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 DNV 09.0003X issue No.:0	Certificate history:
Status:	**Current**	
Date of Issue:	**2009-07-15** Page 1 of 3	

Applicant: **Rae Systems Inc.**
3775 North First Street
San Jose
California 95134
United States of America

Electrical Apparatus: **RAEPowerPak model FTB-1000**
Optional accessory:

Type of Protection: **Intrinsically safe**

Marking: **Ex ia IIC T4 -40°C ⩽ Ta ⩽ +55°C**
Ex ia I

Approved for issue on behalf of the IECEx Certification Body: Marianne Spæren

Position: Certification Manager

Signature:
(for printed version)

Date: 15. JULY. 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.

Certificate issued by:

DNV
Det Norske Veritas (DNV) Certification AS
Veritasveien 1
1322 Hovik
Norway

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Manufacturer:

Rae Systems Inc.
3775 North First Street
San Jose
California 95134
United States of America

Manufacturing location(s):

RAE Systems (Shanghai)
788 Zhaoxian Road, Jia Ding,
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 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*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:

NO/DNV/ExTR09.0006/00

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:

The RAEPowerPak, type FTB1000 is a battery pack intended to power intrinsically safe equipment which can match the intrinsically safe conditions by entity parameters attached to the input and output connector. The FTB1000 battery pack can be equipped with 2 or 4 NiMH internal battery units. Each internal battery unit is an encapsulated, intrinsically safe unit, which consists of 4 NiMH battery cells connected in series and encapsulated with safety circuits. The capacity of one unit is 13Ah. RAEPowerPak has 2 external connectors, one LCD and one LED. One connector is for charging and the other if for power output. The LCD indicates the battery capacity remaining and error code. LED indicates the charge status. The internal Main PCB facilitates connection of 2 or 4 encapsulated NiMH battery units. Connected to the main board is one passive LCD Display.

Type Identification FTB-1000
Electrical Data
Input connector: Li: 0.1 µH, Ci: 0.1 µF, Ui: 10V, Ii: 3.33A, Pi: 8.88W, Um: 11V
Output connector: Lo: 3.4 µH, Co: 100µF, Uo: 3.6V, Io: 3.2A, Po: 3.1W, Lo/Ro: 20.6µH/Ω

CONDITIONS OF CERTIFICATION: YES as shown below:

Special conditions for safe use:
RAEPowerPak can be charged in hazardous area by a charger complying with the intrinsically safe input entity parameters.
RAEPowerPak can be charged outside hazardous area by a charger complying with the Um parameter.
The internal encapsulated battery units can only be exchanged by the original RAE SYSTEMS battery, Part Number: F03-3002-00