

Mercmaster™ III HID 50–250 Watt Luminaires

High Pressure Sodium and Pulse Start Metal Halide

Listed for simultaneous exposure to combustible dusts and flammable gases or vapors.

NEC/CEC:

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, AEx/Ex nR IIC (ZB)
Class II, Division 1 and 2, Groups E, F, G
Class III

NEC/CEC:

Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)
Fixtures Outside Type (Salt Water)
Type 4X
IP66

Applications

- Enclosed and gasketed fixtures suitable for use in:
 - Marine and wet locations
 - A wide range of industrial, chemical processing and other areas where flammable gases and vapors or combustible dusts are present under conditions defined by the National Electrical Code as Class I, Division 2; Class II, Division 1 and 2; and Class III
 - For Zone 2, the method of protection is AEx nA nR – Restricted Breathing/Nonsparking or AEx/Ex nR – Restricted Breathing
 - Non-hazardous locations where severe weather conditions, excessive moisture, dirt, dust, corrosive atmosphere or high ambient temperatures are encountered. 18% cooler operation allows use in ambient temperatures up to +65 °C (+149 °F) depending on fixture component combinations
 - Ambient temperature range:
 - HPS: -40°C to +65°C (-40°F to +149°F)
 - PSHM: -30°C to +65°C (-22°F to +149°F)
- Typical applications include:
 - Pulp and paper mills
 - Processing plants
 - Chemical plants
 - Oil refineries
 - Foundries
 - Manufacturing plants
 - Storage areas
 - Marine applications
- Fixtures have NEMA 4X listing.
- Suitability includes listing for use where there may be simultaneous exposure to combustible dusts and flammable gases and vapors. See listing pages for compliance data on specific fixture component combinations.

Features

- Modular design allows scores of fixture component combinations to meet installation and lighting needs. Many most-used combinations are offered prewired and assembled, complete with lamp, packaged in a single carton and ready to install.
- Mogul lamp types and wattages:
 - HPS 50W-150W
 - PSMH 175W-250W
- Choice of heat-resistant prismatic glass refractors (NEMA distributions I, III and V), or heat-resistant prismatic glass globes for hazardous area fixtures. Colored and clear polycarbonate globes and Tuff-skin® ① coated glass globes are available but are NOT approved for use in classified areas. Fixtures with these globes do NOT comply with code requirements, and should be used in non-classified areas only. Globes and refractors thread directly into ballast housing.
- Mounting hoods include cone-shaped pendant hood, standard pendant, flexible pendant, ceiling and wall pendants (tapped for 3/4" or 1" NPT), 25° angle stanchion, and 90° (straight) stanchion (both tapped for 1-1/4" or 1-1/2" NPT).
- Cone hood fixtures for pendant mounting shed dust, dirt and combustible fibers. Cone hood inhibits build-up that "insulates" fixture and slows heat transfer, and provides increased surface area for more effective heat dissipation.



- Reflector choice includes standard dome and 30° angle types, both made of Fiberglass reinforced white polyester. Highly resistant to unusually corrosive applications. Reflectors are vented for cooler, dirt-free operation and maintained lumen output. They secure to ballast housing with stainless steel screws threading into stainless steel inserts.
- For high corrosion resistance, fixture housing, mounting hoods and guards are copperfree cast aluminum with baked epoxy finish, electrostatically applied for uniformity. All exposed hardware is stainless steel.
- Hinge has high lip for added safety during installation and servicing. Hinge and bolt construction assures 360° compression at all points on ballast housing gasket for positive sealing. Swing-away design of captive bolt and nut simplifies servicing.
- Body gaskets and globe gaskets are high-temperature silicone rubber.
- Capacitors are non-PCB type, thermally isolated from ballast.
- Mogul base porcelain socket with nickel-plated contacts has 200 °C (392 °F) welded leads, prewired to the ballast. Assures trouble-free operation in installations where high ambient temperatures are encountered.
- HPS ballasts are High Power Factor (min. P.F. 90%).
- A wide range of voltages available (120 to 600 Volt) and ballast types (Reactor and CWA).
- All Mercmaster III mounting hoods have provision for easy field installation of fuses in fixtures (see fuse kit listings in this catalog section).
- For electrical protection, a ground wire is provided on each Mercmaster to bond hood and ballast housing.

① Tuff-skin is a registered trademark of Thomas Manufacturing Corp., Parkton, Maryland.

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Pendant Mount Fixture
with Prismatic Glass Refractor



Straight Stanchion-Mount Fixture
with Prismatic Glass Refractor and
Guard



Pendant Cone Fixture with
Prismatic Glass Globe and Guard



Ceiling Mount Fixture
with Prismatic Glass Globe, Guard
and Polyester 30° Angle Reflector

- The AEx nA nR factory sealed Mercmaster III prevents vapors and gases from entering the globe chamber. There are no seals or putty required which will reduce installation time and installation errors.
- The AEx/Ex nR Mercmaster III fixture requires all wiring entries to be sealed.

