

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 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 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
- 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 70W-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.



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

- 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.

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

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- 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, CWA and Super 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.
- 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 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**.
- AEx 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 60-70% 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, Marine Type Electric Fixtures Outside Type (Salt Water)
- CSA Certified: 025428
- CSA Standard: CSA C22.2 No. 9, 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.



Vented Reflectors

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



Ballast Assembly (Zone 2)

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

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.

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.

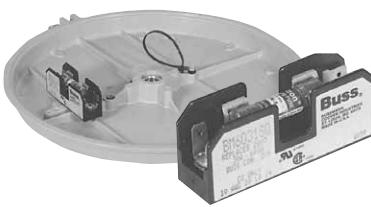
Heat-Resistant Globes and Refractors

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



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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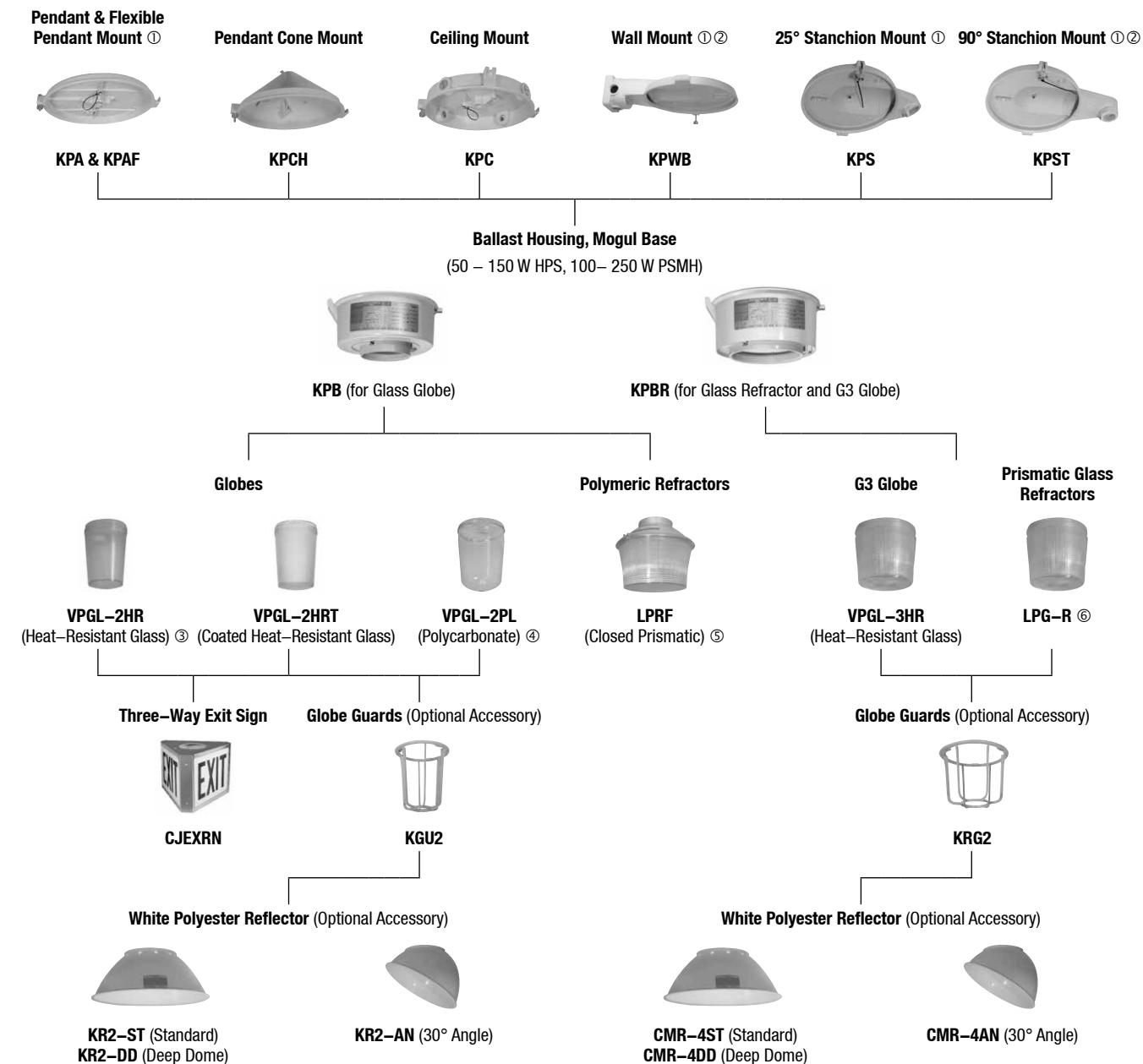
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Mercmaster III 50-250 Family Tree



