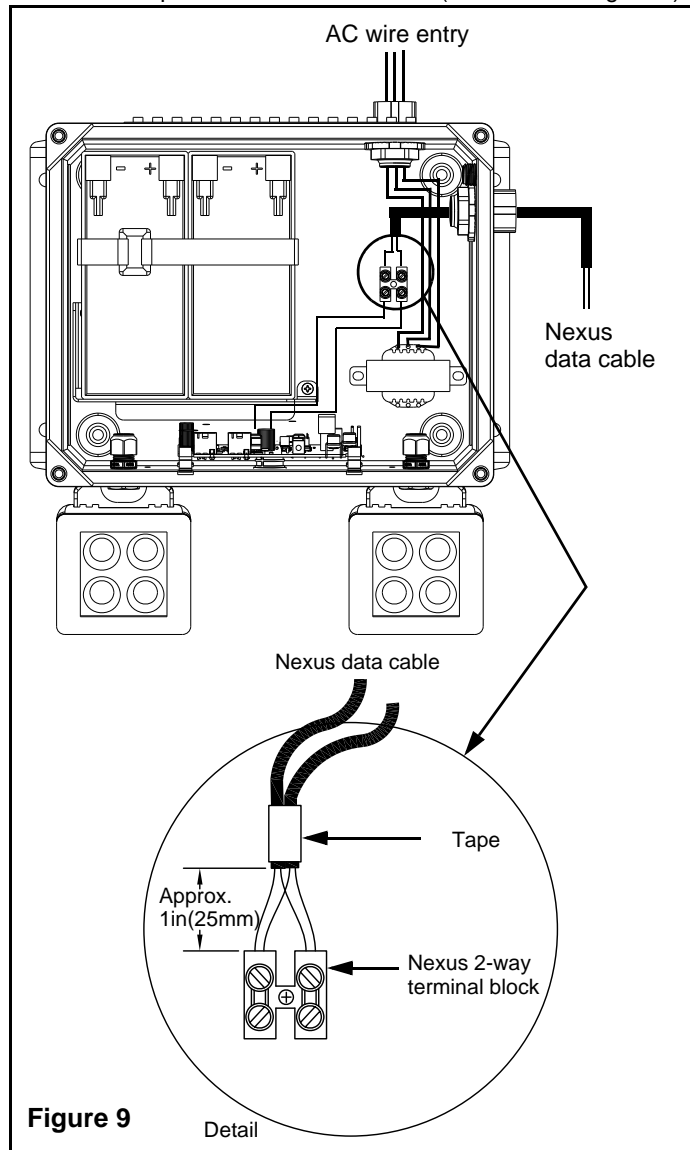


Figure 9

Status LED

LABEL	INDICATOR ACTIVITY	MEANING
● AC ON	Steady green	AC on
● IN TEST	Blinking green	Testing in progress
● BATTERY / LAMP DISCONNECT	Steady red	Battery disconnected and/or load disconnected
● BATTERY FAILURE	1 red blink, then a 5-second pause	Battery failure
● CHARGER FAILURE	2 red blinks, then a 4-second pause	Charger failure
● LAMP FAILURE	3 red blinks, then a 3-second pause	Lamp failure (combo & battery units only)
● HEATER FAILURE	4 red blinks, then a 2-second pause	Heater Failure
● SERVER FAILURE	Steady yellow	Server failure
● BLINK MODE	Blinking yellow	Wink mode
● NOT COMMISSIONED	Alternating yellow and green blinks	Unit not commissioned

WARNING:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. this device may not cause harmful interference.
2. this device must accept any interference received, including interference that may cause undesired operation.

Maintenance

None required. If the AC power to the unit is to be disconnected for two months more: the battery must be disconnected.

Warranty: For the complete warranty information, please refer to the landing page of our website (<http://www.lightalarms.com>).