[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: **DEMKO 15 ATEX 1377X Rev. 7**

[4] Product: **Luminaires, Series FMV and NFMV**

[5] Manufacturer: **Eaton's Crouse-Hinds Business**

[6] Address: **1201 Wolf Street, Syracuse, NY 13208 USA**

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

[8] UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to 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 report no. **US/UL/ExTR15.0035/08**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013 **EN 60079-31:2014**

[10] If the sign "**X**" is placed after the certificate number, it indicates that the product 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 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 the certificate.

[12] The marking of the product shall include the following:

II 2 D Ex tb IIIC T65°C Db

II 2 D Ex tb IIIC T80°C Db

II 2 D Ex tb IIIC T81°C Db

II 2 D Ex tb IIIC T94°C Db

Certification Manager
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2015-06-04
Re-issued: 2021-03-17

Notified Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

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Schedule
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[15] Description of Product

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

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.

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

Nomenclature for Series FMV

The complete luminaire catalog number is as follows:

Example:

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. Indicates series
FMV – LED Floodlight

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 HID equivalent
25L – 1000W HID equivalent
40L – 1500W HID equivalent
50L – 2000W HID 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 (FMV3L to FMV15L)
/UNV1 – 100-240 Vac, 50/60 Hz; 127-250 Vdc (FMVA3L to FMVA15L)
/UNV1 – 100-277 Vac, 50/60 Hz; 127-300 VDC (20L to 50L)
/UNV34 - 347-440 Vac, 50/60 Hz

VIII. Indicates internal optical distribution
33 – NEMA 3X3 Beam Spread
76 – NEMA 7X6 Beam Spread NEMA

IX. Indicates entries
BLANK – ¾" NPT
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 certification type

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XI. Indicates paint
Blank – Gray
BZ – Bronze
WH – White

XII. Indicates optional accessories
DSV2 – Bolt-on Visor
P62 – Bolt – on Wire Guard

Performance testing
The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is not covered in this certificate.

Temperature range
The relation between ambient temperature and the assigned temperature class is as follows:

Catalog Series	Ambient temperature range	Temperature class (Db)
FMV3L to FMV15L and FMVA3L to FMVA15L	-40 °C to +40 °C	T65°C
FMV3L to FMV15L and FMVA3L to FMVA15L	-40 °C to +55 °C	T80°C
NFMVA20L to NFMVA50L	-40 °C to +40 °C	T81°C
NFMVA20L to NFMVA50L	-40 °C to +55 °C	T94°C

Electrical data

Catalog Series/Voltage Suffix	Input Ratings	
	Voltage	Current (A)
FMV3L/UNV1	100-277 VAC 50/60 Hz	0.28
	108-250 VDC	0.28
FMVA3L/UNV1	100-240 AC 50/60 Hz	0.27
	127-250 DC	0.23
FMV3L/UNV34	347-440 VAC 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
FMVA7L/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
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

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Catalog Series/Voltage Suffix	Input Ratings	
	Voltage	Current (A)
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

Routine tests
None

[16] Descriptive Documents
The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

[17] Specific conditions of use:
"Warning – To avoid explosion: To minimize the risk from electrostatic discharge, when cleaning, wipe the lens with a clean, damp cloth."

[18] Essential Health and Safety Requirements
The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information
The Series FMV has in addition passed the tests for Ingress Protection to IP 66 in accordance with EN60529:1991+A1:2000+A2:2013.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.

The trademark EATON CROUSE-HINDS SERIES will be used as the company identifier on the marking label.

[1] # TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**

[3] Type Examination Certificate Number: **DEMKO 15 ATEX 1383 Rev. 7**

[4] Product: **Luminaires, Series FMV and NFMV**

[5] Manufacturer: **Eaton's Crouse-Hinds Business**

[6] Address: **1201 Wolf Street, Syracuse, NY 13208 USA**

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

[8] UL International Demko A/S certifies that this 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 Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in confidential report no. **US/UL/ExTR15.0035/08.**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2012+A11:2013 **EN IEC 60079-7: 2015 + A1:2018** **EN 60079-18: 2015 + A1:2017**

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign "**X**" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

[11] This Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.

[12] The marking of the product shall include the following:

II 3 G Ex ec IIC T5 Gc

II 3 G Ex ec mb IIC T5 Gc

II 3 G Ex ec IIC T4 Gc

II 3 G Ex ec mb IIC T4 Gc

Certification Manager
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2015-06-04
Re-issued: 2021-03-17

Certification Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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[15] Description of Product:

Series FMV and NFMV 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. See nomenclature for additional details.

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 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'.

Nomenclature for Series FMV:

The complete luminaire catalog number is as follows:

Example:

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. Indicate series
FMV – LED Floodlight

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 HID equivalent
25L – 1000W HID equivalent
40L – 1500W HID equivalent
50L – 2000W HID 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 (FMV3L to FMV15L)
/UNV1 – 100-240 Vac, 50/60 Hz; 127-250 Vdc (FMVA3L to FMVA15L)
/UNV1 – 100-277 Vac, 50/60 Hz; 127-300 Vdc (20L to 50L)
/UNV34 - 347-440 Vac, 50/60 Hz

VIII. Indicates internal optical distribution
33 – NEMA 3x3 Beam Spread
76 – NEMA 7x6 Beam Spread

IX. Indicates entries
Blank – ¾" NPT
M20 – 20 mm Entry
M25 – 25 mm Entry

X. Indicates options
Blank – Tempered Clear Glass Window
S891 – Tempered Diffused Glass Window
S903 – Polycarbonate Lens Window
BR - Other certification type

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XI. Indicates paints
Blank – Gray
BZ – Bronze
WH – White

XII. Indicates optional accessories
DSV1 – Bolt-on Visor
P62 – Bolt-on Wire Guard

Performance testing
The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 2) to the scope of EN 60079-28:2015.

Temperature range
The relation between ambient temperature and the assigned temperature class is as follows:

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

Electrical data

Catalog Series/Voltage Suffix	Input Ratings	
	Voltage	Current (A)
FMV3L/UNV1	100-277 VAC 50/60 Hz	0.28
	108-250 VDC	0.28
FMVA3L/UNV1	100-240 AC 50/60 Hz	0.27
	127-250 DC	0.23
FMV3L/UNV34	347-440 VAC 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
FMVA7L/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

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Catalog Series/Voltage Suffix	Input Ratings	
	Voltage	Current (A)
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
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

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 TPS 19 ATEX 079136 0266U; Ex mb IIC.

Routine tests

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

1. Input Wiring of Driver and Enclosure (FMVA): 1500 VAC for 60s or 1800 VAC for 100ms.
2. LED PCB (FMV): Between input wiring of LED array and aluminum substrate, voltage of 500 VAC for 60s or 600 VAC for 100ms.
3. LED PCB (FMV): 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 FMVA models per the relevant industrial standard UL 1598.

[16] Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this Type Examination Certificate.

[17] Special Conditions of Use:

None

[18] Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

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Additional information

The Series FMV has in addition passed the tests for Ingress Protection to IP 66 in accordance with EN60529:1991+A1:2000+A2:2013.

The trademark EATON CROUSE-HINDS SERIES will be used as the company identifier on the marking label.