



# Certificate of Compliance

**Certificate:** 2361097

**Master Contract:** 217005

**Project:** 70010581

**Date Issued:** September 15, 2014

**Issued to:** RAE Systems, Inc.  
3775 North First St  
San Jose, CA 95134  
USA  
Attention: James Pan

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*



*Carlos Cajica-Sierra*

**Issued by:** Carlos Cajica-Sierra

## **PRODUCTS**

**CLASS 4828 01** - SIGNAL APPLIANCES - - Combustible Gas Detection Instruments-For Hazardous Locations

**CLASS 4828 81** - SIGNAL APPLIANCES-Combustible Gas Detection Instruments - For Hazardous Location-Certified to U.S. Standards

**Class I; Division 1; Group A, B, C, D; T4**

**Class II, Division 1; Groups E, F, G; T85°C**

Portable Combustible and Toxic Gas Detector, Ambient -20 °C to +50 °C, Intrinsically safe when powered by RAE Battery Pack p/n as shown below:

- Model PGM62a0b with Battery Pack M01-3051-000, M01-3052-000 or M01-3056-000,
- Model PGM62a6b with Battery Pack M01-3053-000, M01-3054-000 or M01-3055-000,
- Model PGM62a8b with Battery Pack M01-3053-000, M01-3054-000 or M01-3055-000,

Where a = 0, 2, 4, 6, 8 or 9 (These define specific sensors based upon market segments)



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b = blank for pump models and D for diffusion model using RAE LEL sensor

**4828-02 – SIGNAL APPLIANCES – Toxic Gas Detection Instruments for Hazardous Locations**

**4828-82 – SIGNAL APPLIANCES – Toxic Gas Detection Instruments for Hazardous Locations – Certified to U.S. Standards**

**Class I; Division 1; Group A, B, C, D; T4**

**Class II, Division 1; Groups E, F, G; T85°C**

Portable Toxic Gas Detector, Ambient -20 °C to +50 °C, Intrinsically safe when powered by RAE Battery Pack p/n as shown below:

- Model PGM62a0b with Battery Pack M01-3051-000, M01-3052-000 or M01-3056-000,
- Model PGM62a6b with Battery Pack M01-3053-000, M01-3054-000 or M01-3055-000,
- Model PGM62a8b with Battery Pack M01-3053-000, M01-3054-000 or M01-3055-000,

Where a = 0, 2, 4, 6, 8 or 9 (These define specific sensors based upon market segments)

b = blank for pump models and D for diffusion models

**APPLICABLE REQUIREMENTS**

CAN/CSA-C22.2 No. 0-M91 ( <i>Reaffirmed 2001</i> )	General Requirements – Canadian Electrical Code, Part II
CAN/CSA C22.2 No. 142-M1987 ( <i>Reaffirmed 2000</i> )	Process Control Equipment
CAN/CSA-C22.2 No. 152-M1984 (January 1988)	Combustible Gas Detection Instruments
CAN/CSA-C22.2 No. 157-92 ( <i>Reaffirmed 1997</i> )	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.
ANSI/ISA 12.13.01-2000	Performance Requirements for Combustible Gas Detectors
UL 913:2006 (7th Edition)	Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations
UL 916: 1998	Energy Management Equipment

The following standards were used in whole or in part as a guideline.



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IEC 60079-0:2007 (Ed. 5)	Explosive atmospheres – Part 0: Equipment – General requirements
IEC 60079-11:2006 (Ed. 5)	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”

## **MARKINGS**

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The following markings are provided on a CSA Certified (Class 7923-01) adhesive label, which is suitable for indoor or outdoor use on plastic Groups II, III, V, VI, VII and VIII at a maximum service temperature of 80 °C. The label stock shall be printed with one of the approved printer and ink combinations as specified in the manufacturers listing.

