



Certificate of Compliance

Certificate: 1491838

Master Contract: 217005

Project: 2624471

Date Issued: May 16, 2013

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.



Ken Kowalski

Issued by: Ken Kowalski

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 2, Groups A, B, C, and D

- Multiple Gas Detector, model PGM 5020 (may be followed by "S" or "EA") AreaRAE, Portable, Battery Operated, rated 7.4 Vdc, 0.13 A, T3C @ Ta=45 °C when used with rechargeable battery packs 029-3051 or 029-3151 or with battery packs 029-3052 or 029-3152 with six Duracell MN1400 or Energizer E-93, C size alkaline batteries. See Notes 1 through 6.
- Multiple Gas Detector, model PGM 5120 (may be followed by "S" or "EA") AreaRAE-Gamma, Portable, Battery Operated, rated 7.4 Vdc, 0.13 A, T3C @ Ta=45 °C when used with rechargeable battery packs 029-3051 or 029-3151 or with battery packs 029-3052 or 029-3152 with six Duracell MN1400 or Energizer E-93, C size alkaline batteries. See Notes 1 through 6.
- Multiple Gas Detector, model PGM 5520 (may be followed by "S" or "EA") AreaRAE Steel or AreaRAE Inert, Portable, Battery Operated, rated 7.4 Vdc, 0.13 A, T3C @ Ta=45 °C when used with rechargeable battery pack 029-3153-200 or with battery pack 029-3154-000 with six Duracell MN1400 or Energizer E-93, C size alkaline batteries. See Notes 1 through 6.
- Multiple Gas Detector, model PGM 5620 (may be followed by "S" or "EA") AreaRAE Gamma Steel, Portable, Battery Operated, rated 7.4 Vdc, 0.13 A, T3C @ Ta=45 °C when used with rechargeable battery



Certificate: 1491838

Master Contract: 217005

Project: 2624471

Date Issued: May 16, 2013

pack 029-3153-200 or with battery pack 029-3154-000 with six Duracell MN1400 or Energizer E-93, C size alkaline batteries. See Notes 1 through 6.

Notes:

Note 1: The above instruments were also checked for performance for $T_a = -20$ to 45 °C and have been found to be acceptable as an indicator of the presence of the flammable gases and vapors within the scope of the certification when used in accordance with the manufacturer's instructions.

Note 2: As a condition of certification, connection may not be made to the communication port when the Gas Detector is in the hazardous location unless the area is known not to be hazardous.

Note 3: As a condition of certification, connection may not be made to the DC jack when the Gas Detector is in the hazardous location unless the area is known not to be hazardous. Exception: Models with an "S" or "EA" suffix on the nameplate that are installed per drawing 029-STCM-001.

Note 4: An installation manual shall be provided with each unit.

Note 5: External alarms or relays that are to be connected to PGM5x20EA models must be suitable for the Hazardous Location where they are mounted.

Note 6: For PGM5x20EA models, the suitability of external alarms or relays that may connect to the gas detectors is subject to the Local Authority Having Jurisdiction at the time of installation.

APPLICABLE REQUIREMENTS

CAN/CSA Standard C22.2 No. 0-M91 (*Reaffirmed 2001*) - General Requirements - Canadian Electrical Code, Part II

CSA Standard C22.2 No. 30-M1986 (*Reaffirmed 2003*) - Explosion-Proof Enclosures for Use in Class I Hazardous Locations

CSA Standard C22.2 No. 142-M1987 (*Reaffirmed 2004*) - Process Control Equipment

CSA Standard C22.2 No. 213-M1987 (*Reaffirmed 2008*) - Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations

CSA Standard C22.2 No. 152-M1984 (*Reaffirmed 2006*) - Combustible Gas Detection Instruments

CSA Standard C22.2 No. 213-M1987 (*Reaffirmed 2008*) - Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations

FM 3611-1999 - Non-incendive Electrical Equipment

ANSI/ISA 12.13.01-2000 - Performance Requirements for Combustible Gas Detectors

UL Standard 916 (*Fourth Edition, Dated December 17, 2007*) - Energy Management Equipment



Certificate: 1491838

Master Contract: 217005

Project: 2624471

Date Issued: May 16, 2013

MARKINGS

Nameplates and the bar code label are CSA accepted Flexcon Pressure-sensitive Thermal Film Select 21830.

