

Mercmaster™ LED Series Luminaires

Enclosed and Gasketed Fixtures

NEC/CEC:
Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, AEx nA IIC
Class II, Division 1, Group E, F, G
Class II, Division 2, Group F, G
Class III

NEC/CEC:
Type 3R, 4, 4X
IP66/67
Simultaneous Exposure
Suitable for Use in Wet Locations
Marine Outside Type (Salt Water)

ATEX/IECEX:
Zone 2 and 22
II 2 GD
IP66/67

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 are present
 - Areas of low clearance or low ceiling heights
 - 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
 - Parking garages
 - Other areas where dust, water, dirt and rough usage are a problem



Features

- Compact light weight low profile design is suited for low mounting heights.
- Modular design allows scores of fixture component combinations to meet installation needs. Uses same mounting hoods as Mercmaster III.
- Fixture housing and mounting hoods are copperfree cast aluminum with baked epoxy finish. All exposed hardware is stainless steel.
- Accommodates a wide range of voltages.
- Ambient temperatures:
 - 70 W to 100 W equivalent: -40 °C to +65 °C (-40 °F to +149 °F)
 - 150 W to 175 W equivalent: -40 °C to +55 °C (-40 °F to +131 °F)
 - 250 W equivalent: -40 °C to +50 °C (-40 °F to +122 °F)
 - 350 W equivalent: -40 °C to +50 °C (-40 °F to +122 °F)
 - 400 W equivalent: -40 °C to +55 °C (-40 °F to +131 °F)
- Electrical: 120-277 Vac, 50/60 Hz; 347-480 Vac, 50/60 Hz, Volts +/- 10%.
- Pole terminal block: 1 x 8-24 AWG; 1 x 0.75 to 6 mm² (0.0012 to 0.0093 in²).
- 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.
- All Mercmaster mounting hoods have provision for easy field installation of fuses in fixtures (see Fixture Unit — Electrical Specification).
- NPT and metric threads standard.
- NEMA Type V light distribution is standard.
 - Type V distribution is required in areas where sufficient, evenly distributed light is necessary. It produces a circular distribution that has the same intensity at all angles.

- NEMA Type I light distribution is available as an option for select NEC/CEC certified fixtures.
 - Type I distribution is the perfect lighting for walkways, Type I distribution is perfect for lighting walkways, catwalks or anyplace where a narrow beam of light is required.
- For ATEX/IECEX rated fixtures, ballast bodies and mounting hoods must be purchased separately.

Standard Materials

- Mounting hoods and bodies: cast copperfree (4/10 of 1% max.) aluminum
- All hardware and catch assemblies: stainless steel
- Globe: polycarbonate

Standard Finishes

- Mounting hoods, bodies and guards: baked gray epoxy-clad finish, electrostatically applied for complete uniform protection

NEC/CEC Certifications and Compliances

- UL Standard: UL 50; UL 844; UL 1598; UL 1598A; UL 8750
- CSA Standard: C22.2 No 0; C22.2 No. 0.4; C22.2 No. 0.5; C22.2 No. 94; C22.2 No. 60529; C22.2 No. 137; C22.2 No. 250.0; C22.2 No. 60079; E60079-15
- ANSI/UL Standards: 60079-0; 60079-15
- ANSI/IEC Standards: 60529
- cCSAus Certified: 65182

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II 2 GD
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ATEX/IECEx Certification and Compliances

