

Mercmaster™ II HID Luminaires

High Pressure Sodium and Pulse Start Metal Halide. Mogul Base

UNILETS® for Use with Threaded Metal Conduit.

NEC:

Class I, Division 2, Groups A, B, C, D ①
Class II, Division 1 and 2, Groups E, F, G ②
Class III
Fixtures Outside Type (Salt Water)

Applications

- Enclosed and gasketed HID lighting fixtures for use in tunnels, walkways, bridges, storage facilities, processing plants, parking lots, foundries, manufacturing plants, power plants and other locations where moisture, dirt, dust or corrosive atmospheres are encountered.
- Fixtures suited for Class I, Division 2; Class II, Division 1 and 2; and Class III. Suitable for use in wet and outdoor saltwater locations.
- Wide range of wattages and voltages. Choice of ballasts for 175 W PSMH; and 50 W-150 W HPS lamps in 120, 208, 240, 277 and 480 voltages.
- Choice of light sources: high pressure sodium and pulse start metal halide.
- Choice of optical assemblies: (1) prismatic globe with or without guard through 175 W; or (2) Type V closed prismatic glass refractor through 175 W. (Types II, III and IV also available through 175 W. Also polycarbonate globes for 100 W max. in HPS)
- Choice of mounting hoods: pendant (rigid or flexible), 25° (angle) stanchion, ceiling and wall mounting.
- Porcelain reflector for standard applications and Fiberglass reinforced polyester reflector for installations where luminaire is subject to exceptionally severe corrosive atmospheres.

Features

- Superior corrosion-resistance: copperfree aluminum mounting hoods, ballasts and guards with epoxy powder coat, inside and out.
- Standard pendant mounting hood for rigid or flexible mounting. Balanced round design automatically hangs plumb when used with flexible hanger.
- Positive sealing. Hinge and bolt construction assures 360° compression at all points on gasket.
- One-piece ballast housing for each component provides even heat dissipation for cooler operation and longer ballast life.
- Heat barrier isolates capacitor from ballast. Standard non-PCB biodegradable capacitors installed in separate compartment.
- Mogul socket is furnished with 200 °C (392 °F) welded leads, pre-wired to the ballast.
- Porcelain socket assures trouble-free operation in high ambient installations.
- Guards protect globes from damage. Keyhole slots allow easy installation and are secured with stainless steel screws.
- Prismatic glass globes and glass refractors are standard (plastic refractors also available) and thread directly into fixture housing. Eliminate glare and provide uniform light distribution.
- Vented reflectors result in cooler, dirt-free operation, increased lumen output.
- Reflectors secured to mounting hood with screws (furnished).
- Choice of reflector styles: white porcelain enamel or Fiberglass reinforced polyester; standard dome or 30° angle.
- Optional photocell provides automatic “on-off” control.
- All Mercmaster mounting hoods have provision for easy field installation of fuses in fixtures (see fuse kit listings).



Standard Materials

- Mounting hoods, ballast bodies and guards: copperfree (4/10 of 1% max.) aluminum
- Reflectors: fiberglass reinforced polyester
- Globes: 50 W-100 W, threaded prismatic glass; 150 W and 175 W, threaded heat-resistant prismatic glass
- Refractors: 50 W to 150 W, heat-resistant prismatic glass and plastic; 175 W prismatic glass

Standard Finishes

- Mounting hoods, ballast bodies, guards: epoxy powder-coat finish. Two-coat baked finish, electrostatically applied for complete uniform surface protection
- Polyester reflectors: natural finish

Options

- Fuses for fixtures. For fuse kits see *Electrical Specifications and Fuse Kits* page.
- MH fixtures for Quartz Auxiliary lamps. Relay switch installed in fixture when specified. Add suffix **-MTE** to fixture catalog number for 120 V through 277 V, and suffix **-480E** to fixture catalog number for 480 V fixture.
- Hot Restrike option add suffix **-R**.
- Smart Starter available for HPS and PSMH. Add suffix **-S**.

NEC Certifications and Compliances

- UL Standard: UL 1598, UL 1598A, UL 844
- UL Listed: E10444

① For specific Class I suitability of each fixture listed, see *Thermal Suitability*.

