

Mercmaster™ III 400 Luminaire for Hazardous and Wet Locations

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
 - In applications involving medium and high mounting heights
 - In applications where energy efficient, high lumen output is required
 - The AEx nA nR Mercmaster III fixture is factory sealed and prevents vapors and gases from entering the globe chamber. There are no seals or putty required.
 - The AEx nR Mercmaster III fixture requires all wiring entries to be sealed.
 - Non-hazardous locations where severe weather conditions, excessive moisture, dirt, dust, corrosive atmosphere or high ambient temperatures are encountered
- Typical applications include:
 - Pulp and paper mills
 - Processing plants
 - Chemical plants
 - Oil refineries
 - Foundries
 - Manufacturing plants
 - Storage areas
 - Waste and sewage treatment
 - Other areas where dust, water, dirt and rough usage are a problem

Features

- Superior corrosion resistance.
- Choice of light sources: high pressure sodium, and pulse start metal halide.
- Six mounting arrangements to suit any lighting layout: pendant, ceiling, wall bracket, 25° (angle) stanchion, 90° (straight) stanchion and cone.
- 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.
- Choice of optical assemblies: prismatic globe; enclosed reflector with sealed lens; or Type V or Type II closed prismatic glass refractor, with or without guards.
- Wide choice of photometric distributions.
- All fixtures designed to perform in a 40 °C (104 °F) ambient temperature. Selected fixtures are suitable for ambient temperatures up to 65 °C (149 °F) .
- Mogul base porcelain lamp holder with nickel-plated contacts has 200 °C (392 °F) rated welded leads, pre-wired to the ballast. Assures trouble-free operation in installations where high ambient temperatures are encountered.
- For electrical protection, a ground wire is provided on each Mercmaster to bond hood and ballast housing.
- Terminal blocks are provided for Zone 2 fixtures to facilitate wiring.
- Standard dome of 30° angle reflectors made of fiberglass reinforced white polyester. Highly resistant to corrosive atmospheres.
- A wide range of voltages available (120 to 600 Volt) and ballast types (CWA and Super CWA).
- One-piece ballast housing for each component provides even



Enclosed Reflector

Prismatic Glass Globe

12" Glass Refractor

- heat dissipation for cooler operation and longer ballast life.
- All Mercmaster mounting hoods have provision for easy field installation of fuses in fixtures (see fuse kit listings).

Standard Materials

- Mounting hoods and ballast bodies: cast copperfree (less than 4/10 of 1% copper) aluminum
- Reflectors: Fiberglass reinforced white polyester
- Guards, hardware and catch assemblies: stainless steel
- Globe: heat- and impact-resistant internally fluted glass
- Refractors: prismatic glass
- Enclosed reflector: etched Alzak aluminum with sealed, tempered heat- and impact-resistant lens
- Body and globe gaskets: high-temperature silicone rubber

Standard Finishes

- Mounting hoods and guards: epoxy powder coat, electrostatically applied for complete and uniform protection

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**.
- 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). (Not suitable for hazardous locations.) Add suffix **-E**.
- Factory sealed photocontrol available. See PCD2 Series.
- 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**.

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
- 250 W PSMH not available in MT ballast. See Mercmaster III, 50-250 Luminaires.

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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

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



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.



Ballast Assembly

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.



"Safety" High Hinge

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

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.



Cooler Operating Cone Hood

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



Stainless Steel Latch Assembly

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

Prismatic Glass Globes, Reflectors and Enclosed Reflector

Heat-resistant globes, reflectors and enclosed reflector thread into ballast housing and seal against a high temperature silicone rubber gasket.



Fuses

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

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Mounting Hoods

	Description	Hub Size (Inches)	Catalog Number
Pendant 	One Hub, Rigid Mounting	3/4	KPA-75
		1	KPA-100
Pendant – Flexible 	One Hub, Flexible Mounting	3/4	KPAF-75
		1	KPAF-100
Pendant Cone 	One Hub, Rigid	3/4	KPCH-75
		1	KPCH-100
Ceiling 	Five Hubs, Four Close-Up Plugs	3/4	KPC-75
		1	KPC-100
Wall 	Five Hubs, Four Close-Up Plugs	3/4	KPWB-75
		1	KPWB-100
25° Stanchion 	One Hub	1-1/4	KPS-125
		1-1/2	KPS-150
90° Stanchion 	One Hub	1-1/4	KPST-125
		1-1/2	KPST-150

Ballast Bodies



High Pressure Sodium – Constant Wattage (Min. P.F. 90%)
Pulse Start Metal Halide – Super Constant Wattage (Min. P.F. 90%)

Lamp Type	Lamp Watts	Catalog Numbers ②④	MT	5MT	48	Voltage Suffixes				
						125	225	226	235	245
HPS	250	KPB250L ①③	X	X	X	X	—	X	X	—
HPS	400	KPB400L ①③	X	X	X	X	—	—	X	—
PSMH	250	KPB250P ①③④	—	X	X	X	—	—	X	—
PSMH	320	KPB320P ①③	X	X	X	X	—	—	X	—
PSMH	350	KPB350P ①③	X	X	X	X	—	—	X	—
PSMH	400	KPB400P ①③	X	X	X	—	—	—	X	—

Voltagess:

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

① Add **-S** after voltage designation for ballast body with Smart Starter (HPS and PSMH only).

