



**KILLARK**<sup>®</sup>

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## INSTALLATION, OPERATION & MAINTENANCE DATA SHEET VMLX/VMLXC SERIES LED LUMINAIRE

Luminaires are designed to be installed in Hazardous Locations: Class I, Division 2, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III; T3C, T4, T4A, T5 or T6 (Class I, Div. 2); T3B, T3C (Class II, Div. 1); T3B, T3C (Class I, Div 2 / Class II, Div. 1 Simultaneous Exposure); Type 4X; Marine Rated (US only); IP66; Ambient 40C,55C and 65C where applicable.

IEC Zone 2. EN IEC 60079-0:2018, EN IEC 60079-7: 2015/A1:2018, EN 60079-31:2014. Zone 2 type of protection Ex ec (increased safety), Zone 21 type of protection Ex tb (dust). IECEx certificate IECEx QPS 15.0006. ATEX certificate QPS22ATEX7000X and QPS22ATEX5002X. UKCA certificate 3CT 23UKEX1009X and 3CT 23UKEX1010X.

**CAUTION:** Before installing luminaire, make sure luminaire complies with area classifications, failure to do so may result in bodily injury and/or property damage. Do not attempt installation until you are familiar with the following procedures. All installation must comply with the applicable local and/or National Electrical Code and be performed by a qualified electrician.

Make sure that the circuit is de-energized before starting installation or maintenance.

In order to service a battery back-up fixture, the area must be non-hazardous.

The battery in a battery backup fixture is rechargeable LiFePO4 type and must be recycled or disposed of properly.

**CAUTION:** Verify that luminaire is grounded. Failure to ground will create electrical shock hazards, which can cause serious injury and or death.

**ATTENTION :** Avant d'installer le luminaire, s'assurer que le luminaire est conforme à la classification des zones, le non-respect de cette règle risque d'entraîner des dommages corporels et / ou matériels. Ne pas tenter d'entreprendre l'installation avant d'être familiarisé avec les procédures suivantes. Toute installation doit être conforme au code électrique local et / ou national et être effectuée par un électricien qualifié.

Veiller à ce que le circuit soit mis hors tension avant de commencer l'installation ou la maintenance.

Afin de réparer un appareil de sauvegarde batterie, la zone doit être non dangereux.

Vérifier si le luminaire est mis à la terre. S'il n'est pas mis à la terre il pourrait causer des risques de choc électrique susceptibles d'entraîner des blessures graves ou la mort.

**Note:** Due to the surge protection provided in the fixture to protect the internal electronics and LEDs, a branch circuit with the LED fixture may false fail a megohmmeter test (sometimes referred to as a megger test). If a megohmmeter test is required, the LED fixture should be removed from the branch circuit.

**Note:** Multiple fluorescent or LED fixtures attached to a single Ground Fault Circuit Interrupter (GFCI) may cause nuisance tripping of the GFCI. Regulatory agencies allow a small amount of leakage current because of the circuitry required to mitigate possible issues with electromagnetic compatibility (reference UL8750 and EN61347). The summation of these leakage currents from multiple fixtures may be enough to trip a GFCI.

NOTE - For Class I, Division 2 / Class II, Division 1 / Class I, Zone 2 Hazardous Locations, use rigid conduit or cable and connectors / glands rated for Class I, Division 2 Groups BCD (or IEC Zone 2 IIC, IEC Zone 21 IIC) hazardous areas.

NOTE – Pour les endroits dangereux Classe I, Division 2 / Classe II, Division 1 / Classe I, Zone 2 utiliser des conduits rigides.

Do not attempt installation until you are familiar with the following procedures. All installations/maintenance to be performed by a qualified electrician and must comply with all applicable local and / or National Electrical Code.

### IMPORTANT:

1. Luminaire is to be energized in hazardous locations only after Ballast housing has been secured to Mount (Splice box) and Optics (Globe or Refractor) installed as indicated in this document.
2. Verify that luminaire is grounded. Failure to ground will create electrical shock hazards, which can cause serious injury and or death.
3. Refer to luminaire nameplate for supply voltage, ambient, supply wire, and other important data and information.
4. All unused conduit openings must be plugged. Pipe sealant may be applied to threads in plugs and securely tightened.
5. An extra hole is provided on the external ground side of the housing for an "earthquake cable".

**DIRECTION FOR INSTALLATION:**

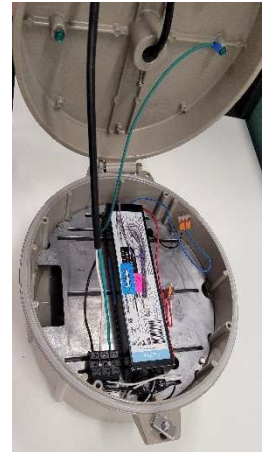
**IMPORTANT NOTE:**

Turn off electricity to circuit at main fuse or at circuit breaker.