- ATEX
 - Gas: Zone 2
 - Conforming to ATEX 94/9/CE: Ⓢ II 3 G
 - Type of Protection: Ex nA IIC Gc
 - Temperature class:
 - 70 W and 100 W equivalent: T4 [+40 °C (+104 °F)], T4 [+55 °C (+131 °F)], T3 [+65 °C (+149 °F)]
 - 150 W to 175 W equivalent: T4 [+40 °C (+104 °F)], T4 [+55 °C (+131 °F)]
 - 250 W equivalent: T4 [+40 °C (+104 °F)], T4 [+50 °C (+122 °F)]
 - Dust: Zone 22
 - Conforming to ATEX 94/9/CE: Ⓢ II 3 D
 - Type of Protection: Ex tc IIIc Dc
 - Surface Temperature:
 - 70 W and 175 W equivalent: T92 °C (T197.6 °F)
 - 250 W equivalent: T79 °C (T174.2 °F)
 - Ambient Temperature:
 - 70 W and 100 W equivalent: -40 °C to +65 °C (-40 °F to +149 °F)
 - 150 W to 175 W equivalent: -40 °C to +55 °C (-40 °F to +131 °F)
 - 250 W equivalent: -40 °C to +50 °C (-40 °F to 122 °F)
 - ATEX Certificate: LCIE 11 ATEX 1008, LCIE 14 ATEX 3063
 - IECEx Certificate: IECEx LCI 11.0058
 - Index of Protection according EN/IEC 60529: IP66
- IECEx
 - Gas: Zone 2
 - Type of Protection: Ex nA IIC Gc
 - Temperature class:
 - 70 W to 175 W equivalent: T4 [+40 °C (+104 °F)], T4 [+55 °C (+131 °F)]
 - 250 W equivalent: T4 [+40 °C (+104 °F)], T4 [+50 °C (+122 °F)]
 - Dust: Zone 22
 - Type of Protection: Ex tc IIIc Dc
 - Surface Temperature:
 - 70 W and 175 W equivalent: T92 °C (198 °F)
 - 250 W equivalent: T79 °C (198 °F)
 - Ambient Temperature:
 - 70 W and 175 W equivalent: -40 °C to +55 °C (-40 °F to +131 °F)
 - 250 W equivalent: -40 °C to +50 °C (-40 °F to +122 °F)
 - IECEx Certificate: IECEx LCI 11.0058
 - Index of Protection according EN/IEC 60529: IP66

EURASEC Certification

- EURASEC N° TC RU C-FR.Г505.B.00912

Other Certification

- INMETRO Certificate: BVC12.1522 ①

NEC/CEC Related Products

- NEC, Class I, Division 2 photocells for classified use are available, see *PCD2 Series*.
- Mounting hoods with photocontrols are not rated IP66/67, Type 4X or Marine Outside Type (Salt Water).

DesignLights™ Consortium (for the following models)

- MLEDN15
- MLEDN17
- MLEDN25
- MLEDN35
- MLEDN40

Appleton

LED/AREA: NEC/CEC, ATEX/IECEx ENCLOSED AND GASKETED

① Inmetro certification available on special request only. Contact your local sales representative for more information.

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Illustrated Features



Heatsink

Reliable heat transfer via the cast, epoxy powder coat aluminum body. Provides maximum heat dissipation from the LED assembly to the outside environment.



Driver Assembly

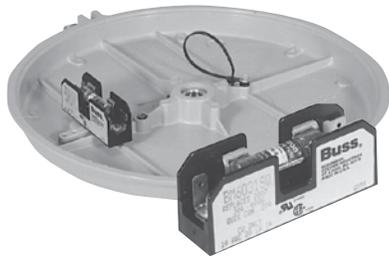
Utilizing non-sparking components avoiding the ignition of gases or vapors that may be present (nA).

Modular Plug between LED and driver.



LED Chamber

Protected by polycarbonate lens, allows for easy maintenance access.



Fuses ①

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

Photocell ①

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

Terminal Blocks (Zone 2)

A seven-point terminal block is provided to facilitate wiring. Terminal block accommodates wire size ranging from #8 to #24AWG, 0.75 to 6 mm² (0.0012 to 0.0093 in²)

Epoxy Finish

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

Electrical Protection

Ground wire provided to bond mounting hood to ballast housing.

Safety

Rounded heatsink edges prevent possible injury during installation.



Cooler Operating Cone Hood

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

Mounting Hood and Globe Gaskets

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



"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.



① Fuses and photocells are available on the NEC/CEC versions only. Not for use in ATEX/IEC.

