

Mercmaster™ III Enclosed and Gasketed Induction Lighting Fixtures

Applications

- Areas where access for relamping is difficult, reliability is essential and the environment is costly to maintain.
- Cold environment applications.
- Enclosed and gasketed fixtures suitable for use in marine and wet locations and in a wide range of industrial, chemical processing, and other areas where flammable gases and vapors or combustible dusts are present under conditions defined by NEC Class I, Div. 2.
- Fixtures are also well suited for use in non-hazardous areas where severe weather conditions, excessive moisture, dirt, dust, corrosive atmospheres.
- Typical applications include pulp and paper mills, processing plants, chemical plants, oil refineries, foundries, manufacturing plants, storage areas and marine applications. Fixtures have NEMA 4X listing.

Features

- Instant start and restrike.
- High lumen output and efficacy (up to 73 lumens per watt).
- Fixtures operate safely in a 40°C ambient.
- Good lumen maintenance provides less than 30% depreciation after 60K hours of operation.
- Virtually maintenance free.
- Ultra long 100,000 hours of life keeps maintenance costs to a minimum.
- Starts in temperatures as low as -25°C.
- Low total harmonic distortion (<10%).
- No cycling at end of life.
- Modular design allows scores of fixture component combinations to meet installation and lighting needs.
- Mounting hoods include cone-shaped pendant hood (sheds dust, helps dissipate fixture heat), standard pendant, flexible pendant, ceiling and wall (tapped for 3/4" or 1" NPT), 25° angle stanchion, and 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. Inhibits build-up that "insu-

lates" fixture and slows heat transfer. Also 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 copper-free 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.
- 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.

Standard Materials

- *Mounting hoods, ballast bodies and guards:* Cast copper-free aluminum (Less than 4/10 of 1%).
- *Exposed hardware* is 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.

Standard Finishes

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



Pendant Mount
Fixture with
Prismatic Glass
Globe

Options

- 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.
- Optional photocell for all fixtures except cone and ceiling mount provides automatic "on-off" control.

Compliances*

- UL Standards 1598A, Marine Type Electric Fixtures Outside Type (Salt Water) and 844.
- NEMA 4X
- Class I, Division 2, Groups A, B, C, and D.

* Compliance data varies for specific fixtures. Consult Appleton regarding suitability of specific fixtures for a particular application.

Illustrated Features: Mercmaster™ III Enclosed and Gasketed Induction Lighting Fixtures



Aluminum Inner Reflector
Solid aluminum inner reflector improves photometric efficiency.

Epoxy Finish

Gasketed ballast housing, hoods and guards are cooper-free aluminum with epoxy powder coat finish.

Threaded Stainless Steel Inserts for Screws

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



Hood/Body Gasket

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



Stainless Steel Latch Assembly

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



Cone Hood for Cooler Operation

Sloped surface sheds insulating dust, dirt, and combustible fibers. Provides cleaner, larger surface area for better heat dissipation.



"Safety" High Hinge

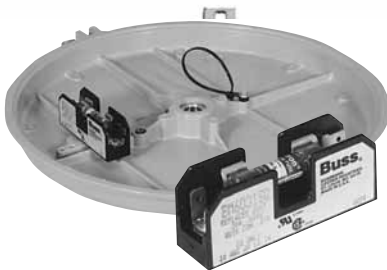
Extra high hinge provides additional protection against accidental ballast housing disengagement during installation or maintenance.

Electrical Protection

Ground wire provided to bond mounting hood to ballast housing.

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.



Fuses Mount to Hood Bosses

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



Rugged, Vented Reflectors

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



Heat-Resistant Globe

Prismatic glass globe is heat resistant. It threads directly into the ballast housing and seat against a high-temperature silicone rubber gasket.

Technical Data: Thermal Performance of Mercmaster™ III Induction Fixture

Temperature Identification Numbers of Mercmaster III Fixtures
for Class I, Div. 2; Hazardous Locations.

