



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx UL 15.0029X**

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Certificate history:

Issue 7 (2019-08-12)  
Issue 6 (2019-02-12)  
Issue 5 (2018-12-03)  
Issue 4 (2018-09-28)  
Issue 3 (2016-07-27)  
Issue 2 (2016-02-09)  
Issue 1 (2015-07-29)  
Issue 0 (2015-05-29)

Status: **Current**

Issue No: 8

Date of Issue: 2021-03-17

Applicant: **Eaton's Crouse-Hinds Business**  
1201 Wolf Street  
Syracuse, NY 13208  
**United States of America**

Equipment: **Luminaires, Cat. Nos. \*FMV\*\*L\*Y/\*\*\*\***

Optional accessory:

Type of Protection: **Increased Safety "ec", Dust Ignition Protection by Enclosure "tb", Encapsulation "mb"**

Marking: Ex ec IIC T5 Gc  
Ex ec IIC T4 Gc  
Ex ec mb IIC T5 Gc  
Ex ec mb IIC T4 Gc  
Ex tb IIIC T65°C Db  
Ex tb IIIC T80°C Db  
Ex tb IIIC T81°C Db  
Ex tb IIIC T94°C Db

**Please see Annex for Temperature Ranges**

Approved for issue on behalf of the IECEx  
Certification Body:

**Katy A. Holdredge**

Position:

**Senior Staff Engineer**

Signature:  
(for printed version)

Date:

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3. The Status and authenticity of this certificate may be verified by visiting [www.iecex.com](http://www.iecex.com) or use of this QR Code.

Certificate issued by:

**UL LLC**  
333 Pfingsten Road  
Northbrook IL 60062-2096  
United States of America





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1201 Wolf Street  
Syracuse, NY 13208  
**United States of America**

Additional manufacturing locations:

*See following pages for more locations*

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

## STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2011** Explosive atmospheres - Part 0: General requirements  
Edition:6.0

**IEC 60079-18:2017** Explosive atmospheres - Part 18: Protection by encapsulation "m"  
Edition:4.1

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

**IEC 60079-7:2017** Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

## TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

<a href="#">US/UL/ExTR15.0035/00</a>	<a href="#">US/UL/ExTR15.0035/01</a>	<a href="#">US/UL/ExTR15.0035/02</a>
<a href="#">US/UL/ExTR15.0035/03</a>	<a href="#">US/UL/ExTR15.0035/04</a>	<a href="#">US/UL/ExTR15.0035/05</a>
<a href="#">US/UL/ExTR15.0035/06</a>	<a href="#">US/UL/ExTR15.0035/07</a>	<a href="#">US/UL/ExTR15.0035/08</a>

Quality Assessment Reports:

<a href="#">AU/TSA/QAR06.0020/12</a>	<a href="#">DE/BVS/QAR13.0001/07</a>	<a href="#">GB/BAS/QAR07.0041/09</a>
<a href="#">US/UL/QAR17.0013/02</a>	<a href="#">US/UL/QAR17.0024/02</a>	



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

Series FMV are LED floodlight luminaires intended for installation in hazardous locations. These luminaires are constructed from die-cast aluminium and are yoke mounted. The luminaire may be provided with a guard, a visor, range of discrete LEDs arranged in an array with various colors, conduit entry options and two driver options.

The FMVA3L to FMVA15L luminaires have identical construction to the FMV3L to FMV15L luminaires except for the internal LED drivers, LEDs and LED array board, LED compartment back, and electrical components utilized within the driver compartment. The FMVA3L to FMVA15L luminaires utilize an identical LED compartment back and Wago electrical components within the driver compartment as in the NFMVA20L to NFMVA50L luminaires. The LED drivers used in the FMVA3L to FMVA15L luminaires are ATEX/IECEx certified to the 'mb' protection method and the FMVA3L to FMVA15L luminaires are evaluated for protection technique 'ec mb'.

Series FMV and NFMVA luminaires are evaluated for protection technique 'ec'.

Series FMV, NFMVA, and FMVA luminaires are all evaluated for protection technique 'tb'.

**Please see Annex for additional information.**

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD - To minimize the risk from electrostatic discharge, when cleaning, wipe the lens with a clean, damp cloth.



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: Addition of Australia manufacturing location.

Issue 2: Addition of 15L suffix and alternate internal reflector construction.

Issue 3: Addition of new LED drivers.

Issue 4: Adding Changzhou manufacturer and updates IEC 60079-31 to 2nd edition.

Issue 5: Change of protection method from type "nA" to type "ec"; addition of NFMVA20L, NFMVA25L, NFMVA40L, NFMVA50L; addition of Nema 3x3 optical beam spread and bronze and white paint color for all luminaires and low ambient changed from -30°C to -40°C.

Issue 6: Addition of a new manufacturer.

