

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.

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, Ex nR IIC (Z) †
Class I, Zone 2, AEx nR IIC (ZB)

Class II, Division 1 and 2, Groups E, F, G
Class III
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 149°F/65°C 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® † 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.

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

‡ CSA Certification Only.

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Class I, Zone 2, Ex nR IIC (Z) ¹
Class I, Zone 2, AEx nR IIC (ZB)

Class II, Division 1 and 2, Groups E, F, G
Class III
Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)

Fixtures Outside Type (Salt Water)
Type 4X
IP66

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

Catalog Numbering Guide

KP	A	L	70	10	J5	G	MT	R	Z2
Series: KP - Mercmaster III 250		Lamp Type: L - High Pressure Sodium H or P - Pulse Start Metal Halide ¹		Hub Size: 75 - 3/4" NPT 10 - 1" NPT 125 - 1-1/4" NPT stanchion 150 - 1-1/2" NPT stanchion		Guard Options: G - Guard Blank - No Guard		Options: E - Emergency Quartz F - Fuse Kit (Specify Voltage) R - Hot Restrike (50-150 W HPS only) S - Smart Starter SR - Smart Hot Restrike K - Kynar Coating H1 - Photocontrol 120 V H2 - Photocontrol 208 V H3 - Photocontrol 240 V H4 - Photocontrol 277 V C - Safety Cable Adapted ² E40 - Export Socket D - E-40 Export Socket ² T - Terminal Blocks ² V - Anti-Vibration Modifications ² X - Appledapter ³ Mounting Hood Adapter ² Optional Fusing ⁴ FN - 120 V FP - 208 V FS - 240 V FT - 277 V FF - 480 V	
	Mounting: A - Pendant (rigid mounting) C - Ceiling CH - Pendant Cone Hood F - Pendant (flexible mounting) ST - 90° Stanchion S - 25° Stanchion WB - Wall		Wattage: 10 - 100 W HPS, PSMH 15 - 150 W HPS, PSMH 17 - 175 W PSMH 20 - 200 W PSMH 25 - 250 W PSMH ⁵ 50 - 50 W HPS (MT - Voltage Only) 70 - 70 W HPS, PSMH 17 - 175 W MH ² 25 - 250 W MH ²	Optical Assembly: Blank - Glass Globe J1 - NEMA I Glass Refractor J3 - NEMA III Glass Refractor J5 - NEMA V Glass Refractor G3 - Large Glass Globe		Voltage: ² MT - 120/208/240/277, 60 Hz 5MT - 120/208/240/ 277/480, 60 Hz 48 - 480, 60 Hz 125 - 120, 50 Hz 225 - 225, 50 Hz 226 - 220, 60 Hz 235 - 230, 50 Hz 245 - 240, 50 Hz C2 - 208, 60 Hz, CWI ² C3 - 240, 60 Hz, CWI ² C6 - 480, 60 Hz, CWI ² C7 - 600, 60 Hz, CWI ² TT - 120/277/347, 60 Hz, CWA ²	Suffix: Z2 - Zone 2 suffix (required for AEx nA nR rating) ZB - Zone 2 suffix (required for AEx nR rating) Z - Zone 2 suffix (required for Ex nR) ²		

Reflectors are ordered separately – see Accessories page.

¹ H - Lamp type is for 70W and 100W fixtures only.

² P - Lamp type is for 175W, 200W and 250W fixtures only.

³ Voltages shown are limited to specific combinations.

⁴ Appledapter is available for use with the pendant, ceiling and angled stanchion mounting only.

⁵ Optional fusing is available for use with MT, 5MT and 48 voltage suffixes ONLY.

⁶ PSMH 250 W, MT Fixtures are non UL.

⁷ CSA Certification Only.

Mercmaster™ III HID 50–250 Watt Luminaire Thermal Performance

Class I, Zone 2, AEx nA nR IIC; Class 1 Zone 2, AEx nR IIC; IP66; and NEMA 4X

Temperature Identification Numbers of Mercmaster III Fixtures.