"T" Numbers for Mercmaster III Induction Fixtures

Lamp Lamp Watts	Lamp Type	Supply Wire °C	Ambient Temp. °C	Class I, Division 2 with Globe or with Globe and Reflector UL/NEC Temp. Ident. Number Nameplate Marking	
55	Induction	60	40	T3C	Groups A, B, C, D
85	Induction	75	40	T3C	Groups A, B, C, D





"T" Numbers Represent the Maximum Lamp Temperature for Class I, Div. 2 Locations and
Maximum Surface Temperature Under Dust Blanket for Class II, Div. 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

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Class I, Div. 2; Groups A,B,C,D
 1598A, 844, Marine Type Electric
 Fixtures Outside Type (Salt Water),
 NEMA 4X

Mercmaster™ III Enclosed and Gasketed Induction Fixtures: 55W and 85W

	Type Mounting	Lamp Watts	Hub Size (In.)	Catalog Numbers◇ With Globe
 <p>Shown with (55 Watt) Globe</p>	Pendant One hub Rigid Mounting†	55	3/4 1	MLAQ552G3N* MLAQ553G3N*
		85	3/4 1	MLAQ852G4N* MLAQ853G4N*
 <p>Shown with (55 Watt) Globe</p>	Pendant Cone Hood One Hub, Rigid Mounting	55	3/4 1	MLDQ552G3N* MLDQ553G3N*
		85	3/4 1	MLDQ852G4N* MLDQ853G4N*
 <p>Shown with (85 Watt) Globe</p>	Ceiling Five Hubs, Four Close-Up Plugs	55	3/4 1	MLCQ552G3N* MLCQ553G3N*
		85	3/4 1	MLCQ852G4N* MLCQ853G4N*
 <p>Shown with (85 Watt) Globe</p>	Wall Five Hubs Four Close-Up Plugs	55	3/4 1	MLWQ552G3N* MLWQ553G3N*
		85	3/4 1	MLWQ852G4N* MLWQ853G4N*

*Add voltage suffix -A1 for 120: 90-140VAC; -A6 for 277: 180-305VAC



†For flexible pendant mount, change "A" to "F" in catalog number.

◇See next page for accessory ordering information.

For fixtures with Guard substitute "G" for "N" before adding suffix.

Class I, Div. 2; Groups A,B,C,D
 1598A, 844, Marine Type Electric
 Fixtures Outside Type (Salt Water),
 NEMA 4X

Mercmaster™ III Enclosed and Gasketed Induction Fixtures: 55W and 85W

	Type Mounting	Lamp Watts	Hub Size (In.)	Catalog Numbers With Globe	
 <p>Shown with (55 Watt) Globe</p>	25° Stanchion One Hub	55	1-1/4 1-1/2	MLSQ554G3N* MLSQ555G3N*	
		85	1-1/4 1-1/2	MLSQ854G4N* MLSQ855G4N*	
	 <p>Shown with (55 Watt) Globe</p>	Straight Stanchion One Hub	55	1-1/4 1-1/2	MLRQ554G3N* MLRQ555G3N*
			85	1-1/4 1-1/2	MLRQ854G4N* MLRQ855G4N*

Accessory Option

Guards

Guard is die cast copper-free aluminum with baked epoxy finish to match fixture for 55W units and stainless steel for 85W units. Fixture supplied with stainless steel mounting screws which thread into stainless steel inserts on fixture housing to attach guard. For fixtures with Guard substitute "G" for "N" before adding suffix.



KRG2
Globe Guard
55 Watt



KPGU400
Globe Guard
85 Watt

Reflectors

Standard dome and 30° angle polyester reflectors are shown elsewhere in this catalog section.



CMR-4ST
Standard Dome




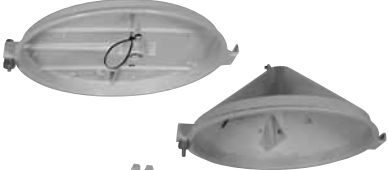





CMR-4AN
30° Angle Dome

*Add voltage suffix -A1 for 120: 90-140VAC; -A6 for 277: 180-305VAC

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Mounting Hoods and Ballast Bodies for Mercmaster™ III Induction Lighting Fixtures



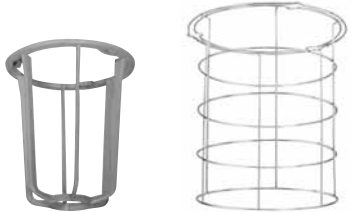
Hoods and Ballast Housings are Cast Copper-Free Aluminum
(Less than 4/10ths of 1%).

