NL4-S HazLoc Emergency Battery Backup Installation Manual

Webpage

APPLICATION

The NL4S emergency luminaire is an industrial-grade product suitable for harsh and hazardous locations. Installation areas include indoor, outdoor, and in wet locations. Frequent exposure to moisture, dirt, corrosion, vibration, and rough usage is common for this product family. Furthermore, the NL fixtures have certifications for use inside, outside, and in other wet environments. Models including "-HZ-" are certified for use in hazardous location areas.

UL Listing Numbers:	E554183

NL luminaires are suitable for use in the following areas as defined by the National Electrical Code (NEC) and the Canadian Electrical Code (CEC):

NL4-S Emergency Luminaire for Hazardous Locations (NL4-S-XX-XX-XX-HZ-BB):	UL 844, UL924, CSA C22.2 No. 137, CSA22.2 No. 141
Hazardous Location Certification:	Class I, Division 2, Groups ABCD; Class II, Division 2, Groups FG; Class III; Class I, Zone 2, Group IIC; (See chart below for T-Codes)
Housing:	Copper-free extruded and die-cast aluminum with polycarbonate lens.
Input Voltage:	120-277VAC
Inrush Current:	NL4-S (AC): 120V: 25A / 230uS Peak / >50% Duration 277V: 54A / 85uS
Connections:	2 x 3/4" NPT Conduits Black: Line | White: Neutral/Line 2 | Green: Ground *Optional: Violet (Purple): 0-10V Dimming (+) | Grey: 0-10V Dimming (-)* For connections use wire rated to a minimum of 90°C. Class 1 wiring only. Dimming control wires must be rated 300V minimum for luminaires with suffix AC, 600V minimum for luminaires with suffix HV. End-to-end or daisy-chain wiring must use #12AWG conductors and the total circuit load must not exceed 1200W.
Temperature Range:	0°C to +50°C
Ingress Protection:	IP66 | Suitable For wet locations.

APPLICATION CONT.

To comply with UL924 ratings maximum mounting height:	7.6m (25 ft)
Minimum discharge time:	1.5 hours (90 minutes)
Charging time:	24 hours
Emergency Luminaire Testing:	It is recommended and required by applicable code to test backup battery to ensure proper system function: push the test switch for thirty (30) seconds every 30 days to ensure the backup driver is functioning as LED light source illuminated. Conduct a ninety-minute (90) discharge test one time (1) per year; the LED light source should be illuminated for a minimum of ninety minutes (90). It is acceptable to test the battery backup functionality by turning off the breaker if that is an available option. This is particularly useful in areas where access may be difficult. NL-4-S-XX-XX-XX-HZ-BB is equipped with a test switch mounted to the end cap of the luminaire under a protective cover. An illuminated indicator (LED light) indicates that the battery is in charge mode when AC power is applied. Once the area is considered non hazardous testing of NL-4-S-XX-XX-XX-HZ-BB units may be done by inserting a small pin into the hole of the illuminated cover.

WARNING
ATTENTION

Potential Electrostatic Charging Hazard
Risque potentiel de charge électrostatique

Avoid electrostatic discharge :
- Clean exterior lens surface with damp cloth only
- Éviter les décharges électrostatiques: nettoyer la surface extérieure de la lentille uniquement avec un chiffon humide

CAUTION / ATTENTION

Refer to this manual for installation, operating, and maintenance instructions.

Consultez ce manuel pour les instructions d'installation, d'utilisation et d'entretien.

WARNING / ATTENTION

To avoid the risk of fire, explosion, or electric shock, this product should be installed, inspected, and maintained by a qualified electrician only, in accordance with all applicable electrical codes.

Pour éviter tout risque d'incendie, d'explosion ou de choc électrique, ce produit doit être installé, inspecté et entretenu uniquement par un électricien qualifié, conformément à tous les codes électriques applicables.

DANGER / ATTENTION

Risk of shock—disconnect all power and disable the battery pack power before servicing. Ballast replacement requires reconnection of wires that may be energized.

Risque d'électrocution — couper toute l'alimentation et désactiver l'alimentation de la batterie avant toute intervention. Le remplacement du ballast nécessite la reconnexion de fils pouvant être sous tension.

