



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 CML 14.0001**

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Certificate history:

Status: **Current**

Issue No: 17

[Issue 16 \(2024-04-16\)](#)

[Issue 15 \(2023-09-29\)](#)

[Issue 14 \(2022-09-02\)](#)

[Issue 13 \(2020-10-09\)](#)

[Issue 12 \(2020-02-06\)](#)

[Issue 11 \(2018-02-20\)](#)

[Issue 10 \(2017-10-12\)](#)

[Issue 9 \(2017-09-22\)](#)

[Issue 8 \(2017-04-04\)](#)

[Issue 7 \(2016-09-02\)](#)

Date of Issue: 2024-12-06

Applicant: **Raytec Ltd**
Unit 15 Wansbeck Business Park
Rotary Parkway
Ashington
Northumberland
NE63 8QW
United Kingdom

Equipment: **Spartan SPX Luminaires**

Optional accessory:

Type of Protection: **Flameproof Ex "db", Increased Safety Ex "eb", Encapsulated Ex "mb", Dust Enclosure Ex "tb",**

Marking: Ex eb mb IIC T6 Gb or
Ex eb mb IIC T5 Gb or
Ex eb mb IIC T5/T4 Gb
Ex tb III C T82°C Db

Up to -52°C to +55°C (dependant on model)

See Annex for full marking and temperature ranges.

Approved for issue on behalf of the IECEx
Certification Body:

Ben Trafford

Position:

Certification Officer

Signature:
(for printed version)

Date:
(for printed version)

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:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





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Date of issue: 2024-12-06

Issue No: 17

Manufacturer: **Raytec**
Unit 15 Wansbeck Business Park
Rotary Parkway
Ashington
Northumberland
NE63 8QW
United Kingdom

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 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[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:

[GB/CML/ExTR14.0001/00](#)
[GB/CML/ExTR17.0163/00](#)
[GB/CML/ExTR22.0196/00](#)
[GB/CML/ExTR24.0228/00](#)

[GB/CML/ExTR14.0006/00](#)
[GB/CML/ExTR17.0178/00](#)
[GB/CML/ExTR23.0216/00](#)

[GB/CML/ExTR17.0160/00](#)
[GB/CML/ExTR20.0007/00](#)
[GB/CML/ExTR24.0053/00](#)

Quality Assessment Report:

[GB/SIR/QAR13.0018/12](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The SpartanSPX FL** luminaire is a range of LED luminaires. There are three sizes available in the range FL12 (Small) FL24 (Medium) and FL48 (Large). All size enclosures are offered as LV (Low Voltage); rated at 18V -48V AC / 18V -68V DC or HV (High Voltage); rated at 110V – 254 V AC or ELV (Extra Low Voltage); rated at 12V AC or DC. The HV luminaires may be supplied with a battery pack and inverter to enable operation in 'emergency' mode. When using The Extended Input Voltage Universal Power Supply or the DALI dimmable Universal Power Supply, the Spartan SPX FL** luminaires are rated at 110 to 277 V.

See Annex for full description and Conditions of Manufacture

SPECIFIC CONDITIONS OF USE: NO

See certificate Annex for specific condition of safe use.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

1. To introduce an alternate light engine

Annex:

[IECEx CML 14.0001 Issue 17 Annex \(1\).pdf](#)

Annexe to: IECEx CML 14.0001 Issue 17

Applicant: Raytec Ltd.

Apparatus: Spartan SPX FL** Luminaire

Marking

Spartan Power Supply

FL** Versions



II 2 G D

Ex eb mb IIC T5/T4 Gb

Ta = -52 °C to +55 °C

Ex eb mb IIC T6 Gb

Ta = -52°C to 48°C

Ex tb IIIC T82 °C Db

IP66 IP67

Ta = Up to -52 °C to +55 °C

BL** Versions



II 2 G D

Ex eb mb IIC T4 Gb

Ta = -52 °C to +55 °C

Ex eb mb IIC T5 Gb

Ta = -52°C to +48°C

Ex tb IIIC T98 °C Db

IP66 & IP67

Ta = -52 °C to +55 °C

BL** Emergency Version



II 2 G D

Ex eb mb IIC T5/T4 Gb

Ex tb IIIC T98 °C Db

IP66 IP67

Ta = -20°C to +46 °C

All Emergency variants have a lower ambient of -20°C only

Marking continued:

Sockets Fitted:



II 2 G D

Ex db eb mb IIC T6 Gb

Ex tb IIIC T82°C Db

Ta= Up to -20°C to +40°C*

Socket GHG 54** Fitted:



II 2 G

Ex db eb mb IIC T6 Gb

Ta= Up to -20°C to +40°C

*When alternative enclosure material version of GHG 5118*** socket is fitted ambient range increased -55°C to +55°C.

Universal Power Supply, Extended Input Voltage Universal PSU and DALI Dimmable Universal PSU

FL** Versions



II 2 G D

Ex eb mb IIC T4 Gb

Ex tb IIIC T82 °C Db

Ta = Up to -52 °C to +55 °C

IP66 IP67

BL** Versions



II 2 G D

Ex eb mb IIC T4 Gb

Ex tb IIIC T98 °C Db

Ta = Up to -52 °C to +55 °C

IP66 IP67

BL** Emergency Version



II 2 G D

Ex eb mb IIC T4 Gb

Ex tb IIIC T98 °C Db

Ta = -20°C to +46 °C

IP66 IP67



Certificate Annex IECEx
Version: 9.0 Approval: Approved

Description

The Spartan SPX FL** luminaire is a range of LED luminaires. There are three sizes available in the range FL12 (Small) FL24 (Medium) and FL48 (Large). All size enclosures are offered as LV (Low Voltage); rated at 18V - 48V AC / 18V – 68V DC or HV (High Voltage); rated at 110V – 254V AC or DC (when using the Universal Power Supply). When using The Extended Input Voltage Universal Power Supply or the DALI dimmable Universal Power Supply, the Spartan SPX FL** luminaires are rated at 110 to 277 V.

