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 17.0135**

Certificate history:
Issue 0 (2017-12-14)

Status: **Current**

Issue No: 1

Date of Issue: 2020-02-06

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

Equipment: **Spartan SPZ Floodlight/Bulkhead Luminaire**

Optional accessory:

Type of Protection: **increased safety, encapsulation, flameproof, dust protected**

Marking: Ex ec mc IIC T4 Gc

Ex tc IIIC T**°C Dc

Up to - 50 °C to +55 °C

See description for specific marking and ambient temperatures

Approved for issue on behalf of the IECEx Certification Body: **S. Roumbedakis**

Position: **Technical Manager**

Signature: (for printed version)

Date: 2020-02-06

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

IECEx Certificate of Conformity

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

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 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

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

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

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 Reports:

GB/CML/ExTR17.0186/00 GB/CML/ExTR20.0007/00

Quality Assessment Report:

GB/SIR/QAR13.0018/07

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

The Spartan SPZ Floodlight/Bulkhead Luminaire is a range of LED lighting.

The enclosures are constructed using front, centre, and rear cast aluminium housings fixed using bolts. The front housing has a soda lime toughened glass lens available in clear or coloured options. A 'Vario' holographic diffuser film may be fitted behind the glass to give alternative light patterns. An optional replaceable antistatic lens film may be fitted.

The centre housing has either 1 or 2 independent encapsulated power supplies (electronic control gear) and terminal blocks for supply and internal connections. LED's are mounted on one or two independent Insulated Metal Substrate (IMS) PCBs attached to rear heat sink. Each PCB has 12 LED's that are either white, infra-red, coloured or a combination. 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).

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. There are internal and external earth points.

See Annex for full description and Conditions of Manufacture

SPECIFIC CONDITIONS OF USE: NO

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Date of issue: 2020-02-06 Issue No: 1

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Refer to Certificate Annex

Annex:

IECEx CML 17.0135 Iss 1 Annex_1.pdf

Annexe to:	IECEx CML 17.0135 Issue 1
Applicant:	Raytec Ltd
Apparatus:	Spartan SPZ Floodlight/Bulkhead Luminaire

Description

The Spartan SPZ Floodlight/Bulkhead Luminaire is a range of LED lighting.

The enclosures are constructed using front, centre, and rear cast aluminium housings fixed using bolts. The front housing has a soda lime toughened glass lens available in clear or coloured options. A 'Vario' holographic diffuser film may be fitted behind the glass to give alternative light patterns. An optional replaceable antistatic lens film may be fitted.

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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. There are internal and external earth points.

The following variant types are available:

Fixed (FL)	Fixed installation with above construction for use with mounting bracket. Fixing points are used for mounting bracket for fixing in any orientation and for additional mounting accessories.
Bulkhead (BL)	Wall mounting in any orientation using rear mounted steel brackets. The enclosure uses a modified FL variant light engine and has reduced height enclosure that houses a single power supply.
Transportable (FLT and BLT)	Fixed (FL) or Bulkhead (BL) luminaires mounted in tubular frame with suitable cable and separately certified gland, plugs and sockets.
Portable (FLP and BLP)	Fixed (FL) or Bulkhead (BL) luminaires mounted in tubular frame with suitable cable and separately certified glands and, plugs and sockets.
Fixed Emergency (FL ..-EM)	Medium Fixed (FL) Floodlight with extended rear housing incorporating an additional rechargeable battery pack, connection terminal block and encapsulated fuse
Bulkead Emergency (BL ..-EM)	Medium Bulkhead (BL) incorporating a rechargeable battery pack, connection terminal block and encapsulated fuse.

The variants are available in the following configurations:

***12	Small Floodlight
***24	Medium Floodlight
***48	Large Floodlight (2 x Medium FL24 fitted together horizontally or vertically with unions and alternative support brackets).
***72	Extra Large Floodlight (3 x Medium FL24 fitted together horizontally or vertically with unions and alternative support brackets).

Unit 1, Newport Business Park
New Port Road
Ellesmere Port
CH65 4LZ

T +44 (0) 151 559 1160
E info@cmlex.com

www.cmlex.com

Company Reg No. 8554022 VAT No. GB163023642

Where *** = FL, BL, FLT, BLT, FLP or BLP variant and 12, 24, 48 and 72 are total the number of LED's

All variants may be fitted with an optional encapsulated photocell. The EM variants may be fitted with a battery indicator LED.

Cable entries are provided for connection of the electrical supply for use with suitably certified cable glands. Alternatively, optional separately certified sockets of the following types may be mounted onto the back of a alternate luminaire enclosure and the certified ambient range of the equipment is limited to that of the type of socket fitted. When sockets are mounted onto the portable variants they are fitted with an essential carrying frame.

