

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:

- a. 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.
 - b. 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.

SAVE THESE INSTRUCTIONS

INSTALLATION

1. Extend an unswitched, 24 hour AC supply of rated voltage to the area in which the unit will be installed. **DO NOT energize circuit at this time.**
2. Remove front cover and any packing material inside the unit housing that may have been used for shipping purposes.
3. Remove the appropriate knockout on the right side of the unit housing for the utility wiring connector being used. Also remove the two keyhole mounting knockouts in the upper corners on the back of the housing.
4. Secure housing to the mounting surface through the keyhole knockouts using mounting hardware (not supplied) sized appropriately to hold the unit weight (see **SPECIFICATIONS** on back of sheet). If accessory brackets or shelves are being utilized, follow the instructions provided with those devices to assure a safe installation.
5. Connect utility input conduit or wire to housing through the selected knockout.
6. Wire unit as follows: All standard models are furnished with a dual voltage 120/277VAC field selectable input. Connect unit to utility power using approved wiring or connector (see Wiring Diagram on back of sheet). For 120V supply connect the utility hot wire to the black lead, for 277V supply, connect the utility hot wire to the orange lead. Connect neutral utility wire to the white lead. Connect green chassis ground wire provided in accordance with local codes. **DO NOT energize circuit at this time.**

CAUTION: Insulate the unused black or orange transformer lead. Failure to insulate the unused wire will cause an unsafe condition.

Note: (1) A brown lead is used in place of black and orange leads on special models with voltages from 200V to 250 V.

(2) if a cord is to be installed, follow separate cord set installation instructions.

7. 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: All units are provided with two, separately fused output circuits. Total load should be evenly divided between each output circuit and should not exceed the rated load for each individual circuit.

8. Install the unit battery and secure with mounting strap. 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 leads from the PC board assembly to the positive (+) battery terminal. Connect the blue leads 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.

9. Energize the AC supply. The **CHARGE** indicator will illuminate.

10. Re-install the front cover onto the unit.

11. 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.

OPERATION (Continued)

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 transfer switch that will automatically disconnect the emergency lamps from the battery if the battery has been discharged to its low voltage limit or the output circuit is overloaded or experiences a short circuit (check fuses)

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

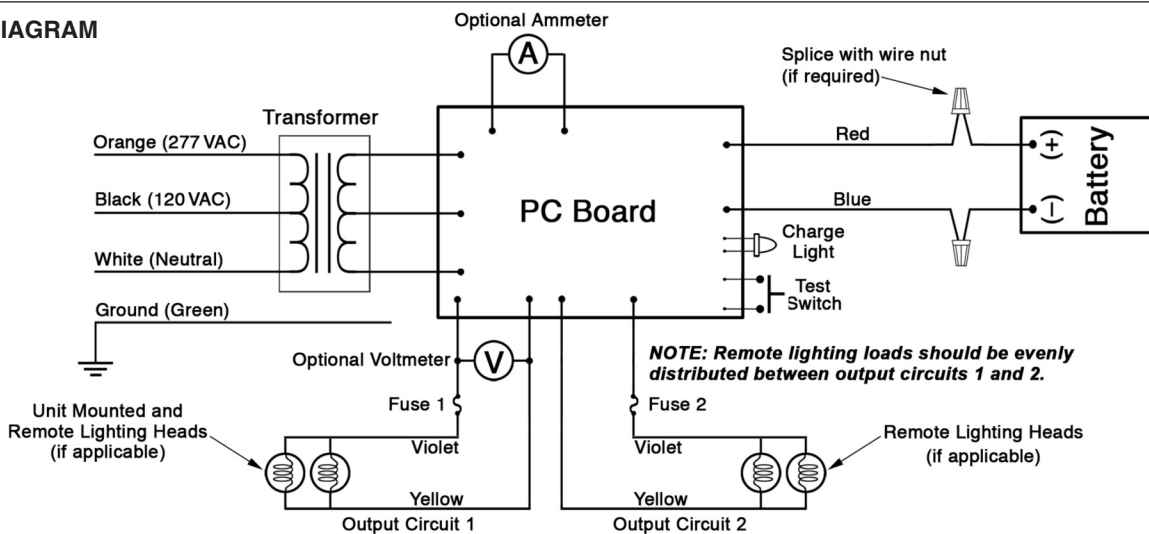
1. The emergency lamps do not operate:

- 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 (check output fuses) 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 7.)

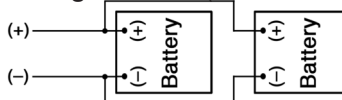
WIRING DIAGRAM



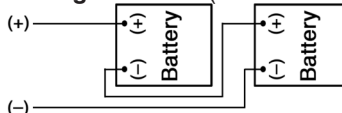
SPECIFICATIONS

Model	Volts	Watts	Weight	Battery Configuration
HD-2	6	85	35	Single 6V Battery
HD-4	6	100	40	Single 6V Battery
HD-6	6	152	60	Two 6V Batteries (Config. A)
HD-8	6	210	75	Two 6V Batteries (Config. A)
12HD-13	12	170	45	Single 12V Battery
12HD-15	12	210	65	Two 12V Batteries (Config. A)
12HD-17	12	340	75	Two 12V Batteries (Config. A)
24HD-20	24	200	45	Two 12V Batteries (Config. B)
24HD-22	24	350	75	Two 12V Batteries (Config. B)

Configuration A (Parallel Connection)



Configuration B (Series Connection)



RECYCLING INFORMATION

All steel, aluminum and thermoplastic parts are recyclable.

NOTICE: Emergency units contain rechargeable batteries which must be recycled or disposed of properly