### *All products:*

- Listee name: “RAE Systems” or CSA Master Contract Number “217005” adjacent to the CSA Mark in lieu of manufacturer’s name.
- Model number: As specified in the PRODUCTS section, above.
- Ambient temperature rating: As specified in the PRODUCTS section, above.
- Manufacturing date in MMY format, or serial number, traceable to month of manufacture.
- The CSA Mark, as shown on the Certificate of Conformity.
- Hazardous Location designation, as specified in the PRODUCTS section, above. This may be abbreviated as “CI I, Dv 1, Gr A, B, C, D”.
- The designation: Exia.
- Temperature code: As specified in the PRODUCTS section, above.
- The references: “C22.2 No 152-M1984, ISA-12.13.01-2000 adjacent to the CSA Mark. Does not apply to models with “T” suffix.
- WARNING: Use only RAE Systems Battery Pack, PN: M01-3051-000 or M01-3052-000 or
- WARNING: Use only RAE Systems Battery Pack, PN: M01-3053-000 or M01-3054-000.
- WARNING: Understand Manual first before operating.
- WARNING: Do not change batteries in hazardous locations.
- WARNING: Do not mix old/new or different type batteries.
- AVERTISSEMENT: Utilisez uniquement RAE Systems batterie, PN: M01-3051-000 ou M01-3052-000 ou
- AVERTISSEMENT: Utilisez uniquement RAE Systems batterie, PN: M01-3053-000 ou M01-3054-000.
- AVERTISSEMENT: Comprendre avant de manuel d'exploitation.
- AVERTISSEMENT: Ne changez pas les piles dans des endroits dangereux.



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- **AVERTISSEMENT:** Ne pas mélanger des piles de type anciennes / nouvelles ou différentes.

*Li-Ion Battery Packs:*

- Li-Ion Battery Pack, 3.7 V
- Part number M01-3051-000 or M01-3053-000.
- **WARNING:** Do not replace battery pack in hazardous locations.
- **WARNING:** Do not charge battery pack in hazardous locations.
- **AVERTISSEMENT:** Ne pas remplacer bloc de batteries dans des endroits dangereux.
- **AVERTISSEMENT:** Ne pas charger bloc de batteries dans des endroits dangereux.

*Alkaline Battery Adapter:*

- Alkaline Battery Adapter, 6 V 4 x Size AA.
- Part number M01-3052-000 or M01-3054-000.
- **WARNING:** Do not replace battery pack or batteries in hazardous locations.
- **WARNING:** Use only Duracell MN1500 batteries
- **AVERTISSEMENT:** Ne pas remplacer bloc de batteries ou des batteries dans des endroits dangereux.
- **AVERTISSEMENT:** Utilisez uniquement des batteries Duracell MN1500

*Battery Charger:*

- **WARNING:** Do not charge in hazardous locations.
- **AVERTISSEMENT:** Ne pas charger dans des endroits dangereux.

Markings are as shown in drawings M01-4006-LBL or M01-4008-LBL for the Li-Ion Battery Pack, drawings M01-4007-LBL or M01-4009-LBL for the Alkaline Battery Adapter, drawing M01-4001-LFL-DIF for the diffusion models and drawing M01-4002-LBL-PMP for the pump models. These labels use CSA certified adhesive-type material Flexcon THERMAL film Select 21830 or Brady B-423.

The following required warnings appears in the Gas Detector User's Manual

- **WARNING:** SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
- **AVERTISSEMENT:** LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SÉCURITÉ INTRINSÈQUE;



## *Supplement to Certificate of Compliance*

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*The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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<b>Project</b>	<b>Date</b>	<b>Description</b>
70010581	Sep 15, 2014	Update to report 2361097 to include Class II, Division 1, Groups E, F, G.
2692267	Mar 21, 2014	Update to report 2361097 to include alternate NDIR-D sensor board (digital NDIR sensors), temperature sensor board, diffusion temp board, and alternate approved combustible gas sensor.
2623970	Dec 21, 2013	Update to report 2361097 to include alternate Gamma Sensor assembly, alternate main PCB and pump motor board.
2481845	Apr 4, 2012	Update Report 2361097 to add 3 cell Battery Pack and other alternate constructions.
2439567	Sep 30, 2011	Update Report to add second piezo buzzer, alternate construction of EC sensor board and evaluation to UL913, 7th edition.
2361097	Apr 15, 2011	Original certification of Model PGM62xx Portable combustible and toxic gas detectors as intrinsically safe to USA/Canadian standards.