

High-Performance Battery Unit for hazardous locations

Class 1, Division 2, Class II, Division 1 & 2, Groupe E, F & G



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 affected area with fresh water and contact a physician immediately.
6. Avoid possible shorting.
7. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
8. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
9. Do not use this equipment for other than intended use.
10. Unit to be installed only as per configuration described in this instruction manual.

SAVE THESE INSTRUCTIONS

Installation Instructions

1. Turn off unswitched AC power.
2. Open the cover (See figure 1).
3. For units with remote emergency lighting: remove the bushing located on the side of the unit and install the conduit fitting rated for Class 1 Div 2 (provided) into the open hole for DC wires.

Wall mount

- a. Install the unit on the wall with 4 screws (not included).

Column Mount (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 column. Standard banding (not provided) must be maximum 3/4 inch in width. The bracket can also be mounted on a Superstrut® metal framing (1 5/8 inch channel series) using 1/4-inch bolts (not provided). Holes are placed 9 inches 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).

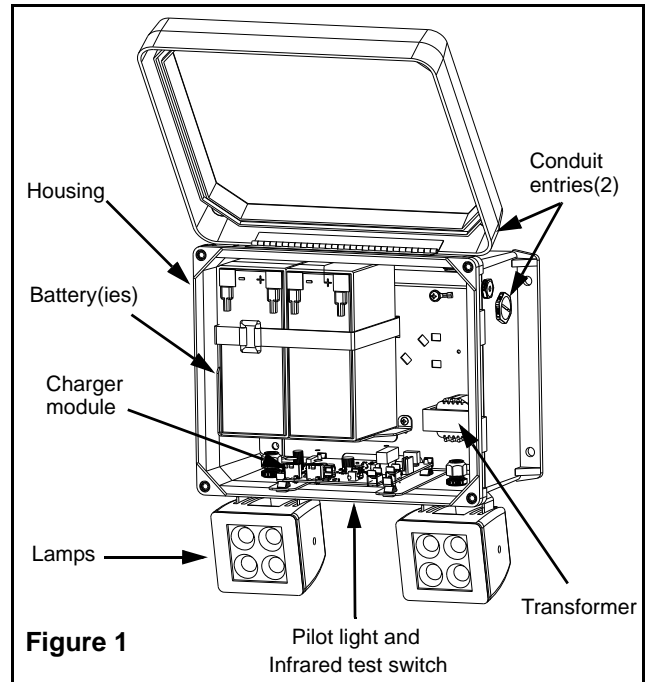


Figure 1

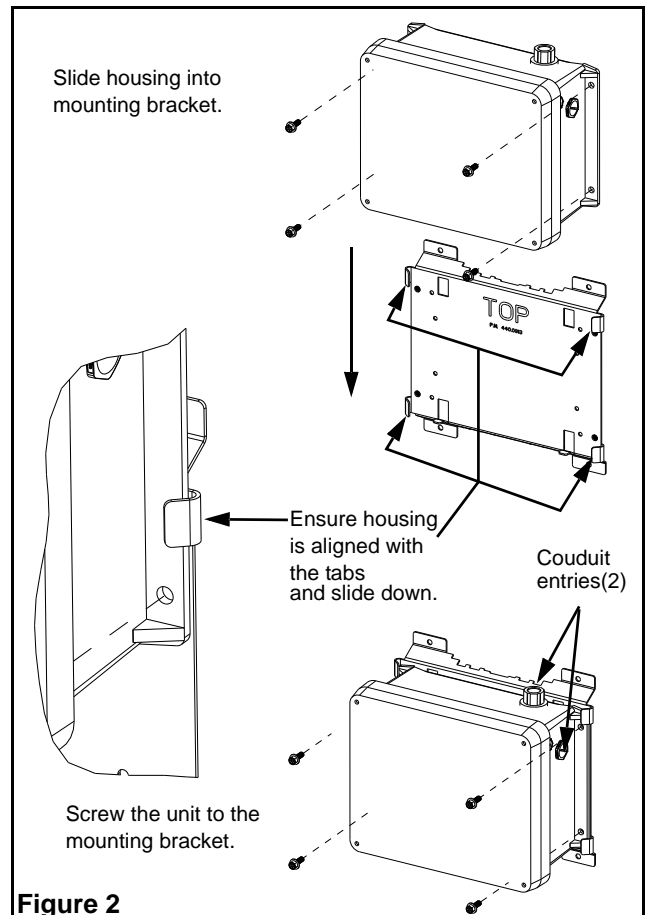


Figure 2

WARNING: THE COLUMN MUST BE ANCHORED TO THE FLOOR AND CEILING.

