

1 EU - Type Examination Certificate

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **ExVeritas 19 ATEX 0433X** Issue: **1**

4 Equipment: **LMX series Luminaires**

5 Manufacturer: **Wolf Safety Lamp Company Ltd.**

6 Address: **Saxon Road Works, Sheffield, South Yorkshire, S8 0YA, United Kingdom**

7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 ExVeritas, Notified Body number 2804 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the Directive

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with the following Standards and section 16 of this certificate:

EN IEC 60079-0: 2018

EN 60079-18:2015+A1:2017

EN IEC 60079-7:2015+A1:2018

EN 60079-31:2014

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design, construction, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment shall include the following:



II 2 G Ex eb mb IIC T4 Gb

II 2 D Ex tb IIIC T80°C...T90°C Db (dependent on model type)

T_a -50°C to +60°C (dependent on model type)

On behalf of ExVeritas



Peter Lauritzen
Managing Director

Schedule

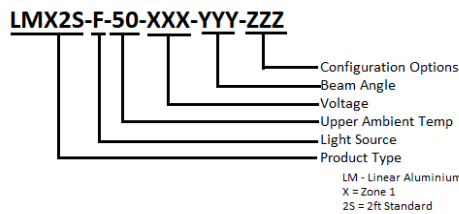
13 Description of Equipment or Protective System

The LMX Luminaire is an LED luminaire for gas Group IIC and dust Group IIIC dust and gas hazardous

atmospheres. The equipment comprises of a powder coated aluminium enclosure with two M20 x 1.5 threaded gland entries and wiring connection covers at both ends, with a single glass lens for the LMX2 variants and two lenses for the LMX4.

Internally, the luminaire contains LED drivers, LED modules with linear optics or LED arrays, and terminal blocks for user connections. Feed through terminals are provided for ease of connection and chain linking of multiple units.

The luminaires can be supplied in four distinct model types, the standard version which has an ambient range of -50°C to +50°C, the 'high temp' versions which employ specific LED drivers to permit an ambient range of -50°C to +60°C and the 'emergency' versions, which employ an additional LED driver and a battery pack and are suitable for an ambient range of -40°C to +60°C. The product part numbering convention is as shown below:



The product range is detailed in the tables below:

LMX LINEAR OPTIC (LO) PART NUMBERS						
Type	Voltage	Frequency	Current	Ambient Temperature Limits	Gas Temperature Class	Dust Surface Temperature
LMX2S-L-50-110	88 - 140 V	50 - 60 Hz	0.35 A	-50 °C to 50 °C	T4	T80 °C
LMX2S-L-60-110	88 - 140 V	50 - 60 Hz	0.35 A	-50 °C to 60 °C	T4	T90 °C
LMX2S-L-50-230	180 - 277 V	50 - 60 Hz	0.15 A	-50 °C to 50 °C	T4	T80 °C
LMX2S-L-60-230	180 - 277 V	50 - 60 Hz	0.15 A	-50 °C to 60 °C	T4	T90 °C
LMX2E-L-60-110	100 - 140 V	50 - 60 Hz	0.41 A	-40 °C to 60 °C	T4	T90 °C
LMX2E-L-60-230	200 - 277 V	50 - 60 Hz	0.19 A	-40 °C to 60 °C	T4	T90 °C
LMX4S-L-50-110	88 - 140 V	50 - 60 Hz	0.7 A	-50 °C to 50 °C	T4	T80 °C
LMX4S-L-60-110	88 - 140 V	50 - 60 Hz	0.7 A	-50 °C to 60 °C	T4	T90 °C
LMX4S-L-50-230	180 - 277 V	50 - 60 Hz	0.3 A	-50 °C to 50 °C	T4	T80 °C
LMX4S-L-60-230	180 - 277 V	50 - 60 Hz	0.3 A	-50 °C to 60 °C	T4	T90 °C
LMX4E-L-60-110	100 - 140 V	50 - 60 Hz	0.76 A	-40 °C to 60 °C	T4	T90 °C
LMX4E-L-60-230	200 - 277 V	50 - 60 Hz	0.34 A	-40 °C to 60 °C	T4	T90 °C