Issue 7: Addition of luminaire Models FMVA3L, FMVA5L, FMVA7L, FMVA9L, FMVA11L, FMVA13L, and FMVA15L and update to minimum wire temperature for all models.

Issue 8: Addition of alternate CCT options, removal of thermal pad, and alternate gasket between driver housing to driver housing cover.



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Additional manufacturing locations:

**Cooper Crouse Hinds S.A.**  
Avda. Santa Eulàlia  
290 ,08223 Terrassa  
Barcelona  
**Spain**

**Cooper Electrical (Changzhou) Co. Ltd.**  
No. 189 Liuyanghe Rd, Xinbei District,  
Changzhou, Jiangsu, 213031  
**China**

**Eaton Electrical Australia Pty. Ltd.**  
10 Kent Road, Mascot, NSW, 2020  
**Australia**

**Eaton's Crouse Hinds Business**  
1700 Blue Hills Drive NE, Roanoke, VA 24012  
**United States of America**

**Cooper Crouse-Hinds, S. de R.L. de C.V**  
AV Javier Rojo Gomez No 1170  
CP 09300  
Mexico City  
**Mexico**

**Annex:**

[Annex to IECEx UL 15.0029X Issue 8.pdf](#)



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## TYPE DESIGNATION

Nomenclature:

N	FMV	A	25L	C	Y	/UNV1	76	M20	S891	BZ	P62
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII

I. Indicates certifications

Blank – IEC 3L to 15L  
N – IEC 20L to 50L

II. FMV – LED Floodlight Luminaire

III. Indicates generation

Blank – 3L to 15L  
A – Gen 2 (3L to 50L)

IV. Indicates light source/intensity

3L – 70W equivalent  
5L – 100W equivalent  
7L – 175W equivalent  
9L – 250W equivalent  
11L – 320W equivalent  
13L – 400W equivalent  
15L – 500W equivalent  
20L – 750W equivalent  
25L – 1000W equivalent  
40L – 1500W equivalent  
50L – 2000W equivalent

V. Indicates LED color temperature

C – 5000K, 70 CRI (cool white)  
C1 - Cool 5700K (for use in 3L to 15L)  
C2 – Cool 6500K (for use in 3L to 15L)  
N – 4000K, 70 CRI (neutral white)  
W – 3000K, 80 CRI (warm white)

VI. Indicates Mount

Y – Yoke mount

VII. Indicates input voltage

/UNV1 – 100-277 Vac, 50/60 Hz; 108-250 Vdc (for FMV3L to FMV15L only)  
/UNV1 – 100-240 Vac, 50/60 Hz; 127-250 Vdc (for FMVA3L to FMVA15L only)  
/UNV1 – 100-277 Vac, 50/60 Hz; 127-300 Vdc (for 20L to 50L only)  
/UNV34 - 347-440 Vac, 50/60 Hz



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VIII. Indicates internal optical distribution

33 – NEMA 3x3 Beam Spread  
76 – NEMA 7x6 Beam Spread

IX. Indicates entries

Blank – ¾" NPT Entry  
M20 – 20 mm Entry  
M25 – 25 mm Entry

X. Indicates Options

Blank – Tempered Clear Glass Window  
S891 – Tempered Diffused Glass Window  
S903 – Clear Polycarbonate Window  
BR – Other certifications type

XI. Indicates Paint

Blank – Gray  
BZ – Bronze  
WH - White

XII. Indicates Optional Accessories

DSV2 – Bolt-on Visor  
P61 – Bolt-on Wire Guard



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## PARAMETERS RELATING TO THE SAFETY

### Rated Ambient and Code Marking

Code	Catalog Series	Ambient Temperature Range	Temperature Class
Ex ec IIC T5 Gc	FMV3L to FMV15L (without suffix "33" for Internal Optical Distribution)	-40 °C to +40 °C	T5
Ex ec IIC T4 Gc	FMV3L to FMV15L (without suffix "33" for Internal Optical Distribution")	-40 °C to +55 °C	T4
Ex ec IIC T4 Gc	FMV3L to FMV15L (with suffix "33" for Internal Optical Distribution")	-40 °C to +40 °C	T4
Ex ec IIC T4 Gc	FMV3L to FMV15L (with suffix "33" for Internal Optical Distribution")	-40 °C to +55 °C	T4
Ex ec mb IIC T5 Gc	FMVA3L to FMVA15L (without suffix "33" for Internal Optical Distribution)	-40 °C to +40 °C	T5
Ex ec mb IIC T4 Gc	FMVA3L to FMVA15L (without suffix "33" for Internal Optical Distribution")	-40 °C to +55 °C	T4
Ex ec mb IIC T4 Gc	FMVA3L to FMVA15L (with suffix "33" for Internal Optical Distribution")	-40 °C to +40 °C	T4
Ex ec mb IIC T4 Gc	FMVA3L to FMVA15L (with suffix "33" for Internal Optical Distribution")	-40 °C to +55 °C	T4
Ex ec IIC T4 Gc	NFMVA20L to NFMVA50L	-40 °C to +40 °C	T4
Ex ec IIC T4 Gc	NFMVA20L to NFMVA50L	-40 °C to +55 °C	T4
Ex tb IIIC T65°C Db	FMV3L to FMV15L and FMVA3L to FMVA15L	-40 °C to +40 °C	T65°C
Ex tb IIIC T80°C Db	FMV3L to FMV15L and FMVA3L to FMVA15L	-40 °C to +55 °C	T80°C
Ex tb IIIC T81°C Db	NFMVA20L to NFMVA50L	-40 °C to +40 °C	T81°C
Ex tb IIIC T94°C Db	NFMVA20L to NFMVA50L	-40 °C to +55 °C	T94°C



