



IMPORTANT SAFEGUARDS

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

READ AND FOLLOW ALL SAFETY INSTRUCTIONS:

NOT SELF TESTING PER ANSI/NFPA 101

- Do not use outdoors.
- Do not let power supply cords touch hot surfaces.
- Do not mount near gas or electric heaters.
- Use caution when servicing batteries. Battery acid can cause burns to skin and eyes. If acid is spilled on skin or in eyes, flush acid with fresh water and contact a physician immediately.
- Equipment should be mounted securely in locations and at heights where it will not be readily subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommended by the MANUFACTURER may cause an unsafe condition.

CAUTION: When this equipment is furnished with a halogen cycle lamp, these additional safeguards apply:

- To avoid shattering, do not operate lamp in excess of rated voltage, protect lamp against abrasion and scratches and against liquids when lamp is operating. Dispose of lamps with care.*
 - Halogen cycle lamps operate at a high temperature. Do not store or place flammable materials near lamps.*
- The AC voltage rating of this equipment is specified on the product label. Do not connect equipment to any other voltage.
 - Do not use this equipment for other than its intended purpose.
 - Servicing of this equipment should be performed by qualified service personnel.

INSTRUCTIONS FOR CONNECTING CONDUIT

WARNING ! WARNING ! WARNING ! WARNING !

THIS COMPOSITE HOUSING DOES NOT AUTOMATICALLY PROVIDE GROUNDING BETWEEN CONDUIT CONNECTIONS. USE GROUNDING BUSHING AND JUMPER WIRES AS PART OF INSTALLATION

Bonding between grounding bushings, grounding conductors and the unit electronics plate must be included as part of the installation procedure in accordance with The National Electrical Code and Canadian Electrical Code where applicable.

- In unheated areas where the temperature may drop below 32°F (0°C) for prolonged periods, the battery capacity and total output rating of the equipment will be reduced. To ensure that the equipment will operate in conformance with the applicable National Electric Code and NFPA Life Safety code requirements, contact factory for technical assistance

Drilling of Enclosure

1. When adding conduit hub locations to this housing, loosen the screws on the front cover and hinge the cover downward. The use of a standard hole saw is the preferred method for adding hub location holes. Take care not to drill into any of the electronics. Clean any drilling debris from inside housing prior to mounting.

CAUTION: In order to prevent enclosure damage and to attain enclosure requirements, conduit should be aligned and supported so as to prevent unnecessary stress to the enclosure walls.

Metallic Conduit

1. Use only UL listed or recognized conduit hubs that have the same environmental type rating as the housing. Conduit Hubs must be connected to the conduit before being connected to the enclosure.
2. Secure conduit hub to the unit enclosure through the prepared hole using the connector locknut.
3. Attach grounding bushing having the proper size ground wire lug over the connector locknut and bond grounding bushing conductors to the unit electronics plate.
4. In order to obtain maximum corrosion protection with metallic conduit and hub connectors, coat all exposed metal and seal off conduit openings where the conductors enter the enclosure.

Nonmetallic Conduit

1. Use only UL listed or recognized conduit hubs that have the same environmental type rating as the housing. Conduit Hubs must be connected to the conduit before being connected to the enclosure.
2. **NOTE:** Do not use PVC cement to connect conduit hubs to the unit enclosure.
3. Secure conduit hub to the unit enclosure through the prepared hole using the connector locknut.
4. Bond grounding conductors to the unit electronics plate.
5. In order to obtain maximum corrosion protection, seal off conduit openings where the conductors enter the enclosure.

SAVE THESE INSTRUCTIONS

INSTALLATION

1. Extend an unswitched, 24 hour AC supply of rated voltage to the area of installation. **Caution: Do not energize the AC supply until indicated.**
2. NX Series models are designed for wall surface mounting. Mount the unit according to the following procedure:

WALL MOUNTING AND ELECTRICAL CONNECTIONS

1. Loosen the screws on the front cover and hinge the cover downward. Remove any packing material inside the unit housing that may have been used for shipping purposes.
2. Drill appropriate sized hole(s) in the top or side housing wall of upper electronics compartment to accept UL listed or recognized conduit hubs (installer supplied) that have the same environmental type rating as the housing.
CAUTION: Take care not to drill into any of the batteries, electronics or wiring. Clean any drilling debris from inside housing prior to mounting.
3. Connect mounting brackets (provided) to the external mounting holes on back of housing. Mount the housing to the wall surface using mounting hardware (installer supplied) sized appropriately to hold the unit weight (see **SPECIFICATIONS** on back page).
4. Install conduit hub(s) in housing and make up AC input connections to unit as follows:
All standard models are furnished with a dual voltage 120/277VAC field selectable input.
 - a) **For 120VAC operation**, connect the **black** transformer lead to the utility AC supply hot conductor.
 - b) **For 277VAC operation**, connect the **orange** transformer lead to the utility AC supply hot conductor.