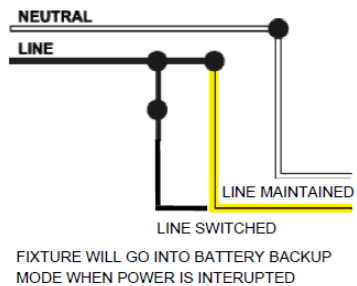
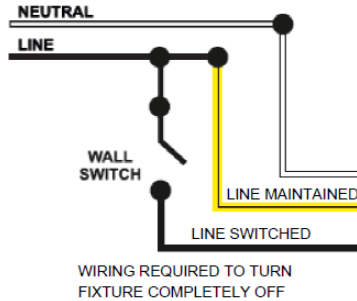
**NOTE IMPRORTANTE :**

Mettre le circuit hors tension grâce au fusible principal ou le disjoncteur.

1. Using the installation images on the right as your guide, make sure the splice box is securely installed. Pull the wires through the conduit and secure with cable tie in splice box. (Refer to housing nameplate for supply wire rating.)
  2. Hang the housing on the splice box hinge hook.
  3. Attach ground lead from housing securely to the splice box using grounding screw.
  4. **CAUTION** - Connection as described below requires the use of either insulated wire nuts or the factory installed terminal block assembly. Note that the supplied terminal block is case grounded . No extra ground wire is necessary to ground the incoming ground line to the luminaire housing.
  4. **ATTENTION-** Le raccordement décrit ci-dessous nécessite l'utilisation de connecteurs rapides isolés ou, alternativement, un bloc de jonction installé en usine. Voir ci-dessous:
  5. Close the housing against the splice box latch and secure by tightening screw and cylindrical nut.
- Note: Before closing housing against splice box, inspect the housing gasket to be sure it is clean and free of any cuts or abrasions. Make sure no leads are pinched and the gasket is uniformly compressed.
6. Attach external ground if required.
  7. Install reflector (sold separately) if desired
  8. Activate supplying circuit to test the assembled luminaire.



**BATTERY BACKUP FIXTURES**



**IMPORTANT:** To turn the fixture completely off, an un-switched AC power source of 120VAC to 277VAC is required for the Line Maintained (yellow) and neutral (white) leads. A locally switched line must be attached to the Line Switched (black) terminal. If the Line Switched terminal is attached to continuous power, the fixture will go into battery backup mode if the power is turned off.

**IMPORTANT:** Fixtures are shipped with a jumper between the Line Maintained and Line Switched terminals. Remove the wire link (jumper) and attach the Line Switched terminal to a local switched source when local switching is required. The battery must be charged for at least 12 hours prior to testing. **The fixture will not light up in battery backup mode until AC power is supplied once while the white battery wire is connected. Thereafter, the fixture will operate in battery backup mode when the AC power is off.**

**SELF-DIAGNOSTIC INSTRUCTIONS/OPERATION:** The self-diagnostic feature is set from the factory. The emergency LED driver will conduct a self-check for thirty (30) minutes every thirty (30) days; and ninety (90) minutes or one hundred eighty (180) minutes self-check every 12 months. After every self-check the LED indicator light will indicate a status signal.

TABLE 1 – Self Diagnostic Indications	
LED Indicators Status	EM Driver Status/Mode
• Solid Green	System OK/AC OK(Self-diagnostic Enabled or Disabled).
• Slow Flashing Red, 4s on/1s off	Battery not Detected, Check Battery Switch Connection.
• Flashing Red, 1s on/1s off	Battery Failure, Replace Battery.
• Flashing Green, 1s on/1s off	Self-Diagnostic Test Underway.
• Fast Flashing Red, 0.1s on/ 0.1s off	Abnormal Driver Performance, Replace Driver.
• Very Slow Flashing Red, 4s on/4s off	Over Temperature.
• None, Both LED's OFF	Normal Working EM Mode.
• Green/Red Alternative Flashing, 1s Green/1s Red.	No Load or Output over Voltage Protection Triggered.

**SELF DIAGNOSTIC INSTRUCTIONS / OPERATION:** The self-diagnostic feature is set from the factory. The emergency LED driver will conduct a self-check for thirty (30) minutes every thirty (30) days; and ninety (90) minutes or one hundred eighty (180) minutes self-check every 12 months. After every self-check the LED indicator light will indicate a status signal.