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## Electrical Ratings

Catalog Series/Voltage Suffix	Input Ratings	
	Voltage	Current (A)
FMV3L/UNV1	100-277 AC 50/60 Hz	0.28
	108-250 DC	0.28
FMVA3L/UNV1	100-240 AC 50/60 Hz	0.27
	127-250 DC	0.23
FMV3L/UNV34	347-440 AC 50/60 Hz	0.08
FMV5L/UNV1	100-277 VAC, 50/60 Hz	0.45
	108-250 VDC	0.46
FMVA5L/UNV1	100-240 AC 50/60 Hz	0.41
	127-250 DC	0.34
FMV5L/UNV34	347-440 VAC, 50/60 Hz	0.13
FMV7L/UNV1	100-277 VAC, 50/60 Hz	0.62
	108-250 VDC	0.65
FMV7L/UNV1	100-240 AC 50/60 Hz	0.56
	127-250 DC	0.46
FMV7L/UNV34	347-440 VAC, 50/60 Hz	0.17
FMV9L/UNV1	100-277 VAC, 50/60 Hz	0.42
	108-250 VDC	0.43
FMVA9L/UNV1	100-240 AC 50/60 Hz	0.78
	127-250 DC	0.70
FMV9L/UNV34	347-440 VAC, 50/60 Hz	0.23
FMV11L/UNV1	100-277 VAC, 50/60 Hz	0.96
	108-250 VDC	0.39
FMVA11L/UNV1	100-240 AC 50/60 Hz	0.84
	127-250 DC	0.84
FMV11L/UNV34	347-440 VAC, 50/60 Hz	0.28



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Catalog Series/Voltage Suffix	Input Ratings	
	Voltage	Current (A)
FMV13L/UNV1	100-277 VAC, 50/60 Hz	1.33
	108-250 VDC	1.37
FMVA13L/UNV1	100-240 AC 50/60 Hz	0.95
	127-250 DC	0.95
FMV13L/UNV34	347-440 VAC, 50/60 Hz	0.32
FMV15L/UNV1	100-277 VAC, 50/60 Hz	1.36
	108-250 VDC	1.39
FMVA15L/UNV1	100-240 AC 50/60 Hz	1.12
	127-250 DC	1.12
FMV15L/UNV34	347-440 VAC, 50/60 Hz	0.27
NFMV20L/UNV1	100-277 VAC, 50/60 Hz	1.76
	127-300 VDC	1.37
NFMV20L/UNV34	347-440 VAC, 50/60 Hz	0.52
NFMV25L/UNV1	100-277 VAC, 50/60 Hz	2.18
	127-300 VDC	1.74
NFMV25L/UNV34	347-440 VAC, 50/60 Hz	0.63
NFMV40L/UNV1	100-277 VAC, 50/60 Hz	3.35
	127-300 VDC	2.67
NFMV40L/UNV34	347-440 VAC, 50/60 Hz	1.24
NFMV50L/UNV1	100-277 VAC, 50/60 Hz	4.14
	127-300 VDC	3.22
NFMV50L/UNV34	347-440 VAC, 50/60 Hz	1.54

Table 3 – FMVA3L to FMVA15L Driver Specification

Driver Model Numbers and Ratings					
Item No.	Manufacturer	Manufacturer Part Number	Input Rating	Output Rating	Catalog Usage
1	Inventronics Inc.*	EUD-060S120DT-FTxx	100-240 VAC; 50/60Hz 127-250 VDC	25-86 VDC 1.2 A	FMVA3L to FMVA7L UNV1
2	Inventronics Inc.*	EUD-096S105DTAFTxx	100-240 VAC; 50/60 Hz 127-250 VDC	48-137 VDC, 1.05 A	FMVA9L to FMVA15L UNV1

\* - Driver is certified under IECEX TPS 19.0009U; Ex mb IIC.

