

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

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Certificate No.:	IECEx SIR 11.0069X	(issue No.:5	Certificate history: Issue No. 5 (2014-7-4)
Status:	Current	A model		Issue No. 4 (2012-7-13)
	ourient	_1		Issue No. 3 (2012-3-28) Issue No. 2 (2012-2-10)
Date of Issue:	2014-07-04	P	age 1 of 4	Issue No. 1 (2011-8-5)
				Issue No. 0 (2011-6-28)
Applicant:	Rae Systems Inc			
	3775 North First Stree San Jose	ət		
	California 95134			
	United States of A	merica		
Electrical Apparatus:	Portable combustibl PGM62a8x	le and toxic g	as detector Models PG	M62a0x, PGM62a6x and
Optional accessory:	PGIVIOZAOX			
Type of Protection:	Intrinsically Safe			
	manisolary ourc			
Marking:	With RAE LEL sens	50 r		
Marking.	Ex ia I Ma	or	Ex ia IIC T4 Ga TA = -2i	0°C ≤ Tamb ≤ +50°C
	With Dynament LE	l sensor		
	Ex ia I Ma	or	Ex ia d IIC T4 Gb TA	= -20°C <u><</u> Tamb <u><</u> +50°C
Approved for issue on be Certification Body:	ehalf of the IECEx	C Ellaby		
Position:		Deputy Certif	ication Manager	
			n	
Signature:		(2 SM	
(for printed version)		C	- CLAR	
Date:		20	un -di-du	
Date.			nu yi u	
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3. The Status and auther	nticity of this certificate r	nay be verified	d by visiting the official IE	ECEx Website.
Certificate issued by:				
SIRA C	ertification Service Rake Lane			
	Eccleston		sira	CSA CSA
	Chester CH4 9JN			
Un	ited Kingdom		CERTIFICATIO	N
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2014-07-04

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Manufacturer:

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

Additional Manufacturing location(s): RAE Systems (Shanghai) INC No. 990 E. Huiwang Road, JIADING DISTRICT Shanghai 201815 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 : 2011
 Explosive atmospheres - Part 0: General requirements

 Edition: 6.0
 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

 Edition: 6.0
 Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

 Edition: 2
 Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

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: GB/SIR/ExTR11.0156/00 GB/SIR/ExTR12.0066/00

GB/SIR/ExTR11.0189/00 GB/SIR/ExTR12.0173/00 GB/SIR/ExTR12.0010/00 GB/SIR/ExTR14_0152/00

Quality Assessment Report:

