



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX TSA 09.0001X** issue No.: **0** Certificate history: _____

Status: **Current**

Date of Issue: **2009-05-29** Page 1 of 3

Applicant: **RAE Systems**
3775 North First Street
San Jose, CA 95134
United States of America

Electrical Apparatus: **FTD-3000, Wireless LEL or EC Detector**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **FTD-3000**
FTD-3000 LEL
FTD-3000 EC
-40 °C ≤ Ta ≤ +50 °C
Ex ia I
Ex ia IIC T4
IECEX TSA 09.0001X

Approved for issue on behalf of the IECEx Certification Body:

Gordana Manojlovic

Position:

Manager Electrical High Current Branch

Signature:
(for printed version)

Date:

29.05.2009

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

TestSafe Australia
919 Londonderry Road
Londonderry NSW 2753
Australia





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Manufacturer: **RAE Systems**
3775 North First Street
San Jose, CA 95134, USA
United States of America

Manufacturing location(s):
RAE Systems (Shanghai)
No. 788 Zhaoxian Road
JianDing, Shanghai
China

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 electrical apparatus 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 : 2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition: 4.0

IEC 60079-11 : 2006 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition: 5

*This Certificate **does not** indicate compliance with electrical 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 Report:

AU/TSA/ExTR09.0018/00

Quality Assessment Report:

NO/DNV/QAR06.0003/01

NO/DNV/QAR06.0004/01



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

FTD-3000 Wireless Single Gas Detector is a single gas detector integrated with a wireless mesh network enabled transmission radio module. The FTD-3000 can be fitted with combustible gas sensor (LEL) or electrochemical gas sensor (EC). Optionally when the FTD-3000 is used as a router it will not have either type of the sensors installed. When fitted with either LEL & EC type sensor it can work as a fixed device or a portable device. It has a LCD display, three push buttons and an opening for the buzzer sound output. On the top of the enclosure there is a threaded connector for the antenna and at the bottom of the enclosure there are two openings covered with threaded caps. The opening on the right is for the D size cell replacement or optionally for the adaptor of the external DC power supply. The FTD-3000 is powered by a single D size Lithium-thionyl Chloride non-rechargeable cell or by an external 3.6 V power source through the adaptor.

CONDITIONS OF CERTIFICATION: YES as shown below:

Refer annexe of this certificate for the conditions of certification.



IECEX Certificate of Conformity Annexe

Annexe for Certificate No.:	IECEX TSA 09.0001X	Issue No.:	0
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Drawing list pertaining to Issue 0 of this Certificate:

Document No.	Sheets	Document Title	Issue	Date (yyyy/mm/dd)
D01-0902-GEN	1	FTD-3000 Intrinsic Safety Analysis	3	2009/02/18
D01-1102-IEC	5	FTD-3000 Main Board (Schematic)	3	2009/02/18
D01-1102-BOM	3	FTD-3000 Main board BOM	4	2009/02/18
D01-1002-000	10	FTD-3000 Main PCB Mechanical	3	2009/01/21
D01-1103-IEC	1	FTD-3000 Sensor Board (Schematic)	2	2009/01/19
D01-1103-BOM	1	FTD-3000 Sensor board BOM	1	2008/09/01
D01-1003-000	8	FTD-3000 Sensor PCB Mechanical	2	2008/09/25
D01-4xxx-LBL-IEC	1	FTD-3000 nameplate	4	2009/05/07
D01-ESD-001	1	MeshGuard LCD window ESD film	A	2007/10/11
D01—4014-CTL	16	Controlled part of FTD-3000 Manual	C	2009/04/20
D01_MODM_001	1	FTD-3000 Safety Component specification (RF Module)	B	2008/12/23
D01-1100-Sen	2	List of Electrochemical Sensors for Meshguard detector FTD-2000	A	2007/06/18
D01-1101-000	1	MeshGuard(FTD-2000) Sensor Board (Schematic)	2	2007/04/10
D01-1101-BOM	1	MeshGuard Sensor Board BOM	3	2007/05/30
D01-1001-000	8	FTD-2000 Sensor PCB Mechanical	1	2007/04/20
D01-3EPA-001	1	FTD-3000 External Power Adaptor	3	2009/04/27
500_0111_000	1	Component Specification (RAE Part number of two cell types used)	A	2007/07/08

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Conditions of Certification pertaining to Issue 0 of this Certificate:

1. It is a condition of safe use that the apparatus must be powered by one of the two types of non-rechargeable cells (RAE Part No. 500_0111_000).
EVE ER34615 Lithium-thionyl Chloride Size D, 3.6 V.
Xeno XL-205F Thionyl Chloride Lithium, Size D, 3.6 V
2. It is a condition of safe use that the apparatus must be powered by a galvanically isolated external power supply. The following input parameters must be taken into account when external source is used
 $U_i = 3.6 \text{ V}$
 $C_i = 67 \mu\text{F}$
 $L_i/R_i = 3.5 \mu\text{H}/\Omega$

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