

Installation Instructions for N2LED Series Emergency Luminaire

Product Safety

FOR PROPER AND SAFE INSTALLATION OF THIS PRODUCT, PLEASE READ THE FOLLOWING INSTRUCTIONS.

Signal Words Defined

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury. **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury. **CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. **NOTICE** is used to address practices not related to physical injury.

Safety Instructions

A WARNING:

- Before installation, ensure that the unit complies with the hazardous area classification. Failure to do so may result in bodily injury and/or property damage. Refer to the fixture nameplate for suitability in specific hazardous locations.
- To prevent ignition of hazardous atmospheres, the area must be free of hazardous vapors before opening the enclosure or servicing the fixture. To reduce the possibility of static sparking, do not attach metallic parts to the outside of the unit (e.g. metallic screws, tags, decals, etc).
- Do not mount the unit near gas or electric heaters.
- De-energize the unit before opening.
- To reduce the risk of electric shock, disconnect AC power before servicing. To prevent arcing, avoid shorting the battery terminals.

A CAUTION:

- Servicing of this equipment should be performed by qualified service personnel.
- Do not attempt to service the battery. The unit uses a sealed, NiCD battery which requires no maintenance. For replacement, contact the factory.

A NOTICE:

- Do not use this equipment for anything other than its intended use.
- The use of accessory equipment is not recommended and may cause an unsafe condition.
- Wiring and installation should be performed in accordance with the National Electrical Code® (NEC®) and other applicable local code requirements.

Agency Ratings

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, Group IIC
- Type 4X
- IP66
- Marine Outside Type (Salt Water)

Product Description

N2LED2T1 Master Unit



Figure 1: Description & Dimensions for N2LED2T1 Master Unit



Figure 2: Description & Dimensions for N2LED0T1 Master Unit



Figure 3: Description & Dimensions for N2LEDR2R1 Remote Unit

N2LEDR1R1 Remote Unit



Figure 4: Description & Dimensions for N2LEDR1R1 Remote Unit

Installation

A WARNING: Ensure the intended AC power supply to the enclosure is OFF before proceeding with installation.

Installing the Unit:

- 1. Select a mounting location. The unit should be mounted in locations and at heights where tampering by unauthorized personnel is not achievable.
- 2. Loosen (do not remove) the four (4) captive screws from the enclosure cover. Set the cover aside for reassembly.
- 3. Mount the unit with the back of the enclosure fastened to a vertical supporting surface using 1/4-20 UNC or M6 fasteners and anchors appropriate for the mounting surface. Fasteners are not supplied.
- 4. Feed the AC power conductors through the conduit hub on top of the master unit. An Appleton nickel-plated enclosed hub with ground lug is provided for entrance to the AC power supply. AC input should be routed directly to the "AC IN" wiring terminal. There should not be any additional slack in the housing compartment. After the final conductor routing, use a thread sealant in the conduit-to-hub joint to maintain maximum environmental protection.
- 5. Connect the AC power supply as shown in Figures 5 & 6. NOTE: The conduit ground plate must be grounded.



Figure 5: Wiring Diagram for N2LED2T1 Master Unit



Figure 6: Wiring Diagram for N2LED0T1 Master Unit

- 6. Feed the remote unit wires through the conduit hub to the main unit.
- 7. Connect the additional remote light head wires to the open lamp terminals by following the polarity on the wiring diagram.
- If applicable, install and connect the remote unit(s) as shown in Figures 7 & 8. Wire sizes are provided in Table 1.
 NOTE: The hub must be grounded. After the final conductor routing, use a thread sealant in the conduit-to-hub joint to maintain maximum environmental protection.

Table 1: Wire Size for Remote Units*		
Maximum Wire Length	Wire Gage	
78 ft.	18 AWG	
125 ft.	16 AWG	
198 ft.	14 AWG	
315 ft.	12 AWG	
500 ft.	10 AWG	
*Use copper wire between the power supply and the remote lighting system to limit the voltage drop to 5%		



Figure 7: Wiring Diagram for N2LEDR2R1 Remote Unit



Figure 8: Wiring Diagram for N2LEDR1R1 Remote Unit

- 9. Connect the battery leads. Follow the placement and connections exactly as shown in Figures 5 & 6. **NOTE:** The battery will be fully charged within 48 hours (maximum). Emergency lamps may or may not light at this time, depending on the battery charge.
- 10. Loosen (do not remove) the set screws at the swivel base of the light head assembly. Adjust the lighting fixtures to the desired position/angle and tighten the set screws.
- **11.** Check all connections for continuity and grounding integrity.
- 12. Reinstall the enclosure cover and securely tighten the four (4) captive screws. To maintain a proper seal, the screws require 1.83 ft.-lb. torque.
- 13. Apply AC to the unit. The pilot light should begin to flash.
- 14. Activate the diagnostic test by pushing and releasing the push-to-test switch. See "Self-Diagnostic Testing" for further information.