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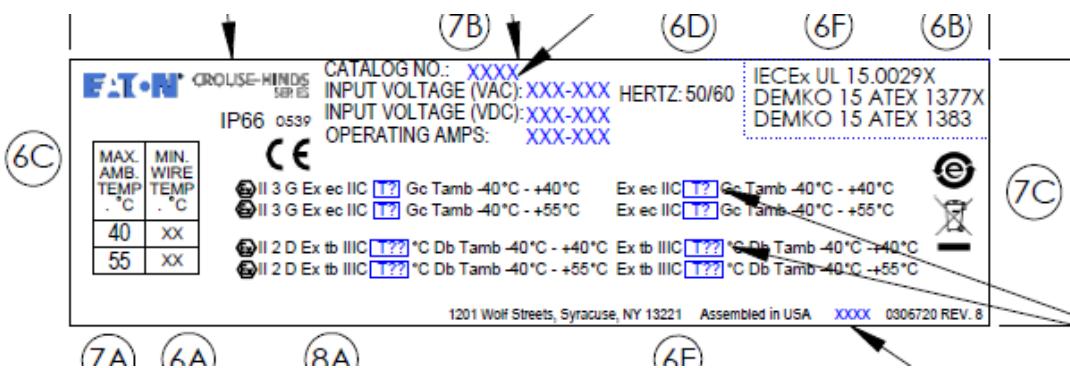
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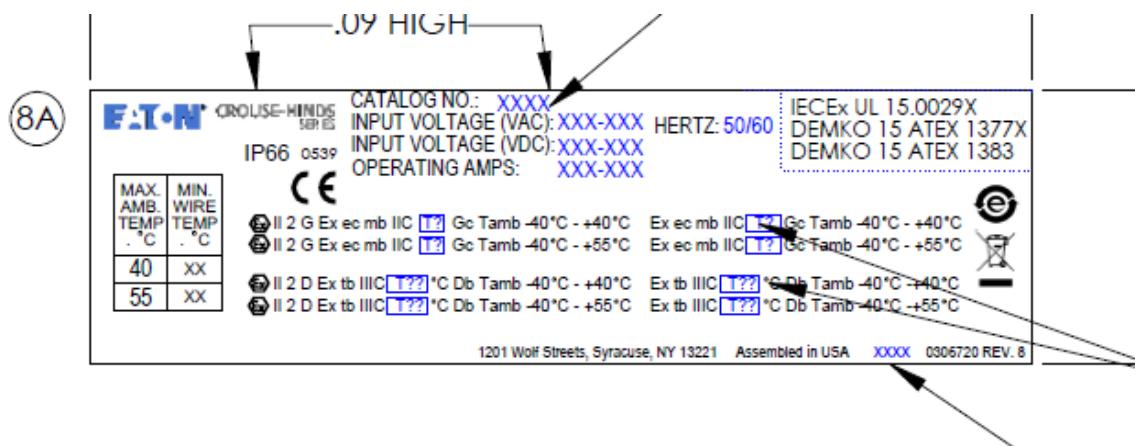
## MARKING

Marking has to be readable and indelible; it has to include the following indications:

### Models FMV/NFMVA:



### Models FMVA3L to FMVA15L:



## ROUTINE EXAMINATIONS AND TESTS

Routine dielectric testing is to be performed on the FMV models as follows per 7.1 of IEC 60079-7:

1. Input Wiring of Driver and Enclosure: 1500 VAC for 60s or 1800 VAC for 100ms.
2. LED PCB: Between input wiring of LED array and aluminum substrate, voltage of 500 VAC for 60s or 600 VAC for 100ms.
3. LED PCB : Between input wiring of LED array and aluminum substrate, voltage of 1500 VAC for 60s or 1800 VAC for 100ms.

OR

Routine dielectric testing is to be performed on the FMV models per the relevant industrial standard UL 1598.



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## LIST OF CERTIFIED COMPONENTS

The following additional previous editions of Standards noted under the "Standards" section of this Certificate were applied to integral Components as itemized below. There are no significant safety related changes between these previous editions and the editions noted under the "Standards" section.

Product	Certificate Number	Standards
Cable Gland, Part Nos. ADE 1F No. 6 M20, ADE 1F No. 6 M25 and ADE 1F No. 6 ¾, manufactured by Crouse-Hinds by Eaton – Cooper Capri S.A.S	IECEx INE 12.0025X	IEC 60079-0:2011 IEC 60079-1:2014-06 IEC 60079-7: 2015 IEC 60079-15:2010 IEC 60079-31: 2013
Stopping Plug, Part No. CY, manufactured by EX Innovations Limited Trading as Raxton	IECEx SIR 07.0009X	IEC 60079-0:2007-10 IEC 60079-1:2007-04 IEC 60079-7:2006-07 IEC 60079-31:2008