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA nR IIC (Z2)
Class I, Zone 2, Ex nR IIC (Z) ¹
Class I, Zone 2, AEx nR IIC (ZB)

Class II, Division 1 and 2, Groups E, F, G
Class III
Simultaneous Exposure (Class I, Division 2/
Class II, Division 1)

Fixtures Outside Type (Salt Water)
Type 4X
IP66

Operating Temperatures: “T” Numbers for Zone 2 Mercmaster III Fixtures

The “T” number is established by separately determining the maximum temperature of the globe surface and ballast compartment. The hotter of the two is taken to determine the “T” number for the overall fixture.

Lamp Watts	Supply Wire Temp. (°F/°C)	Ambient Temp. (°F/°C)	Class I, Zone 2 AEx nA nR IIC				Class I, Zone 2 AEx nR IIC				
			Globe	Globe & Reflector	Refractor Only	G3/Refractor & Reflector	Globe	Globe & Reflector	Refractor Only	G3/Refractor & Reflector	
50	HPS	194/90	104/40	T4	T4	T6	T4	T4	T4	T6	T4
		194/90	131/55	T4	T3	T5	T3	T4	T3	T5	T3
		194/90	149/65	T3	T3	T4	T3	T3	T3	T4	T3
70	HPS	194/90	104/40	T4	T4	T4	T4	T6	T5	T6	T4
		194/90	131/55	T4	T4	T4	T3	T5	T4	T5	T3
		194/90	149/65	T4	T4	T3	T3	T4	T4	T5	T3
100	HPS	194/90	104/40	T4	T4	T4	T4	T5	T4	T6	T4
		194/90	131/55	T4	T4	T3	T3	T4	T4	T5	T3
		194/90	149/65	T4	T4	T3	T3	T4	T4	T4	T3
150	HPS	194/90	104/40	T4	T3	T3	T3	T4	T4	T5	T4
		194/90	131/55	T3	T3	T3	T3	T4	T4	T4	T3
		221/105	65	T3	T3	T3	T3	T4	T3	T4	T3
70	PSMH	194/90	104/40	T4	T4	T4	—	T5	T4	T6	—
		194/90	131/55	T3	T3	T3	—	T4	T4	T5	—
		194/90	149/65	T3	T3	T3	—	T4	T3	T4	—
100	PSMH	194/90	104/40	T3	T3	T3	—	T5	T4	T6	—
		194/90	131/55	T3	T3	T3	—	T4	T4	T5	—
		194/90	149/65	T3	T3	T3	—	T4	T3	T4	—
150	PSMH	194/90	104/40	T4	T4	T4	—	T4	T4	T5	—
		194/90	131/55	T3	T3	T3	—	T4	T3	T4	—
		221/105	149/65	T3	T3	T3	—	T4	T3	T4	—
175	PSMH	194/90	104/40	T3	T3	T4	—	T3	T3	T4	—
		194/90	131/55	T3	T3	T3	—	T3	T3	T4	—
		221/105	149/65	T3	T3	T3	—	T3	T3	T4	—
200	PSMH	194/90	104/40	T3	T3	T4	—	T3	T3	T4	—
		221/105	131/55	T3	T3	T3	—	T3	T3	T4	—
		221/105	149/65	T3	T3	T3	—	T3	T3	T4	—
250	PSMH	194/90	104/40	T3	T3	T3	—	T3	T3	T3	—
		194/90	131/55	T3	T3	T3	—	T3	T3	T3	—

“T” Numbers Represent the Maximum Surface Temperature for Luminaires with AEx nA nR or AEx nR rating

“T” Number	T1	T2	T3	T4	T5	T6
Temp. Range (°F)	547-842	394-572	277-392	214-275	187-212	185
Temp. Range (°C)	301-450	201-300	136-200	101-135	86-100	85

¹ CSA Certification Only.

Mercmaster™ III HID 50–250 Watt Luminaire Ballast Bodies

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Class I, Zone 2, Ex nR IIC (Z) ¹/₂
Class I, Zone 2, AEx nR IIC (ZB)

