



# 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 NEP 21.0020X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2021-09-23

Applicant: **Cooper Electric (Changzhou) Co., Ltd.**  
No.189 Liuyanghe Road, Xinbei District, Changzhou, 213031, Jiangsu  
China

Equipment: **VLL Series LED Explosion-protected Lighting Fixture Model VLL\*\*\*\*\***

Optional accessory:

Type of Protection: **Ex db, eb, ib, mb, tb**

Marking: Ex db eb mb IIC T6...T5 Gb (Normal version with safety switch)  
Ex eb mb IIC T6...T5 Gb (Normal version without safety switch)  
Ex db eb mb ib IIC T6...T5 Gb (Emergency version with safety switch)  
Ex eb mb ib IIC T6...T5 Gb (Emergency version without safety switch)  
Ex tb IIIC T80°C Db  
Ta: -40°C ~+40°C /55°C for Normal version  
-25°C ~+40°C /50°C for EM version

Approved for issue on behalf of the IECEx  
Certification Body:

**Guo Aihua**

Position:

**General Manager**

Signature:  
(for printed version)

Date:

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\_\_\_\_\_

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Certificate issued by:

**Shanghai Inspection and Testing Institute of Instruments  
and Automatic Systems Co., Ltd. (SITIIS)/  
National Supervision and Inspection Center for Explosion  
Protection and Safety of Instrumentation (NEPSI)  
103 Cao Bao Road  
Shanghai 200233  
China**



**SITIIS**  
Worldwide Access



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Manufacturer: **Cooper Electric (Changzhou) Co., Ltd.**  
No.189 Liuyanghe Road, Xinbei District, Changzhou, 213031, Jiangsu,  
**China**

Additional manufacturing locations:

<b>Eaton Industries Middle East LLC</b>	<b>Cooper Crouse-Hinds S.A.</b>
2nd Industrial City	Avda. de Santa Eulàlia 290
Dammam	08223 Terrassa, Barcelona
Eastern Province	<b>Spain</b>
KHOBAR 31952 (PO Box 3996)	
<b>Saudi Arabia</b>	

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 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

**IEC 60079-11:2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
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 60079-7:2015** Explosive atmospheres – Part 7: Equipment protection by increased safety "e"  
Edition:5.0

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 Report:

[CN/NEP/ExTR21.0021/00](#)

Quality Assessment Reports:

[DE/BVS/QAR13.0001/07](#)

[GB/BAS/QAR07.0041/10](#)

[GB/BAS/QAR16.0002/03](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

VLL series of luminaires are designed mainly as per Ex e and Ex tb concepts, it is suitable for use in hazardous location classified as Zone 1, Zone 2, Zone 21, Zone 22. The Ex marking for the final product may change due to the different components installed inside.

The luminaire consists of main body housing assy and plastic cover assy and buckles to fix together.

There are certified drivers, certified LED modules, reflector, certified terminal blocks and certified safety switches mounted inside.

There are two sizes of the luminaire, small size for 3L type and another size is for 5L & 7L type.

The LED module is fixed to reflector, 3L type has one LED module, and 5L & 7L type have two LED modules.

There will have two certified terminal blocks for through wiring.

Ex d Safety switch is optional, there could be none, one or two safety switches options.

For emergency type, one inverter and battery and terminal will be added.



There are two or four entries of each luminaire. All entries shall be sealed with certified glands or plugs or breather to maintain the degree of protection.

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

1. Do not open when an explosive atmosphere is present.
2. Potential electrostatic charging hazard see instructions.
3. Do not transport through a hazardous area.
4. Replacement of the battery can be done only by the manufacturer staff or the persons on behalf of the manufacturer.
5. Proper separately certified cable glands or plugs or breather complying with IEC 60079-0, IEC 60079-7, IEC 60079-31 should be applied during the installation.