② For 175 W fixtures, use 12" refractor only for Groups E, F and G. Heat-resistant glass globe supplied with 175 W fixtures.

Note: Fixtures equipped with optional photocell or quartz auxiliary lamp do not comply with UL requirements and are not suitable for use in classified locations.

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Illustrated Features



High Temperature Sockets
Mogul base high temperature socket for 50W through 175W HID lamps.

Aluminum Inner Reflector
Solid aluminum inner reflector improves photometric efficiency.



Epoxy Finish
Ballast housing, hoods and guards are copperfree aluminum with epoxy powder coat finish.

Electrical Protection
Ground wire provided to bond mounting hood to ballast housing. Fiber insulator protects ballast and capacitor.



Photocell
Installs through knock-out in mounting hood; provides continuous ON-OFF dusk-to-dawn control. Fixtures with optional photocell or quartz auxiliary lamp do not comply with UL requirements for use in classified locations.



Fuses Mount to Hood Bosses
Two screws secure fuse kit to mounting boss in any Mercmaster mounting hood.



Hood/Ballast Gasket
Silicone rubber gasket seals out moisture, dirt and dust.



Stainless Steel Latch Assembly
Captive, stainless steel latch assembly bolt and nut closes securely, resists attack of corrosive atmospheres. Swing-away design simplifies servicing.



"Safety" High Hinge
Extra-high hinge provides additional protection against accidental ballast housing disengagement during installation or maintenance.

JB Series Box and Flexible Hanger



Balanced Round Design
Pendant fixtures automatically hang plumb. Fixtures and hangers suitable for Class I, Division 2 applications.

Appleton®

HID/AREA: NEC/CEC ENCLOSED AND GASKETED

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Quartz Emergency Light for Pulse Start Metal Halide or High Pressure Sodium Fixtures ③

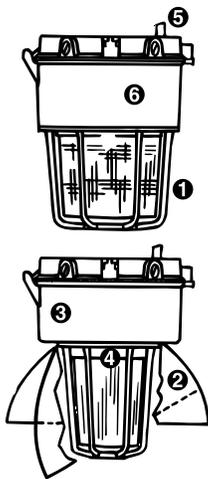


Mercmaster fixtures for or metal halide and high pressure sodium lamps can be supplied with a socket to accept a 150 W 120 V quartz lamp. This D.C. bayonet base socket is in addition to the standard lamp socket. In the event of a momentary power interruption, the quartz lamp is automatically switched on. The single ended quartz lamp remains energized until the HID restrikes and reaches about 60% output.

The quartz emergency lamp socket is wired to a 120 V tap on the ballast and is therefore independent of the lighting fixture voltage. No special field wiring is necessary.

Description	Catalog Suffix
For fixture volts of 120, 208, 240 or 277	-MTE
For fixture volts of 480	-480E

Accessory Options



- ① **Guards:** Guards are die-cast copperfree aluminum with baked epoxy finish to match fixtures. Fixture supplied with stainless steel mounting screws which thread into stainless steel inserts on fixture housing to attach guard. To order fixture with guard, add suffix **-G** to catalog number before adding voltage suffix.
- ② **Reflectors:** Standard dome and 30° angle polyester reflectors.
- ③ **Hot Restrike:** Instantly restrikes a hot HPS lamp when power is restored after a momentary outage. Available factory-installed only. To order, add suffix **-R** to catalog number.
- ④ **Quartz Emergency Light:** When ordered, HPS fixtures will be supplied with a prewired special DC bayonet base socket to accept a 150W, 120V quartz lamp (not furnished) that automatically switches on when a power outage occurs. Fixtures ordered with this quartz emergency lamp feature do NOT comply with requirements for classified areas and should be used only in non-classified locations. To order, add suffix **-E** to catalog number and specify if a relay switch is desired.
- ⑤ **Photocell and Fuses:** Photocontrol.
- ⑥ **Smart Starter:** Performs as a conventional starter in lamp start-up. Removes itself from circuit at end of lamp life or if lamp is out of socket. Add suffix **-S** to catalog number.