- e. Screw the unit onto the bracket with the 4 screws, washers and nuts included in the bracket kit.
4. A pre-installed conduit fitting rated for Class 1 Div 2 is located on the top of the unit.
5. Route the wires from the wire conduit(s) through the conduit fitting(s) and into the housing.
6. Thread the wire conduit tightly into the conduit fitting ensuring a water-tight seal. If necessary, seal with silicone or equivalent caulking (not provided) to prevent water from leaking into the cabinet.

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

7. 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 red (347Vac) 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, RF3 (options): The RF filter comes prewired from the manufacturer for either 120Vac(RFI) or 347Vac(RF3).
- c. Option cold-weather: the equipment has two line transformers: one for emergency lighting and the other for temperature control (Figure 4).
 Connect both transformers to the utility:
 Connect two white wires to neutral.
 For 120Vac: connect two black wires to line.
 For 347Vac: connect two red wires to line.

8. Insulate the unused transformer wire with a wire nut.

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

9. 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.
10. Tighten the batteries and cables with the flexible Velcro strap.
11. Close the cover and tighten the screws.
12. Turn on AC power.

Manual Testing

The equipment comes standard with a one-button 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.

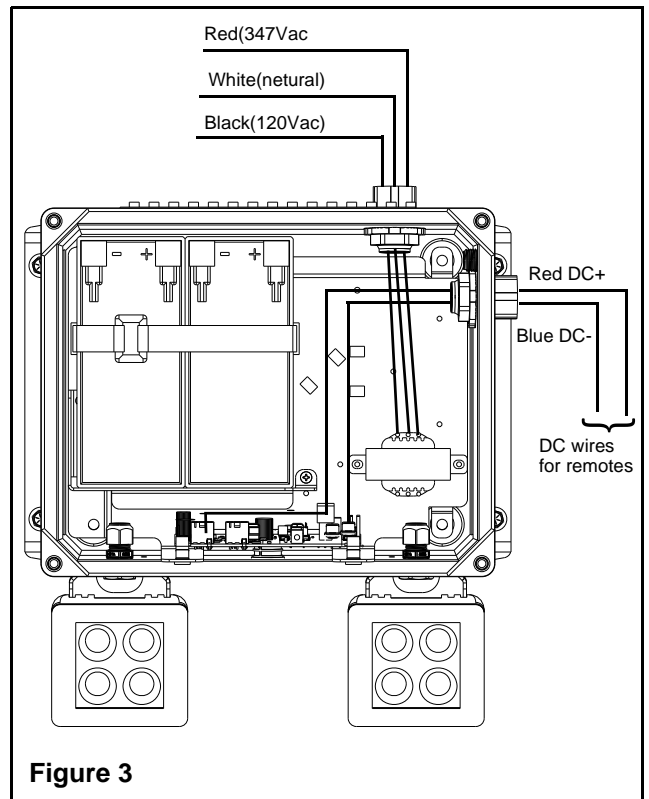
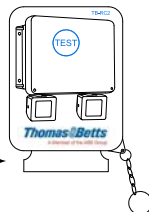