CAUTION / ATTENTION

This unit has more than one power supply connection point. To reduce the risk of electric shock, disconnect both the branch circuit breakers or fuses and the emergency power supplies before servicing.

Cet appareil comporte plusieurs points de raccordement à l'alimentation. Afin de réduire les risques d'électrocution, couper les disjoncteurs du circuit de dérivation (ou retirer les fusibles) ainsi que les alimentations de secours avant toute intervention.

WARNING / ATTENTION

To reduce the risk of electric shock, disconnect the luminaire from the supply circuit before opening for installation and servicing. Keep tightly closed when in operation.

Pour réduire le risque de choc électrique, débrancher le luminaire du circuit d'alimentation avant de l'ouvrir pour l'installation et l'entretien. Maintenir l'appareil hermétiquement fermé pendant le fonctionnement.

WARNING / ATTENTION

This luminaire is provided with a factory-installed lighting battery pack and must be serviced by a person familiar with the construction and operation of the product and the hazards involved. This luminaire is provided with a Battery Backup LED driver. The Luminaire is intended to use and install in accordance with National Electrical Code, NFPA-70 and the Life SAFETY Code, NFPA-101

Ce luminaire est muni d'une batterie d'éclairage d'urgence installée en usine et doit être entretenu par une personne connaissant la construction et le fonctionnement du produit ainsi que les risques associés. Ce luminaire est équipé d'un pilote DEL avec batterie de secours. Il est destiné à être utilisé et installé conformément au National Electrical Code (NFPA 70) et au Life Safety Code (NFPA 101).

CAUTION / ATTENTION

To prevent the ignition of explosive atmospheres, ensure that the area is not hazardous during installation and maintenance of the luminaire, before operating the backup battery test switch and before connecting or disconnecting the inverter and battery connectors of the backup driver as applicable.

Afin de prévenir l'inflammation d'atmosphères explosives, s'assurer que la zone n'est pas dangereuse lors de l'installation et de l'entretien du luminaire, avant d'actionner l'interrupteur d'essai de la batterie de secours et avant de connecter ou de déconnecter l'onduleur et les connecteurs de la batterie du pilote de secours, le cas échéant.

SURFACE/CEILING & SUSPENDED MOUNT INSTALLATION (Ordered Separately)

If using a different mounting accessory, refer to the corresponding page.

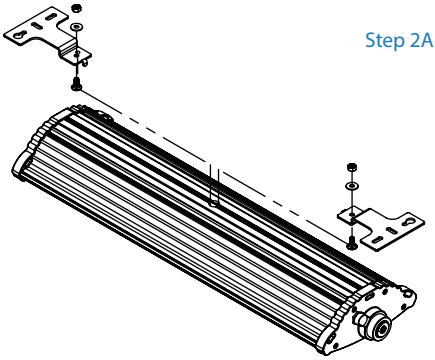
INSTALLATION STEPS

STEP 1.
Inspect shipping package and contents to ensure no damage has occurred during shipping.

STEP 2.
Install mounting brackets:

A) Fixed Mount
Loosen mounting brackets pre-installed on the back of the luminaire. Slide brackets outwards until mounting holes or 1327mm apart for NL4 models. Tighten provided ¼-20 nut to a torque of 8 N-m (70 in-lbs). Fasten to a flat surface using a minimum of one M6 or ¼-20 fastener and washer per side (not provided). For installations subject to vibration of rough usage, a minimum of two fasteners per side are required. The mounting bracket is keyed for ease of installation.

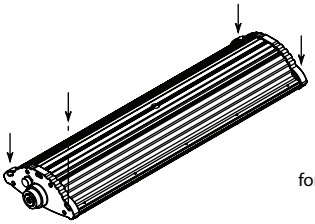
Step 2A



Alternate Fixed Mounting:
A minimum of two 1/4-20 carriage bolts may be used to flush mount the luminaire. Insert head of carriage bolt into central opening and slide to desired mounting location.

B) Suspension Mounting:
Remove fixed mounting brackets and associated fastener hardware from luminaire. Connect two anchors to each end-cap using the integral mounting holes as shown. Suspension hardware (not provided) must be rated for a minimum of 135 lbs.