Description	Ambient Range	Certification Code		Socket Certificate Numbers	
		Gas	Dust	ATEX	IECEx
ATX Appleton PC//EN Socket	-20ºC to +40ºC	II 2 G Ex db e mb IIC	II 2 D Ex tD A21 IP66	LCIE 02ATEX0001U	IECEx LCI 07.0012U
Cooper CH GHG 54** Socket	-20ºC to +40ºC	II 2 G Ex db eb IIC	N/A	BVS 14ATEXE131U	IECEx BVS 14.0089U
Cooper CH GHG 5118	-50ºC to +40ºC	II 2 G Ex db eb IIC	II 2 D Ex tb IIIC Db	BVS 15ATEXE101U	IECEx BVS 15.0088U
Cooper CH GHG 5118	-20ºC to +40ºC	II 2 G Ex db e mb IIC	N/A	PTB 99ATEX1040U	IECEx BKI 04.0002
Stahl 8572/15-***-*	-50ºC to +45ºC	II 2 G Ex db eb IIC Gb	II 2 D Ex tb IIIC Db	PTB 16ATEX1016U	IECEx PTB 16.0028U
Stahl 8573/15-***-*	-50ºC to +40ºC	II 2 G Ex db eb IIC Gb	II 2 D Ex tb IIIC Db	PTB 16ATEX1018U	IECEx PTB 16.0030U

When used, the equipment ambient temperature range will be limited to the type of socket fitted.

The enclosures are available with the following power supply:

HV (High Voltage);	110 to 280 Vac / 154 to 355 Vdc

The following power supplies are available as options:

LV (Low Voltage);	18 to 48 Vac / 18 to 69 Vdc
ELV (Extra Low Voltage) rated	12 Vac/ Vdc

The following certification codes are used for the different power supply options:

Code	Description	Ambient Range (No Certified Sockets fitted)	Certification Code		
			FL ** and BL **	FL **	BL **
HV	High Voltage 110 to 280 Vac 154 to 355 Vdc	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4	II 3 D Ex tc IIIC T82ºC	II 3 D Ex tc IIIC T98ºC
LV	Low Voltage 18 to 48 Vac, 18 to 69 Vdc	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4	II 3 D Ex tc IIIC T82ºC	II 3 D Ex tc IIIC T98ºC
ELV	Extra Low Voltage 12 Vac/ 12 Vdc	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4	II 3 D Ex tc IIIC T82ºC	II 3 D Ex tc IIIC T98ºC
HV- ...-EM	High Voltage 110 to 280 Vac 154 to 355 Vdc Emergency Variants with Battery Pack	-20 ºC to +55 ºC	II 3 G Ex ec mc IIC T4	II 3 D Ex tc IIIC T82ºC	II 3 D Ex tc IIIC T98ºC

The following variant are covered by this certification

Code	Description	Ambient Range (No Certified Sockets fitted)	Certification Code		Mounting Frame Required
FL12	Fixed Lighting - Small Floodlight	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	NO
FL24	Fixed Lighting - Medium Floodlight	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	NO
FL48	Fixed Lighting - Large Floodlight	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	NO
FL72	Fixed Lighting - Extra Large Floodlight	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	NO
BL24	Fixed Lighting - Small Bulkhead	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T98°C Dc	NO
FLT12	Transportable Lighting - Small Floodlight	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	NO
FLT24	Transportable Lighting - Medium Floodlight	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	NO
FLT48	Transportable Lighting - Large Floodlight	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	YES

Code	Description	Ambient Range (No Certified Sockets fitted)	Certification Code		Mounting Frame Required
FLT72	Transportable Lighting - Extra Large Floodlight	-50ºC to +55ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	YES
BLT24	Transportable Lighting - Small Bulkhead	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T98°C Dc	NO
FLP12	Portable Lighting Small Floodlight	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	NO
FLP24	Portable Lighting - Medium Floodlight	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	NO
BLP24	Portable Lighting - Small Bulkhead	-50 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T98°C Dc	NO
FL24-..-EM	Fixed Lighting - Emergency Floodlight	-20 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T82°C Dc	YES
BL24-..-EM	Fixed Lighting - Bulkhead Emergency	-20 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T98°C Dc	YES
FL24-..-LV	Fixed Lighting - Low Voltage	-20 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T98°C Dc	YES
BL24-..-LV	Fixed Lighting - Bulkhead Low Voltage	-20 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T98°C Dc	YES
FL24-..-ELV	Fixed Lighting - Extra Low Voltage	-20 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T98°C Dc	YES
BL24-..-ELV	Fixed Lighting - Bulkhead Extra Low Voltage	-20 ºC to +55 ºC	II 3 G Ex ec mc IIC T4 Gc	II 3 D Ex tc IIIC T98°C Dc	YES

Conditions of Manufacture

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

1. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate. A copy of the certificate and instructions for each separately certified part installed within the equipment shall be provided as part of the document pack with each arrangement supplied.

2. The manufacturer shall fit only the certified Ex Components listed in the Equipment Description in accordance with the certification documentation and the manufacturer's ratings and instructions. All Special Conditions of Certification/ Special Conditions for Safe Use/ Schedule of Limitations must be satisfied for each part fitted.

3. A dielectric strength test shall be carried out on all units manufactured in accordance with IEC 60079-7:2015 clause 7.1 and IEC 60079-18:2014, clause 9.2, at 1560 Vac for 1 minute, or alternatively at 1.2 times this test voltage for 100 ms. 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 encapsulated parts.

4. A visual inspection shall be carried out on the encapsulated parts to check for damage, in accordance with IEC 60079-18:2014, clause 9.1.

5. Alternative nameplates marked with "op is" are also acceptable.

Specific Conditions of Use

None.

Details of certificate changes

Issue 1	**This Issue introduced the following changes:**
1	To implement minor changes to the PSU electronic circuit
2	To remove IEC 60079 28:2015 from scope
3	To update the marking on certificates