



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 FME 14.0001X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 5 [Issue 4 \(2018-04-26\)](#)
Date of Issue: 2019-11-30 [Issue 3 \(2016-05-26\)](#)
[Issue 2 \(2015-11-09\)](#)
[Issue 1 \(2015-06-25\)](#)
[Issue 0 \(2014-06-25\)](#)
Applicant: **LumaSense Technologies GmbH**
Kleyerstrasse 90, Frankfurt D-60326
Germany
Equipment: **3909010, E²T Pulsar 4 Advanced Infra-Red Pyrometer & 3909020, E²T Pulsar 4 Infra-Red Pyrometer**
Optional accessory:
Type of Protection: **Flameproof 'd'**
Marking: **Ex db IIB+H₂ T4 Gb Ta = -40°C to +60°C IP66**

Approved for issue on behalf of the IECEx
Certification Body:

Andrew Was

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:

FM Approvals Ltd
Voyager Place
Maidenhead
Berkshire
SL6 2PJ
United Kingdom





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Manufacturer: **LumaSense Technologies GmbH**
Kleyerstrasse 90, Frankfurt D-60326
Germany

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

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/FME/ExTR14.0001/00](#)
[GB/FME/ExTR14.0001/04](#)

[GB/FME/ExTR14.0001/01](#)
[GB/FME/ExTR14.0001/05](#)

[GB/FME/ExTR14.0001/02](#)
[GB/FME/ExTR14.0001/06](#)

Quality Assessment Report:

[GB/FME/QAR14.0004/02](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

3909010, E²T Pulsar 4 Advanced Infra-Red Pyrometer & 3909020, E²T Pulsar 4 Infra-Red Pyrometer

The LumaSense E²T Pulsar 4 series of detection systems are designed for continuous and instantaneous measurement of Refractory Temperature (RT), Gas Temperature (GT) or Integrated Temperature (FF) in the vessel away from the heat, vibration and corrosive gases. Each system allows visual inspection of combustion processes, refractory cure out and preventative maintenance while the vessel is pressurized and fully operational. The Advanced model is used for monitoring complex processes, such as O₂ enrichment, which normally involve higher temperatures and demand close monitoring.

Operation Temperature Ranges:

The ambient operating temperature range of the Pulsar 4 range is -40°C to 60°C. Process temperature range is 350°C to 2000°C.

Electrical data:

The Pulsar 4 models can be configured as 24V dc, 115V ac or 230V ac, 90W.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Contact manufacturer for flamepath joint design information.
2. The cable glands, cable sealing device or blanking plugs for the unused entries (as applicable) shall be suitably certified with a minimum Ex rating of Ex db IIB+H₂ Gb Ta = -40°C to 60°C.
3. In order to maintain an IP66 rating for the equipment, the cable glands shall be suitably certified with a minimum rating of IP66.
4. To reduce the risk due to electrostatic discharge, the user shall regularly clean the enclosures with a damp cloth to limit dust layers on the enclosure sides.
5. The socket head screws used on the enclosure shall be stainless steel screws grade A4-70 Stainless M8 Socket Head Cap / Allen Screws with minimum yield strength 800MPa.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 5: Documentation update due to the removal of the ¼ inch threaded holes on the enclosure; Notified Body number change on label and manual documents for ATEX and update to latest standard editions.