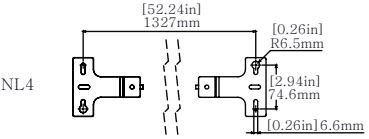
Step 2B



6.5mm x 10 mm slots
for suspension hardware.

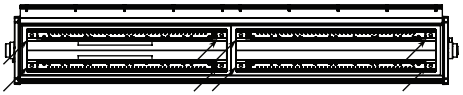
STEP 3.
Open NL lens using a 3mm hex tool.

Note:
Screws are captive and will remain attached to the Lens for ease of reinstall and to prevent loss of fasteners.



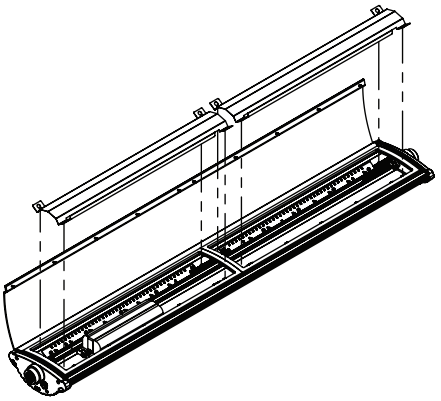
STEP 4.
Remove the reflector covering the wiring cavity closest to the open NPT entry. Loosen four M4 fasteners holding the reflector in place and pinch to line up keyed slots with fasteners during removal.

Step 4



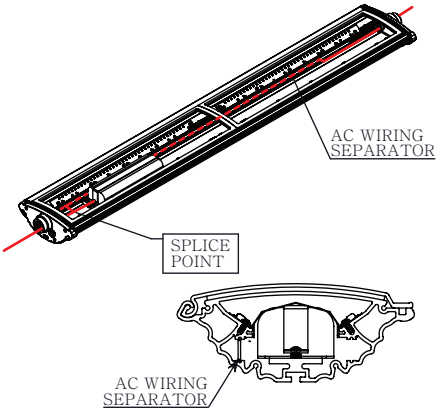
STEP 5.
For convenience, spring cage wire connectors have been provided. 12-28AWG solid or stranded wire with a strip length of 8-10mm (0.35-0.39") is supported. If user wiring requires it, the connectors may be replaced by an alternate listed connector.

Make wiring connections.
See the wiring diagram on Page 7 & 8.
A) **For single-entry use:** Wire using an open NPT entry. Refer to NEC/CEC codes and follow all applicable local standards.



B) **For end-to-end wiring:** Remove all reflectors. Remove the NPT blank from the closed end using a 3/8" hex tool. Make wiring connections to provided splice connectors as shown in the wiring diagram. As shown, conductors from the far side must be run through the channel between the AC separator and the case. All wiring methods must be in accordance with NEC/CEC codes and all local standards and acceptable for the installation location. For hazardous location models (NL-X-X-XX-XX-XX-HZ-XX) and their installation, all wiring methods must be in accordance with NEC/CEC codes and all local standards and must be acceptable for the hazardous installation location.

Step 5B



C) **For the Class 1 dimming control circuit:** Wires must be rated to a 300V minimum for luminaire models with the suffix AC and a 600V minimum rated wire for luminaires with the suffix HV. For 0-10V analog dimming control, connect Violet (+) and Gray (-) to 0-10VDC control wiring:

- Dimming controls must be certified and suitable for the classification of the area of their installation.
- The 0-10V dimming circuit can be wired as Class 1 or Class 2 circuit.
- The LED Driver will source a maximum of 250µA for control needs.
- The 0-10V controller must sink current from LED driver control leads.
- 10V = maximum output, 0V = minimum output

NOTE:
To aid in assembly and protect against ingress, a petrolatum or soap-thickened mineral oil-based thread lubricant/sealant is necessary. If the fixture has unused conduit openings, plug them to maintain the enclosure's integrity.

End-to-end or daisy-chain wiring must use #12 AWG conductors and the total circuit load must not exceed 1200W.