② Add **-E** after voltage designation for ballast body with provision for Quartz Emergency Light (not suitable for hazardous location).

③ Add **Z2** suffix for factory sealed non-sparking/restricted breathing protection (AEx nA nR). Add **ZB** suffix for restricted breathing protection (AEx nR).

④ Not available in MT. See Mercmaster III 50-250 Luminaires.

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Electrical Specifications

Line Voltage	Type of Ballast ①	Frequency	Starting Amps	Operating Amps	Total Watts
250 Watt High Pressure Sodium					
120	C.W.A.	60	2.00	2.50	295
208	C.W.A.	60	1.20	1.50	295
240	C.W.A.	60	1.00	1.30	295
277	C.W.A.	60	0.85	1.10	295
480	C.W.A.	60	0.40	0.65	295
120	C.W.A.	50	1.85	2.75	300
230	C.W.A.	50	0.95	1.44	300
400 Watt High Pressure Sodium					
120	C.W.A.	60	3.30	3.80	465
208	C.W.A.	60	1.80	2.20	465
240	C.W.A.	60	1.60	1.90	465
277	C.W.A.	60	1.40	1.70	465
480	C.W.A.	60	0.80	1.00	465
120	C.W.A.	50	3.70	4.00	465
230	C.W.A.	50	1.85	2.00	465
250 Watt Pulse Start Metal Halide					
120	C.W.A.	60	1.96	2.50	291
208	C.W.A.	60	1.13	1.45	291
240	C.W.A.	60	0.98	1.25	291
277	C.W.A.	60	0.85	1.10	291
480	C.W.A.	60	0.32	0.69	298
480	Super C.W.A.	60	0.45	0.60	285
120	Super C.W.A.	50	1.90	2.60	288
230	Super C.W.A.	50	1.00	1.35	288
320 Watt Pulse Start Metal Halide					
120	Super C.W.A.	60	2.60	3.25	368
208	Super C.W.A.	60	1.50	1.90	368
240	Super C.W.A.	60	1.30	1.65	368
277	Super C.W.A.	60	1.15	1.40	368
480	Super C.W.A.	60	0.60	0.80	368
120	Super C.W.A.	50	2.28	3.05	365
230	Super C.W.A.	50	1.14	1.60	365
350 Watt Pulse Start Metal Halide					
120	Super C.W.A.	60	3.30	3.60	400
208	Super C.W.A.	60	1.90	2.10	400
240	Super C.W.A.	60	1.65	1.80	400
277	Super C.W.A.	60	1.40	1.55	400
480	Super C.W.A.	60	0.75	0.90	400
120	Super C.W.A.	50	2.45	3.34	394
230	Super C.W.A.	50	1.26	1.74	394
400 Watt Pulse Start Metal Halide					
120	Super C.W.A.	60	3.50	4.00	454
208	Super C.W.A.	60	2.00	2.30	454
240	Super C.W.A.	60	1.75	2.00	454
277	Super C.W.A.	60	1.50	1.25	454
480	Super C.W.A.	60	0.90	1.00	454
120	Super C.W.A.	50	3.17	3.90	454
230	Super C.W.A.	50	1.65	2.00	454

Fuse Kit

Order fuses as a separate item by catalog number from right columns.

Lamp Watts	Volts	Fuse Quantity Required	Fuse Catalog Number	
			HPS	PSMH
250	120	1	F7	—
	208	2	F4	—
	240	2	F4	—
	277	1	F3	—
	480	2	F2	—
	120	1	F7	—
	230	2	F4	—
250	480	2	—	F2
	230	1	—	F3
	120	1	—	F9
320	208	2	—	F6
	240	2	—	F5
	277	1	—	F4
	480	2	—	F3
	120	1	—	F10
	230	2	—	F5
	120	1	—	F10
350	208	2	—	F7
	240	2	—	F5
	277	1	—	F5
	480	2	—	F3
	120	1	—	F10
	230	2	—	F5
	120	1	—	F15
400	208	2	F8	F7
	240	2	F8	F5
	277	1	F5	F5
	480	2	F5	F3
	120	1	F10	F10
	230	2	F6	F5