Standard Materials

- Mounting hoods, ballast bodies and guards: copperfree cast aluminum (less than 4/10 of 1%)
- Exposed hardware: stainless steel; latch assemblies have stainless steel bolt and captive nut; reflectors and guards attach with stainless steel screws threading into stainless steel inserts.
- Reflectors: Fiberglass reinforced white polyester
- Globes: heat-resistant prismatic glass
- Refractors: heat-resistant prismatic glass

Standard Finishes

- Mounting hoods, ballast bodies, guards: epoxy powder coat finish, electrostatically applied for complete, uniform surface protection
- Reflectors: white polyester finish

Options

- AEx nA nR fixtures are available with a Class I, Zone 2 rating. Add suffix **-Z2**. Only available for certain ballast types.
- AEx/Ex nR fixtures are available with a Class I, Zone 2 rating. Add suffix **-ZB**.
- Fuses can be field-installed on Mercmaster III fixtures. Kits include fuse block, wire connectors and screws for attaching to mounting hood. Fixtures with fuses do not comply with Marine Type Electric Fixtures Outside Type (Salt Water) requirements for marine listing. For fuse kits, see *Electrical Specifications and Fuse Kits* page.
- Hot Restrike will restrike HPS lamp immediately when power is restored after a momentary power interruption. Add suffix **-R**.
- Smart Starter incorporates a 1-1/2-minute timer and performs as a conventional starter to normally start lamp. Removes itself from circuit if lamp burns out or is removed from socket. Eliminates starter failures caused by prolonged operation with cycling or failing lamps and simplifies finding their location, reducing maintenance and repair costs. Available for all HPS and PSMH fixtures. Add suffix **-S**.
- Optional photocell for all fixtures except cone and ceiling mount provides automatic “on-off” control.
- Quartz Auxiliary comes to full brightness immediately and remains lit until the HID lamp attains 25-50% of full illumination. Quartz Auxiliary supplied with relay switch and socket to accept 120 V quartz double contact bayonet base lamp (not included). Add suffix **-E** to fixture catalog number. ①

NEC/CEC Certifications and Compliances

- cULus Listed: E10444
- UL Standard: ANSI/UL 844, 1598, 60079-0, 60079-15, 1598A
- CSA Standard: CSA C22.2 No. 250.0, C22.2 No. 137; CAN/CSA E60079-0, E60079-15
- PSMH 250W MT (120/208/240/277, 60 Hz) Fixtures are not UL Listed

Related Products

- Classified area photo controls are also available.

① Fixtures equipped with a 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 porcelain sockets.

Aluminum Inner Reflector

Solid aluminum inner reflector (for refractor ballast housings only) improves photometric efficiency.

Globe Chamber (Zone 2)

Completely sealed from the ballast housing and outside vapors/air (nA nR).



"Safety" High Hinge

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



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



Vented Reflectors

Reflectors are thick, tough fiberglass-reinforced white polyester, vented for cooler operation. Quickly attach with furnished stainless steel screws.

Terminal Blocks (Zone 2)

A seven-point terminal block is provided to facilitate wiring. Terminal block accommodates wire size ranging from #8 to #24 AWG.

Stainless Steel Inserts

Ballast bodies have stainless steel threaded inserts to receive stainless steel screws for reflectors and guard. Prevents "freezing", allowing guards and reflectors to be easily removed and replaced at any time, without damage to the housing.

Epoxy Finish

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

Photocell

Available for all fixtures except cone and ceiling mount. Installs through knock-out in mounting hood. Provides continuous ON-OFF dusk-to-dawn control.

Heat-Resistant Globes and Refractors

Prismatic glass globes and refractors are heat-resistant. They thread directly into the ballast housing and seal against a high-temperature silicone rubber gasket.



Ballast Assembly (Zone 2)

Utilizing non-sparking components avoiding the ignition of gases or vapors that may be present (nA).

Mounting Hood and Globe Gaskets

Silicone rubber gasket seals out moisture, dirt and dust. Stays flexible, withstands high temperatures. Closure design assures uniform gasket compression.

Electrical Protection

Ground wire provided to bond mounting hood to ballast housing.



Cooler Operating Cone Hood

Larger sloped surface sheds dusts, dirt and combustible fibers providing better heat dissipation.



Fuses

Two screws secure fuse kit to mounting boss in any Mercmaster mounting hood. Fuse included.