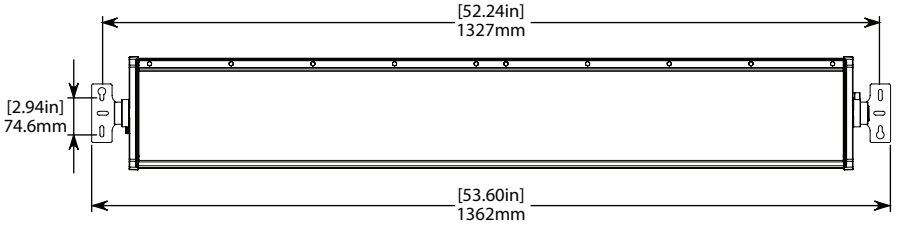
Units provided with a battery backup were shipped with the battery disconnected. Locate the battery connector and connect the battery to enable the battery backup system.

NOTE:
End-to-end or daisy-chain wiring must use #12AWG conductors and the total circuit load must not exceed 1200W.

STEP 6.
Reinstall reflectors and close lens: Reflector fasteners should be tightened by hand to 5 in-lbs torque to prevent stripping of screw channel threads. Close the lens and reinstall the M4 socket head cap screws using a 3mm hex driver. To align the lens fasteners with tapped holes, press on the lens to compress the gasket and direct the fastener into the tapped hole using a 3mm hex driver. Torque lens fasteners to 1.7Nm (15 in-lbs).

MOUNTING DIMENSIONS:

NL4-SM - SURFACE/SUSPENSION MOUNT :



NL-AM – ANGLE ADJUSTABLE MOUNT INSTALLATION (Ordered Separately)

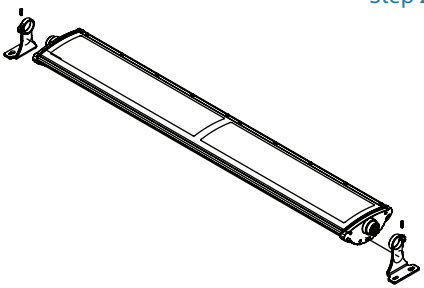
If using a different mounting accessory, refer to the corresponding page.

This NL-AM kit is intended for UL-listed NL luminaires, as marked on the luminaire nameplate.

Accessory Package Contents

NL-AM	QTY	PART NAME
	2	NL SWIVEL BRACKET
	2	M4 x 0.7 x 16mm SOCKET HEAD CAP

Step 2



INSTALLATION STEPS

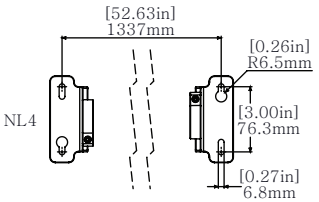
STEP 1.
Inspect the shipping package and its contents to ensure no damage occurred during shipping.

STEP 2.
Loosen M4 socket head cap screws on swivel brackets using a 3mm hex tool. Slide the bracket onto the cylindrical boss on the end caps and loosely tighten it.

STEP 3.
Mount luminaire using two M6 or ¼-20 fasteners and washers per side (not provided).

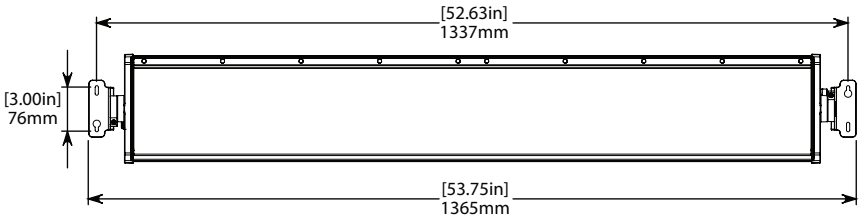
STEP 4.
The mounting bracket is keyed for ease of installation. Aim luminaire to desired angle and tighten M4 socket head cap screw on swivel brackets to a torque of 1.7Nm (15 in-lbs).

STEP 5.
Continue installation with STEP 4 on PAGE 4.

