

EU-Type Examination Certificate



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1. **EU-TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**
3. **EU-Type Examination Certificate Number: ITS18ATEX303680X Issue 0**
4. **Product:** Mercmaster LED Luminaire, models: Generation 3 (MGZxHxxxxx and MGZxLxxxxx)
5. **Manufacturer:** Appleton Group LLC
6. **Address:** 9377 W Higgins Rd; Rosemont, IL 60018, USA
7. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
8. Intertek Testing and Certification Limited, Notified Body number 0359 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Intertek Report 103509297DAL-002, Issued: October 11, 2018.
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012+A11, EN 60079-7:2015, EN 60079-18:2015+A1:2017, EN 60079-28:2015, EN 60079-31:2014 except in respect of those requirements referred to at item 16 of the Schedule.
10. If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Safe Use specified in the Schedule to this certificate.
11. This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
12. The marking of the product shall include the following:



II 2 G Ex eb mb op is IIC T4/T5/T6 Gb
II 2 D Ex op is tb IIIC T75°C/T85°C/T100°C Db
-40°C ≤ Ta ≤ +65°C
IP64/66

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This certificate may only be reproduced in its entirety and without any change, schedule included and is subject to Intertek Testing and Certification's Conditions for Granting Certification.

P Moss
Certification Officer
19th October 2018

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13. Description of Equipment or Protective System

The Mercmaster Generation 3 luminaires are LED luminaires housed in an aluminum enclosure. The MGZxH and MGZxL luminaire models are identical in construction except for the enclosure dimensions. The equipment consists of a main luminaire compartment, which is connected to different array of mounting hoods, the LED array compartment and the LED driver compartment. The main luminaire compartment has the following dimensions: 11.60 inch x 2.22 inch / 294.64 mm x 56.39 mm. The LED array compartment and LED driver compartment have the following dimensions: 14.75 inch x 3.62 inch / 374.65 mm x 91.95 mm. The mounting hoods can either be pendant type, 25° stanchion hood, 90° stanchion hood, a ceiling hood, trunnion or a wall hood. The luminaires are equipped with a clear tempered borosilicate or soda lime glass, as well as the clear or diffused polymeric lens. Each LED luminaire utilizes silicone gaskets. The luminaires have 1 threaded entry located on the mounting hood, filled with a blanking element for connection of entry devices in the main luminaire compartment. All luminaire models have been successfully evaluated/tested for IP64/66 per the requirements of EN 60079-0:2012+A11 (with reference to IEC 60529). The luminaires contain 1 ATEX certified LED driver (50W, 100W or 150W), LED array and AC/DC terminal blocks. The LED driver is housed within the LED luminaire compartment located mid-point between the main and LED module compartments. All luminaire models contain 3 LED array strips, with a total of 36 or 48 LED's across all LED array strips.

The model nomenclature for the Mercmaster LED luminaire is shown below:

Series	Mounting	Lumen Level	Hub Size	Color Temperature	Diffusion	Beam Spread	Voltage
MGZ - Mercmaster Gen 3 Zone 1	A - Pendant	L3 - 3500	2 - 3/4" NPT	C - 5000K	P - Clear Polycarbonate Globe	W - Type V Wide	BU - 120-277 Vac 50/60 Hz, 170- 300Vdc
	C - Ceiling	L5 - 5500	3 - 1" NPT	N - 4000K	D - Diffused Polycarbonate Globe		
	R - 90 Stanchion	L7 - 7500	4 - 1-1/4" NPT Stanchion	W - 3000K	G - Clear Glass Globe		
	S - 25 Stanchion	L9 - 9500	5 - 1-1/2" NPT Stanchion				
	T - Trunnion	H9 - 9500	6 - Metric M20				
	W - Wall	H1 - 11,500					
H3 - 13,500							
H6 - 17,500							

Electrical parameters/ratings for the above luminaire models is shown below:

120 – 277 VAC, 50/60 Hz
170-300 VDC
150 W (max), 1.6A (max)



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Temperature codes assigned to each model type based on driver current is shown below:

Mercmaster Generation 3 models for Gas atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
MGZxH6xxxxBU (150W @ 900mA max)	T4	T4	T4
MGZxH3xxxxBU (150W @ 900mA max)	T4	T4	T4
MGZxH1xxxxBU (100W @ 650mA max)	T5	T4	T4
MGZxH9xxxxBU (100W @ 520mA max)	T5	T5	T4

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
MGZxL9xxxxBU (100W @ 520mA max)	T6	T5	T4
MGZxL7xxxxBU (100W @ 400mA max)	T6	T5	T5
MGZxL5xxxxBU (50W @ 780mA max)	T6	T6	T5
MGZxL3xxxxBU (50W @ 780mA max)	T6	T6	T5

