Champ® VMVL*M2 LED luminaires

EATON CROUSE-HINDS SERIES

Installation & maintenance information

IF 1989

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

APPLICATION

Champ® hazardous location luminaires are suitable for use in the hazardous (classified) areas. Refer to the luminaire nameplate for specific classification information, maximum ambient temperature.

Luminaire construction is designed for use in indoors and outdoors of harsh environments, marine and wet locations, where moisture, dirt, corrosion, vibration and rough usage may be present.

Input voltage:

UNV1
- 100 - 277 VAC 50/60 Hz
- 127 - 250 VDC

NEC/CEC
- Class I, Division 2, Groups A, B, C, D
- Class II, Groups E, F, G
- Class III
- Simultaneous Presence

- Class I, Zn. 2 AEx ec IIC; Class I, Zn. 2 Ex ec IIC
- Zone 21 AEx tb IIIC; Zone 21 Ex tb IIIC

- Wet Locations, Type 4X, IP66
- Marine outside type (salt water)
- UL file number E10925

ATEX
- II 3 G Ex ec IIC T* Gc
- II 2 D Ex tb IIIC T*°C Db
- IP66
- DEMKO 19 ATEX 2118X
- DEMKO 19 ATEX 2119X

IECEx
- Ex ec IIC T* Gc
- Ex tb IIIC T*°C Db
- IP66
- IECEx UL 19.0039X

*Refer to the marking label for the appropriate assigned T-Codes and ambient temperatures.

Ambient temperatures
- -40°C to +40°C for 3L -7L Models; -AT and -GT Models
- -40°C to +55°C for 3L -7L Models; -AT and -GT Models
- -40°C to +65°C for 3L -7L Models; -AT and -GT Models

⚠ WARNING

To avoid electric shock:

Be certain electrical power is OFF before and during installation and maintenance.

Luminaire must be supplied by a wiring system with an equipment grounding conductor.

To avoid burning hands:

Make sure lens and housing are cool when performing maintenance.

⚠ WARNING

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.

⚠ WARNING

To avoid explosion:

Make sure the supply voltage is the same as the luminaire voltage.

Do not install where the marked operating temperatures exceed the ignition temperature of the hazardous atmosphere.

Do not operate in ambient temperatures above those indicated on the luminaire nameplate.

Use proper supply wiring as specified on the luminaire nameplate.

All gasket seals must be clean and undamaged.

Before opening , electrical power to the luminaire must be turned off. Keep tightly closed when in operation.

To reduce the risk of ignition due to electrostatic discharge, avoid contact with the luminaire while explosive atmosphere is present. Clean only with damp cloth.

Do not open when an explosive atmosphere is present.

Circuits must be wired per the enclosed wiring diagram to ensure safety of the equipment.

INSTALLATION

MOUNTING:

Mount the cover module in its support position.

1. Ceiling and wall mount: mark and drill desired location on mounting surface. Secure with 1/4" (6mm) bolts or lag screws (not provided).
2. Pendant, angled, stanchion mount: Securely thread onto the appropriate NPT size conduit. Tighten set screw located in the conduit hub. (See figure 1).
3. Eaton's Crouse-Hinds series HTL thread lubricant must be added to the conduit threads to prevent water from entering the luminaire.

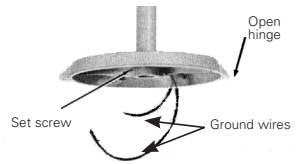


FIGURE 1 (pendant mount shown)

TRUNNION/YOKE MOUNT INSTALLATION: (for direct wall mount applications with the luminaire housing having Cat. Suffix. S812 or TM only)

1. Trunnion mount accessory is available for use with ceiling CM2, CM3, CM20, CM25 mounts only.
2. Adjustable for three angles as shown in figure 2 below.

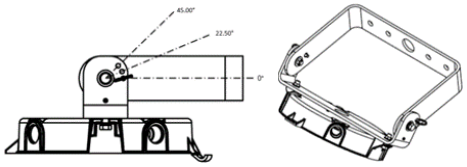
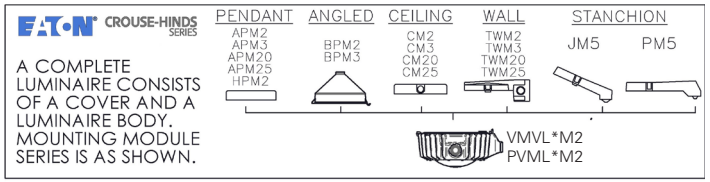


FIGURE 2

Important Instruction – Luminaire is restricted to Class I, Div. 2 applications only, when the kit is used for pole mounting.

