Installation and Operation Instructions

Product: ELX-C1D1 – LED Emergency Light – Explosion Proof – Class 1 Division 1 – Adjustable Head Lamps

Thank you for choosing our lighting product. To ensure safe use, please take a moment to carefully read these instructions. We also recommend keeping this manual for future reference.

Important Safety Information:

- Before performing installation or maintenance, ensure the power supply is disconnected. Do not open the enclosure in an explosive atmosphere. Before turning the power on, confirm that the light source and electrical installation are correctly connected.
- LED luminaires should never be covered by thermal insulation or similar materials under any circumstances.
- In the event of an exception or issue, immediately turn off the power and contact the distributor.
- This product is suitable for outdoor use. Do not touch the light when it is in use or after the power has been cut off.
- All maintenance should be performed only by trained professionals.

1. General Overview

This LED emergency light is designed to be explosion-proof, with the following electrical specifications:

- Input Voltage: AC100-277V, 50/60Hz / 100-347VAC, 50/60Hz
- Maximum Input Power: 22W

The ELX-C1D1 emergency light is suitable for installation in the following locations:

- Class I Division 1 Groups C, D
- Class I Division 2, Groups A, B, C, D
- Class II Division 1, Groups E, F G

- Class II Division 2 Groups F, G
- Class III Division 1 & 2

Operating temperature range: -4°F to +140°F, T5 rating

Standards Compliance:

This product meets UL 924 and UL 844 standards.

Electrostatic Warning:

- There is a potential electrostatic charging hazard. Please refer to the instructions for details.
- Clean the luminaires using a damp cloth.

Warning:

- Ensure the enclosure is tightly closed during operation.
- Do not open the enclosure if an explosive atmosphere is present.
- Be aware of the potential electrostatic charging hazard. See instructions for further guidance.

Caution:

- Use a power supply cable rated for at least 221°F.
- Ensure that a separately certified cable gland is installed.

2. Safety Installation Instructions

On-site Installation

This instruction provides specialized installation information for the user. Since the fixture is intended for use in hazardous locations, installation must be performed by a qualified electrician. The entry threads are 3/4” NPT or M25. Please double-check the markings on the entry point and select the appropriate pipe thread.

Maintenance

We recommend cleaning the luminaires every 3-6 months with a damp cloth if they appear dirty. Have a qualified electrician inspect the fixture if there is flickering or buzzing.

Installation Wires

The power wire must be installed within an explosion-proof power pipe system or metal conduit.

Installation Height

The minimum installation height for this luminaire is 2 meters to ensure proper heat dissipation. Do not install the fixture at a lower height.

Puttin into Service

After installation, connect the luminaires to the 100-277VAC/100-347VAC, 50/60Hz power system. Turn on the power to test the individual fixture’s operation before installing the remaining luminaires.

Usage and Setting-up

Before use, all fixtures must undergo wiring tests to confirm that the installation is correct and safe. This prevents the risk of electrical damage and ensures safety. These checks must be carried out by a qualified electrician.

- **Rated Power:** 100-277VAC/100-347VAC; 50/60Hz

- **Ambient Temperature:** -4°F to +140°F
- **Temperature Class:** T5/T6
- **Maximum Surface Temperature:** 158°F
- **Waterproof Class:** Wet Location

Assembling and Dismantling

- For convenient packing, accessories should be packed separately. The installer should carefully read the instructions before assembling the accessories. Contact the manufacturer if there is any confusion during installation.
- It is crucial to turn off the power before removing the fixtures. The installer must wait at least 5 minutes after cutting off the power before proceeding with removal.

Repair

To reduce the risk of igniting hazardous atmospheres, disconnect the luminaires from the power supply circuit before opening. Keep the enclosure tightly closed during operation, and connect the grounding wire last. Do not attempt to repair damaged lamps if you are not a qualified electrician. The manufacturer will repair any fixtures that are under warranty.

Reminders and Application Notes

Suitable application locations include gas zone 1 & 2, dust zone 21 & 22. The gas group is IIB, and the dust group is IIIC. EPL will be Gb, and dust EPL will be Db. Avoid using fixtures with a bent appearance.

Safety Training Instructions

Refer to the detailed wiring diagram for installation. Generally, black wires are for live wire contact, white wires for null, and green/yellow wires for grounding. The connectors should be located in the junction box, and the cable should be in the metal pipe or conduit.

Contents of the Package

Item	Qty
LED Emergency Light	1
Mounting Accessories	1 (pole/bracket)
Installation Instructions	1

3. Installation Processes and Information

**Turn off power before any type of installation*

Critical Features:

1. **Spacing:** In primary circuits, a minimum spacing of 6.4 mm must be maintained through the air, and 3.2 mm must be maintained over insulating material between current-carrying parts of opposite polarity and between current-carrying parts and dead-metal parts or low-voltage isolated circuits.
2. **Accessibility of Live Parts:** All uninsulated live parts in primary circuitry should be housed within a metal enclosure with no openings.
3. **Grounding:** The internal grounding wire should be connected to the protective earth (PE). The external grounding wire should be connected to the equipment's protective ground wire. The combined internal and external grounding wire cross-sectional area must be no less than 4 mm^2.
4. **Cable Gland:** An Ex-certified cable gland is required for entry protection. The marking on the gland should be Ex db IIC Gb, Ex tb IIIC Db IP66/IP68. The cable diameter should be 8-11 mm, with a non-circular sheath of at least 250 mm. Ensure that the cable gland is secured with at least 6 threads tightened to a torque of 95.88-132.76 ft-lbs.

