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

Certificate No.: **IECEx TSA 21.0013X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2022-03-02

Applicant: **Shenzhen Clear Lighting Co., Ltd.**
901#, 9F, Unit B, Block B(South Area), Zhuoyue Meilin Center Plaza, Meilin Road, Meilin Street, Futian District
Shenzhen City, Guangdong Province 518049
China

Equipment: **LED Flexible Strip Light. Model mb-F2010 series**

Optional accessory:

Type of Protection: **Encapsulation "mb"**

Marking: Ex mb I Mb

Ex mb IIC T6 Gb

Ex mb IIIC T80°C Db

-30°C ≤ Ta ≤ 40 °C

Approved for issue on behalf of the IECEx Certification Body: **Ujen Singh**

Position: **Quality & Certification Manager**

Signature:
(for printed version)

Date:
(for printed version) 02 March 2022

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TestSafe Australia
919 Londonderry Road
Londonderry NSW 2753
Australia

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Shenzhen City, Guangdong Province 518049
China

Manufacturing locations: **Huizhou Clear Lighting Co., Ltd.**
Clear lighting production base,Tiantou village,Shatian town,Huiyang district,
Huizhou 516200
China

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

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 Report:

AU/TSA/ExTR21.0027/00

Quality Assessment Report:

DE/TPS/QAR19.0011/02

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Safeglo Ex flexible strip light (Model: mb-F2010b-ccccV-dd-eee-fffM-gggW series, mb-F2010 series is for short) has been designed for use in potentially hazardous and explosive atmospheres, Safeglo Ex mb-F2010 series is certified to be used in Gas and Dust in accordance with the ATEX Directive 2014/34/EU and, IEC Ex International regulation.

Safeglo Ex mb-F2010 series is an innovative range of LED hazardous area lighting products which have a long life span, low energy consumption, are highly efficient and suitable for use in industrial lighting applications that have either gas or dust potentially explosive environments, for example oil & gas facilities, and petrochemical plants, etc. The Safeglo Ex mb-F2010 series can be used for lighting large areas or specific equipment areas, and the Red/Green/Amber versions are highly suited for use as part of a safety system.

Safeglo Ex mb-F2010 series is fully encapsulated with silicone that has high transparency, has excellent Anti-UV performance, operates at low/high temperatures and is low maintenance. Safeglo Ex mb-F2010 series is assembled with injection moulded connectors to achieve IP67 water ingress protection, it's flexibility enables varied installation options, and it can installed in very long continuous lengths.

Input parameters:
Um = 24 VDC, 36 VDC and 48 VDC (Depend on models number).

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The ambient temperature range is from -30 ºC to +40 ºC applying for mb-F2010 series;
2. The equipment shall be protected from impacts when installed in a high risk of mechanical danger.

Annex:

Annexe for IECEx TSA 21.0013X.pdf

IECEx Certificate of Conformity Annexe

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Equipment description continue:

Model designation:

aa - F2010 b - cccc V - dd - eee - fff M - ggg W

I II III IV V VI VII VIII IX X XI

Remark: a, b, c, d, e, f and g are variables I -- Level of protection:

aa= mb

II -- Model designation:

F2010: Light body section size is W20*H10mm

III -- Typical light output
model: B: Single colour;

IV -- Input voltage:

cccc= DC 24, DC 36 or DC 48, when b=B(Single color);

V -- Unit of voltage: V

VI -- LED numbers per meter:

dd= 42, 56, 70 or 84 (when cccc= DC 24, b=B);

dd= 22, 44, 66 or 88 (when cccc = DC 36, b=B);

dd= 28, 56 or 84 (when cccc = DC 48, b=B);

Remark: Different LEDs per meter correspond to different powers per meter(W/M)

VII -- Light color

eee= W, R, G or A (when b=B);

Remark: W= white, R= Red, G= Green, A= Amber

VIII -- Lengths of light

fff are numbers, stand for lengths of light. The length is variable and the minimum step is 0.5.

The length of the light varies according to different EPL, input voltage(cccc), LED number per meter (ddd), and light color(eee):

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fff min.=0.5, fff max.=15, when aa=ma;

fff min.=0.5, fff max.=48, when aa=mb, b=B, cccc= DC 24; fff min.=0.5, fff max.=96, when aa=mb, b=B, cccc= DC 36; fff min.=0.5, fff max.=72, when aa=mb, b=B, cccc= DC 48; fff min.=0.5, fff max.=240, when aa=mb, b=S, cccc= DC 24; Remark: Details refer to "Model difference":

IX -- Unit of length M

X -- Powers of light

XI – Unit of power

ggg are numbers, stand for powers of light. The power is variable and correspond to light length.

The length of the light varies according to different EPL, input voltage(cccc), LED number per meter (ddd), and light color(eee):

ggg min.=2.5, ggg max.=180, when b=B, cccc= DC 24; ggg min.=1.25, ggg max.=180, when, b=B, cccc= DC 36; ggg min.=1.67, ggg max.=180, when b=B, cccc= DC 48.

