

Installation Instructions for Appleton™ Mercmaster™ LED Zone 1 Generation 3 Luminaire

FOR PROPER AND SAFE INSTALLATION OF THIS PRODUCT, PLEASE READ THE FOLLOWING INSTRUCTIONS.

Product Safety

Signal Words Defined

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury. **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury. **CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. **NOTICE** is used to address practices not related to physical injury.

Safety Instructions for Complete Luminaire

⚠ WARNING

- Do not open or remove the luminaire with the circuit energized.
- Do not use this luminaire on ungrounded systems. Failure to ground the luminaire can result in an electric shock, which may be fatal.
- Before installation, ensure that the unit complies with the hazardous area classification. Refer to luminaire nameplate, located on exterior of housing body, for suitability in specific hazardous locations.
- Do not use on ungrounded 480 volt circuits.
- Do not open when explosive atmospheres are present.
- Beware of electrostatic charges. Use a moist cloth to clean polycarbonate globe.
- Supply wires to be rated for minimum 90°C.

⚠ CAUTION:

- Do not look directly at the LEDs when energized.
- Disconnect the luminaire from the supply circuit before opening to reduce the risk of ignition in hazardous atmospheres.
- It is necessary that the globe and all conduit plugs are tightly secured and all luminaire fittings (mounting hood and optic) are tightly secured to the LED housing to prevent water and dust entry. The optic should be cleaned periodically to maintain lighting efficiency.

⚠ NOTICE:

- Do not touch the LEDs; touching could leave oily deposits, causing hot spots and potential premature failure.
- This luminaire is designed for and should be installed with hazardous locations wiring method required in accordance with all applicable local codes.
- This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and hazards involved.
- Do not use this equipment for anything other than its intended use.

Applications/Intended Use

- To reduce the risk of ignition of hazardous atmosphere, disconnect the luminaire from the supply circuit before opening. Keep tightly closed when in operation.
- Marine and wet locations: Apply a corrosion-inhibiting grease, such as petroleum or soap-thickened mineral oils, in 3 lines, spaced approximately 120 degrees apart, perpendicular to the threads. Tighten all unused close-up plugs to a torque of 45 Nm min.
- Areas where flammable gases and vapors are present under conditions defined by the ratings below.
- Non-hazardous locations where severe weather conditions, excessive moisture, dirt, dust, corrosive atmospheres, and high ambient temperatures are encountered.
- Luminaire to be mounted at a minimum of 4 feet (1.3 meters) above the ground.
- Equipotential bonding connection, where permitted or required by local codes or authorities, shall be done with a conductor having cross-sectional area of at least 4 mm² on wire binding screw provided on driver housing adjacent to ⊥ symbol.

Maintenance

There are no maintenance requirements or restrictions on the use of the Mercmaster Generation 3 Zone 1 family of luminaires. However, if there is a noticeable loss of light from dust or debris it is advisable to wipe the surface of the lens with a damp cloth.


Agency Ratings: (NEC/CEC)

- 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
- Simultaneous Exposure
- Class I, Zone 1, AEx eb mb IIC T4/T5/T6 Gb
- Class I, Zone 21, AEx tb IIIC T75°C/T85°C/T100°C Db
- Zone 1, Ex eb mb IIC T4/T5/T6 Db
- Zone 21, Ex tb IIIC T75°C/T85°C/T100°C Db
- Wet Locations
- Marine Outside Type (Salt Water) (For installation in USA only)
- Type 3R, 4, & 4X
- IP66 & IP67

Agency Ratings: (IECEX/ATEX)

For Catalog Numbers Starting With “MGZ” and Ending With “BU”

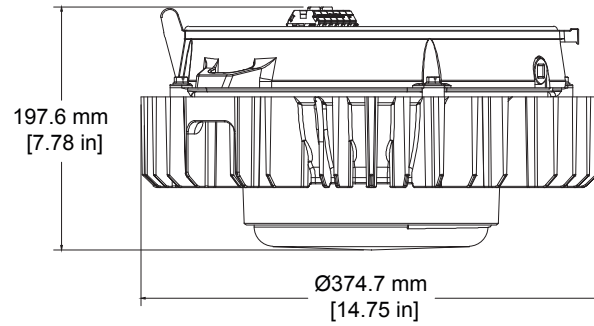
INSTALLATION INSTRUCTIONS FOR MERCMaster LED - Series MGZ

Equipment		
Protection Level	Gb	Db
Protection Mode	Ex eb mb op is IIC	Ex op is tb IIIC
Ambient Temperature	$-40^{\circ}\text{C} \leq \text{Ta} \leq +65^{\circ}\text{C}$	
ATEX Certificate	ITS 18ATEX303680X	
IECEX Certificate	IECEX ITS 18.0041X	
IP & IK Codes	IP66 - IK08	