Note: A brown lead is used in place of black and orange leads on special models with voltages from 200V to 250 V.

- c) Connect the **white** transformer lead to the utility AC supply neutral conductor.
- d) Make **green** wire building ground connection in compliance with governing code.

WARNING: The NX unit's composite housing will not automatically provide a grounding connection between conduit connectors. Use grounding bushing(s) and jumper wire(s) as part of the installation.

CAUTION: Cap and tape unused transformer lead. Failure to do so will create an unsafe and potentially harmful condition.

5. If remote fixtures are to be connected to the equipment extend the remote circuit in accordance with Article 700 and 720 of the National Electric Code (NEC) and connect to the yellow and violet fused output leads from the PC board.
CAUTION: the minimum wire size required by the NEC is 12 ga. copper or equivalent. Your installation may require larger size wire to ensure that the voltage drop does not exceed 5%. Do not exceed the total output rating of the equipment including any equipment mounted heads.

NOTE: Larger capacity NX Series units are provided with a fused output circuit. Total load should not exceed the rated circuit load.

6. Attach battery connection leads from the PC board assembly to the battery terminals (refer to chart and illustrations on back of sheet for correct connection configuration for the model being installed). Connect the red lead from the PC board assembly to the positive (+) battery terminal. Connect the blue lead from the PC board assembly to the negative (-) battery terminal.

CAUTION: Observe polarity. Failure to connect the battery properly will result in equipment failure and an unsafe condition.

NOTE: The emergency lamps **WILL NOT** illuminate at this time.

7. Energize the AC supply. The **CHARGE** indicator will illuminate.
8. Re-install the front cover onto the unit.
9. Loosen the two adjustment screws on each lighting head powered by the unit and position as required. Tighten screws to lock heads in position.

OPERATION

1. To test the equipment, depress the **TEST** switch. The **CHARGE** indicator will extinguish and the emergency lamps will illuminate.
2. Release the **TEST** switch. The emergency lamps will extinguish and the **CHARGE** indicator will illuminate.
3. The charger circuit will automatically activate and return the battery in a fully charged state.

NOTE: Allow the battery to charge for a minimum of 24 hours after installation or after a power failure before conducting a 90-minute test (see **TESTING**). **CAUTION:** This equipment is furnished with a sophisticated transfer switch that will automatically disconnect the emergency lamps from the battery if;

- 1) the battery has been discharged to its low voltage limit
- 2) The output circuit is overloaded or experiences a short circuit condition

MAINTENANCE

CAUTION: Always turn off AC power to the equipment before attempting any service procedure. Servicing should be performed only by a qualified technician. Use only **MANUFACTURER** supplied or **RECOMMENDED** replacement parts.

- BATTERY:** The battery supplied in this equipment requires no maintenance. However, it should be tested periodically (see **TESTING**) and replaced when it no longer operates the connected fixtures for the full duration of a 90 minute test. The battery supplied in this equipment will provide its full rated life expectancy when used in a temperature range of 68 to 86°F (20 to 30°C).
- OTHER:** Clean lenses and replace lamps, as required.

TESTING

- Allow the battery to charge for 24 hours prior to performing any test. After the charging cycle, test emergency operation by either removing utility power or pressing the unit test switch. Emergency lamps will illuminate.
- Following the return of utility power or the release of the test switch, the emergency lamps will extinguish and the unit charger will automatically return the battery to a fully charged state.

ROUTINE TEST CYCLES

Paragraph 31-1.3.7 of NFPA 101-1985, Life Safety Code requires that all emergency lighting equipment be functionally tested every 30 days for a minimum of 30 seconds and tested once a year for a full 90 minute discharge cycle.

Written records of monthly and annual testing are to be kept for examination by the authority having jurisdiction.

Exception: 30 day testing and written test records are not required on units equipped with the Highlites self-diagnostic (-SX) option.

