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 17.0074**

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Certificate history:
Issue 3 (2020-10-27)
Issue 2 (2018-06-18)
Issue 1 (2018-03-05)
Issue 0 (2017-07-24)

Status: **Current**

Issue No: 4

Date of Issue: 2023-01-23

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

Equipment: **Spartan High Power LED Floodlight/Highbay**

Optional accessory:

Type of Protection: **Flameproof, Increased safety, Encapsulation, Type n, Dust**

Marking:

Zone 1 version
Ex db eb mb IIB+H2 T4 Gb
Ex db eb mb IIB T4 Gb
Ex tb IIIC T104ºC Db

Zone 2 version
Ex ec nR IIC T4 Gc
Ex tc IIIC T104ºC Dc

T_{amb} = -50°C to +50°C

Approved for issue on behalf of the IECEx Certification Body: **Ben Trafford**

Position: **Certification Officer**

Signature: (for printed version)

Date: (for printed version) 2023-01-23

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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Certificate No.: **IECEx CML 17.0074**

Date of issue: 2023-01-23 Issue No: 4

Manufacturer: **Raytec Ltd.**
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 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

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/ExTR17.0109/00 GB/CML/ExTR18.0058/00 GB/CML/ExTR18.0133/00
GB/CML/ExTR20.0200/00 GB/CML/ExTR23.0003/00

Quality Assessment Report:

GB/SIR/QAR13.0018/11

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

The HP Spartan LED Luminaire are a Floodlight and Highbay luminaire that are suitable for installation in either Gas or Dust environments with different mounting arrangements and orientations.

The encapsulated LED Head assembly contains upto 2 x 12 LED circuits protected by encapsulation, located behind a glass window.

Refer to Annex for full description and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: NO

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

1. Increase the flamepath gap on IIB variants from 0.1mm to 0.2mm
2. To update conditions of manufacture
3. To update the product description
4. To provide clarification on product specification on certification documents

Annex:

Certificate Annex of IECEx CML17.0074 Issue 4 .pdf

Annexe to:	IECEx CML17.0074, Issue 4
Applicant:	Raytec Ltd.
Apparatus:	HP Spartan LED Luminaires

Description

The HP Spartan LED Luminaires are a Floodlight and Highbay luminaire that are suitable for installation in either Gas or Dust environments with different mounting arrangements and orientations.

The encapsulated LED Head assembly contains up to 2 x 12 LED circuits protected by encapsulation, located behind a glass window. The LED Head connects to either:

- A combined flameproof PSU and increased safety JB assembly, or
- An increased safety JB assembly;

The combined flameproof PSU and increased safety JB assembly, consists of separate enclosures containing LED Driver circuits and suitably certified Ex component terminals for connection of internal and field wiring using suitably certified cable glands. The two enclosures are separated using a suitably certified bushing.

The increased safety JB assembly consisting a single enclosure containing suitably certified Ex Component terminals for connection of internal and field wiring using suitably certified cable glands. The combined assembly is used with a separately mounted combined flameproof PSU and increased safety JB assembly, connected using suitably certified cable glands.

The combined or separate assemblies have an environmental rating of IP 66.

A maximum of two cable entries can be supplied with each luminaire. Suitably certified cable entries may be various thread types up to a maximum diameter of 25 mm.

The equipment is also marked with an ingress protection rating of IP67. An ingress protection rating of IPX7 has not been verified under the CML certification.

An optional self-adhesive anti-static film can be fitted over the glass externally.

Operating voltage may be 150 -264V AC/DC or 110V -264V AC/DC with a maximum wattage of 300 W.

Eurofins E&E CML Limited
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

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

iii. If the terminals or components are fitted with cables/wiring by the manufacturer; all cables/wires shall be suitable for rated voltage and current of each separate circuits and Ex Components to which they are connected.

iv. All creepage and clearance distances as defined in IEC 60079-7 Table 2 shall be observed for the voltage rating marking.

v. The routine overpressure test shall be carried out in accordance with the static method (IEC 60079-1, clause 15.1.3.1) at the following pressures:

Type	Test Pressure
MMX-HP (Zone 1/ 21 Group IIB + H2 Version)	7.61 bar x 1.5 = 11.42 bar
MMX-HP (Zone 1/ 21 Group IIB Version)	6.73 bar x 1.5 = 10.10 bar

vi. All "m" equipment shall be subjected to a visual inspection. No damage shall be evident, such as cracks in the compound, exposure of the encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion (separation of any adhered parts) or softening.

vii. A dielectric strength test shall be carried out on all units manufactured in accordance with EN 60079-7, clause 7.1 and EN 60079-18, clause 9.2, at 1508 V for 1 minute, or alternatively at 1.2 times this test voltage for 100 ms. No breakdown shall occur. Tests shall be carried out between each circuit and earth.

viii. The Line Bushing shall be suitable for service temperature range of at least -50°C to +85°C

Specific Conditions of Use

None.

Components covered by Ex Certificates issued to older editions of Standards

None.