Series	Gas T-Code @ Ambient			Dust T-Code @ Ambient		
	40 C	55 C	65 C	40 C	55 C	65 C
MGZL3	T6	T6	T5	75 °C	75 °C	85 °C
MGZL5	T6	T6	T5	75 °C	75 °C	85 °C
MGZL7	T6	T5	T5	75 °C	85 °C	85 °C
MGZH9	T5	T5	T4	85 °C	85 °C	100 °C
MGZH1	T5	T4	T4	85 °C	85 °C	100 °C
MGZH3	T4	T4	T4	85 °C	100 °C	100 °C
MGZH6	T4	T4	T4	85 °C	100 °C	100 °C

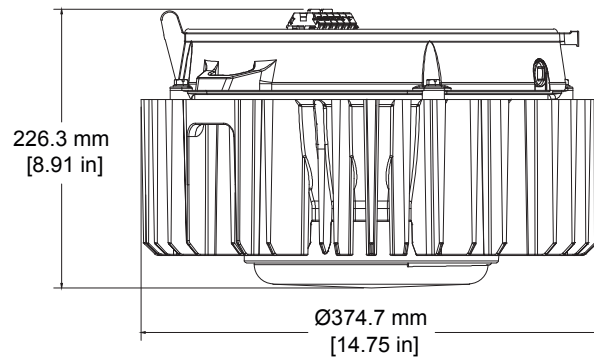
Electrical Parameters											
				MGZL3	MGZL5	MGZL7	MGZH9	MGZH1	MGZH3	MGZH6	
Line Voltage (V)	(AC)	120–277	Line Max. Current (A)	AC	0.29	0.40	0.56	0.7	0.87	1.04	1.21
	(DC)	170–300		DC	0.19	0.27	0.37	0.47	0.58	0.68	0.8
AC Line Frequency	Hz	50/60	Line Max. Power (W)	AC	32.9	46.1	65.2	81.6	101.2	120.4	140.4
				DC	32.9	45.7	63.8	80.5	99.1	117.9	137.9

Luminaire Dimensions



Side View- Globe

Luminaire with Small Heat Sink



Side View- Globe

Luminaire with Large Heat Sink

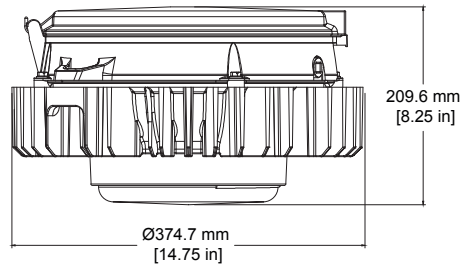
FIGURE 1: MERCMaster LED LUMINAIRE

Mounting Hood Dimensions and Installation

Pendant:

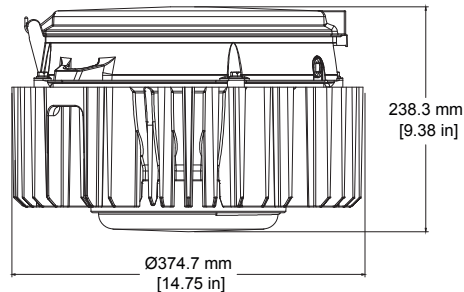
KPA-75, KPA-100, KPA-M20

Dimensions:



Side View- Globe

Luminaire with Small Heat Sink



Side View- Globe

Luminaire with Large Heat Sink

FIGURE 2: LUMINAIRE WITH PENDANT HOOD

Installation:

1. Apply a corrosion-inhibiting grease, such as petroleum or soap-thickened mineral oils, in 3 lines, spaced approximately 120 degrees apart perpendicular to the threads on the conduit stem. Thread the pendant hood onto the 3/4 inch or 1 inch conduit stem.
2. Tighten the set screw inside the hood to a torque of 1.9 Nm min. 2.6 Nm max.