TROUBLESHOOTING

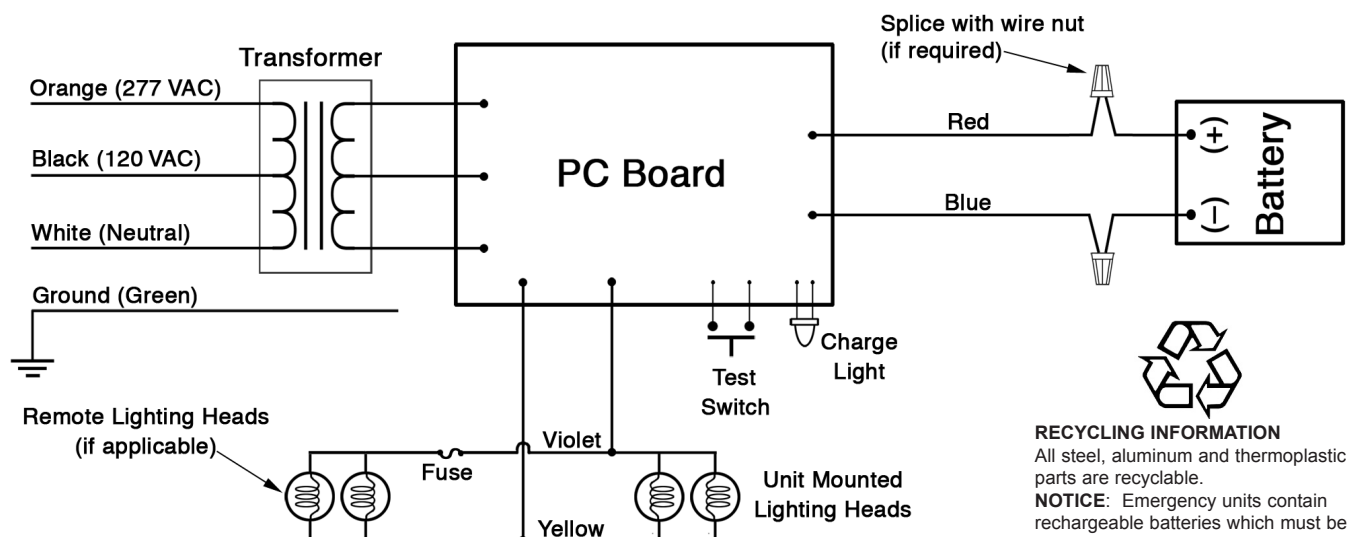
1. The emergency lamps do not operate:

- If the charge indicator light is off: Check that the AC supply circuit breaker is on.
- If the charge indicator light is on:
 - Check the battery for proper connection.
 - If remote lighting heads are connected to equipment, turn off AC supply and disconnect output circuit wires to remote fixtures. Turn on AC supply and depress the test switch. If equipment mounted lighting heads are now on, check remote output circuit for short circuit or overload condition and correct as needed. Re-install output circuit wires and restore AC power.
 - If problem persists, Replace battery.

2. Emergency lamps are dim:

- Incorrect voltage lamps installed in lighting heads.
- Remote circuit wire conductor size is inadequate causing excessive voltage drop. Refer to **INSTALLATION** (Step 5.)

WIRING DIAGRAM



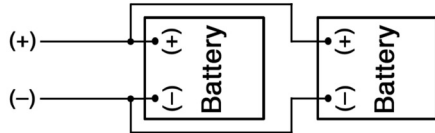
RECYCLING INFORMATION
All steel, aluminum and thermoplastic parts are recyclable.
NOTICE: Emergency units contain rechargeable batteries which must be recycled or disposed of properly

SPECIFICATIONS

Model	Volts	Watts	Weight	Battery Configuration
NX-3	6	16	11	Single 6V Battery
NX-5	6	26	13	Single 6V Battery
NX-7	6	30	13	Two 6V Batteries (Config. A)
NX-9	6	50	20	Two 6V Batteries (Config. A)
NX-11	6	72	20	Four 6V Batteries (Config. C)
12NX-12	12	30	18	Two 6V Batteries (Config. B)
12NX-14	12	50	20	Two 6V Batteries (Config. B)
12NX-16	12	72	20	Four 6V Batteries (Config. D)
12NX-18	12	100	22	Four 6V Batteries (Config. D)
12NX-20	12	125	22	Four 6V Batteries (Config. D)
12NX-22	12	150	22	Two 6V Batteries (Config. B)

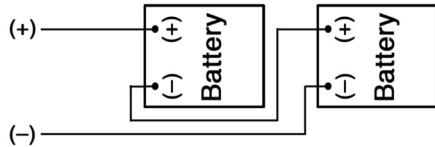
Configuration A

2 Battery Parallel Connection



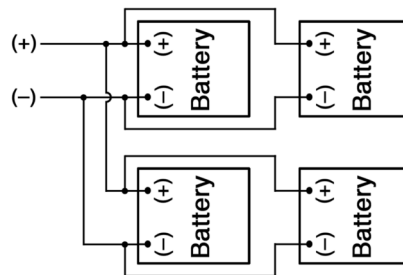
Configuration B

2 Battery Series Connection



Configuration C

4 Battery Parallel Connection



Configuration D

4 Battery Series/Parallel Connection