New fixtures with batteries can be stored for 2 years in a -20°C to 30°C ambient without a need of recharge. A fully discharged unit should not be stored more than 6 months without being recharged. There is low voltage disconnect of the battery to the emergency drivers, however as the batteries still have self-discharge they should be recharged within 6 months to prevent the cells from permanent capacity loss. For long term storage, turn the battery switch to the “off” position to prevent the cells from permanent capacity loss.

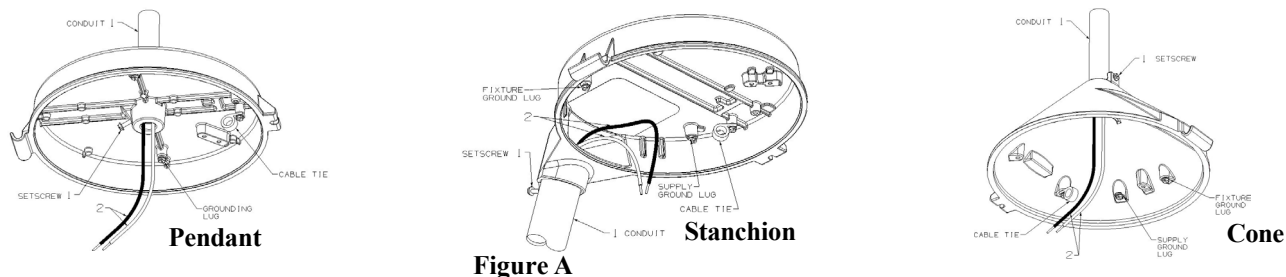
**Fixture Mounting Instructions:**

**Important Note:** Turn off electricity to circuit at main fuse or at circuit breaker.

Pendant/Cone/Angle Stanchion/Straight Stanchion

Figure A

1. Thread the Mount onto existing conduit and secure with the setscrew provided with the Mount.
2. Pull the supply wire, with the proper temperature rating as specified in the fixture to be installed into the mount VMA2B/VMA3B/VMS4B/VMS5B/VMD4B/VMD5B/VMC2B/VMC3B

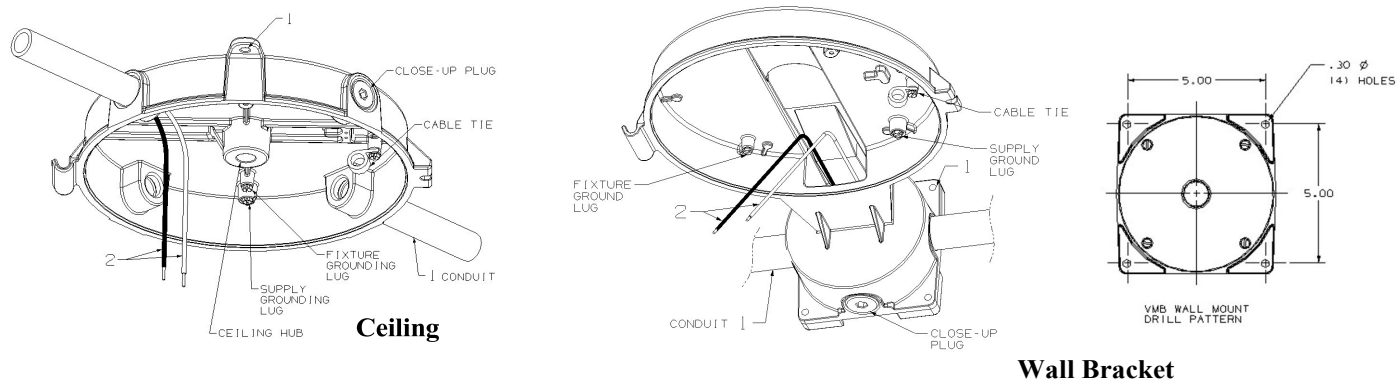


**Figure A**

Ceiling/ Wall Bracket

Figure B

1. Mount Ceiling Splice Box using external mounting lugs on 12 7/8" centers. Use 1/4" or 5/16" diameter bolts. Thread conduit onto hubs to be used and tighten.
  - CAUTION:** All unused hubs must be plugged with close up plugs provided.
2. Pull the supply wire, with the proper temperature rating as specified on the fixture to be installed into the mount.
3. VMX2B/VMX3B/VMX6B/VMX7B/VMB2B/VMB3B