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.

④ Available in clear, amber, green and red.

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 PSMH Max.).

⑥ Available in NEMA Type I, III and V.

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Ballast Bodies



Ballast Body for Glass Globe (shown)

High Pressure Sodium
 High Power Factor (Min. P.F. 90%)



Ballast Body for Glass Refractor or G3 Globe (shown)

Pulse Start Metal Halide
 Super Constant Wattage Autotransformer (Min. P.F. 90%)

Lamp Type	Lamp Watts	For Globe	Catalog Number ②④⑤ For G3 Globe ①/ Refractor	Voltage Suffixes									
				MT	5MT	48	125	225	226	235	236	245	246
HPS	50 ③	KPB50L	KPBR50L	X	—	—	—	X	X	—	X	X	X
HPS	70 ③	KPB70L	KPBR70L	X	—	X	X	X	X	—	X	X	X
HPS	100 ③	KPB100L	KPBR100L	X	—	X	X	X	X	—	X	X	X
HPS	150 ③	KPB150L	KPBR150L	X	—	X	X	X	X	—	—	X	—
PSMH	70	KPB70H	KPBR70H	X	—	X	X	X	—	—	—	X	—
PSMH	100	KPB100H	KPBR100H	X	—	X	X	X	—	—	—	X	—
PSMH	150	KPB150P	KPBR150P	X	—	X	X	X	—	—	—	X	—
PSMH	175	KPB175P	KPBR175P	X	X	X	—	—	—	—	—	—	—
PSMH	200	KPB200P	KPBR200P	X	—	X	—	—	—	—	—	—	X
PSMH ⑥	250	KPBG250P	KPBR250P	X	—	—	—	—	—	—	X	—	—

Voltages:

MT - 120/208/240/277 V 60 Hz
5MT - 120/208/240/277/480 V 60 Hz
48 - 480 V 60 Hz
125 - 120 V 50 Hz
225 - 225 V 50 Hz
226 - 220 V 60 Hz
235 - 230 V 50 Hz
236 - 240 V 50 Hz
245 - 240 V 50 Hz
246 - 240 V 60 Hz

① For HPS version fixtures only.

② After voltage suffix add: **-S** for Smart Starter.

③ After voltage suffix add: **-R** for ballast body with Hot Restrike Ignitor.

④ Add **-E** after voltage suffix for ballast body with provision for Quartz Emergency Light. Not suitable for hazardous locations.

⑤ Add **Z2** suffix for factory sealed non-sparking/restricted breathing protection (AEx nA nR). Add **ZB** suffix for restricted breathing protection (AEx nR).

⑥ MT ballast bodies are not UL Listed for 250W PSMH version fixtures only.

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Ballast Housing Weights

Lamp Watts	HPS Wt. kg (lb) ①②	PSMH Wt. kg (lb) ①②
Globe Housing with Ballast		
50	5.7 (12.6)	—
70	6.8 (15.0)	6.9 (15.2)
100	7.3 (16.0)	7.4 (16.3)
175	—	7.8 (17.2)
200	—	8.2 (18.0)
250	—	8.4 (18.5)
Refractor Housing with Ballast		
70	7.0 (15.4)	7.1 (15.7)
100	7.5 (16.5)	7.6 (16.8)
150	7.9 (17.4)	7.8 (17.2)
175	—	8.1 (17.9)
200	—	8.4 (18.5)