FIELD ASSEMBLED LUMINAIRES FITTINGS



NOTES:

- 2: indicates 3/4" NPT thread
- 3: indicates 1" NPT thread
- 5: indicates 1-1/2" thread
-20: indicates M20 metric thread
-25: indicates M25 metric thread
- Pendant, angled and stanchion mounts have one (1) conduit entry
- Wall mount has four (4) conduit entries
- Ceiling mount has five (5) conduit entries
- The wire guard Cat. No. PU3003 & PA3001 are optional.

WIRE GUARD INSTALLATION:

For PA3001 and PU3003

- Line up the 3-wire guard mounting loops where the three screw locations are visible on lens bezel as shown in figure 3a or 3b.
- First, install the three #8-32 screws that were provided using hand tight torque.
- Complete wire guard installation by tightening three wire guard screws to 20 in-lbs torque.

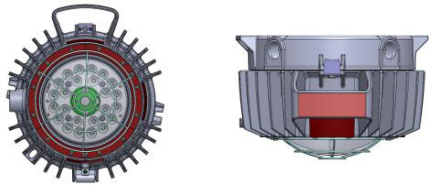


FIGURE 3A - PA3001

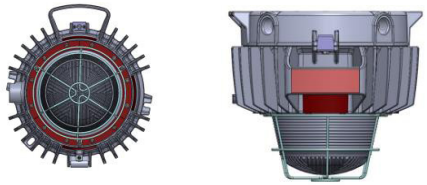


FIGURE 3B – PU3003 – For UPLT or UP suffix only

SECONDARY RETENTION CABLE:

1. Pass cable through the Kwik-Loc adjustment hole in the direction of the arrows (See figure 4).
2. Locate attachment point in between two (2) of the housing fins, as shown in figure 5.
3. Route secondary retention cable through attachment point on the luminaire housing. and back though the Kwik-Loc second adjustment pin hole in the direction of the arrows.
4. Connect cable to a permanent structure, or anchor (customer supplied).
5. Remove any slack to ensure the cable is taut and confirm engagement of the lock.

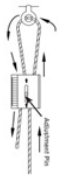


FIGURE 4

FIGURE 5

WIRING:

1. Pull field wiring into cover module.
2. Close all unused conduit entries with conduit plugs provided. To prevent galling and to ensure watertightness, lubricate conduit plugs with Eaton's Crouse-Hinds series HTL lubricant before installing, and secure wrench-tight with at least five (5) full threads engaged. Torque plugs to 42-52 ft.-lbs. (57-71 N-m) for 3/4" and 20mm plugs and 58-68 ft.-lbs. (79-92 N-m) for 1" and 25mm plugs.
3. Hang LED luminaire on the cover module hinge hook. See figure 6.
4. Connect supply wires to splice connector or terminal block per the wiring diagrams (See figure 7) using methods that comply with all applicable codes. Tighten all electrical connections when using terminal block.
5. Close housing onto cover module, making sure that all wires are safely inside housing. Tighten captive closing screw to 30 in-lbs. (3.4 N-m). Ensure two (2) bosses on housing are in contact with cover module. See figure 6.
6. Turn power on.

NOTE

If using the dimming function of the LED driver, use only wires rated to 300V minimum. Dimming circuit operates on 0-10 VDC; dimmer shall be suitably certified for the intended environment (e.g. hazardous, ordinary locations, etc.).

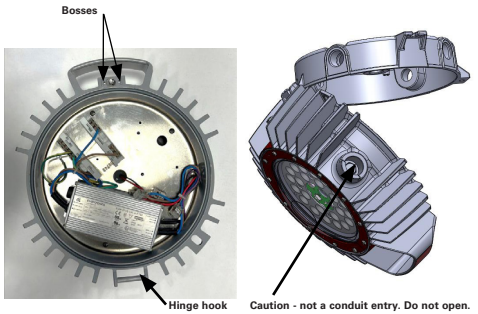
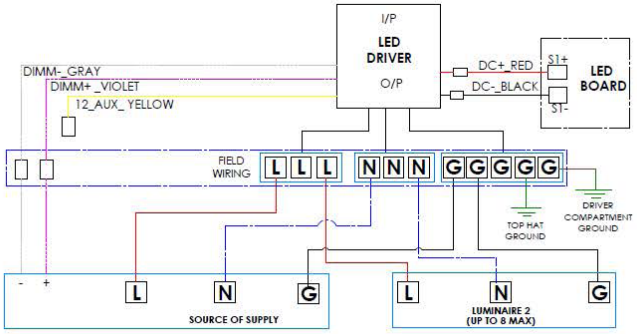
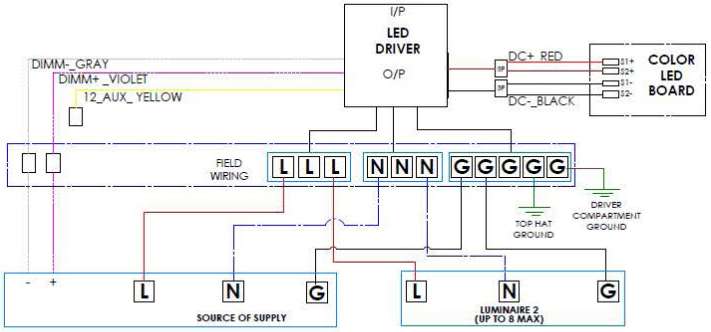