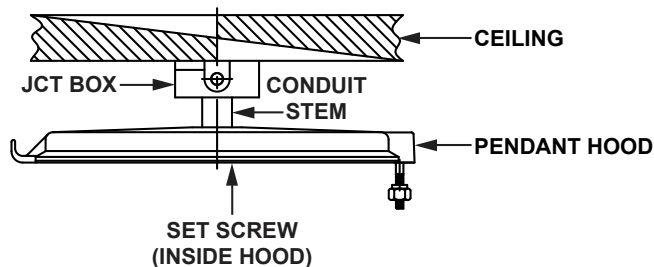
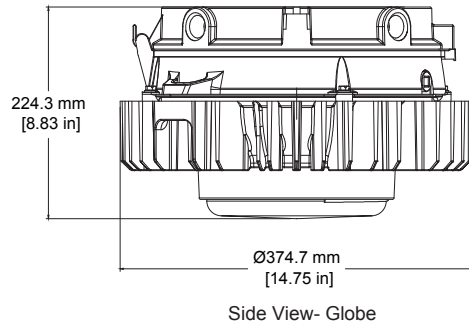


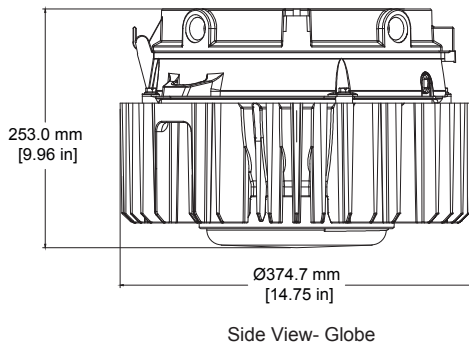
FIGURE 3: PENDANT HOOD DETAILS

Ceiling:
KPC-75, KPC-100, KPC-M20

Dimensions:



Luminaire with Small Heat Sink



Luminaire with Large Heat Sink

FIGURE 9: LUMINAIRE WITH CEILING HOOD

Installation:

1. Bolt the ceiling hood directly to a structural member; thread onto a 3/4 inch or 1 inch conduit stem.
2. Remove unused conduit plugs and reinstall with a corrosion-inhibiting grease, such as petroleum or soap-thickened mineral oils, in 3 lines, spaced approximately 120 degrees apart perpendicular to the threads on the conduit plugs. Tighten to a torque of 45 Nm min.

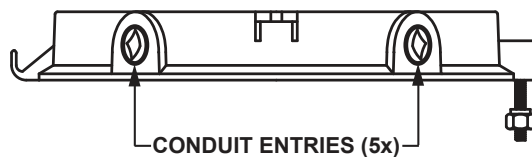
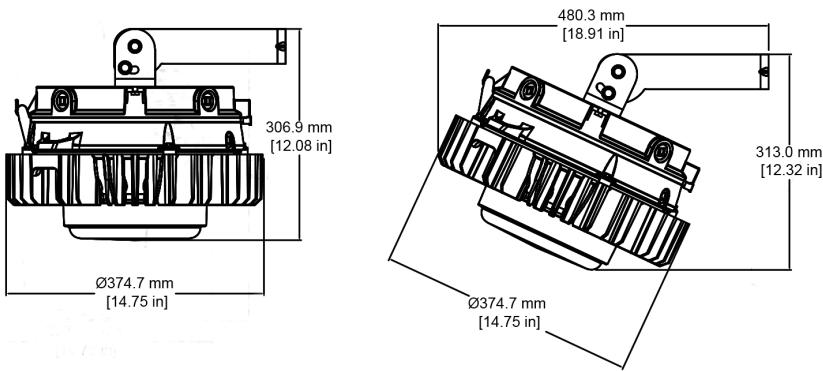


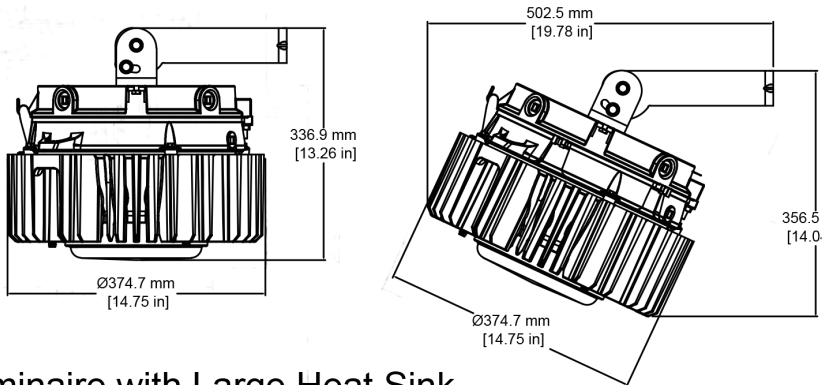
FIGURE 10: CEILING HOOD DETAILS

**Trunnion:
KPCT-75, KPCT-100, KPCT-M20**

Dimensions:



Luminaire with Small Heat Sink



Luminaire with Large Heat Sink

FIGURE 11: LUMINAIRE WITH TRUNNION HOOD

Installation:

1. Mount the trunnion hood directly to a flat surface using user-supplied hardware appropriate for the mounting surface.
Note: The trunnion has a center clearance hole for a 1/2 inch bolt and two 1/2 inch clearance holes spaced 3-1/2 inches apart on the trunnion center line.
2. Slightly loosen the four trunnion bolts and tilt the luminaire to the desired position with your free hand.
3. Retighten the bolts to secure the luminaire in place.
4. Remove unused conduit plugs and reinstall with a corrosion-inhibiting grease, such as petroleum or soap-thickened mineral oils, in 3 lines, spaced approximately 120 degrees apart, perpendicular to the threads on the conduit plugs.
5. **NOTE:** The trunnion mount may NEVER be used with the luminaire faced upwards, with “upwards” meaning toward the sky.

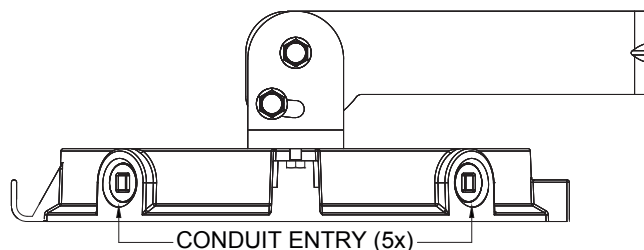
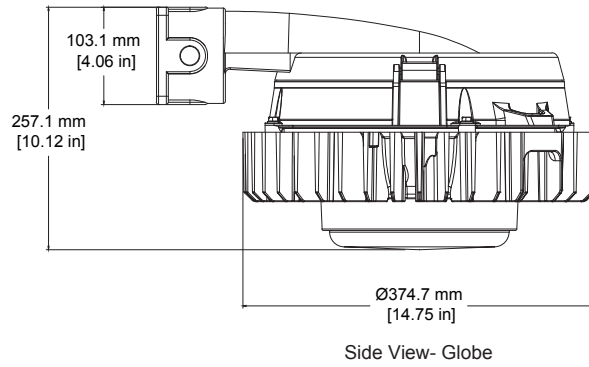


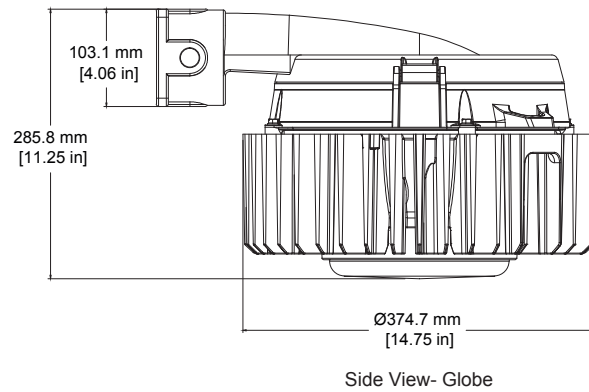
FIGURE 12: TRUNNION HOOD DETAILS

Wall:
KPWB-75, KPWB-100, KPWB-M20

Dimensions:



Luminaire with Small Heat Sink



Luminaire with Large Heat Sink

FIGURE 13: LUMINAIRE WITH WALL HOOD

Installation:

1. Bolt the wall hood to a structural member.
2. Remove unused conduit plugs and reinstall a corrosion-inhibiting grease, such as petroleum or soap-thickened mineral oils, in 3 lines, spaced approximately 120 degrees apart perpendicular to the threads on the conduit plugs. Tighten to a torque of 45 Nm min.

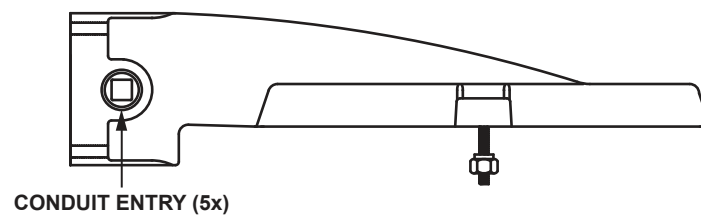
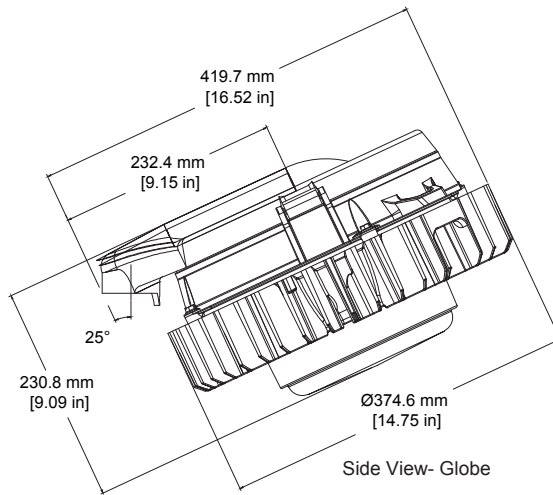