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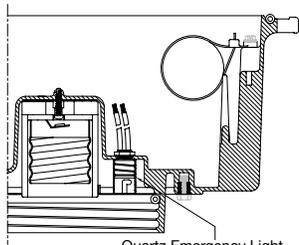
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Quartz Emergency Light for Pulse Start Metal Halide or High Pressure Sodium Fixtures ①



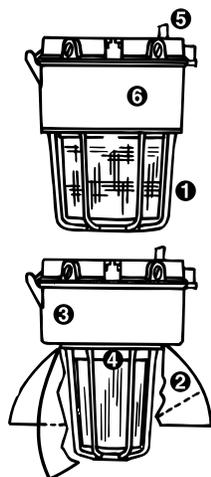
Quartz Emergency Light for PSMH or HPS Fixtures

Mercmaster fixtures for or metal halide and high pressure sodium lamps can be supplied with a socket to accept a 150 W or 250 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	-48E

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 are shown elsewhere in this catalog section.
- 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, 120 V 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:** Photocontrols are available.
- 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 NOTE: Fixtures equipped with quartz emergency light do not comply with UL requirements and are not suitable for use in classified locations.

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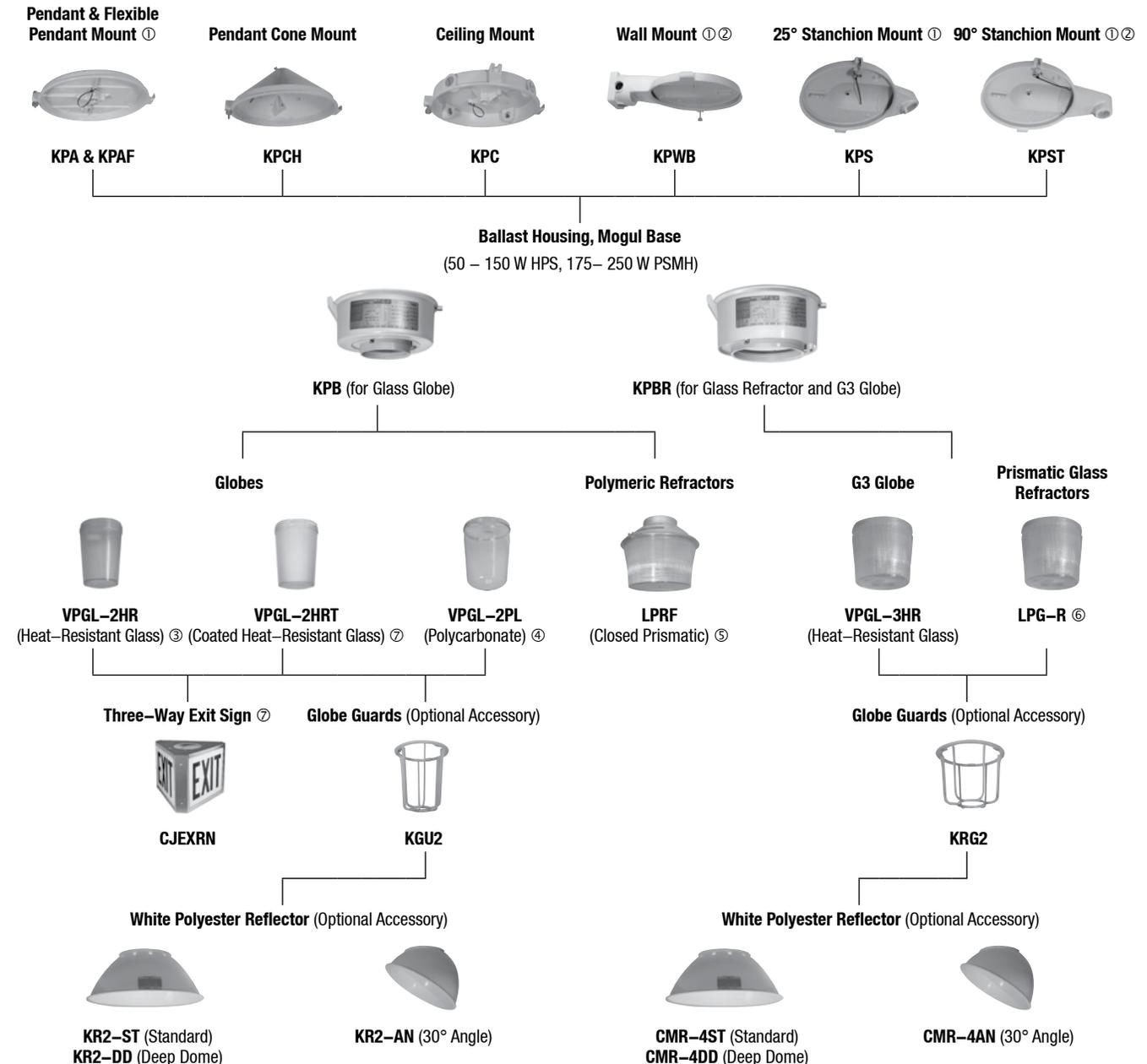
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Mercmaster III 50-250 Family Tree



① Mounting hood with a 120 V or 208-277 V factory installed photocell is available.