Self-Diagnostic Testing

Features

There are three types of diagnostic monitoring/testing: on-going (constant), periodic (every 30 days), and user-initiated (push-to-test switch).

- The on-going diagnostic monitors the battery voltage constantly to see if it is in the proper range. Battery failure status will be displayed when not in the proper range. See "Table 2–Status Indicator Codes" for more information.
- The frequency of the self-diagnostic test is every 30 days (periodic) or approximately 1 second after the push-to-test switch is pushed and released (user-initiated). The 30-day counter resets to 0 when a power outage is detected or when the push-to-test switch is activated.
- When the self-test is triggered (by pushing the push-to-test switch), the diagnostic test will not check for light head currents. The user can visually verify that the lights are working by pressing and holding the push-to-test switch. Any installed light heads connected to the unit will light to assure the user that the lamps are working.
- During the self-diagnostic test, the LED light head(s) will be turned on for 30 seconds while the push-to-test switch LED flashes ON and OFF.
- The self-diagnostic test stimulates the load transfer circuit by resetting the AC present detection circuit.
- The push-to-test switch LED will show the status of the emergency light when AC is present. See "Table 2—Status Indicator Codes" for more information.
- Learn Mode: When the push-to-test switch is activated and the battery has enough capacity to power the light heads, the unit will detect which light head and how many are installed. This information will be used during the periodic (30-day) diagnostic test.

If the learn mode is successfully performed, the pilot light will flash a number of times equal to the number of light heads detected. If it is not successfully performed, then the pilot light will just flash indicating charging. You can either wait until the battery is charged before activating the push-to-test switch or just use the built-in default of one (1) light head minimum.

Parameters

In the AC present state, the following parameters are monitored:

- Battery charge current.
- Battery terminal voltage during charge.

During the periodic (30-day) diagnostic test, the following parameters are tested:

- Battery terminal voltage under load.
- Transfer circuit states.
- Lamp head current. NOTE: The installed light heads will be tested if a "Learn Mode" has occurred; otherwise, a minimum of one (1) working light head is checked.

Status Indicator Codes

Table 2: Status Indicator Codes for Push-to-Test Switch (when AC is present)		
Status Indication	Status Description	Status Definition
	No light	AC power removed from circuit
*	Continuous steady light	Battery fully charged
* *	Light blinks 1 time	Battery charging
** ** 	Light blinks 2 times	Battery failure
*** *** 	Light blinks 3 times	LED lamp head failure
**** ****	Light blinks 4 times	Emergency circuit charger board failure
* = Status ED ON: _ = Status ED OFF		

Maintenance

Battery

• The unit uses a sealed, NiCD battery which requires no maintenance. For replacement, contact the factory.

Tests

- Monthly: The unit will automatically test the operation of the emergency circuit (for 30 seconds minimum) once a month. The emergency lamps will illuminate during the test. See "Self-Diagnostic Testing" for further information.
- Once a Year: Conduct a 90-minute discharge test once a year. The lamps should operate for at least 90 minutes.

Replacement Parts

Emergency Lighting Unit

- Driver Board Kit: N2LEDCB.
- Battery Pack Kit: N2LEDBP.
- Nickel-Plated Brass M25 Male, 3/4 in. NPT Female Hub: 737DM7T25.

Lighting Fixture Head Assembly

• Light Head Kit: N2LEDLH. NOTE: If the LED fails, the entire assembly must be replaced.

Except as expressly provided by Appleton Grp, LLC (Appleton), Appleton products are intended for ultimate purchase by industrial users and for operation by persons trained and experienced in the use and maintenance of this equipment and not for consumers or consumer use. Appleton warranties DO NOT extend to, and no reseller is authorized to extend Appleton's warranties to any consumer.

While every precaution has been taken to ensure accuracy and completeness in this manual, Appleton Grp, LLC. assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions. Specifications are subject to change without notice. The Appleton and Emerson logos are registered in the U.S. Patent and Trademark Office. All other product or service names are the property of their registered owners. ©2015 Appleton Grp, LLC. All rights reserved.