NO/DNV/QAR06.0003/03

NO/DNV/QAR06.0004/03

NO/DNV/QAR06.0004/04

Certificate No.:	IECEx SIR 11.0069X	
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	Schedule	
EQUIPMENT: Equipment and system	s covered by this certificate are as follows:	
resistors and five fuse MN1500 type only. T	he alkaline Battery Adapter also has two var	iations: one with four outputs rated from 0.78 W to
MN1500 type only. T 1.12 W and the other infallible resistors and levels or alarms, and indicators are include motors produce a vibr	rated from 1.11 to 1.12 W. The alkaline Bat fuses. The fuses are encapsulated. Three the mode button makes it possible to chang	iations: one with four outputs rated from 0.78 W to tery Adapter also contains safety circuits including push buttons facilitate the access to measured e preset limits and setting.Audible and visual alarr r visible from the top and the side. Two imbalance
MN1500 type only. T 1.12 W and the other infallible resistors and levels or alarms, and indicators are include motors produce a vibr Refer to the Annexe fr CONDITIONS OF CER 1 The PGM62x	rated from 1.11 to 1.12 W. The alkaline Bat fuses. The fuses are encapsulated. Three the mode button makes it possible to chang d. The visual alarm comprises a red LED ba ation alert when in alarm mode. or additional information. TIFICATION: YES as shown below: ex shall only be fitted with RAE Systems Ba	iations: one with four outputs rated from 0.78 W to tery Adapter also contains safety circuits including push buttons facilitate the access to measured e preset limits and setting.Audible and visual alarr r visible from the top and the side. Two imbalance the side from the top and the side. Two imbalance
MN1500 type only. T 1.12 W and the other infallible resistors and levels or alarms, and indicators are include motors produce a vibr Refer to the Annexe fr Refer to the Annexe fr 1 The PGM62x M01-3055-00 MN1500 batte 2 The PGM62x 3 No precautior made of plast has been ider cleaning with mechanism is	rated from 1.11 to 1.12 W. The alkaline Bat fuses. The fuses are encapsulated. Three the mode button makes it possible to chang d. The visual alarm comprises a red LED ba ation alert when in alarm mode. or additional information. TIFICATION: YES as shown below: ex shall only be fitted with RAE Systems Bat 0 or MO1-3056-000 or Battery Adapter M01 eries. ex shall only be charged outside the hazard is against electrostatic discharge are necess ic, metal or a combination of the two, excep ntified. Activities such as placing the item in a damp cloth, do not present a significant electrostatic discharge are necess	iations: one with four outputs rated from 0.78 W to tery Adapter also contains safety circuits including push buttons facilitate the access to measured e preset limits and setting.Audible and visual alarr r visible from the top and the side. Two imbalance thery Pack types: M01-3051-000, M01-3053-000, -3052-000 or M01-3054-000 fitted with Duracell
MN1500 type only. T 1.12 W and the other infallible resistors and levels or alarms, and indicators are include motors produce a vibr Refer to the Annexe fr Refer to the Annexe fr 1 The PGM62x M01-3055-00 MN1500 batte 2 The PGM62x 3 No precautior made of plast has been ider cleaning with mechanism is	rated from 1.11 to 1.12 W. The alkaline Bat fuses. The fuses are encapsulated. Three the mode button makes it possible to chang d. The visual alarm comprises a red LED ba ation alert when in alarm mode. or additional information. TIFICATION: YES as shown below: ex shall only be fitted with RAE Systems Bat 0 or MO1-3056-000 or Battery Adapter M01 eries. ex shall only be charged outside the hazard is against electrostatic discharge are necess ic, metal or a combination of the two, excep ntified. Activities such as placing the item in a damp cloth, do not present a significant electrostatic discharge against electrostatic discharge against electrostatic as placing the item in a damp cloth, do not present a significant electrostatic discharge against electrostatic discharge against electrostatic as placing the item in a damp cloth, do not present a significant electrostatic discharge against electrostatic discharge against electrostatic discharge against electrostatic as placing the item in a damp cloth, do not present a significant electrostatic discharge against electrostatic discharge against electrostatic discharge against electrostatic discharge against electrostatic discharge are necessing the item in a damp cloth, do not present a significant electrostatic discharge against electrost	iations: one with four outputs rated from 0.78 W to tery Adapter also contains safety circuits including push buttons facilitate the access to measured e preset limits and setting.Audible and visual alarr r visible from the top and the side. Two imbalance the preset limits and setting.Audible and visual alarr r visible from the top and the side. Two imbalance side from the top and the side. Two imbalance tery Pack types: M01-3051-000, M01-3053-000, -3052-000 or M01-3054-000 fitted with Duracell ous area. sary for portable equipment that has an enclosure t where a significant static generating mechanism a pocket or on a belt, operating a keypad or lectrostatic risk. However, where a static-generation

