



# Certificate of Compliance

**Certificate:** 2185148

**Master Contract:** 217005

**Project:** 2270910

**Date Issued:** 2010/02/15

**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.*



*Donald Theroux*

**Issued by:** Donald Theroux

## **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

- Model FTD-3000 LEL, MeshGuard fixed Combustible Gas Detector, Ambient -40 °C to +50 °C, Intrinsically safe when powered by RAE battery, p/n 500-0111-000 or an intrinsically safe external power source with an entity parameter that does not exceed the FTD-3000 LEL rating of  $U_i = 3.6$  V.

Note: The FTD-3000 LEL is intended to be mounted in a fixed location using a metal holster and is not intended to be portable. Internal batteries are to be replaced only when the area is known to be non-hazardous and without removing the FTD-3000 LEL from the holster.



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**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

- Model FTD-3000 EC, MeshGuard single Toxic Gas Detector, Ambient -40 °C to +50 °C, Intrinsically safe when powered by RAE battery, p/n 500-0111-000 or an intrinsically safe external power source with an entity parameter that does not exceed the FTD-3000 EC rating of  $U_i = 3.6$  V.

Note: The FTD-3000 EC is intended to be mounted in a fixed location or used as a portable instrument. The internal battery may only be replaced in an area known to be nonhazardous.

**APPLICABLE REQUIREMENTS**

CAN/CSA Standard C22.2 No. 0-M91 (*Reaffirmed 2006*) - 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. 152-M1984 (*Reaffirmed 2006*) - Combustible Gas Detection Instruments

CAN/CSA Standard C22.2 No. 157-92 (*Including update No. 2, June, 2006*) - Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations

ANSI/ISA-12.13.01-2003 (*IEC 61779-1 through 5 Mod*) - Performance Requirements for Combustible Gas Detectors

ANSI/UL Standard 913 (*Sixth Edition, Dated August 8, 2002. With revisions through and including August 9, 2004*) - Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations

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

ANSI/UL Standard 1203 (*Fourth Edition, September 2006*) - Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations

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

IEC 60079-0 (*Edition 5.0 2007 -10*) - Explosive Atmospheres – Part 0: Equipment – General Requirements



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IEC 60079-11 (*Fifth Edition 2006-07*) - Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety “i”

### **MARKINGS**

The following markings are required for both FTD-3000 EC and FTD-3000 LEL.

- Submitter’s identification: “RAE Systems”, “RAE” or CSA Master Certificate Number “217005”, adjacent to the CSA Mark in lieu of the manufacturer name;
- Model designation: as specified in the PRODUCTS section, above;
- Complete electrical rating: (RAE 500-0111-000 battery and  $U_i=3.6$  V);
- Hazardous locations designation: as specified in the PRODUCTS section, above;
- Temperature Code: as specified in the PRODUCTS section, above;
- Temperature range: as specified in the PRODUCTS section, above;
- Serial Number or date code;
- CSA Mark with c/us indicator as shown on the Certificate of Compliance. “The product may bear one of the following CSA markings: CSA, or CSAUS, or CCSAUS.”
- WARNING: Use only RAE 500-0111-000 for internal battery.
- WARNING – Read and Understand User’s Manual before operating or servicing.

The following additional markings are required for the FTD-3000 EC

- WARNING: Do not replace internal battery in hazardous locations.

The following additional markings are required for the FTD-3000 LEL and its holster

- WARNING: FOR FIXED USE ONLY.
- “C22.2 No. 152-M1984” and “ANSI/ISA-12.13.01-2000” adjacent to CSA Monogram (optional on holster).
- WARNING - Internal battery must be replaced under a hot work permit where the atmosphere is determined to be nonhazardous while the battery is being replaced.

The following required warnings appears in the FTD-3000 EC User Manual

- WARNING: Only Change internal battery in non-hazardous locations and use the battery RAE Systems provide, 500-0111-000. Only remove the external battery adaptor in nonhazardous locations.
- WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.

The following required warnings appears in the FTD-3000 LEL User Manual

- "WARNING: WIRELESS COMMUNICATION IS INTENDED FOR USE AS A SECONDARY REMOTE ALARM STATUS NOTIFICATION ONLY. PRIMARY ALARMING OF COMBUSTIBLE GAS HAZARDS IS PROVIDED LOCALLY BY DETECTOR".
- WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.

*Note - Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the "Markings".*

Markings are as shown in drawings D01-40EC-LBL-CSA or D01-4LEL-LBL-CSA. These labels use CSA certified adhesive-type material Flexcon THERMAL film Select 21830 or Brady B-423. The holster duplicates the LEL warning markings. The markings appear on either the Flexcon or the Brady label or alternatively, the markings can be silkscreened or laser etched onto the holster, see drawing D01-HSTR-000 or 019-HSTR-000.