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

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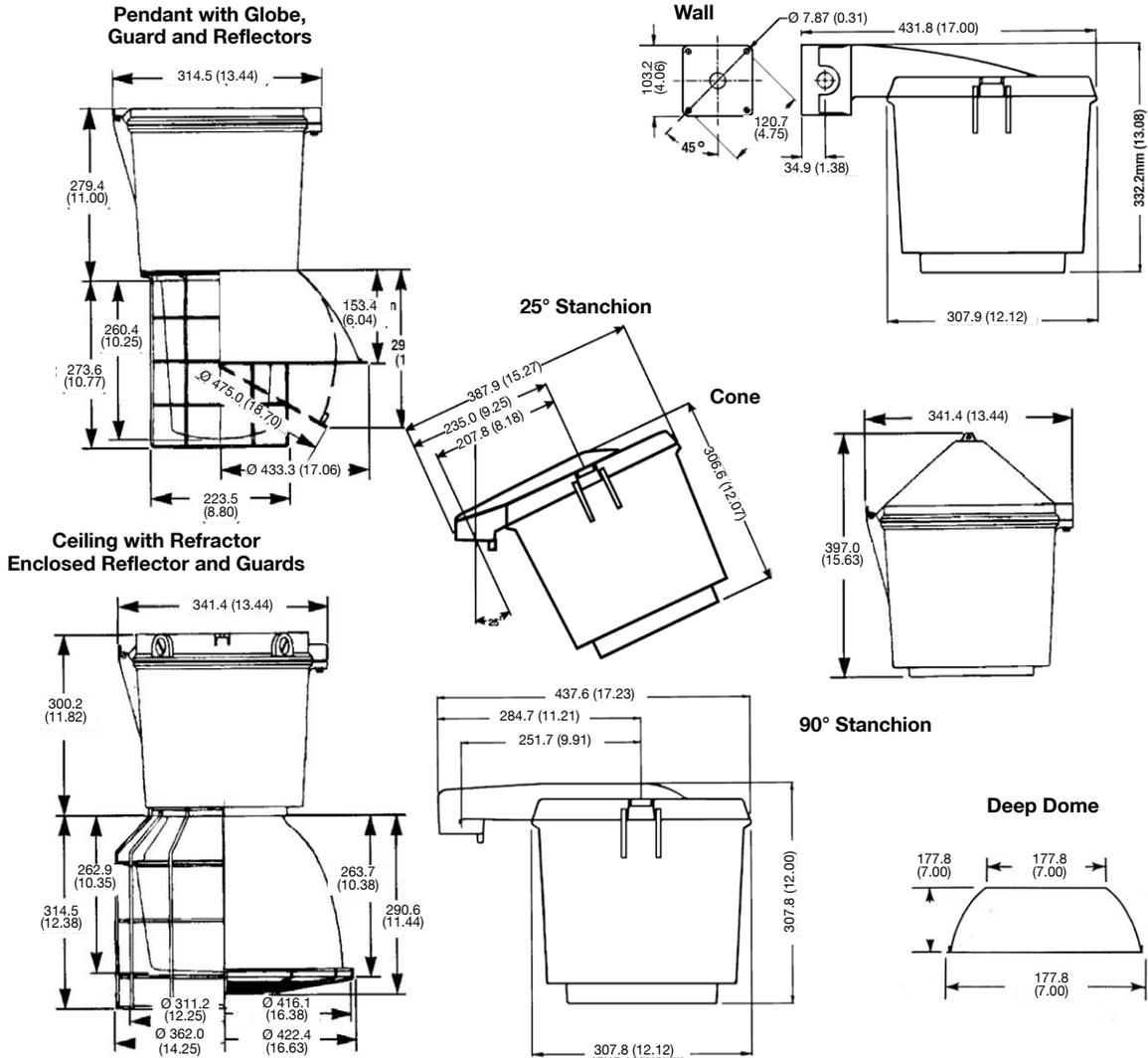
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Dimensions in Millimeters (Inches)



Mercmaster III – 400 Ballast and Accessory Weights

Lamp Watts	Ballast Housing Wt. kg (lb)		Mounting Hoods and Reflectors	Wt. kg (lb)	Globe Refractor, Enclosed Reflector and Guards	
	HPS	PSMH			Reflector and Guards	Wt. kg (lb)
250	11.1 (24.5)	—	Pendant	1.0 (2.25)	Glass Globe	3.2 (7.0)
320	—	12.7 (28.0)	Pendant Cone	1.1 (2.50)	Globe Guard	1.4 (3.0)
			Ceiling	1.4 (3.00)	12" Glass Refractor	5.4 (12.0)
350	—	12.9 (28.5)	Wall	1.8 (4.00)	Refractor Guard	2.0 (4.5)
			25° Stanchion	1.5 (3.25)	Enclosed Reflector	5.0 (11.0)
400	12.9 (28.5)	12.9 (28.5)	90° Stanchion	1.7 (3.75)	Enclosed Reflector Guard	0.9 (2.0)
			Standard Dome	1.6 (3.50)		
			30° Angle	1.6 (3.50)		

Weights are approximate. Add 0.11 kg (0.25 lb). for Quartz option.