

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**

2. **Certificate No:** FM18US0126X
3. **Equipment:** E²T Quasar 2 M8100-EXP
(Type Reference and Name) E²T Quasar 2 M8100-EXP Advanced

4. **Name of Listing Company:** LumaSense Technologies GmbH

5. **Address of Listing Company:** Kleyerstrasse 90,
D-60326 Frankfurt
Germany

6. The examination and test results are recorded in confidential report number:
3061334 dated 5th July 2018

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3611:2016, FM Class 3615:2018, FM Class 3810:2018
ANSI/NEMA 250:2008, ANSI/IEC 60529:R2011

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. **Equipment Ratings:**

Explosionproof for Class I, Division 1, Groups C, and D; and Non-Incendive for use in Class I, Division 2, Groups A, B, C and D hazardous (classified) locations.
The Temperature Code is T4 for ambient temperature range Ta = -40°C to 60°C with indoors and outdoors rating Type 4X and ingress protection IP66.

Certificate issued by:

J.E. Marquedant
VP, Manager, Electrical Systems

5 July 2018

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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SCHEDULE



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11. The marking of the equipment shall include:

Class I Division 1, Groups C and D; T4
Class I Division 2, Groups A, B, C and D; T4
Ta = -40°C to +60°C; Type 4X, IP66

12. **Description of Equipment:**

The LumaSense E²T Quasar 2 series are designed for detecting & monitoring of pilot flame and flared gases from flares. The assembly consist of main housing cylinder, front housing cover assembly, back housing cover assembly and the non-contact infrared electro-optical package.

It can be configured in two models; Quasar 2 M8100-EXP and Quasar 2 M8100-EXP Advanced. The advanced system includes an intensity mA output, which allows the programming of multiple Setpoints to indicate pilot flame detection and flaring status signals from the same unit. Both models' output are able to be inverted and the output ratios are as follows: 37.5:1, 60:1, 75:1, 150:1 and 300:1.

Operation Temperature Ranges: The ambient operating temperature range is -40°C to 60°C.

Electrical data: The voltage ratings are 24V dc, 115V ac or 250V ac.

The model structure of the E²T Quasar 2 series is shown below.

39150a0, E²T Quasar 2 M8100-EXP Advanced
39151a0, E²T Quasar 2 M8100-EXP Advanced (with inverted output)
39152a0, E²T Quasar 2 M8100-EXP
39153a0, E²T Quasar 2 M8100-EXP (with inverted output)
a = Output ratio (1 = 37.5:1; 2 = 60:1; 3 = 75:1; 4 = 150:1; 5 = 300:1)

13. **Specific Conditions of Use:**

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 rating of Class I, Division 1, Groups C & D for Division 1 wiring & Class I, Division 2, Groups A, B, C & D for Division 2 wiring.
3. 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.

14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

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16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
5 th July 2018	Original Issue.

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