Class II, Division 1 and 2, Groups E, F, G
Class III
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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	Catalog Number ②④⑤⑥		Voltage Suffixes												
		For Globe	For G3 Globe ①/ Refractor	MT	5MT	48	125	225	226	235	245	C2 ¹ / ₂	C3 ¹ / ₂	C6 ¹ / ₂	C7 ¹ / ₂	TT ¹ / ₂
HPS	50 ②	KPB50L	KPBR50L	X	—	—	—	X	X	—	X	—	—	—	—	X
HPS	70 ②	KPB70L	KPBR70L	X	—	X	X	X	X	—	X	—	—	—	—	X
HPS	100 ②	KPB100L	KPBR100L	X	—	X	X	X	X	—	X	—	—	X	X	X
HPS	150 ②	KPB150L	KPBR150L	X	—	X	X	X	X	—	X	—	—	X	X	X
PSMH	70	KPB70H	KPBR70H	X	—	X	X	X	—	—	X	—	—	—	—	X
PSMH	100	KPB100H	KPBR100H	X	—	X	X	X	—	—	X	—	—	—	—	X
PSMH	150	KPB150P	KPBR150P	X	—	X	X	X	—	—	X	—	—	—	—	X
PSMH	175	KPB175P	KPBR175P	X	X	X	—	—	—	—	—	—	—	—	—	X
PSMH	200	KPB200P	KPBR200P	X	—	X	—	—	—	—	—	—	—	—	—	X
PSMH	250	KPBG250P	KPBR250P	X	—	—	—	—	—	—	—	—	—	—	—	X
MH ¹ / ₂	175	KPB175H	KPBR175H	X	—	—	X	X	—	—	X	X	X	X	X	X
MH ¹ / ₂	250	KPB250H	KPBR250H	X	—	—	X	X	—	—	X	X	X	X	X	X

Voltages:

LB - Incandescent, 120 V 60 Hz

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

245 - 240 V 50 Hz

C2 - 208 V 60 Hz, CWI ¹/₂

C3 - 240 V 60 Hz, CWI ¹/₂

C6 - 480 V 60 Hz, CWI ¹/₂

C7 - 600 V 60 Hz, CWI ¹/₂,

TT - 120/277/347 V 60 Hz, CWA ¹/₂

① For HPS version fixtures only.

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

③ After voltage suffix add: **-SR** for Smart Hot Restrike, **-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 Add **Z** for factory sealed restricted breathing protection (Ex nR) ¹/₂.

¹/₂ CSA Certification only.

Mercmaster™ III HID 50–250 Watt Luminaire Electrical Specifications

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Fixtures Outside Type (Salt Water)
Type 4X
IP66

Electrical Specifications

Line Voltage	Type of Ballast ①	Starting Amps	Operating Amps	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
347 ¹	HX-HPF	0.26	0.21	68
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
347 ¹	HX-HPF	0.30	0.30	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
347 ¹	HX-HPF	0.45	0.39	130
480	HX-HPF	0.33	0.31	135
480	C.W.I.	0.17	0.30	130
600	C.W.I.	0.14	0.24	130
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
347 ¹	HX-HPF	0.52	0.56	188
480	HX-HPF	0.50	0.47	189
480	C.W.I.	0.25	0.42	190
600	C.W.I.	0.19	0.35	190
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
347 ¹	HX-HPF	0.20	0.28	88
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
347 ¹	HX-HPF	0.40	0.40	129
480	HX-HPF	0.30	0.35	140

Line Voltage	Type of Ballast ①	Starting Amps	Operating Amps	Total Watts
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
347 ¹	Super C.W.A.	0.65	0.55	185
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
347 ¹	Super C.W.A.	0.25	0.65	208
480	Super C.W.A.	0.25	0.50	213
175 Watt Metal Halide ¹				
120	C.W.A.	1.30	1.80	210
208	C.W.A.	0.75	1.04	210
240	C.W.A.	0.65	0.90	210
277	C.W.A.	0.55	0.80	210
347	C.W.A.	0.50	0.65	210
480	C.W.I.	0.20	0.45	215
600	C.W.I.	0.16	0.37	215
175 Watt Metal Halide ¹				
120	Super C.W.A.	1.30	1.80	213
208	Super C.W.A.	0.75	1.10	213
240	Super C.W.A.	0.65	0.90	213
277	Super C.W.A.	0.55	0.80	213
480	Super C.W.A.	0.35	0.45	213
250 Watt Metal Halide ¹				
120	Super C.W.A.	1.20	2.60	298
208	Super C.W.A.	0.65	1.50	298
240	Super C.W.A.	0.60	1.30	298
277	Super C.W.A.	0.50	1.12	298
480	Super C.W.A.	0.30	0.65	298

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.

¹ CSA Certification only.