Figure 3

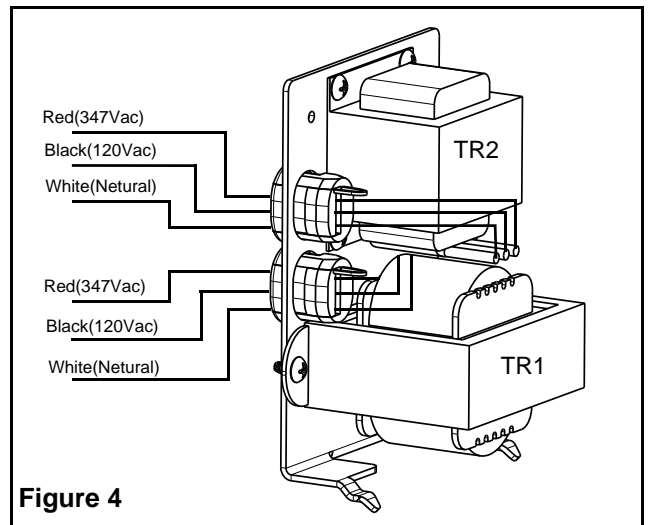


Figure 4

13. **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.
14. **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.
15. **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)

16. **Self-test**: Once power is supplied to the unit it will automatically initiate a routine self-test calendar as follows:
 - a. Verifies battery connection, battery failure, charger board failure and lamps failure
 - b. Executes one-minute monthly self-test
 - c. Executes a 10-minute self-test every 6th month
 - d. Executes a 30-minute self-test every 12th month
17. **Diagnostic**: The unit is equipped with a bi-color LED pilot light and indicates the following status:
 - a. Green color: AC-on / self-test
 - b. 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):

- a. Make sure that the battery and the AC main power are both disconnected.
- b. Disconnect the jumper JP4 to activate the Time Delay.

c. Continue with the standard installation.

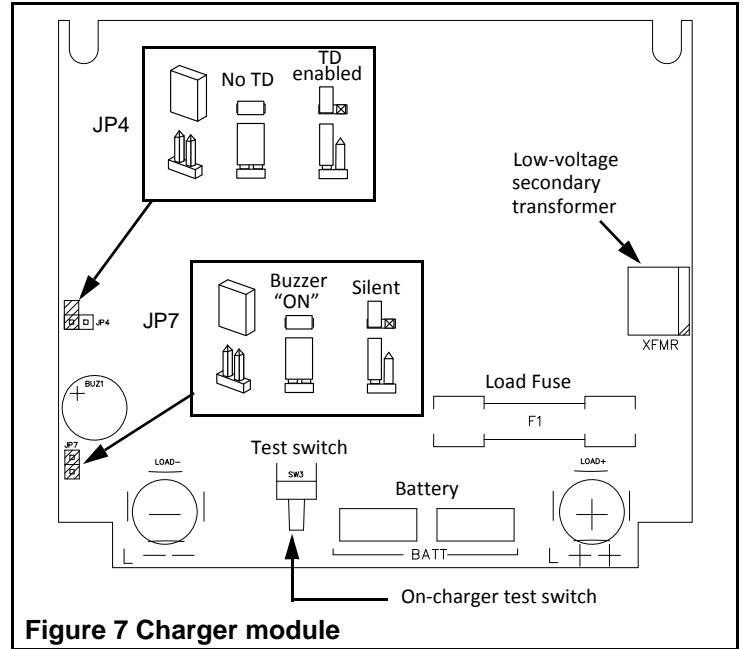


Figure 7 Charger module

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).