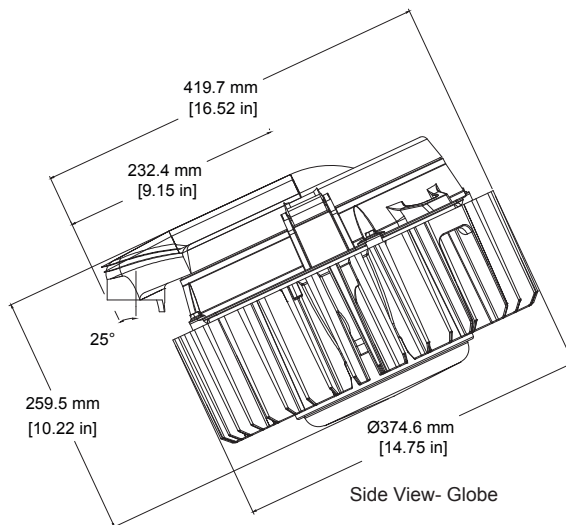
FIGURE 14: WALL HOOD DETAILS

**25° Stanchion:
KPS-125, KPS-150**

Dimensions:



Luminaire with Small Heat Sink



Luminaire with Large Heat Sink

FIGURE 15: LUMINAIRE WITH 25° STANCHION HOOD

Installation:

1. Apply a corrosion-inhibiting grease, such as petroleum or soap-thickened mineral oils, in 3 lines, spaced approximately 120 degrees apart perpendicular to the threads on the conduit.
2. Thread the stanchion hood onto the 1-1/4 inch or 1-1/2 inch conduit. NOTE: Five full threads must be engaged.
3. Determine the appropriate orientation and tighten the set screw to a torque of 1.9 Nm min. 2.6 Nm max.

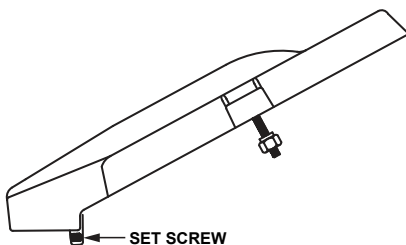
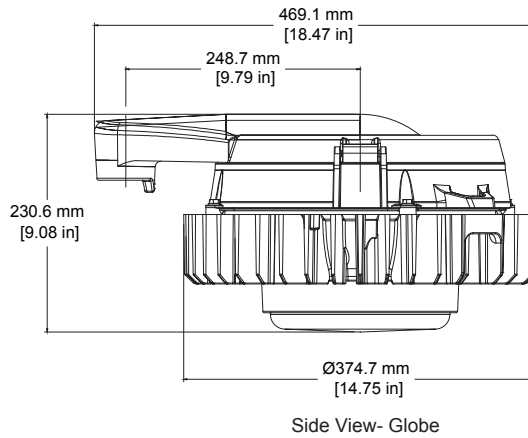


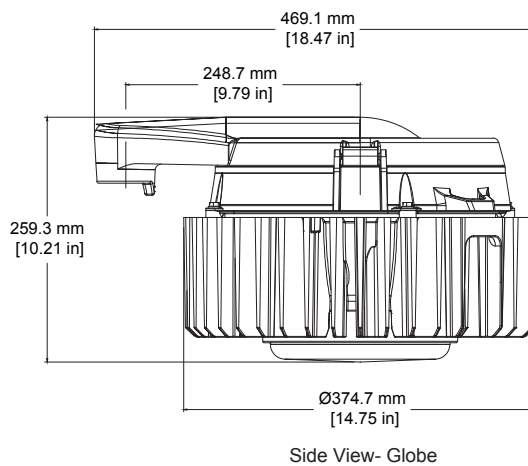
FIGURE 16: 25° STANCHION HOOD DETAILS

**90° Stanchion:
KPST-125, KPST-150**

Dimensions:



Luminaire with Small Heat Sink



Luminaire with Large Heat Sink

FIGURE 17: 90° STANCHION HOOD DETAILS

Installation:

1. Apply a corrosion-inhibiting grease, such as petroleum or soap-thickened mineral oils, in 3 lines, spaced approximately 120 degrees apart perpendicular to the threads on the conduit stem. Thread the stanchion hood onto the 1-1/4 inch or 1-1/2 inch conduit stem. NOTE: Five full threads must be engaged.
2. Determine the appropriate orientation and tighten the set screw to a torque of 1.9 Nm min. 2.6 Nm max.