LMX FORWARD-FACING ARRAY (FFA) PART NUMBERS						
Type	Voltage	Frequency	Current	Ambient Temperature Limits	Gas Temperature Class	Dust Surface Temperature
LMX2S-F-50-110	88 - 140 V	50 - 60 Hz	0.35 A	-50 °C to 50 °C	T4	T80 °C
LMX2S-F-50-230	180 - 277 V	50 - 60 Hz	0.15 A	-50 °C to 50 °C	T4	T80 °C
LMX2S-F-60-110	88 - 140 V	50 - 60 Hz	0.35 A	-50 °C to 60 °C	T4	T90 °C
LMX2S-F-60-230	180 - 277 V	50 - 60 Hz	0.15 A	-50 °C to 60 °C	T4	T90 °C
LMX2E-F-60-110	100 - 140 V	50 - 60 Hz	0.41 A	-40 °C to 60 °C	T4	T90 °C
LMX2E-F-60-230	200 - 277 V	50 - 60 Hz	0.19 A	-40 °C to 60 °C	T4	T90 °C
LMX4S-F-50-110	88 - 140 V	50 - 60 Hz	0.7 A	-50 °C to 50 °C	T4	T80 °C
LMX4S-F-50-230	180 - 277 V	50 - 60 Hz	0.3 A	-50 °C to 50 °C	T4	T80 °C
LMX4S-F-60-110	88 - 140 V	50 - 60 Hz	0.7 A	-50 °C to 60 °C	T4	T90 °C
LMX4S-F-60-230	180 - 277 V	50 - 60 Hz	0.3 A	-50 °C to 60 °C	T4	T90 °C
LMX4E-F-60-110	100 - 140 V	50 - 60 Hz	0.76 A	-40 °C to 60 °C	T4	T90 °C
LMX4E-F-60-230	200 - 277 V	50 - 60 Hz	0.34 A	-40 °C to 60 °C	T4	T90 °C

Certificate: **ExVeritas 19 ATEX 0433X** Issue 1

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Schedule

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R3003/A/1	2021-09-10	0	Initial issue of the Prime Certificate
R3802/A/1	2023-03-30	1	Addition of emergency versions which employ LDXIE drivers

14.2 Compliance Drawings:

Issue 1

Title:	Drawing No.:	Rev. Level:	Date:
*LMX Certification Label (2 pages)	LD-0221	06	15/02/2023
*LMX Enclosure Construction (4 pages)	LD-0222	05	18/10/2022
*LMX Wiring and Layout (2 pages)	LD-0223	05	16/11/2022
*LMX LO Lamp Module General Assembly (2 pages)	LD-0229	05	18/10/2022
*LMX2 General Assembly (2 pages)	LD-0230	04	16/11/2022
*LMX4 General Assembly (2 pages)	LD-0231	04	16/11/2022
*LA0076 - LMX Wiring Cover General Assembly	LD-0232	04	16/11/2022
*LMX Linear Technical Manual (15 pages)	LD-0233	04	30/11/2022
*LE0041 - Linear LED FFA Schematic	LD-0282	2	10/06/2021
*LMX FFA Light Engine Construction	LD-0283	02	18/10/2022
*LMX FFA Lamp Module General Assembly	LD-0284	03	08/11/2022
*LMX FFA Array PCB Layout	LD-0285	2	25/06/2021
*LMX Emergency General Assembly (3 pages)	LD-0345	1	16/11/2022
*LMX Emergency Lamp Module Assembly (2 pages)	LD-0346	1	18/10/2022
*LMX Emergency Electronics and Wiring (2 pages)	LD-0347	1	16/11/2022

* Denotes the documents that are new or revised for issue 1.

15 Conditions of Certification

15.1 Special Conditions for Safe Use

1. Cable entries into the equipment shall utilise suitably certified cable glands and shall provide a minimum degree of protection of IP66 or IP67 (dependent on the installation environment).
2. Unused cable entry apertures shall be closed with suitably certified blanking plugs which provide a minimum degree of protection of IP66 or IP67 (dependent on the installation environment).

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Schedule

3. When used in potentially hazardous dust atmospheres, the equipment shall be installed so as to minimize the risk from electrostatic discharge. In particular, the equipment shall not be installed where there is a likelihood of there being a static generating mechanism, such as steam generation or fast moving particles over the surface of the equipment.
4. The equipment shall only be used with a power source having a prospective short circuit current which does not exceed 1500A.
5. **Emergency versions:** The end user must ensure that no hazardous atmosphere is present before replacing the battery pack. Only the specific replacement battery packs that are listed in the instruction manual may be fitted. The manufacturer shall specify only suitably temperature rated battery packs as compatible. When transporting the battery pack through a potentially hazardous atmosphere the bare ends of the flying leads must be protected to IP30.

15.2 Routine tests

1. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
2. The equipment shall be subjected to an electric strength test in accordance with EN 60079-7 Clause 6.1 using a test voltage of:
 - For models LMX2/230 and LMX4/230, 1554Vac applied between supply connections and frame, for a period of 60 secs.
 - For models LMX2/110 and LMX4/110, 1500Vac applied between supply connections and frame, for a period of 60 secs.

Alternatively, a test voltage of 20% higher may be applied for 0.1 seconds. A DC test voltage is allowed as an alternative to the AC test voltage and shall be 140% of the specified AC r.m.s. test voltage.

16 Essential Health and Safety Requirements

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.

The manufacturer shall inform the Notified Body of any modifications to the design of the product described by this schedule.

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