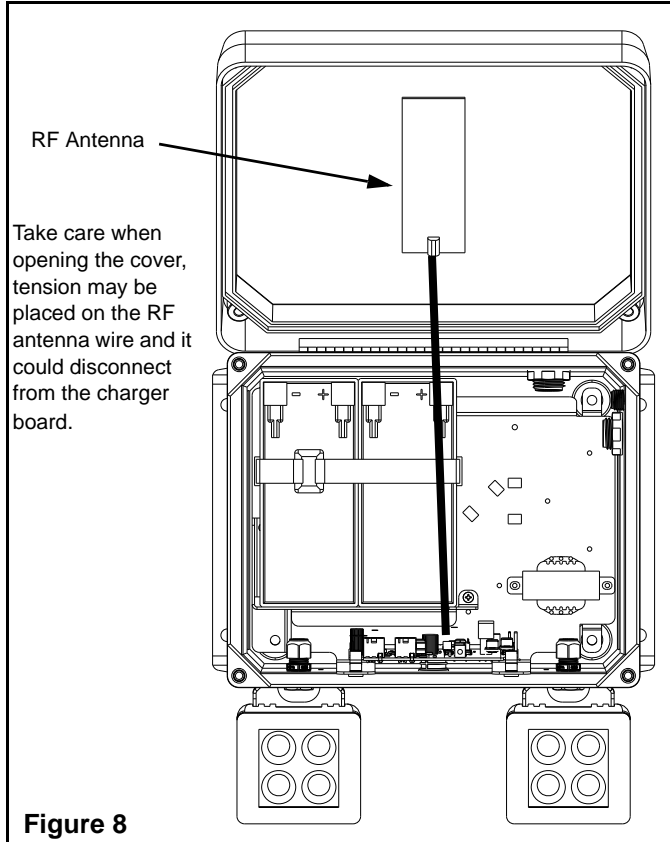


Figure 8

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.

- b. NEXUS wired (-NEX): remove the bushing located on the side of the unit and install the conduit fitting rated for Class 1 Div 2 (provided) into the open hole. Thread the Nexus data cable conduit tightly into the conduit fitting ensuring a water-tight seal. 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 hub and strip 1 in(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).

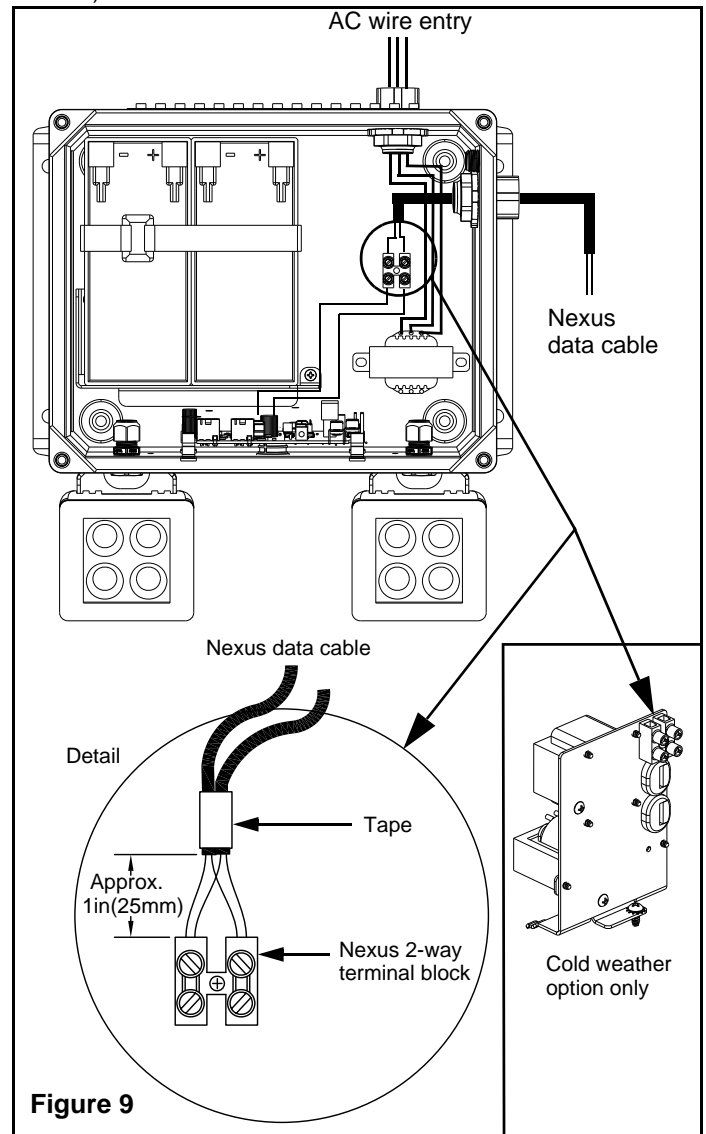


Figure 9

Maintenance

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

Warranty: For the complete warranty information, please refer to the landing page of our website (<http://www.tnb.ca/en/products/emergency-lighting/>).