Serial number appears on the bar code label. The label material was previously evaluated for chemical compatibility in Report 1356036. Flexcon Thermal Film Select 21830 is a CSA Accepted component under Class 7922-01 and a UL Recognized component under UL Report MH16635 (Categories PGJ12 and PGJ18). The label material is IMPRINTABLE WHITE POLYESTER, 3 mil thick, that is used indoors and outdoors on metal (max temp 150°C), plastic Group I (max temp 100C) and plastic Groups II, III, V, VI, VII and VIII (max temp 80°C).

Markings are per drawings 029-4006-000 or 029-4006-300 (bar code label), 029-4004-000 or 029-4004-CSA (PGM nameplate), 029-4051-000 or 029-4151-000 (Li-Ion Battery Pack nameplate) and 029-4052-000 or 029-4152-000 (Alkaline Battery Pack nameplate).

Gas Detectors

- Listee name: “RAE Systems” or Master Contract Number “217005” in lieu of the manufacturer name;
- Model number: as specified in the PRODUCTS section above;
- Manufacturing date in MMY format or serial number traceable to month of manufacture;
- Electrical ratings: as specified in the PRODUCTS section above;
- Hazardous locations designation: as specified in the PRODUCTS section above;
- The words: “WARNING – EXPLOSION HAZARD – USE ONLY RAE SYSTEMS BATTERY PACK 029-3051 OR 029-3052” or equivalent warning;
- The words: “DO NOT CHARGE BATTERY IN HAZARDOUS LOCATION unless installation complies with 029-STCM-001” or equivalent warning;
- The words: “DO NOT CONNECT EXTERNAL CABLE TO SERIAL INTERFACE IN A HAZARDOUS LOCATION” or equivalent warning;
- CSA Mark with ‘C’ and ‘US’ indicators, as shown in the Certificate of Compliance;
- The following: “C22.2 No. 152-M1984” and “ANSI/ISA-12.13.01-2000” adjacent to CSA Mark;
- Ambient temperature rating: as specified in the PRODUCTS section above;
- Temperature code: as specified in the PRODUCTS section above;
- The words: “CAUTION - READ AND UNDERSTAND INSTRUCTION MANUAL BEFORE OPERATING OR SERVICING” or equivalent warning.

Battery Packs

- Listee name: “RAE Systems” or Master Contract Number “217005” in lieu of the manufacturer name;
- Part number

An installation manual shall be supplied with each unit, containing the following minimum marking information (in addition to the requirements delineated in CSA Standard C22.2 No. 152-M1984):

- Manufacturer name and address;
- Electrical ratings: as specified in the PRODUCTS section above;



Certificate: 1491838

Master Contract: 217005

Project: 2624471

Date Issued: May 16, 2013

- Specification for ambient temperature rating: “-20°C to 45°C”;
- Mounting and installation instructions, including dimensions;
- The words: “WARNING – Explosion Hazard – Substitution of components may impair suitability for Class I, Division 2” or equivalent;
- The words: “WARNING – Explosion Hazard – Do not disconnect equipment unless power has been switched off or area is known to be non-hazardous” or equivalent;
- The words: “Refer to RAE Systems Technical Note TN-114 for sensor cross-sensitivities”;
- The words: “Refer to RAE Systems Technical Note TN-114 for LEL sensor poisoning”;
- The words: “Caution: Excessive EMI may cause incorrect operation”;
- The words: “All field wiring must be tool operated”;
- Environmental specification for altitude or pressure;
- Reference to ISA-RP12.12.02.

For PMG5x20EA units with an external alarm option, the installation manual must also contain the following:

- The words: “External alarm and relay must be attached to PGM5x20EA through the connector specified in instruction 029-STCM-001”;
- The words: “External alarm and relay must be suitable for the Hazardous Location in which they are mounted”.

NOTE: Jurisdictions in Canada may require markings to be also in French. It is the responsibility of the Customer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the Customer to determine this requirement and have bilingual wording added to the "Markings". French Markings for products with CSA Mark are optional for products distributed in USA.