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Certificate No.: IECEx SIR 11.0069X Date of Issue: 2014-07-04 Issue No.: 5 Page 4 of 4 Page 4 of 4 CETAILS OF CERTIFICATE CHANGES (for issues 1 and above): Issue introduced the following changes: 1 The menufacturing location in China was added to the certificate	IEC.		Certificate onformity
Page 4 of 4 DETAILS OF CERTIFICATE CHANGES (for issues 1 and above): Issue 1 – this Issue introduced the following changes:			lesue No : 5
Issue 1 – this Issue introduced the following changes:	Date of issue.	2014-07-04	
 The invision status of drawing number C03-1000-000 was corrected and drawing C03-1113-S00 is removed issue 2 - this issue introduced the following changes: It was recognised that: the dflission model has one buzzer scutated by an associated Diffusion Board. An alternative construction of the EC Sensor Board was acknowledged. The use of alternative construction of the EC Sensor Board was acknowledged. The products were allowed to be used for mining purposes, additional marking was introduced for these applications, the table showing the model numbers was animouted accordingly. It has use introduced the following change:	 Issue 1 – this Issue introd 1. The manufactu 2. The revision statistical states of the purpose of the purpose of the purpose of the products with the diffuence of the products with the second states of the second states of the product of the product	uced the following changes: Iring location in China was added to the ce trus of drawing number C03-1008-000 was con- uced the following changes: Ision model has two buzzers. Ision model has one buzzer actuated by an construction of the EC Sensor Board was a uced the following change: I ere allowed to be used for mining purposes, the table showing the model numbers was a uced the following change: I on the enclosure was allowed to be made imative O2 Sensors was recognised. It may now be used with an alternative batt tells); the Equipment description and Condi construction of the Main Board was acknown uced the following changes: on of the following changes: on of the following alternative items: a Sensor assembly. and. totor board. a sensor board. tible gas sensor. rating update opriate assessment to demonstrate compli- ledge, IEC 60079-0:2004 Ed 4, IEC 60075 by IEC 60079-0:2011 Ed 6 and IEC 60075 (by IEC 60079-0:2011 Ed 6 and IEC 60075) (b) IEC 60079-0:2011 Ed 6 and IEC 60075) (c) IEC	rected and drawing C03-1113-S00 is removed h associated Diffusion Board. acknowledged. , additional marking was introduced for these amended accordingly. de to an alternative design. tery pack, this has an additional cell (making a itions of Certification were amended accordingly. wledged. liance with the requirements of the latest 9-0:2007 Ed 5 and IEC 60079-11:2006 Ed 5 3-11:2011 Ed 6.

Annexe to: IECEx SIR 11.0069X Issue 5

Applicant: Rae Systems Inc

Apparatus: Portable combustible and toxic gas detectors Models PGM62a0x, PGM62a6x, and PGM62a8x



There are three variations of the Gas Detector with the following variations:

Model	Battery pack wattage	LEL Sensor (zone)	NDIR Sensors
PGM-62a0x	1.2 W	RAE (zone 0)	No
PGM-62a6x	0.8 W	RAE (zone 0)	No
PGM-62a8x	0.8 W	Dynament (zone 1)	Yes

The types of sensors are LEL (either catalytic bead or NDIR), electrochemical (EC), PID and Gamma. The Gas Detector has five sensor slots to accommodate sensors as follows;

Sensor Type	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5
PID					X
LEL (catalytic bead)	X				
NDIR					X
EC	X	X	X	X	X
Dual EC	X		X		X
Gamma				X	
Note: NDIR includes CO2	, methane LEL an	d methane VOL ser	ISOIS		

The various variations of the PGM-62a0x, PGM-62a6x and PGM-62a8x reflect sensor combinations that are unique to specific end-use applications as shown in the following table.

Model no.	Marking	PID	Gamma	RAE LEL	Dynament NDIR	EC
PGM-62a0x	I M1 Ex ia I Ma	Optional	Optional	Optional	No	Optional
II 1G, Ex ia IIC T4 Ga						
PGM-62a6x	I M1 Ex ia I Ma	Optional	Optional	Optional	No	Optional
	II 1G, Ex ia IIC T4 Ga					
PGM-62a8x	I M1 Ex ia d I Ma	Optional	Optional	Optional	Optional	Optional
II 2G, Ex ia d IIC T4 Gb						
Notes Where $a = 0, 2, 4, 6, 8 \text{ or } 9$ to show type						
: The model no. may contain following suffixes:						
T to denote a unit without any combustible sensors.						
 D to denote a diffusion unit with RAE LEL sensor (PGM-62a0, PGM-62a6 and PGM-62a8) or 						
Dynament LEL sensor(PGM-62a8)						
TD to denote a diffusion unit without any combustible sensors.						

Conditions of manufacture

The Manufacturer shall comply with the following:

1. The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.

Sira Certification Service

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