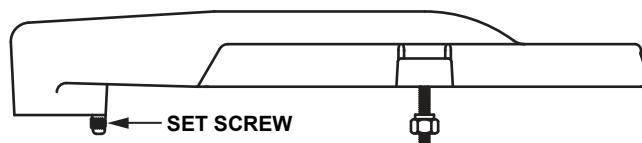


FIGURE 18: 90° STANCHION HOOD DETAILS

LED Housing Installation

⚠ WARNING: The luminaire must be grounded as required. Verify that ground continuity has been established by using an Ohm meter or other suitable test equipment before energizing the luminaire. Failure to properly ground the luminaire will create an electric shock hazard, which can cause serious injury or death.

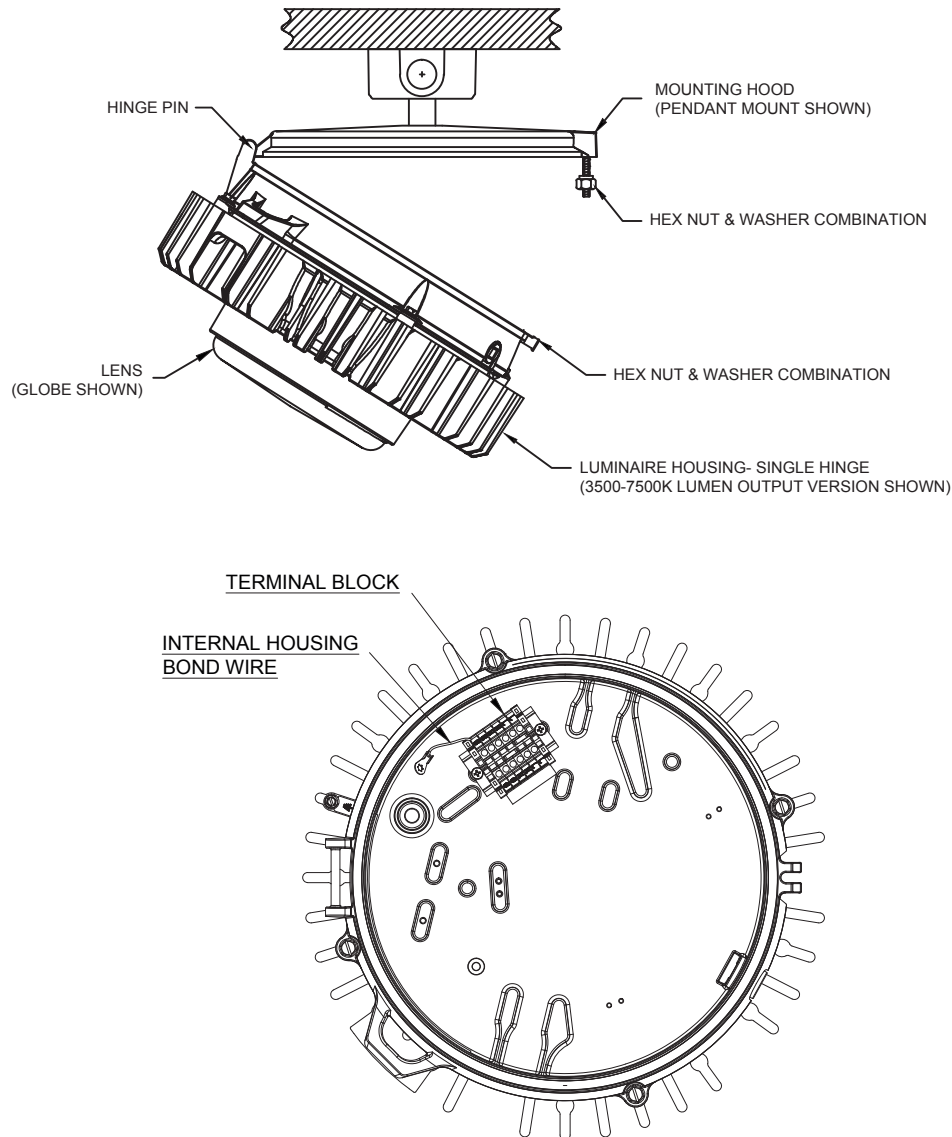


FIGURE 19: WIRING COMPARTMENT

Installation Instructions for Luminaire With Single Hinge Design

1. Disconnect facility power to the electric power supply leads.
2. Feed the supply wires through the conduit entry in the mounting hood.
3. Hang the luminaire on the hinge; secure with the hinge pin.
4. Strip the individual conductors to bare wire and insert them into the proper terminal block connections. The connection points are identified on the terminal block as: "L" = Line, "N" = Neutral, and "G" = Ground. Tighten down the terminal block screws onto the wire to a torque of 0.6 Nm min. 0.8 Nm max.
5. Luminaire requires bonding to mounting hood. Connect internal housing bond wire to GREEN ground screw in the mounting hood.
6. Fold all excess supply leads and fasten them into the mounting hood with the wire tie (supplied) to avoid pinching the wires.
7. Swing the luminaire up and tightly secure with the hex nut and washer combination.