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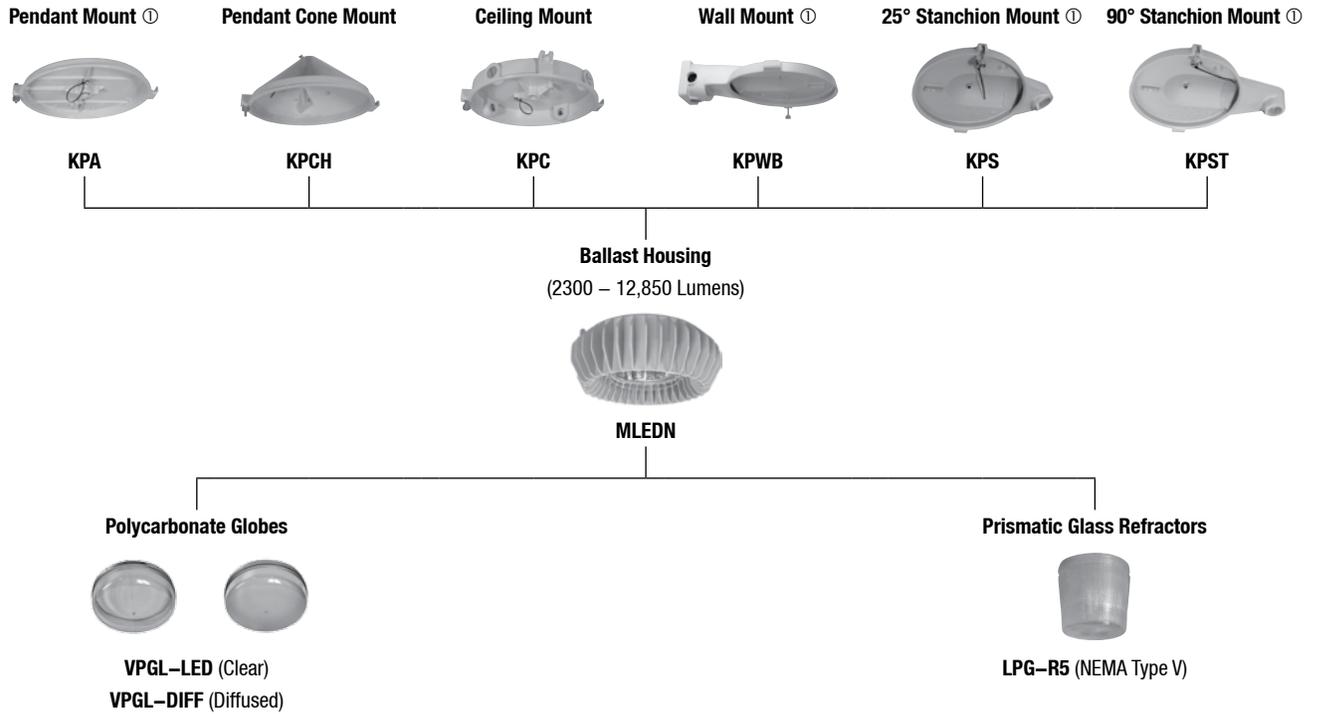
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Mercmaster LED Family Tree



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

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

Catalog Numbering Guide — NEC/CEC Certified Mercmaster LED

MLEDN	A	17	2	P	5	BU	H1
MLEDN - NEC/CEC Certified Mercmaster LED Series		Light Level Equivalent: 70 - 70 W HPS/PSMH 10 - 100 W HPS/PSMH 15 - 150 W HPS/PSMH 17 - 175 W PSMH ② 25 - 250 W HPS/PSMH 35 - 350 W PSMH ⑥ 40 - 400 W HPS/PSMH ⑦		Optical Assembly: P - Polycarbonate Globe		Voltage: BU - Universal Voltages 120-277 Vac, 50/60 Hz BH - 347-480 Vac, 50/60 Hz	
	Mounting: A - Pendant C - Ceiling ① D - Pendant Cone R - 90° Stanchion S - 25° Stanchion W - Wall		Hub Size: 2 - 3/4" NPT 3 - 1" NPT 4 - 1-1/4" NPT stanchion 5 - 1-1/2" NPT stanchion 6 - Metric M20		Light Distribution: 1 - NEMA Type I Elliptical (100 W HPS and 175 W PSMH Only) 5 - NEMA Type V Symmetrical		Options: D - Diffused Globe F - Fusing ③ H1 - Photocontrol 120 V ④ H2 - Photocontrol 208 V ④ H3 - Photocontrol 240 V ④ H4 - Photocontrol 277 V ④

