HUBBELL ELECTRICAL PRODUCTS
A Division of HUBBELL INCORPORATED
(Delaware)
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INSTALLATION, OPERATION & MAINTENANCE DATA SHEET

VM4L SERIES LED LUMINAIRE

Luminaires are designed to be installed in Hazardous Locations: Class I Division 2, Class II Division 1, Class I Zone 2 or IEC Zone 2.
Ex nA IIC T140°C OR T4 Gc Ex tb IIIC 83°C Db-40°C <Tamb<+55°C IP66; IECEx certificate IECEx QPS 15.0006 to IEC 60079-0:2012; IEC 60079-15:2010 and IEC 60079-31:2014
II 3G Ex nA IIC T140°C or T4 Gc -40°C <Tamb<+40/+55°C; CML15ATEX4101X (Ex nA) to EN 60079-0:2012 and EN 60079-15:2010;
II 2G Ex tb IIIC 83°C IP66 Db, -40°C <Tamb<+40/+55°C; CML15ATEX3102X (Ex tb) to EN 60079-0:2012 and EN 60079-31:2014.

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 IIIC) 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.

DIRECTION FOR INSTALLATION:

IMPORTANT NOTE:

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

NOTE IMPRORTANTE:

Mettre le circuit hors tension grace 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 green (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, as an alternate, a factory installed terminal block assembly. See below:

4. ATTENION- Le raccordement decrit ci-dessous necessite l'untilisation de connecteurs rapides isoles ou, alternativement, un bloc de junction installe 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 the optics (Globe, Refractor or Enclosed Reflector) and Guard, 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 yellow/black and white leads. If the yellow/black and white leads are attached to switched power, the fixture will go into battery backup mode if the switch is turned off.

IMPORTANT: A switched or un-switched AC power source of 120VAC to 277VAC is acceptable for the black lead.

Fixtures with terminal blocks are shipped with a jumper between the terminals of the black and yellow/black wire. Remove the wire link (jumper) and attach the yellow black wire to line voltage when local switching is required.

The battery must be charged for at least 12 hours prior to testing.

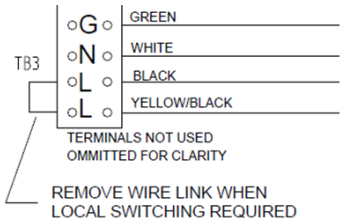
The battery switch must be turned to the "ON" position for the fixture to operate correctly. The fixture will not light up in battery backup mode until AC power is supplied once while the battery switch is in the "ON" position. Thereafter, the fixture will operate in battery backup mode when the AC power 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

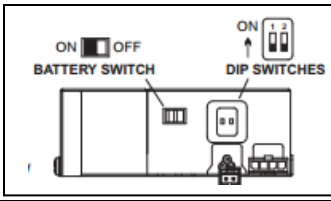
LED Indicators Status	EM Driver Status/Mode
• Solid Green	System OK/AC OK(Self-diagnostic Enabled or Disabled).
• Slow Flashing Red, 4s on/1s off	Battery not Detected, Check Battery Switch Connection.
• Flasing Red, 1s on/1s off	Battery Failure, Replace Battery.
• Flashing Green, 1s on/1s off	Self-Diagnostic 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.

Battery Back-Up Connection with Terminal Block



Battery Changing Procedure:

1. Open the splice box.
2. Remove the two screws that hold the driver to the gear tray.
3. Remove the two screws that hold the battery compartment cover to the driver
4. Disconnect the connector and replace the new battery.
5. Reassemble



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.

As of September 2016, the internal LED and heat sink construction of the VM4 Series LED fixture has been upgraded to a more robust and efficacious design. The new model number is being implemented that designates the closest total lumens in thousands rather than the wattage. A cross reference table is below:

Old Model Number	VM4LB/C04030	VM4LB/C05030	VM4LB/C06530	VM4LB/C09030	VM4LB/C10530	VM4LB/C13030
New Model Number	VM4LB/C630	VM4LB/C730	VM4LB/C930	VM4LB/C1230	VM4LB/C1430	VM4LB/C1830

