



EU Type Examination Certificate CML 23ATEX1385X Issue 0

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Fixed Gas Detector Model GTYQ-FGM-7100, FGM-7300**
- 3 Manufacturer **RAE Systems (Shanghai) Inc.**
- 4 Address **No. 990 E. Huiwang Road
JIADING DISTRICT
Shanghai, 201815
China**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 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 the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:
EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014
- 10 The equipment shall be marked with the following:

(GTYQ-FGM-7100)

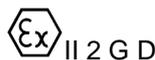
(FGM-7300)



Ex db IIC T6 Gb

Ex tb IIIC T80°C Db

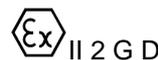
Ta= -40°C ≤Ta≤ +65°C



Ex db IIC T5 Gb

Ex tb IIIC T90°C Db

Ta= -40°C ≤Ta≤ +75°C



Ex db IIC T6 Gb

Ex tb IIIC T80°C Db

Ta= -20°C ≤Ta≤ +55°C





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11 Description

The Fixed Gas Detector Model GTYQ-FGM-7100 for LEL, FGM-7300 for EC, both are in aluminium alloy enclosure. Same structure but different sensor type.

Fixed Gas Detector comprises a cylindrical main housing and a gas sensing head. The main housing, which contains the electronics and an LCD display, comprises a threaded window cover and a base with mounting lugs. The base has two 3/4 NPT cable entries to connect separately certified cable glands and one M25*1.5 threaded hole, which is used to mount the sensing head.

Product with different sensor type has the same structure for the sensing head. It is made of stainless steel and comprises two parts, cylindrical jointed and fastened with a threaded nut. The sensing end has an 80um sinter fused into the enclosure to allow gas penetration to be detected by the internal equipment, the mounting end contains a setting compound through which the equipment wiring passes.

Electrical data: 16~32 VDC

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	31 Aug 2023	R16818A/00	Issue of Prime Certificate

Note: Drawings that describe the equipment or component are listed in the Annex.

13 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 declares that the equipment, when installed and maintained correctly, has been designed so as to:
 - avoid physical injury which might be caused by direct or indirect contact;
 - assure that surface temperatures of the accessible parts, or radiation which would cause a danger, are not produced;
 - eliminate non-electrical dangers which are revealed by experience;
 - assure that foreseeable conditions of overload do not give rise to dangerous situations.



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14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- i. Repairs of the flameproof joints may only be made by the manufacturer or on behalf of the manufacturer and on his own responsibility. Repair in compliance with the values in IEC 60079-1 is not accepted.
- ii. The cable entries have to be connected by means of suitable cable entry devices with type of protection of Ex db IIC Gb, Ex tb IIIC Db IP66. The cable entry device shall be approved in accordance with EN IEC 60079-0:2018, EN 60079-1:2014 and EN 60079-31:2014, and which are covered by a separate conformity certificate.
- iii. When used in combustible dust atmospheres, there is potential electrostatic charging risk on the surface of the equipment. Refer to the manual for the precaution.
- iv. Use minimum 80°C rated conduct wires to make external connection when the max. ambient temperature is +75°C.

Certificate Annex

Certificate Number CML 23ATEX1385X
Equipment Fixed Gas Detector Model GTYQ-FGM-7100, FGM-7300
Manufacturer RAE Systems (Shanghai) Inc.



The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
904-E300 035.01	1 of 3	A	31 Aug 2023	General Description
904-E300-035.02	1 of 1	A	31 Aug 2023	RAEGuard Lite-Block Diagram
C07-5001-ASY	1 of 1	1	31 Aug 2023	7R I-SENSOR EC
C07-5002-ASY	1 of 1	1	31 Aug 2023	7R I-SENSOR LEL
C07-5100-PCB	1 of 11	6.01	31 Aug 2023	RAEGuard Lite, 7R I-SENSOR LEL Board
C07-5100-SCH	1 of 1	6.01	31 Aug 2023	RAEGuard Lite, 7R I-SENSOR LEL Board
C07-5101-PRT	1 of 1	1	31 Aug 2023	HOUSING, SS, 7R I-SENSOR
C07-5200-PCB	1 of 11	3	31 Aug 2023	RAEGuard Lite, 7R I-SENSOR EC Board
C07-5200-SCH	1 of 1	3	31 Aug 2023	RAEGuard Lite EC Sensor
D07-1000-PCB	1 of 13	6.01	31 Aug 2023	RAEGuard Lite LEL Mainboard
D07-1010-SCH	1 of 1	6.1	31 Aug 2023	RAEGuard Lite Block Diagram-LEL
D07-1010-SCH	1 of 1	6.1	31 Aug 2023	RAEGuard Lite Sensor- LEL
D07-1010-SCH	1 of 1	6.0	31 Aug 2023	RAEGuard Lite RS485
D07-1010-SCH	1 of 1	6.1	31 Aug 2023	RAEGuard Lite Power
D07-1010-SCH	1 of 1	6.0	31 Aug 2023	RAEGuard Lite LED
D07-1010-SCH	1 of 1	6.1	31 Aug 2023	RAEGuard Lite LCD
D07-1010-SCH	1 of 1	6.0	31 Aug 2023	RAEGuard Lite KEY
D07-1010-SCH	1 of 1	6.0	31 Aug 2023	RAEGuard Lite BLE
D07-1010-SCH	1 of 1	6.1	31 Aug 2023	RAEGuard Lite Aout
D07-1010-SCH	1 of 1	6.0	31 Aug 2023	RAEGuard Lite MCU-LEL
D07-1010-SCH	1 of 1	6.0	31 Aug 2023	RAEGuard Lite Monitor
D07-1010-SCH	1 of 1	6.1	31 Aug 2023	RAEGuard Lite HART
D07-2000-PCB	1 of 13	6.01	31 Aug 2023	RAEGuard Lite EC Mainboard
D07-2010-SCH	1 of 1	6.1	31 Aug 2023	RAEGuard Lite Block Diagram-EC
D07-2010-SCH	1 of 1	6.0	31 Aug 2023	RAEGuard Lite MCU-EC
D07-6001-LBL	1 of 1	1	31 Aug 2023	NAMEPLATE
D07-8000-ASY	1 of 1	1	31 Aug 2023	UNIT, AL
D07-8102-PRT	1 of 1	1	31 Aug 2023	ENCLOSURE BOTTOM, AL
D07-8103-ASY	1 of 5	1	31 Aug 2023	ENCLOSURE COVER ASSY, AL

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