**Figure B**

**VMLXC mounting instructions:**

- 1) Disassemble the existing Crouse-Hinds fixture from the mount by un-tightening the screw and disconnecting field wire leads connectors.
- 2) Make sure that the mount and its gasket joint surface is free from damage. Inspect the field supply leads and ground wire for safe wiring connections to the new fixture leads.
- 3) Install the VMLXC fixture onto Crouse-Hinds existing mount by locating the adapter hinge pin on the hook. (Figure C)
- 3) Next swing the VMLXC fixture up and fasten the existing mount by tightening the screw provided. (Standard box-end wrench is recommended). Make sure that the mount and adapter are secured properly with a consistent gap as detailed in Figure D (Do not over tighten)

NOTE: These adapters are to be used with Crouse-Hinds VMV, DMV, and LMV Series Fixture mounting covers (CM2, CM3, JM5, PM5, APM2, APM3, HPM2, PBM3, PBM2, TWM2 & TWM3).



Figure C



Figure D

## MAINTENANCE INSTRUCTIONS:

### CAUTION:

Disconnect the supplying circuit before opening fixture or removing optics. To maintain maximum light output, this fixture should be cleaned periodically. Maintenance procedures sometimes require fixtures to be hosed down for good housekeeping. The supply circuit must be turned OFF and the fixture lens must be allowed to cool to the ambient room temperature before cleaning. Only mild, non-abrasive cleaning agents should be used. The force of water applied by a hose must not exceed 65 gallons per minute coming from a 1" diameter hose applied at a distance of 10 feet. These periodic cleaning procedures are important to prevent the accumulation of dust and dirt which will impair the light output of the fixture. The glass lens should be regularly inspected for scratches and chips and, if damaged, must be replaced.

### HIGH VIBRATION AREAS:

Periodic inspection of lens tightness is required; recommended every six (6) months.

### INSTRUCTIONS DE MAINTENANCE :

#### ATTENTION :

Mettre le circuit hors tension avant d'ouvrir le luminaire ou avant d'enlever les optiques. Afin de maintenir un maximum d'émission lumineuse, ce luminaire doit être nettoyé régulièrement. Les procédures de maintenance exigent parfois le lavage au jet des luminaires.

Mettre hors tension et la lentille du luminaire doit pouvoir refroidir jusqu'à la température ambiante avant le nettoyage. N'utiliser que des produits de nettoyage doux et non abrasifs. La force appliquée par le jet d'eau ne doit pas dépasser 65 gallons par minute s'il s'agit d'un tuyau de 1" de diamètre à une distance de 10 pieds. Ces opérations de nettoyage périodiques sont importantes pour éviter l'accumulation de poussières et de salissures qui risquent d'affaiblir l'émission de lumière du luminaire. La lentille de verre doit être inspectée régulièrement pour détecter toute trace de rayure et d'écaillage et, si elle est endommagée, elle doit être remplacée.

#### ZONES A VIBRATIONS ELEVES :

L'inspection périodique de la lentille est obligatoire; recommandée tous les six (6) mois.

Technical information, advice and recommendations contained in these documents are based on information that Killark believes to be reliable. All the information and advice contained in these documents is intended only for use by persons having been trained and possessing the requisite skill and know-how and to be used by such persons only at their own discretion and risk.

The nature of these instructions is informative only and do not cover all of the details, variations or combinations in which this equipment may be used, its storage, delivery, installation, check out, safe operation, and maintenance. Since conditions of use of the product are outside of the care, custody and control of Killark, the purchaser should determine the suitability of the product for its intended use, and assumes all risk and liability whatsoever in connection therewith.

Les informations techniques, conseils et recommandations contenus dans ces documents sont basées sur des informations considérées comme fiables par Killark. Toutes les informations et les conseils contenus dans ces documents sont destinés à être utilisés uniquement par des personnes ayant subi une formation et qui disposent de la compétence et du savoir-faire spécifiques et ne doivent être utilisés par ces personnes que si elles le jugent utile et ce à leurs propres risques.

Ces instructions ne sont fournies qu'à titre informatif et ne couvrent pas tous les détails, variations ou combinaisons d'utilisation de cet équipement ainsi que son stockage, livraison, installation, vérification, fonctionnement sûr et maintenance. Comme les conditions d'utilisation de ce produit sont hors des soins, de la garde et du contrôle de Killark, l'acheteur doit déterminer l'aptitude du produit pour son utilisation prévue et assume tous les risques et responsabilités associés à ce produit.

NOTE: Join or "lap" marks may form during the pouring of molten glass in the globe manufacturing process. It is not unusual for these marks to become visible. This is a common and normal occurrence for globes and does not affect performance

### Conditions of Safe Use:

The Luminaire shall only be installed where there is a low risk of mechanical damage.

REMEMBER TO SAVE ONE OF THESE SHEETS FOR MAINTENANCE PERSONNEL