The ELV (Extra Low Voltage); rated at 12V AC or DC is also available. The HV luminaires may be supplied with a battery pack and inverter to enable operation in 'emergency' mode.

The luminaire enclosure comprises, front, centre, and rear cast aluminium housings that are fixed together with bolts. There are fixing points for a mounting bracket that enable the luminaire to be fixed in any orientation, alternative fixing points are also provided for additional mounting accessories.

Inside the centre housing there are two independent encapsulated power supplies (electronic control gear) and supply /connection terminal blocks. Cable entries are also present for the connection of mains electrical supply. Internal and external earth points are available. Alternatively, a single 700 mA encapsulated Universal Power Supply may be installed. The Universal Power Supply, rated at 110 – 254 V AC or DC, or 110 to 277 V AC or DC with the Extended Input Voltage Universal PSU and DALI dimmable Universal PSU, with a maximum power of 60 W. Any of the Universal Power Supply options may be installed in each of the FL24, FL48 and FL72 enclosures.

The front housing has a soda lime toughened glass lens that is available in clear or coloured options, Suitable for the portable/transportable variant an additional gasket is required to support the glass.

Internally the LED's are mounted onto two independent IMS PCBs which are attached to the rear heat sink, each PCB utilises twelve LED's which can be white, infra-red, coloured or a combination. Alternatively LED's are mounted on a single IMS PCB attached to rear heat sink with 96 LED's (arranged in 6 x clusters of 16 LED's) that are either white, infra-red, coloured or a combination.

The LED's must be fitted with individual optics, these optics are available in a range of beam patterns to suit the end user application. The LED's/optics are positioned in groups of four, each group of four is in turn covered with an individual clear polycarbonate cover which is then partially encapsulated.

Alternatively the LEDs/optics are positioned in groups of 16, each group of 16 is in turn covered with an individual clear polycarbonate cover which is then encapsulated.

The emergency version utilises a modified rear housing which incorporates a rechargeable battery pack, connection terminal block and encapsulated fuse. An optional encapsulated single green LED can be fitted to the wall of the centre housing which provides the end user with an indication that the emergency system is healthy.

The luminaire is available in three sizes, small, medium and large. The medium variant as described above, the small variant which only utilises one power supply/LED board and the larger variants which consist of a number of medium luminaires fixed together with unions and alternative mounting brackets.

The small, medium and large variants may all be fitted with an optional encapsulated photocell which is located in the wall of the centre housing positioned to suit the customer's application. Also on all variants a 'Vario' holographic diffuser film may be fitted behind the glass to give alternative light patterns. The front and middle/rear housing of the luminaires may be split to allow the LED assembly to be mounted remotely from the power supply/emergency enclosure.

An EMC filter module may be fitted as an optional extra, this is an additional encapsulated board, located in place of the terminal block bracket (when fitted).

A Spartan SPX FLT** transportable variant of the luminaire is available which consists of one of the luminaires above mounted in a sturdy frame and supplied with suitable cable and certified ATEX plugs and sockets.

A Bulkhead variant of the luminaire is available, the Spartan SPX BL24. Based on the FL24 floodlight it is modified to utilise a narrower enclosure and run at half of the power. It is offered as standard with the LV version, HV version or as HV emergency where it is supplied with a battery pack and inverter.

The BL24 is designed for wall mounting in any orientation using steel brackets at the back of the luminaire. The enclosure consists of a front cover and rear body and utilises the power supply, inverter, control board and modified light engine from the FL24. The BL luminaire can be offered as transportable and with an optional photo cell.

The FL 12, FL 24 and BL 24 are offered as portable variants FLP 12, FLP 24 and BLP 24.

The SPX range may be fitted with a selection of separately certified sockets mounted onto the back of the existing luminaire enclosures. When sockets are mounted onto the portable variants they are fitted with an essential carrying frame.

An optional replaceable antistatic lens film is available across the range.

The equipment may be fitted with alternative labels, when fitted with these labels, the equipment is marketed under the product range name HAZX Nero or WADCO BOSSE LED, carrying the following alternative model names:

Original Model Name	Alternative Model Name	Alternative Model Name
FL12	HAZ-NER-M	WBF34S
FL24	HAZ-NER-S	WBF68S
FL48	HAZ-NER-D	WBF136S
FL72	HAZ-NER-T	WBF204S
BL24	HAZ-NEB-S	WBF34S
FLP12	HAZ-NEP-M	
FLP24	HAZ-NEP-S	
BLP24	HAZ-NEP-B	
FLT24	HAZ-NET-S	

Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.
- ii. A dielectric strength test shall be carried out on all units manufactured in accordance with IEC 60079-7, clause 7.1 and IEC 60079-18, clause 9.2, at 1560 VAC for 1 minute, or alternatively at 1.2 times this test voltage for 100ms. Alternatively, a 1.4 times d.c. voltage dielectric strength test may be carried out. No breakdown shall occur. Tests shall be carried out between each circuit and earth and between each circuit and the surface of the encapsulated parts.
- iii. A visual inspection shall be carried out on the encapsulated parts to check for damage, in accordance with IEC 60079-18, clause 9.1.
- iv. When fitted with universal PSU module, equipment shall only be marked T4 for Gb applications.

Specific Conditions of Use

None

Components covered by Ex Certificates issued to older editions of Standards

None