② Standard and deep dome reflectors may interfere with bottom conduit entry if used with KPST and KPWB mounting hoods..

③ Available in clear, amber, blue, green and red. Colors not UL Listed.

④ Available in clear, amber, green and red. Not UL Listed.

⑤ Available in NEMA Type II, III, IV and V. Polymeric Refractor suitable for Class II, Groups F and G, NEMA 4X and Marine Type Electric Fixtures Outside Type (Salt Water) only (100 W HPS Max.).

⑥ Available in NEMA Type I, III and V.

⑦ Not UL Listed.

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Order using catalog numbering guide below or select catalog number from tables on following pages.

Catalog Numbering Guide

<p>KP</p> <p>Series: KP - Mercmaster III 250</p>	<p>A</p> <p>Mounting: A - Pendant (rigid mounting) C - Ceiling CH - Pendant Cone Hood F - Pendant (flexible mounting) ST - 90° Stanchion S - 25° Stanchion WB - Wall</p>	<p>L</p> <p>Lamp Type: L - High Pressure Sodium P - Pulse Start Metal Halide</p>	<p>70</p> <p>Wattage: 10 - 100 W HPS 15 - 150 W HPS 17 - 175 W PSMH 25 - 250 W PSMH ③ 50 - 50 W HPS (MT - Voltage Only) 70 - 70 W HPS</p>	<p>10</p> <p>Hub Size: 75 - 3/4" NPT 10 - 1" NPT 125 - 1-1/4" NPT stanchion 150 - 1-1/2" NPT stanchion</p>	<p>J5</p> <p>Optical Assembly: Blank - Glass Globe J1 - NEMA I Glass Refractor J3 - NEMA III Glass Refractor J5 - NEMA V Glass Refractor G3 - Large Glass Globe</p>	<p>G</p> <p>Guard Options: G - Guard Blank - No Guard</p>	<p>MT</p> <p>Voltage: ① MT - 120/208/240/277, 60 Hz 48 - 480, 60 Hz 125 - 120, 50 Hz 225 - 220, 50 Hz 226 - 220, 60 Hz 235 - 230, 50 Hz 236 - 230, 60 Hz 245 - 240, 50 Hz 246 - 240, 60 Hz GP - 120/220-240, 50 Hz GK - 220/240, 50 Hz GC - 230, 50 Hz</p>	<p>R</p> <p>Options: E - Emergency Quartz F - Fuse Kit (Specify Voltage) R - Hot Restrike (50-150 W HPS only) S - Smart Starter K - Kynar Coating H1 - Photocontrol 120 V H2 - Photocontrol 208 V H3 - Photocontrol 240 V H4 - Photocontrol 277 V C - Safety Cable Adapted E40 - Export Socket T - Terminal Blocks</p> <p>Optional Fusing ② FN - 120 V FP - 208 V FS - 240 V FT - 277 V FF - 480 V</p>	<p>Z2</p> <p>Suffix: Z2 - Zone 2 suffix (required for AEx nA nR rating) ④ ZB - Zone 2 suffix (required for AEx/EX nR rating)</p>
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Lamp Type	Lamp Watts	MT	48	125	225	226	Voltage Suffixes		245	246	GP	GK	GC
							235	236					
HPS	50	X	—	—	X	X	—	—	X	—	—	X	—
HPS	70	X	X	X	X	X	X	X	X	X	X	—	X
HPS	100	X	X	X	X	X	—	X	X	X	X	—	—
HPS	150	X	X	X	X	X	—	X	X	X	X	—	—
PSMH	175	X	X	—	—	—	—	—	—	—	—	—	—
PSMH	250	X	—	—	—	—	—	—	—	—	—	—	—

Voltages:

MT - 120/208/240/277 V 60 Hz	225 - 225 V 50 Hz	236 - 230 V 60 Hz	GP - 120/220-240 V 50 Hz
48 - 480 V 60 Hz	226 - 220 V 60 Hz	245 - 240 V 50 Hz	GK - 120/220-240 V 50 Hz
125 - 120 V 50 Hz	235 - 230 V 50 Hz	246 - 240 V 60 Hz	GC - 230-240 V 50 Hz

Reflectors are ordered separately – see Accessories page.
 ① Voltages shown are limited to specific combinations. Please contact factory for other available voltage options.
 ② Optional fusing is available for use with MT, 5MT and 48 voltage suffixes ONLY.
 ③ PSMH 250 W, MT fixtures are not UL Listed.
 ④ The -Z2 suffix (AEx nA nR) is available for use with MT, 48 and 246 voltage suffixes ONLY.

APPLETON™

HID/AREA: NEC/CEC ENCLOSED AND GASKETED