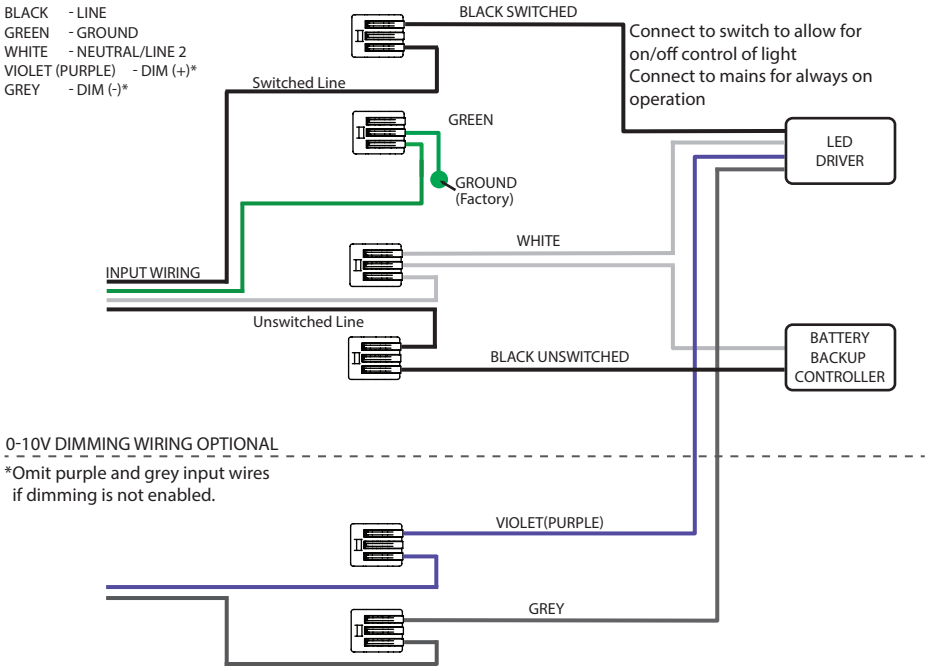


MOUNTING DIMENSIONS:

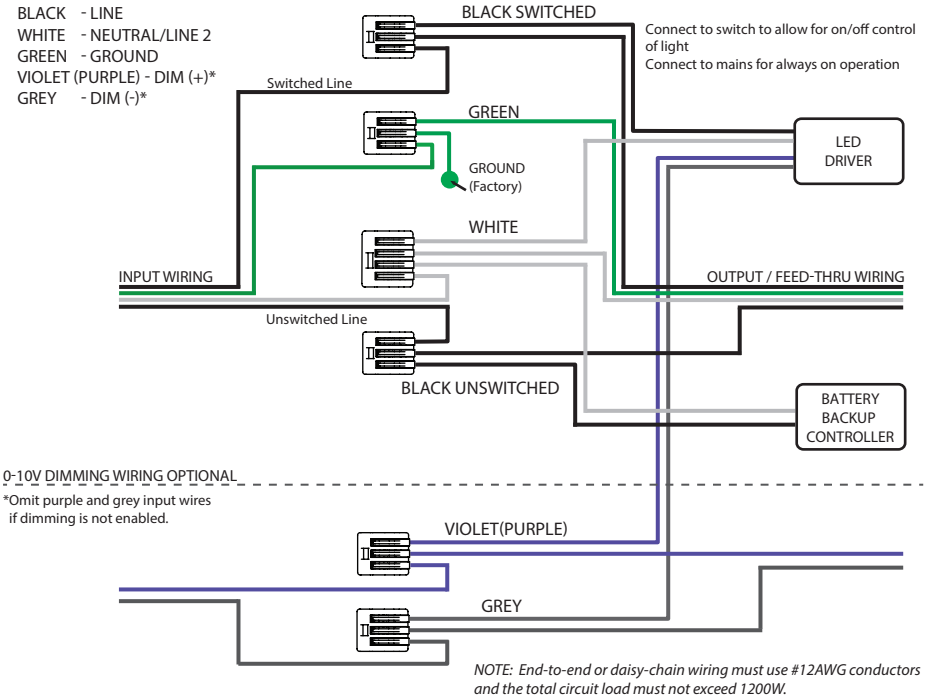
NL4-AM - ANGLE ADJUSTABLE MOUNT (NL-AM) :



WIRING DIAGRAM: BB (120-277VAC Battery Backup) Model



WIRING DIAGRAM: BB (120-277VAC Battery Backup) Model – End-to-End Wiring



NOTE: End-to-end or daisy-chain wiring must use #12AWG conductors and the total circuit load must not exceed 1200W.