Mercmaster Generation 3 model for Dust atmospheres:

Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
MGZxH6xxxxBU (150W @ 900mA max)	85°C	100°C	100°C
MGZxH3xxxxBU (150W @ 900mA max)	85°C	100°C	100°C
MGZxH1xxxxBU (100W @ 650mA max)	85°C	85°C	100°C
MGZxH9xxxxBU (100W @ 520mA max)	85°C	85°C	100°C



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Model	T-Code at 40°C ambient temperature	T-Code at 55°C ambient temperature	T-Code at 65°C ambient temperature
MGZxL9xxxxBU (100W @ 520mA max)	75°C	85°C	85°C
MGZxL7xxxxBU (100W @ 400mA max)	75°C	85°C	85°C
MGZxL5xxxxBU (50W @ 780mA max)	75°C	75°C	85°C
MGZxL3xxxxBU (50W @ 780mA max)	75°C	75°C	85°C

14. Report Number

Intertek Report Ref: 103509297DAL-002, Issued: October 11, 2018.

15. Special Conditions of Certification

(a). Specific Conditions of Safe Use

- Potential Electrostatic Charging Hazard – Use a damp cloth for maintenance and cleaning purposes on the equipment. Refer to the Installation Manual for more information.

(b). Conditions of Manufacture - Routine Tests

- Routine Dielectric Strength testing of the LED luminaires per IEC 60079-7:2015, Clause 7.1 is applicable. Dielectric strength shall be verified by test at the following test voltage and maintained for at least 1 min without dielectric breakdown occurring:
For other electrical equipment and Ex Components, where working voltages exceeding 90 V peak are present: $(1\ 000 + 2U)$ V r.m.s. + 5/0 % or 1 500 V r.m.s. +5 0 %, whichever is greater, where U is the working voltage. The LED luminaire shall be tested as follows:

- Between inputs and ground (frame of the enclosure) – 1600V r.m.s.

Alternatively, a test shall be carried out at 1.2 times the test voltage, but maintained for at least 100ms.

- Where the equipment incorporates certified components, the manufacturer shall ensure that any changes to those components do not affect the compliance of the certified product that is the subject of this certificate.

16. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report Ref: 103509297DAL-002, Issued: October 11, 2018.

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17. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
MERCMaster LED GLASS GLOBE	607646	G	08/16/2018
GLOBE – MERCMaster LED	607647	K	08/16/2018
GASKET, O-RING MERCMaster LED GEN 3.0	609222	J	08/10/2018
MMG3 ZONE1, 48 LG LED ARRAY ASSEMBLY (MCPCB+LEDS+WIRES)	609324	01	04/11/2018
MMG3 ZONE1, 48 LG LED ENGINE (ENCAPSULATED)	609325	01	04/11/2018
MMG3 ZONE1, 36 LG LED ARRAY ASSEMBLY (MCPCB+LEDS+RESISTANCE+WIRES)	609326	01	04/12/2018
MMG3 ZONE1, 36 LG LED ENGINE (ENCAPSULATED)	609327	01	04/12/2018
MERCMaster LED GEN 3.0-LITTLE PRIMO ZONE 1	637019	00	09/12/2018
MERCMaster LED GEN 3.0-BIG PRIMO ZONE 1	637020	00	09/12/2018
ZONE 1 RATED LED DRIVER (50W – BU VERSION)	299707556	01	05/22/2018
ZONE 1 RATED LED DRIVER (100W – BU VERSION)	299707557	01	05/21/2018
ZONE 1 RATED LED DRIVER (150W – BU VERSION)	299707558	01	05/21/2018
THREADED PLUG – SQUARE RECESS	503712	C	10/31/2016
GASKET FOR RTV MASKING	661285	00	10/31/2018
MERCMaster LED NAMEPATE TEMPERATURE LABEL IECEX AND ATEX	663640	B	10/11/2018
MERCMaster LED NAMEPLATE TEMPERATURE LABEL ZONE 1	663641	A	08/27/2018
SILICON ADHESIVE/SEALANT RTV – GENERAL PURPOSE	669014	N	06/15/2018
Zone 1 MMG3 Metric Fasteners	669183000	A	09/04/2018
Zone 1 MMG3 Imperial Fasteners	669184000	A	09/04/2018
Polyester Powder Coating	MS4003	E	06/27/2018
Installation Instructions for Appleton Mercmaster LED Zone 1 Generation 3 Luminaire	650602-000	B	10/11/2018
MERCMaster LED WARNING LABEL	663530	B	09/21/2017

This Certificate is the property of Intertek Testing and Certification Ltd and is subject to Intertek Testing and Certification's Conditions for Granting Certification RFT-EU-NB-OP-23k1 June 29, 2016

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