Model: mb-F2010b-ccccV-dd-eee-fffM-gggW series:			
	dd stands for LED numbers per meter	eee stands for light color	gg stands for power of light, hh stands for length of light
b=B cccc = DC 48V	dd =84	eee =W	fff =0.5~20, step is 0.5 ggg =6~240, step is 6,
		eee=R,G or A	fff =0.5~24, step is 0.5 ggg =5~240, step is 5,
	dd =56	eee =W	fff =0.5~30, step is 0.5 ggg =4~240, step is 4,
		eee=R,G or A	fff =0.5~36, step is 0.5 ggg =3.25~240, step is 3.33,
	dd =28	eee =W	fff =0.5~60, step is 0.5 ggg =2~240, step is 2,
		eee=R,G or A	fff =0.5~72, step is 0.5 ggg =1.67~240, step is 1.67,
b=B	dd =88	eee =W	fff =0.5~20, step is 0.5 ggg =6~240, step is 6,

cccc = DC 36V		eee=R,G or A	fff =0.5~24, step is 0.5 ggg =5~240, step is 5,
	dd =66	eee =W	fff =0.5~26.5, step is 0.5 ggg =4.5~240, step is 4.5,
		eee=R,G or A	fff =0.5~32, step is 0.5 ggg =3.75~240, step is 3.75,
	dd =44	eee =W	fff =0.5~40, step is 0.5 ggg =3~240, step is 3,
		eee=R,G or A	fff =0.5~48, step is 0.5 ggg =2.5~240, step is 2.5,
	dd =22	eee =W	fff =0.5~80, step is 0.5 ggg =1.5~240, step is 1.5,
		eee=R,G or A	fff =0.5~96, step is 0.5 ggg =1.25~240, step is 1.25,
b=B cccc = DC 24V	dd =84	eee =W	fff =0.5~20, step is 0.5 ggg =6~240, step is 6,
		eee=R,G or A	fff =0.5~24, step is 0.5 ggg =5~240, step is 5,
	dd =70	eee =W	fff =0.5~24, step is 0.5 ggg =5~240, step is 5,
		eee=R,G or A	fff =0.5~28,5, step is 0.5 ggg =4.17~240, step is 4.17,
	dd =56	eee =W	fff =0.5~30, step is 0.5 ggg =4~240, step is 4,
		eee=R,G or A	fff =0.5~36, step is 0.5 ggg =3.33~240, step is 3.33,
	dd =42	eee =W	fff =0.5~40, step is 0.5 ggg =3~240, step is 3,
		eee=R,G or A	fff =0.5~48, step is 0.5 ggg =2.5~240, step is 2.5,
	dd stands for LED numbers per meter	eee stands for light color	fff stands for length of light ggg stands for power of light,

IECEx Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEx TSA 21.0013X	Issue No.:	0

Drawing list pertaining to Issue 0 of this Certificate:

Drawing / Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
CL-WI-03107	1	BOM003137 F2010B DC24V-84	V1	2019/08/01
CL-WI-03109	1	BOM003143 F2010B DC36V-88	V1	2019/08/01
CL-WI-03112	1	BOM003152 F2010B DC48V-84	V1	2019-08-01
CL-D-YF/02-Ex-FPC-009	1	Drawing Electric Schematic Diagrams_ Ex-ma mb op is-F2010B series DC	V1	2019/09/25
CL-D-YF/02-Ex-FPC-001	1	Drawing Layout Diagrams Ex-ma mb op is-F2010B series AC/DC24V	V1	2019/09/25
CL-D-YF/02-Ex-FPC-003	1	Drawing Layout Diagrams Ex-ma mb op is-F2010B series AC/DC36V	V1	2019/09/25
CL-D-YF/02-Ex-FPC-002	1	Drawing Layout Diagrams Ex-ma mb op is-F2010B series AC/DC48V	V1	2019/09/25
CL-WI-10055	6	Compound specification-1 (FST-70, FST-90)	V1	2019/09/25
CL-D-YF/02-F2010-001	1	Drawing moulding dimension Ex-ma op is/mb op is-F2010 series	V1	2019/10/11
CL-D-YF/02-F2010-013	1	Drawing Section Size Ex-ma op is-F2010B/F2010S series	V1	2019/10/11
CL-D-YF/02-F2010-002	1	Drawing Section Size Ex-mb op is-F2010B/F2010S series	V1	2019/10/11
CL-D-YF/02-Ex-FPC-020	1	Drawing_Label Printing Ex-mb-F2010 series (AU)	V0	2022-02-17
CL-WI-03053	15	Instruction	V0	2021-09-03
CL-D-YF/02-Ex-FPC-021	1	Drawing_Unit number VS Led numbers per meter_Ex-mb-F2010 series	V0	2022-02-24

Note: All drawings are new.

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