Fuse Kits

Lamp Watts	Volts	Fuse Quantity Required	Fuse Kit Catalog Number
		HPS	PSMH
50	120	1	F5
	208	2	F3
	240	2	F3
	277	1	F2
70	120	1	F5
	208	2	F3
	240	2	F3
	277	1	F2
100	120	1	F8
	208	2	F5
	240	2	F5
	277	1	F3
150	120	1	F10
	208	2	F5
	240	2	F5
	277	1	F5
175	120	1	—
	208	2	—
	240	2	—
	277	1	F2
200	120	1	—
	208	2	—
	240	2	—
	277	1	—
250	120	1	—
	208	2	—
	240	2	—
	277	1	F3

Component and Accessory Weights

Item	Wt. kg (lb) ①
Mounting Hoods	
Pendant Cone	1.1 (2.43)
Ceiling	1.4 (3.09)
Wall	1.8 (3.97)
25° Stanchion	1.5 (3.31)
Straight Stanchion	1.7 (3.75)
8" Glass Refractor/G3 Globe	2.4 (5.29)
Glass Globe	1.7 (3.75)
Globe Guard	0.5 (1.10)
Refractor Guard	0.5 (1.10)
Reflectors	
30° Angle	1.1 (2.43)

 **Appleton®**

HID/AREA: NEC/CEC ENCLOSED AND GASKETED

① Weights are approximate.

② Add 0.5 kg (1 lbs) for HPS fixtures with Hot Restrike. Add 0.1 kg (0.25 lbs) for Quartz Emergency Light.

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Electrical Specifications

Line Voltage	Type of Ballast ①	StartingAmps	OperatingAmps	Total Watts
50 Watt High Pressure Sodium				
120	HX-HPF	0.58	0.58	64
208	HX-HPF	0.35	0.33	64
240	HX-HPF	0.31	0.29	64
277	HX-HPF	0.25	0.25	64
70 Watt High Pressure Sodium				
120	HX-HPF	0.90	0.82	94
208	HX-HPF	0.50	0.48	94
240	HX-HPF	0.44	0.41	94
277	HX-HPF	0.35	0.36	94
480	HX-HPF	0.21	0.21	94
100 Watt High Pressure Sodium				
120	HX-HPF	1.30	1.15	130
208	HX-HPF	0.76	0.67	130
240	HX-HPF	0.66	0.60	130
277	HX-HPF	0.60	0.52	130
480	HX-HPF	0.33	0.31	135
150 Watt High Pressure Sodium ②				
120	HX-HPF	2.00	1.70	188
208	HX-HPF	1.15	0.95	188
240	HX-HPF	1.00	0.85	188
277	HX-HPF	0.85	0.72	188
480	HX-HPF	0.50	0.47	189
70 Watt Pulse Start Metal Halide				
120	HX-HPF	0.80	0.85	95
208	HX-HPF	0.50	0.52	95
240	HX-HPF	0.43	0.44	95
277	HX-HPF	0.39	0.39	95
480	HX-HPF	0.26	0.23	95
100 Watt Pulse Start Metal Halide				
120	HX-HPF	1.20	1.15	130
208	HX-HPF	0.70	0.70	130
240	HX-HPF	0.61	0.58	130
277	HX-HPF	0.55	0.50	130
480	HX-HPF	0.30	0.35	140
150 Watt Pulse Start Metal Halide				
120	HX-HPF	1.75	1.60	188
208	HX-HPF	1.30	1.00	188
240	HX-HPF	0.85	0.80	188
277	HX-HPF	0.77	0.70	188
480	Super C.W.A.	0.45	0.42	185
175 Watt Pulse Start Metal Halide				
120	Super C.W.A.	0.90	1.78	199
208	Super C.W.A.	0.50	1.08	199
240	Super C.W.A.	0.35	0.89	199
277	Super C.W.A.	0.30	0.76	199
480	Super C.W.A.	0.25	0.50	213

① C.W.A. – Constant Wattage Autotransformer. HX-HPF – High Reactance High Power Factor Autotransformer. Super C.W.A. – Super Constant Wattage Autotransformer.

② 150 W HPS units equipped with ballasts to operate 55 volt lamps only.

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Dimensions in Millimeters (Inches)