Catalog Numbering Guide — ATEX/IECEX Certified Mercmaster LED ⑤

MLEDNA	—	17	—	P	5	BU	D
MLEDNA - ATEX/IECEX Certified Mercmaster LED Series		Light Level Equivalent: 70 - 70 W HPS/PSMH 10 - 100 W HPS/PSMH 15 - 150 W HPS/PSMH 17 - 175 W PSMH ② 25 - 250 W HPS/PSMH		Optical Assembly: P - Polycarbonate Globe		Voltage: BU - Universal Voltages 120-277 Vac, 50/60 Hz	
	Mounting: ATEX/IECEX version is not available as a complete fixture (not sold with mounting hood)		Hub Size: ATEX/IECEX version is not available as a complete fixture (hub size does not apply)		Light Distribution: 5 - NEMA Type V Symmetrical		Options: D - Diffused Globe

① Ceiling mount luminaires are not designed to use the PCD2 photocontrol. Ceiling mounts must use an FS/FD box with a photocontrol. Contact your local sales representative for more information.

② 175 W Pulse Start Metal Halide only. Does not have a High Pressure Sodium equivalent.

③ Canadian Electrical Code does NOT allow fusing in hazardous locations. Fuse not CEC rated.

④ Luminaires with photocontrol are not rated IP66/67 or marine outside type (salt water).

⑤ For ATEX/IECEX rated fixtures, ballast bodies and mounting hoods must be purchased separately.

⑥ Available for use with the BH voltage only (347-480 Vac, 50/60 Hz).

⑦ Available for use with the BU voltage only (120-277 Vac, 50/60 Hz).

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Technical Data

Lamp		Ambient Temperature °C (°F)	Supply Wire Temperature °C (°F)	NEC/CEC				ATEX/IECEX			
Light Level Equivalent to HID	Type			Class I, Division 2 ①	Gas Groups	Class I, Zone 2, AEx nA IIC, Ex nA IIC	Class II, Division 1 and 2 ②	Dust Groups	Gas/Dust Simultaneous ① Class I, Division 2/ Class II, Division 1	Gas Ex II 3G ① nA	Dust Ex II 3D ② Ex tc IIIC
70 Watt NEMA Type V	LED	40 (104)	60 (140)	T4A	A, B, C, D	T4	T6	E, F, G	T4	T4	T92°C (T197.6°F) Dc
		55 (131)	75 (167)	T4		T4	T6		T4		
		65 (149)	90 (194)	T3C		T3	T6		T3C		
100 Watt NEMA Type V	LED	40 (104)	60 (140)	T4A	A, B, C, D	T4	T6	E, F, G	T4	T4	T92°C (T197.6°F) Dc
		55 (131)	75 (167)	T4		T4	T6		T4		
		65 (149)	90 (194)	T3C		T3	T6		T3C		
100 Watt NEMA Type I ③	LED	40 (104)	60 (140)	T4	A, B, C, D	T4	T5	E, F, G	T4	—	—
		55 (31)	75 (167)	T3C		T3	T5		T3C		
		65 (143)	90 (194)	T3C		T3	T4A		T3C		
150 Watt NEMA Type V	LED	40 (104)	60 (140)	T4A	A, B, C, D	T4	T6	E, F, G	T4	T6	T92°C (T197.6°F) Dc IP66
		55 (131)	75 (167)	T4		T4	T6		T4		
175 Watt NEMA Type V	LED	40 (104)	60 (140)	T4A	A, B, C, D	T4	T6	E, F, G	T4	T6	T92°C (T197.6°F) Dc IP66
		55 (131)	75 (167)	T4		T4	T6		T4		
175 Watt NEMA Type I ③	LED	40 (104)	60 (140)	T4	A, B, C, D	T4	T5	E, F, G	T4	—	—
		55 (131)	75 (167)	T3C		T3	T5		T3C		
250 Watt NEMA Type V ③	LED	40 (104)	60 (140)	T4A	A, B, C, D	T4	T6	E, F, G	T4A	T4	T79°C (T174.2°F) Dc
		50 (122)	75 (167)	T4		T4	T6		T4		
350 Watt NEMA Type V ③	LED	40 (104)	75 (167)	T3A	A, B, C, D	T3	—	—	—	—	—
		50 (122)	75 (167)	T3		T3	—		—		
400 Watt NEMA Type V ③	LED	40 (104)	75 (167)	T3A	A, B, C, D	T3	—	—	—	—	—
		55 (131)	75 (167)	T3		T3	—		—		

“T” Numbers Represent the Maximum Internal Temperature ① or Maximum Surface Temperature ②