Installation Notice:

- The installer must refer to the EN60079-14 standard.
- Internal and external grounding wires, whether single-conductor or multi-conductor, should be equipped with steel cable lugs first, then connected to the grounding connector. Tighten the screw to a torque of no less than 1.6 ft-lbs.
- When installing LED luminaires in explosive gas atmospheres, use cable glands or blanking plugs that comply with EN60079-0 and EN60079-1, with a type of protection of Ex db IIB Gb and a degree of protection of IP66. The maximum service temperature for field wiring should be no less than 221°F, and the LED luminaires should be used in environments ranging from -4°F to +140°F.

- Gasket Frequency of Replacement: It is not necessary to replace the power enclosure gasket within the first five years. However, replacement is recommended during the sixth year of maintenance. The installer should contact the manufacturer to obtain the sealing ring and sealing glue. Clean the seal groove, apply the sealing glue, place the new seal ring into the groove, and fasten it for 20 minutes. Do not open and replace the light source enclosure gasket and the joint between the light source enclosure and the power enclosure unless necessary. Ensure the gasket is matched to the gap, and do not touch the lamp after the power is cut off.
- All components, except the power enclosure cover, are forbidden to be disassembled. If the enclosure is opened due to mis operation, please contact the distributor.
- Entry: 2-M25×1.5-12 mm or 2-3/4 NPT, with a minimum of 6 engaged threads.

Cabling:

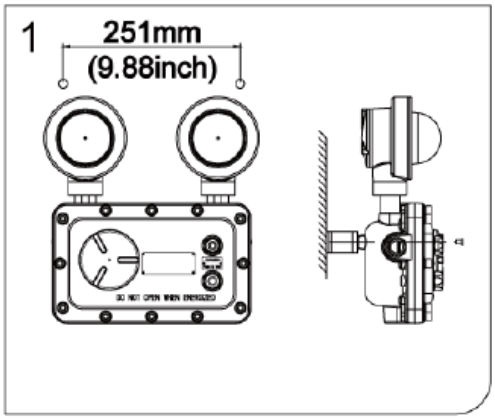
- All power supply wires must be a minimum of 18 AWG. The external ground wire must have a minimum cross-sectional area of 4 mm².

Type of Cable Gland:

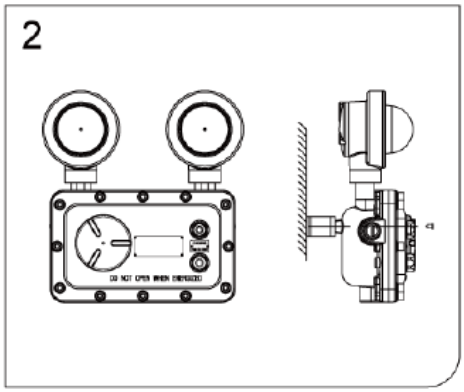
- Use an M25 or 3/4 NPT cable gland, suitable for cables with a diameter of 8 to 11 mm.

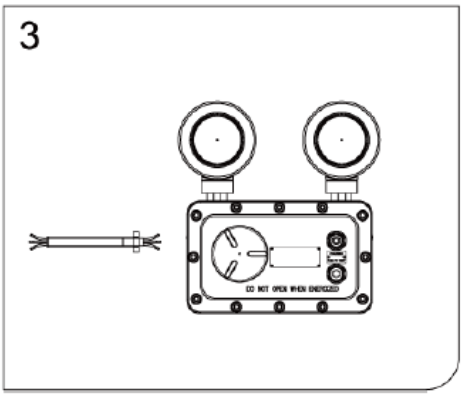
Installation Types:

- **Wall Mounting**
    - **Step 1 –** Ensure that all equipment used is explosion proof rated.
    - **Step 2 –** Prepare wall surface, measure distance between brackets and use as guides to mount the light.
    - **Step 3 –** Drill two holes as figure 1 (distance is 9.88”)

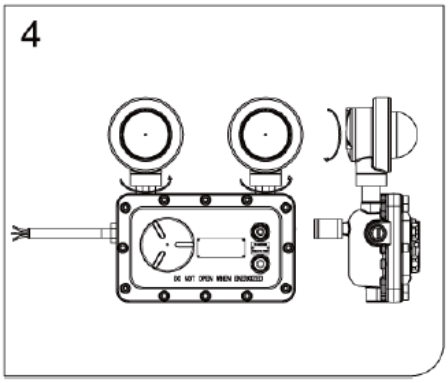


- **Step 4 –** Use 2 M10 expansion screws to mount the fixture to the wall (if installing to concrete wall; sleeve anchors are recommended) **(figure 2)**
- **Step 5 –** Install proper pipe to ¾ NPT entry and apply Chico A sealing compound **(figure 3)**





- **Step 6 –** Connect the AC Cable
  - Black wire goes with L
  - White wire goes with N
  - Green wire goes with ground
- **Step 7 –** Adjust lamps as needed **(figure 4)**
- **Step 8 –** Lastly, check that the fixture has power and is functioning normally.



Wiring Diagram