① For specific Class I suitability of each fixture listed, see Thermal Suitability.
 ② For 175 W fixtures, use 12" refractor only for Groups E, F and G. Heat-resistant glass globe supplied with 175 W fixtures.
 ③ NOTE: Fixtures equipped with quartz emergency light do not comply with UL requirements and are not suitable for use in classified locations.

Mercmaster™ II HID Luminaires

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

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The following table shows maximum operating temperatures of Mercmaster fixtures for Class I, Division 2, in a +40 °C (+104 °F) ambient in free air as rated by UL. As shown, the higher the Temperature Identification Number, the cooler the fixture operates. Keep this in mind when selecting a fixture for a specific chemical listed on the Classified Area Suitability pages. Per the NEC. The temperature marking shown on fixtures shall not exceed the

ignition temperature of the gas to be encountered. To illustrate, a 400W HPS fixture, which has a UL-NEC Temperature Identification Number of 350 [+326 — +350 °C (+619 — +662 °F)] does NOT exceed the Group D Methane (natural gas) ignition temperature of +540 °C (+1004 °F), and is therefore suitable for use in atmospheres containing that chemical.

Mercmaster II Thermal Suitability

Lamp		Supply Wire	Ambient Temp.	Class I, Division 2, Groups A, B, C, D				Class II, Division 1, Groups E, F, G			
Watts	Type	Temp. °C (°F)	°C (°F)	Globe	Globe and Reflector	8" Refractor	12" Refractor	Globe	Globe and Reflector	8" Refractor	12" Refractor
50	HPS	90 (194)	40 (104)	T3	T3	T3A	T3A	T3B	T3B	T3B	T3B
70	HPS	90 (194)	40 (104)	T3	T3	T3A	T3A	T3B	T3B	T3B	T3B
100	HPS	90 (194)	40 (104)	T2C	T2C	T3	T3	T3B	T3B	T3B	T3B
150	HPS	90 (194)	40 (104)	T2A	T2A	T2B	T2B	③	③	③	T3B
175	PSMH	90 (194)	40 (104)	T2B	T2B	T2C	T2C	T3	—	—	T3

“T” Numbers Represent the Maximum Lamp Temperature for Class I, Division 2 Locations and Maximum Surface Temperature Under Dust Blanket for Class II, Division 1 Locations.

“T” Number	T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
Temp Range (°C)	351-450	326-350	301-325	281-300	261-280	231-260	216-230	201-215	181-200	166-180	161-165	136-160	121-135	101-120	86-100	85
Temp. Range (°F)	664-842	619-662	574-617	538-572	502-536	448-500	421-446	394-419	358-392	331-356	322-329	277-320	250-275	214-248	187-212	185

All HPS fixtures suitable for operation at -40 °C (-40 °F); PSMH at -29 °C (-20 °F).

① For specific Class I suitability of each fixture listed, see Thermal Suitability above.

② For 175 W fixtures, use 12" refractor only for Groups E, F and G. Heat-resistant glass globe supplied with 175 W fixtures.

③ Pendant, ceiling and wall mount are suitable for groups E and F only with T3A rating. Stanchion mount is suitable for groups E, F and G with a T3B rating.

Mercmaster™ II HID Luminaires

50 W, 70 W, 100 W, 150 W HPS

High Power Factor (Min. P.F. 90%). Suitable for Use in Wet Locations. Prismatic Glass Globe or Type V Closed Glass Refractor. Mogul Base Lamps.

