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

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEx KTL 19.0027U** Page 1 of 3 Certificate history:

Status: **Current** Issue No: 0

Date of Issue: 2019-10-10

Applicant: **SUNIL ELECOMM CO., LTD.**
21-19, Jangsu-ro 342beon-gil, Jangsu-myeon, Yeongju-si, Gyeongsangbuk-do, Korea
Korea, Republic of

Ex Component: LED array, EXLED LL ***S-*

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Equipment protection by encapsulation "m"**

Marking: Ex mb IIC Gb

Ex mb IIIC Db

Approved for issue on behalf of the IECEx Certification Body: **Park Jong-koo**

Position: **Certification Manager**

Signature: (for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Korea Testing Laboratory
87, Digital-ro, 26-gil, Guro-gu
Seoul
Korea, Republic of

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Certificate No.: **IECEx KTL 19.0027U**

Date of issue: 2019-10-10 Issue No: 0

Manufacturer: **SUNIL ELECOMM CO., LTD.**
21-19, Jangsu-ro 342beon-gil, Jangsu-myeon, Yeongju-si, Gyeongsangbuk-do, Korea
Korea, Republic of

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

IEC 60079-18:2014 Explosive atmospheres – Part 18: Equipment protection by encapsulation “m”
Edition:4.0

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:

KR/KTL/ExTR19.0028/00

Quality Assessment Report:

KR/KTL/QAR18.0004/00

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Ex Component(s) covered by this certificate is describe below:

The LED array is constructed of LEDs connected in series and mounted on the printed circuit board. Two types of LEDs can be applied. The type of designation is divided by wattage and LED type. The LEDs are encapsulated with a clear encapsulant.

Operating temperature
-40 °C ~ +85 °C

Model configuration
Refer to the annex

SCHEDULE OF LIMITATIONS:

Refer to the annex.

Annex:

Annex to Annex to IECEx KTL 19.0027U(issue0).pdf

[Annex to IECEx KTL 19.0027U(issue0)]

EXLED a - b

Symbol	Description	Option	
a	Lamp type	LL 182S	20 W
		LL 362S	40 W
b	LED type	None	LED manufactured by SAMSUNG
		L	LED manufactured by LG Innotek

Schedule of limitations

1. Operating temperature range: -40 °C to 85 °C.
2. LED array shall be mounted inside the certified enclosure with the protection type listed in IEC 60079-0.
3. When it is installed in the Ex e enclosures, creepage distance and clearance shall be taken into account.
4. LED array can be supplied by the certified LED driver with the same ratings with LED array. Further considerations are following:
   - The supply circuit must include a protective device that limits the current to 0.535 mA, or
   - The supply circuit must include a electrical fuse with maximum rated current of 0.315 mA, corresponding rated voltage, and capable to withstand the prospective short-circuit fault current of 1500 A.
5. Temperature class shall be determined in the end use application by taking the temperature rises at the fault condition into account:

- EXLED LL 182S is 35.0 K
- EXLED LL 182S-L is 43.7 K
- EXLED LL 362S is 40.1 K
- EXLED LL 362S-L is 50.2 K