“T” #	NEC/CEC															
	T1	350	325	T2	T2A	T2B	T2C	T2D	T3	T3A	T3B	T3C	T4	T4A	T5	T6
Temp. Range °C (°F)	351-450 (664-842)	326-350 (619-662)	301-325 (574-617)	281-300 (538-572)	261-280 (502-536)	231-260 (448-500)	216-230 (421-446)	201-215 (394-419)	181-200 (358-392)	166-180 (331-356)	161-165 (322-329)	136-160 (277-320)	121-135 (250-275)	101-120 (214-248)	86-100 (187-212)	85 (185)

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

- ① T numbers represent the maximum internal temperature for Class I, Division 2 and Class I, Zone 2 locations designated by the NEC.
- ② T numbers represent the maximum surface temperature under a dust blanket for Class II, Division 1 and Class I, Zone 2 as designated by the NEC or Zone 2 (Gas) and 22 (Dust) locations as designated by the IEC.
- ③ Lamp type is not certified for use in ATEX/IECEX.

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Lamp Comparison Chart

Lamp Data	Line Current Amps	Input Power	Lumens	CRI	Lamp Life (Hours)	Color Temp CCT
NEMA Type V						
MLEDN70	.31 @ 120 V	35	2300	70	60,000+	5650
	.17 @ 277 V	33				
	.24 @ 347 V	34				
	.11 @ 480 V	32				
MLEDN100	.41 @ 120 V	47.5	3450	70	60,000+	5650
	.20 @ 277 V	46				
	.25 @ 347 V	42				
	.12 @ 480 V	44				
MLEDN150	.53 @ 120 V	61	4850	70	60,000+	5650
	.25 @ 277 V	62				
	.29 @ 347 V	62				
	.14 @ 480 V	64				
MLEDN175	.63 @ 120 V	74	6076	70	60,000+	5650
	.28 @ 277 V	72				
	.25 @ 347 V	86				
	.16 @ 480 V	88				
MLEDN250 ①	.83 @ 120 V	95.5	9455	70	60,000+	5650
	.36 @ 277 V	92				
	.45 @ 347 V	96				
	.31 @ 480 V	95				
MLEDN350 ①	.30 @ 347 V	102	11425	70	60,000+	5650
	.23 @ 480 V	103				
MLEDN400	1.04 @ 120 V	127	12850	70	60,000+	5650
	.47 @ 277 V	128				
NEMA Type I						
MLEDN100 ①	.41 @ 120 V	47.5	2900	70	60,000+	5650
	.20 @ 277 V	46				
	.25 @ 347 V	47.5				
	.12 @ 480 V	46				
MLEDN175 ①	.61 @ 120 V	70	6200	70	60,000+	5650
	.28 @ 277 V	69				
	.24 @ 347 V	70				
	.16 @ 480 V	69				

① Lamp type is not certified for use in ATEX/IEC.

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Fixture Unit — Electrical Specification



LED Wattage BU/BH	Light Level Equivalent	NEMA Type	Current Draw	Conformance	Voltage Range	Voltage Suffix	Fixture Unit Catalog Number
ATEX/IECEX Certified Ballast Housing ①							
35/33 W	70 W HPS	Type V	120 Vac @ .31 Amps 277 Vac @ .17 Amps	ATEX/IECEX	120-277 Vac, 50/60 Hz	BU	MLEDNA70P5
47.5/46 W	100 W HPS	Type V	120 Vac @ .41 Amps 277 Vac @ .20 Amps	ATEX/IECEX	120-277 Vac, 50/60 Hz	BU	MLEDNA10P5
61/62 W	150 W HPS	Type V	120 Vac @ .53 Amps 277 Vac @ .25 Amps	ATEX/IECEX	120-277 Vac, 50/60 Hz	BU	MLEDNA15P5
74/72 W	175 W PSMH	Type V	120 Vac @ .63 Amps 277 Vac @ .28 Amps	ATEX/IECEX	120-277 Vac, 50/60 Hz	BU	MLEDNA17P5
95.5/92 W	250 W HPS/PSMH	Type V	120 Vac @ .83 Amps 277 Vac @ .36 Amps	ATEX/IECEX	120-277 Vac, 50/60 Hz	BU	MLEDNA25P5

① For ATEX/IECEX rated fixtures, ballast bodies and mounting hoods must be purchased separately.