FIGURE 6



3L, 5L, 7L WIRING DIAGRAM

FIGURE 7A - VMVL 3-7, -AT & -GT WIRING DIAGRAM



COLOR BOARDS -AT & -GT WIRING DIAGRAM

FIGURE 7B - VMVL 3-7, -AT & -GT WIRING DIAGRAM

NOTE

A maximum of 8 luminaires may be daisy chained on a single circuit for luminaire configuration without TBX suffix. See luminaire wiring diagrams.

MAINTENANCE

1. Perform visual, electrical and mechanical inspections on a regular basis. The environment and frequency of use should determine this. However, it is recommended that checks be made at least once a year. We recommend an Electrical Preventive Maintenance Program as described in the National Fire Protection Association Bulletin NFPA No. 70B: Recommended Practice For Electrical Equipment Maintenance (www.nfpa.org).
2. The luminaire lens should be cleaned periodically to ensure continued lighting performance. To clean, wipe the luminaire lens with a clean, damp cloth. If this is not sufficient, use a mild soap or a liquid cleaner such as Collinite NCF or Duco #7. Do not use an abrasive, strong alkaline or acid cleaner. Damage may result.
3. Visually check for undue heating evidenced by discoloration of wires or other components, damaged parts or leakage evidenced by water or corrosion in the interior. Replace all worn, damaged or malfunctioning components, and clean gasket seals before putting the luminaire back into service.
4. Electrically check to make sure that all connections are clean and tight.
5. Mechanically check that all parts are properly assembled.

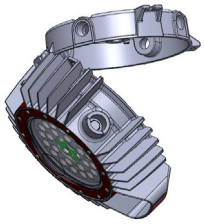
REPLACEMENT PARTS

Eaton's Crouse-Hinds series VMVL Series Champ Luminaires are designed to provide years of reliable lighting performance. However, should the need for replacement parts arise, they are available through your authorized Eaton's Crouse-Hinds distributor. Assistance may also be obtained through your local Eaton's Crouse-Hinds representative.

Eaton's Crouse-Hinds Sales Service Department, 1201 Wolf Street, Syracuse, New York 13208, Phone (866) 764-5454

INSTALLATION CHECKLIST

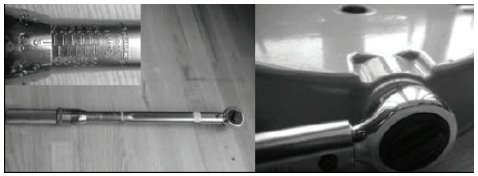
1. Hang LED luminaire on the cover module hinge hook.



2. Verify sufficient HTL lubricant is on conduit plugs (recommend approximately 1/8" bead around the first thread of plug) and that all unused conduit entries on the cover module are closed with lubricated plugs.

3. Verify conduit plugs are installed to at least five (5) full threads into the cover module conduit entries.

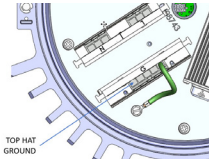
4. Verify installed conduit plugs are torqued to 42-52 ft.-lbs. (57-71 N-m) for 3/4" and 20mm plugs and 58-68 ft.-lbs. (79-92 N-m) for 1" and 25mm plugs.



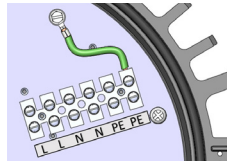
5. Verify supply wires are connected to splice connector or terminal block per the wiring diagrams. All components in the luminaire are pre-wired so only line, neutral and ground need to be connected in the luminaire to respective terminals. Connect the equipment ground connector first, the neutral next and, the line voltage last. Refer figure 7a / 7b for wiring diagram. Verify all wires are safely and neatly inside housing and not on top of wire terminal. Close housing onto cover module.

Field wiring options

1. With Splice connectors (default offering) – 20 to 10 AWG



2. With terminal block (TBX optional suffix)
   Wire size = 8-20 AWG
   Screw Torque = 7.0 in.-lbs.



(for example 6-pole option shown)

3. Verify all wires are safely and neatly inside driver housing and not on top of wire terminal for assemblies with LED driver & controls. Close driver housing onto cover module.

4. Verify captive closing screw is tightened to 30 in.-lbs. (3.4 N-m) and two (2) bosses on driver housing are in contact with cover module.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

⚠ CAUTION

Any changes or modifications not expressly approved by Eaton's Crouse-Hinds could void the user's authority to operate the equipment.

EATON CROUSE-HINDS SERIES
Eaton's Crouse-Hinds Division
1201 Wolf Street, Syracuse, New York 13208
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IF 1989
Revision 1
New 05/25