Description	Hub Size (inches)	Catalog Number Copper-Free Aluminum
Mounting Hoods		
 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 Hood Rigid Mounting	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
 Straight Stanchion One Hub	1-1/4	KPST-125
	1-1/2	KPST-150

Fixture Units: Fixture body with globe, add voltage suffix to ballast body number.

Type	Frequency	Lamp Watts	Fixture Unit Catalog Number	Add Voltage Suffixes	
				120V	277V
Induction	50/60Hz	55	MLBRG355Q	-A1	-A6
	50/60Hz	85	MLBRG485Q	-A1	-A6

Accessories and Replacement Parts for Mercmaster™ III Induction Lighting Fixtures

Item	Description	Catalog Number
	White Polyester Reflectors — 55W-85W Standard Dome 30° Angle	**CMR-4ST **CMR-4AN
** Consult factory if used with KPST or KPWB mounting hoods.		
	Prismatic Glass Globes — Heat-Resistant Clear — 55 Watt Clear — 85 Watt	VPGL-3HR VPGL-4HR
	Copper-Free Aluminum Guards 55 Watt 85 Watt	KRG2 KPGU400

Mercmaster III Fixture Unit, Component and Accessory Weights*

Fixture Unit and Mounting Hoods	Wt. Lbs.	Reflectors	Wt. Lbs.	Refractors, Globes & Guard	Wt. Lbs.
55W and 85W Fixture	28	Standard Dome	2-1/2	Glass Globe	3-3/4
Pendant	2-1/4	30° Angle	2-1/2	Globe Guard	1
Pendant Cone	2-1/2				
Ceiling	3				
Wall	4				
25° Stanchion	3-1/4				
Straight Stanchion	3-1/3				

*Weights are approximate.

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Mercmaster™ III Induction Electrical Specifications

Lamp — Watts	Volts	Fuse Qty. Req.	Fuse Catalog Number
55W	120-277V	See note below	CF2
85W	120-277V	See note below	CF2

Fuse Kit includes fuse, fuse holder and necessary hardware for field installation. Mounts easily in ballast body with one screw. Order one fuse for 120 and 277V, and 2 fuses for 208 and 240V.

Electromagnetic Compatibility

A.) Complies with European norms EN55015, EN6100-3-2 and EN61547

B.) RFI

a.) Meets standard EN55022 and is valid for frequencies up to 1000 MHz.

Electrical Characteristics

		55W 100-120V	55W 200-277V	85W 100-120V	85W 200-277V
System power* nom.	W	55	55	85	85
System power* min.	W	53.1	53.1	82.0	82.0
System power* max.	W	56.9	56.9	88.0	88.0
AC supply voltage nom.	V	120	230	120	230
AC supply voltage min.	V	90	180	90	180
AC supply voltage max.	V	140	305	140	305
DC supply voltage nom.	V	120	230	120	230
DC supply voltage min.	V	90	180	90	180
DC supply voltage max.	V	180	350	180	350
Supply frequency nom.	Hz	60	50	60	50
Supply frequency min.	Hz	47	47	47	47
Supply frequency max.	Hz	63	63	63	63
Supply current nom.	mA	460	260	730	400
Inrush current max.	A	16	12	16	12
Duration inrush current max.	usec	170	170	170	170
Power factor nom.		>0.92	>0.92	>0.92	>0.92
HF output frequency nom.	MHz	2.65	2.65	2.65	2.65
HF output frequency min.	MHz	2.30	2.30	2.30	2.30
HF output frequency max.	MHz	3.00	3.00	3.00	3.00
HF output voltage max.	kV	1.5	1.5	1.5	1.5
Leakage current	mA	<0.5	<0.5	<0.5	<0.5
Overvoltage		200Vac	400Vac	200Vac	400Vac

* At design voltage

Lamp Characteristics

Values at 100 Hrs.		QL 55W HV & LV	QL85W HV & LV
		827/830/840	827/830/840
Luminous flux nom.	lm	3500	6000
Luminous flux min.	lm	3200	5500
Luminous flux max.	lm	3800	6500
System efficacy nom.	lm/W	65	70

Lamp Operation

A.) Ignition and Lifetime Performance

a.) Ignition time <0.5S

Hot Restrike time <0.5s

b.) Induction lighting offers a direct, flicker-free ignition after switch-on, in both cold and hot conditions

B.) Lumen Maintenance

a.) The lumens of an induction lamp are expected to have depreciated after 60,000 Hrs to no less than 75% of the initial lumens