## Annex:

[IECEx NEP 21 0020X Annex.pdf](#)

<b>Shanghai Inspection and Testing Institute of Instruments and Automatic Systems Co., Ltd. (SITIAs)</b> <b>National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI)</b> <b>103 Cao Bao Road, Shanghai 200233, China</b>	 
<b>Annex to IECEx Certificate of Conformity of IECEx NEP 21.0020X Issue No.0</b>	

**General product information:**

VLL	-U	-5L	-57	-EM1	-1/6-220	-N
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) VLL = Zone 1 GRP Liner LED

(2) Default = 100-240Vac 50/60Hz; 108 - 250Vdc

U = Universal AC 100-277Vac 50/60Hz; 125 - 300Vdc (W/O Safety Switch)

= Universal 100-250Vac 50/60Hz; 125 - 250Vdc (With Safety Switch) ;

(3) 3L = 3000Lm;

5L = 5000Lm;

7L = 7000Lm;

(4) 30 = 3000K;

40 = 4000K;

50 = 5000K;

57 = 5700K;

(5) Blank = Non-Emergency;

EM1= 25% output 1.5h;

EM2= 25% output 3.0h;

(6) 1/6-125 = Single-ended 2xM25;

2/6-225 = Through wiring 2xM25;

1/6-120 = Single-ended 2xM20;

2/6-220 = Through wiring 2xM20;



(7) Default = With Safety Switch

N = W/O Safety Switch

The following tables are the detail parameters for different models,

Catalog No.	System Power	Driver		INVERTOR	LED module	Safety switch	BATTERY	LED Qty	Gas		Dust (°C)		
									-40°C~40°C	-40°C~55°C		55°C	
VLL-3L-**-***	25W	ECHD30C300 (IECEX NEP 19.0001U)		N/A	IECEX NEP 21.0014U	IECEX CQM 16.0018U	N/A	52	T6	T5	80		
		Input	Output										
		100-240Vac 50/60HZ, 108-250Vdc	72-100Vdc										
VLL-5L-**-***	50W	ECHD60C600 (IECEX NEP 19.0001U)		N/A			N/A	104	T6	T5	80		
		Input	Output										
		100-240Vac 50/60HZ, 108-250Vdc	70-100Vdc										
VLL-7L-**-***	58W	ECHD60C600 (IECEX NEP 19.0001U)		N/A			N/A	120	T6	T5	80		
		Input	Output										
		100-240Vac 50/60HZ, 108-250Vdc	70-100Vdc										
VLL-3L-**-EM*-***	29W	ECHD30C300 (IECEX NEP 19.0001U)		ECHCI30/075-S (IECEX NEP 19.0002U)			9.6V 3Ah Ni-Cd	52	T6	T5	80		
		Input	Output	Input								Output	
		100-240Vac 50/60HZ, 108-250Vdc	72-100Vdc	100-240Vac 50/60HZ, 108-250Vdc								72-100Vdc	
VLL-5L-**-EM*-***	57W	ECHD60C600 (IECEX NEP 19.0001U)		ECHCI60/150-S (IECEX NEP 19.0002U)			9.6V 3Ah Ni-Cd/ 9.6V 6Ah Ni-Cd	104	T6	T5	80		
		Input	Output	Input								Output	
		100-240Vac 50/60HZ, 108-250Vdc	70-100Vdc	100-240Vac 50/60HZ, 108-250Vdc								70-100Vdc	
VLL-7L-**-EM*-***	63W	ECHD60C600 (IECEX NEP 19.0001U)		ECHCI60/150-S (IECEX NEP 19.0002U)			9.6V 3Ah Ni-Cd/ 9.6V 6Ah Ni-Cd	120	T6	T5	80		
		Input	Output	Input								Output	
		100-240Vac 50/60HZ, 108-250Vdc	70-100Vdc	100-240Vac 50/60HZ, 108-250Vdc	70-100Vdc								

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Catalog No.	System Power	Driver			LED module	Safety switch	LED Qty	Gas		Dust (°C)				
								-40°C~40°C	-40°C~55°C	55°C				
VLL-U-3L-**-***-*	25W	MU025HyAQ_MB/z (IECEX TPS 21.0023U)			IECEX NEP 21.0014U	IECEX COM 16.0018U	40	T6	T5	80				
		Input	Output	100% of rated output load										
		100-277Vac 50/60Hz, 125-300Vdc	700mA 18-48Vdc	▲T=2.2										
VLL-U-5L-**-***-*	48W	MU060HyAQ_MB/z (IECEX TPS 21.0024U)					IECEX NEP 21.0014U	IECEX COM 16.0018U	80	T6	T5	80		
		Input	Output	80% of rated output load										
		100-277Vac 50/60Hz, 125-300Vdc	24-86Vdc	▲T=11.16										
VLL-U-7L-**-***-*	58W	MU060HyAQ_MB/z (IECEX TPS 21.0024U)							IECEX NEP 21.0014U	IECEX COM 16.0018U	104	T6	T5	80
		Input	Output	90% of rated output load										
		100-277Vac 50/60Hz, 125-300Vdc	24-86Vdc	▲T=8.72										