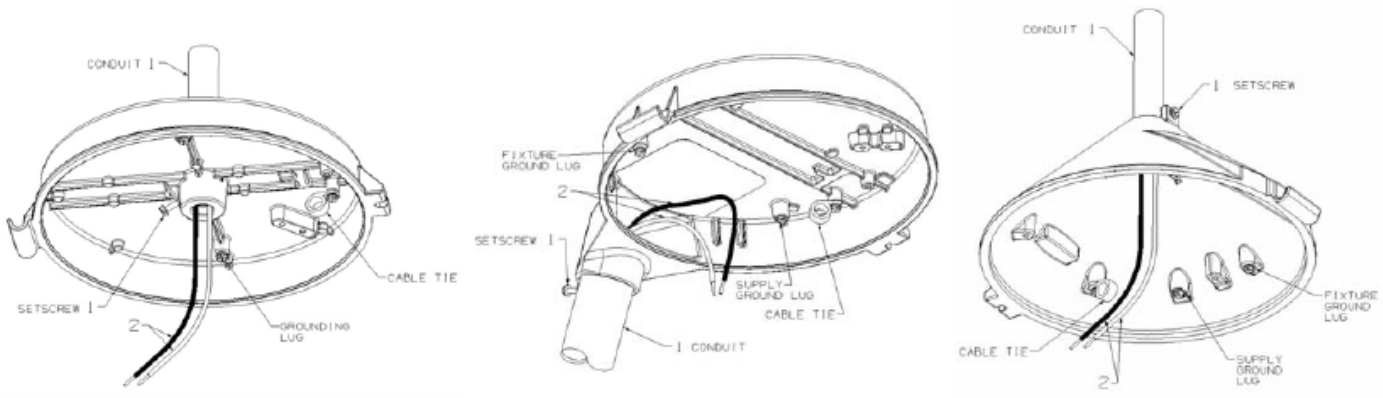
Mount (Splice Box) Installation:

Pedant/Flex Pendant/Cone/ Angle Stanchion (25°)/ Straight Stanchion (90°)

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 ballast housing to be installed, into the mount.
   VMA2B/VMA3B/VMF2B/VMF3B/VMS4B/VMS5B/VMD4B/VMD5B/VMC2B/VMC3B.



PENDANT STANCHION CONE

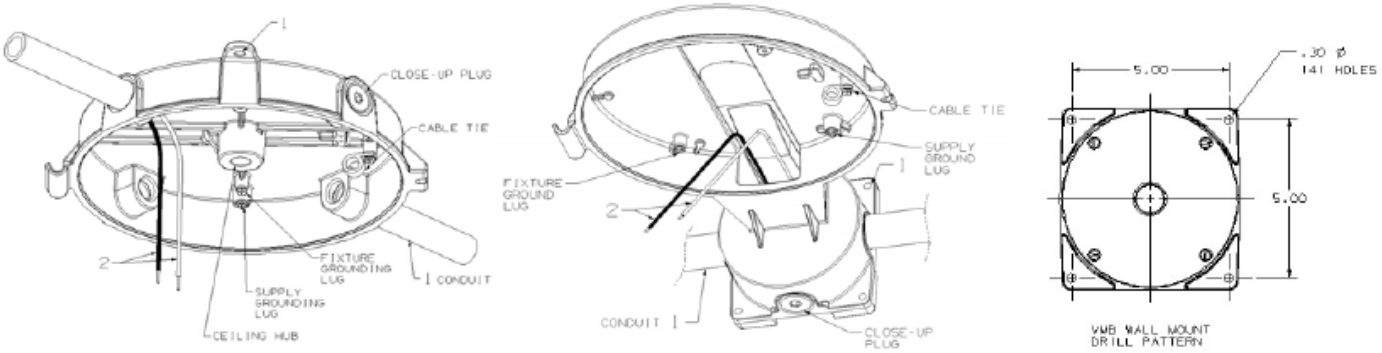
Figure A

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 tightened.
   Mount Wall Bracket Splice Box to the wall using four holes provided with 5" sq. pattern. Use 1/4" diameter bolts.
   CAUTION: All unused hubs must be plugged with close-up plugs provided.

2. Pull the supply wire, with the proper temperature rating as specified in the ballast housing to be installed, into the mount.
   VMX2B/VMX3B/VMX6B/VMX7B/VMB2B/VMB3B



CEILING WALL BRACKET

Figure B

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 déceler toute trace de rayure et d'écaille 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.

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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