NEC:

- Class I, Division 2, Groups A, B, C, D ①
- Class II, Division 1 and 2, Groups E, F, G ②
- Class III
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With Globe, Less Guard	With 8" Refractor (NEMA V)	Lamp Watts	Hub Size (Inches)	With Globe ③	Catalog Numbers With 8" Refractor ④	With 12" Refractor
Pendant — One Hub, Rigid or Flexible Mounting						
		50	3/4	LPAL5075 ⑤	LPAL5075J ⑤	LPAL5075R ⑤
			1	LPAL5010 ⑤	LPAL5010J ⑤	LPAL5010R ⑤
		70	3/4	LPAL7075 ⑥	LPAL7075J ⑥	LPAL7075R ⑥
			1	LPAL7010 ⑥	LPAL7010J ⑥	LPAL7010R ⑥
		100	3/4	LPAL1075 ⑥	LPAL1075J ⑥	LPAL1075R ⑥
			1	LPAL1010 ⑥	LPAL1010J ⑥	LPAL1010R ⑥
		150	3/4	LPAL1575 ⑥	LPAL1575J ⑥	LPAL1575R ⑥
			1	LPAL1510 ⑥	LPAL1510J ⑥	LPAL1510R ⑥
Ceiling — Five Hubs, Four Close-Up Plugs						
		50	3/4	LPCL5075 ⑤	LPCL5075J ⑤	LPCL5075R ⑤
			1	LPCL5010 ⑤	LPCL5010J ⑤	LPCL5010R ⑤
		70	3/4	LPCL7075 ⑥	LPCL7075J ⑥	LPCL7075R ⑥
			1	LPCL7010 ⑥	LPCL7010J ⑥	LPCL7010R ⑥
		100	3/4	LPCL1075 ⑥	LPCL1075J ⑥	LPCL1075R ⑥
			1	LPCL1010 ⑥	LPCL1010J ⑥	LPCL1010R ⑥
		150	3/4	LPCL1575 ⑥	LPCL1575J ⑥	LPCL1575R ⑥
			1	LPCL1510 ⑥	LPCL1510J ⑥	LPCL1510R ⑥
Wall — Five Hubs, Four Close-Up Plugs						
		50	3/4	LPWBL5075 ⑤	LPWBL5075J ⑤	LPWBL5075R ⑤
			1	LPWBL5010 ⑤	LPWBL5010J ⑤	LPWBL5010R ⑤
		70	3/4	LPWBL7075 ⑥	LPWBL7075J ⑥	LPWBL7075R ⑥
			1	LPWBL7010 ⑥	LPWBL7010J ⑥	LPWBL7010R ⑥
		100	3/4	LPWBL1075 ⑥	LPWBL1075J ⑥	LPWBL1075R ⑥
			1	LPWBL1010 ⑥	LPWBL1010J ⑥	LPWBL1010R ⑥
		150	3/4	LPWBL1575 ⑥	LPWBL1575J ⑥	LPWBL1575R ⑥
			1	LPWBL1510 ⑥	LPWBL1510J ⑥	LPWBL1510R ⑥
25° Stanchion — One Hub						
		50	1-1/4	LPSL50125 ⑤	LPSL50125J ⑤	LPSL50125R ⑤
			1-1/2	LPSL50150 ⑤	LPSL50150J ⑤	LPSL50150R ⑤
		70	1-1/4	LPSL70125 ⑥	LPSL70125J ⑥	LPSL70125R ⑥
			1-1/2	LPSL70150 ⑥	LPSL70150J ⑥	LPSL70150R ⑥
		100	1-1/4	LPSL10125 ⑥	LPSL10125J ⑥	LPSL10125R ⑥
			1-1/2	LPSL10150 ⑥	LPSL10150J ⑥	LPSL10150R ⑥
		150	1-1/4	LPSL15125 ⑥	LPSL15125J ⑥	LPSL15125R ⑥
			1-1/2	LPSL15150 ⑥	LPSL15150J ⑥	LPSL15150R ⑥

① For specific Class I suitability of each fixture listed, see Thermal Suitability.

② For 175 W fixtures, use 12" refractor only for Groups E, F and G. Heat-resistant glass globe supplied with 175 W fixtures.

③ To order fixture with guard, add suffix -G (before adding voltage suffix).

④ Furnished with 8" NEMA V refractor — to order with NEMA I or III refractor, change J in the catalog number to J1 or J3.

Add voltage suffix -MTMED for Medium Base, 100W (order as special).

⑤ Add voltage suffix -MT for 120, 208, 240 or 277 V.

⑥ Add voltage suffix -MT for 120, 208, 240 or 277 V; -480 for 480 V.