Wiring Diagrams

Complete the wire connections per the appropriate diagram below.

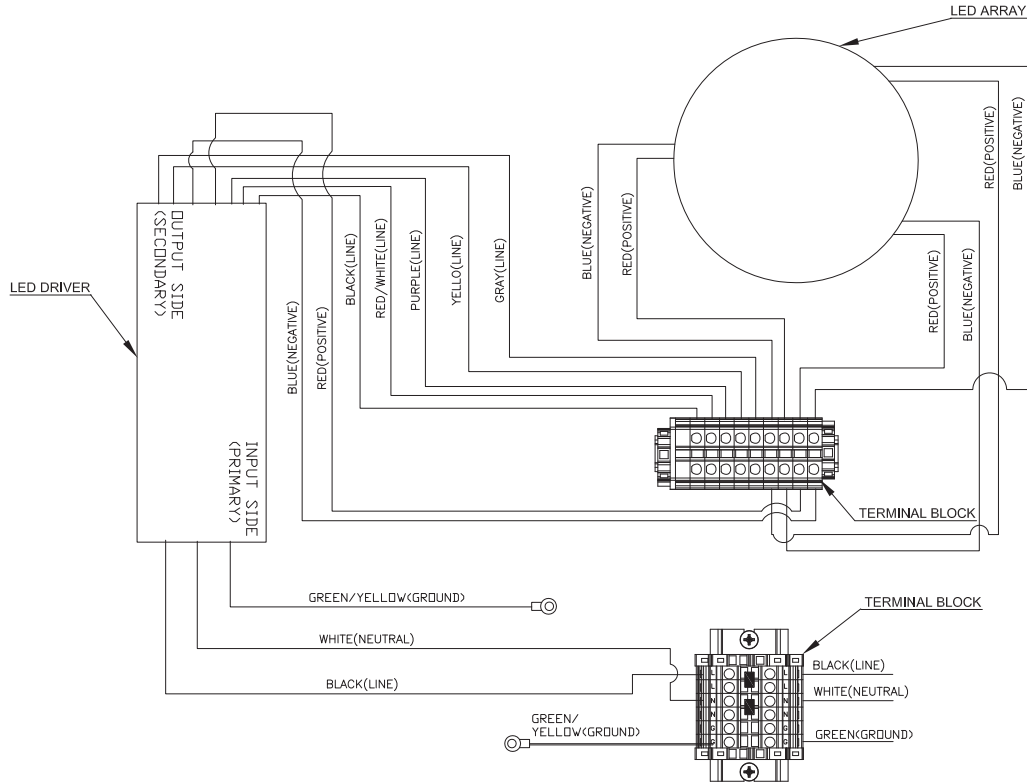


FIGURE 22: LUMINAIRE WITH LARGE HEAT SINK

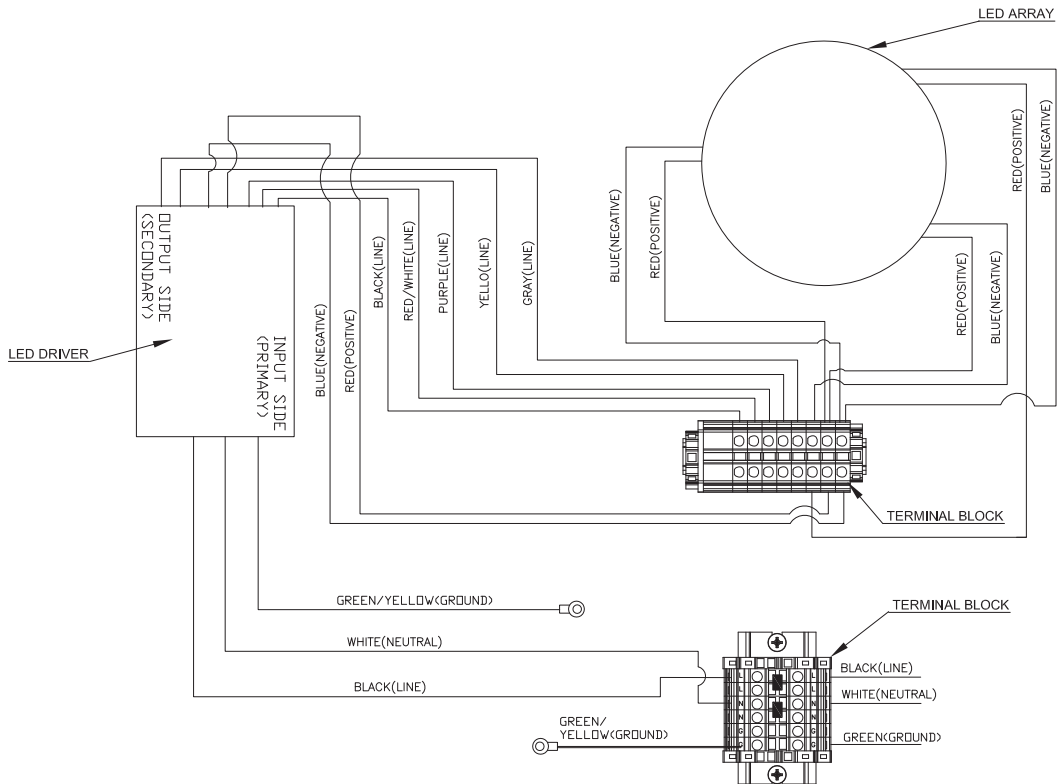


FIGURE 23: LUMINAIRE WITH SMALL HEAT SINK

Globe Replacement: VPGL-LED, VPGL-DIFF, VPGL-GLASS

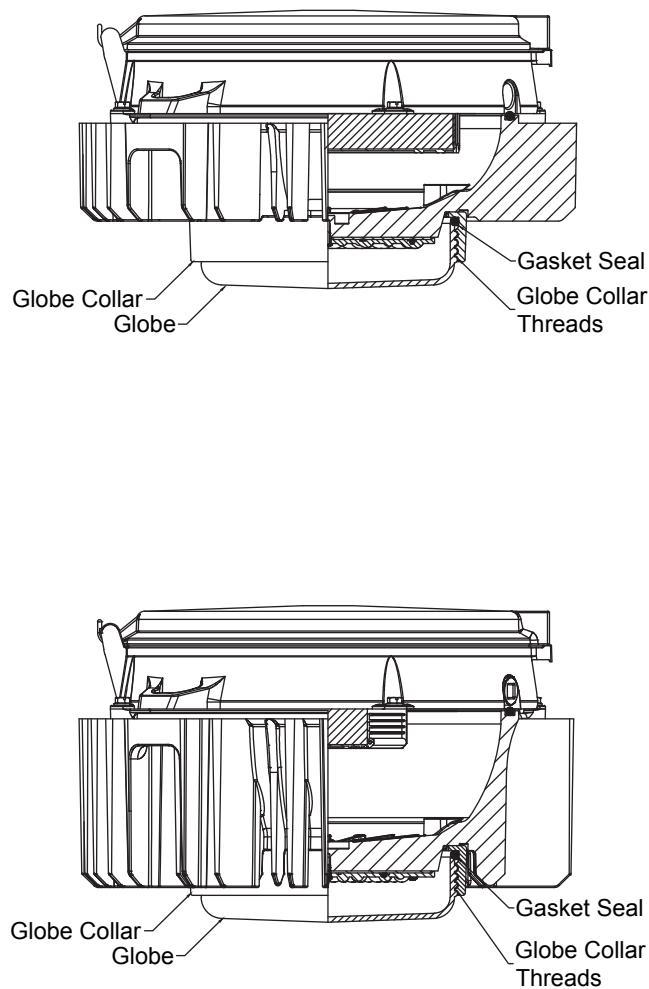


FIGURE 26: GLOBE SEALING DETAIL

Globe replacement:

1. If desired, globe may be replaced with parts listed on the fitting label inside the luminaire.
2. De-energize the fixture before removing the globe.
3. Remove globe by unthreading it counter clockwise.
4. Ensure that the gasket seal surface is clean and free from dirt or foreign particles.
5. Ensure that the globe is clean and free from dirt or foreign particles.
6. Align the threads of the globe with that of the globe collar. Rotate the globe into the globe collar clockwise making certain to compress the gasket seal.

Operating Instructions

To operate the Mercmaster Generation 3 Zone 1 family of luminaires ensure that power is live to the fixture after wiring and closing all wiring compartments.

120–277 VAC or 170–300 VDC is the acceptable range of voltages on these products.

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