

1 EU-TYPE EXAMINATION CERTIFICATE



2 Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 2014/34/EU

3 EU-Type Examination Certificate No: FM18ATEX0036X

4 Equipment or protective system: E²T Quasar 2 M8100-EXP
(Type Reference and Name) E²T Quasar 2 M8100-EXP Advanced

5 Name of Applicant: LumaSense Technologies GmbH

6 Address of Applicant: Kleyerstrasse 90,
D-60326 Frankfurt
Germany

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 17 of Directive 2014/34/EU of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3060334 dated 5th July 2018

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2012 + A11:2013, EN 60079-1:2014 and EN 60529:1991 + A1:2000 + A2:2013

10 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.

11 This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 2 G Ex db IIB T4 Gb Ta= -40°C to +60°C IP66



Digitally signed by Nicholas
Ludlam
DN: cn=Nicholas Ludlam, o=FM
Approvals, ou,
email=nicholas.ludlam@fmapprov
als.com, c=GB
Date: 2018.07.20 13:58:12 +01'00'

Nicholas Ludlam
Deputy Certification Manager, FM Approvals Ltd.

Issue date: 20th July 2018

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13 Description of Equipment or Protective System:

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.

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)

14 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 Ex gas rating of Ex db IIB Ta = -40°C to 60°C Gb.
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.

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 Test and Assessment Procedure and Conditions:

This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

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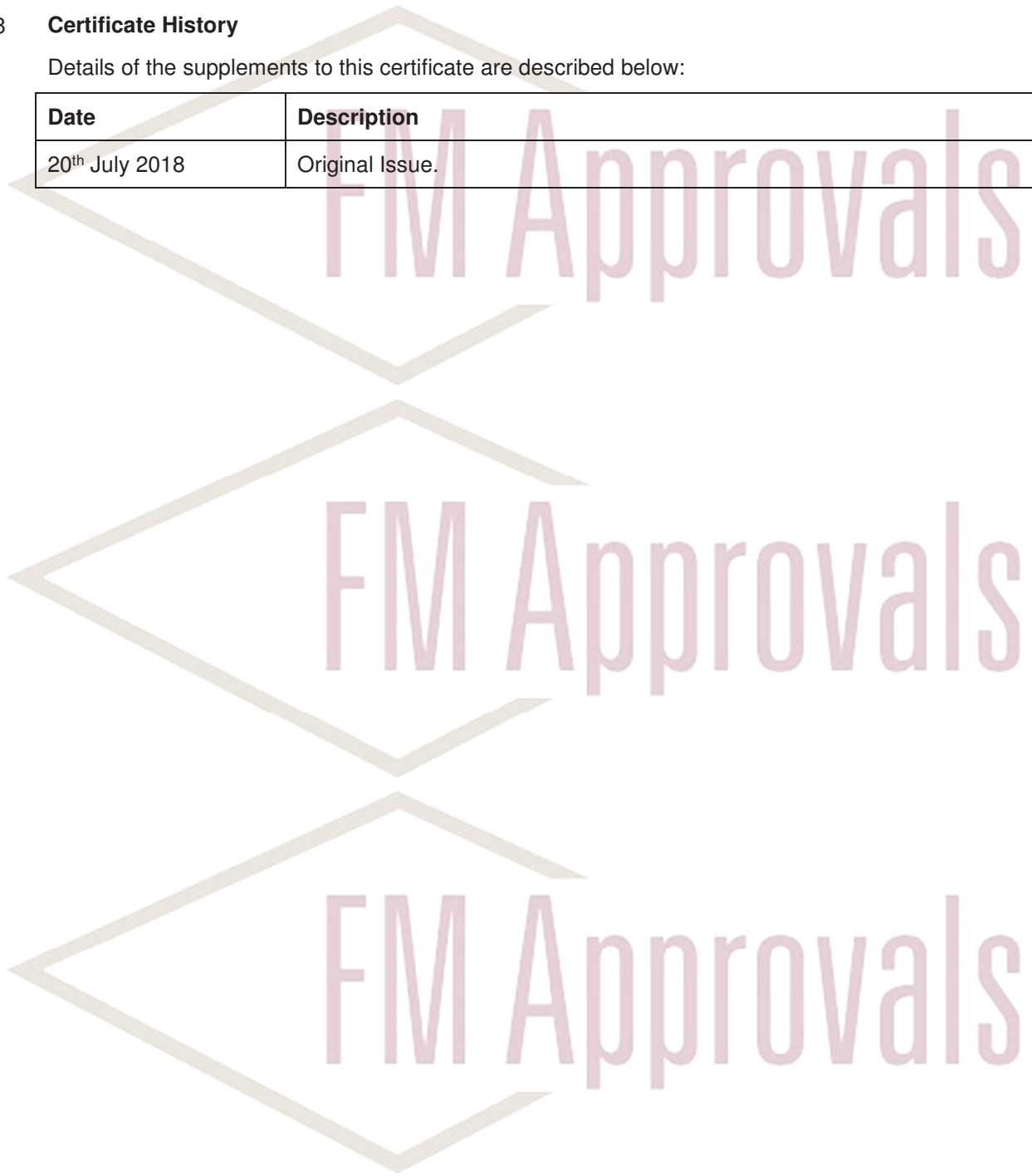
SCHEDULE

to EU-Type Examination Certificate No. FM18ATEX0036X

18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
20 th July 2018	Original Issue.



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Blueprint Report

Lumasense Technologies GmbH (145373)

Class No 3615

Original Project I.D. 3061334

Certificate I.D. FM18ATEX0036X

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>
3909013	a	Schraubring	3061334
3909014	b	Fenster, Metaglas	3061334
3915006	01	Quasar 2 Advanced Block Diagram	3061334
3915007	b	Quasar 2 Surface Treatment	3061334
3915009	a	Quasar 2 Flamepath	3061334
3915011	c	Housing Front	3061334
3915012	e	Gehauserohr TUBE	3061334
3915013	b	Ruckdeckel BACK	3061334
3915085	a	Label Quasar 2 M8100-EXP	3061334
3915086	a	Label Quasar 2 M8100-EXP Advanced	3061334
3915091 - EN	A	Quasar 2 Manual	3061334