



# Certificate of Compliance

**Certificate:** 2055846

**Master Contract:** 225996

**Project:** 70219778

**Date Issued:** 2019-05-09

**Issued To:** SpectraSensors, Inc.  
11027 Arrow Route  
Rancho Cucamonga, California, 91730  
United States

**Attention:** Paulo Silva

*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.*

**Issued by:** Sorin Tat  
Sorin Tat



## **PRODUCTS**

**CLASS - C225802 - PROCESS CONTROL EQUIPMENT For Hazardous Locations**

**Class I, Division 2, Groups A, B, C and D, Type 4X and IP66;**

**Class I, Division 2, Groups A, B, C and D, IP66**

Trace Gas Monitor for Process Streams, Model SS2100 (ARM 9 Hardware).

Rated at 100-240Vac, 50/60Hz, 60W Max., or 18-24Vdc, 1.6A max. For use in an ambient temperature range of -20°C to +60°C. Temperature Code T3C or T3 when used with certified heater installed.

Relay contact ratings for external connection:

Inductive Load Ratings: AC → 15-250V, 3A N.O. Contact; 1.5A N.C. Contact

DC → 13-24V, 1A N.O. Contact; 1A N.C. Contact



CLASS - C225882 - PROCESS CONTROL EQUIPMENT For Hazardous Locations - Certified to US Standards

**Class I, Division 2, Groups A, B, C and D, Type 4X and IP66;**

**Class I, Division 2, Groups A, B, C and D, IP66**

**Class I, Zone 2 IIC T3/T3C**

Trace Gas Monitor for Process Streams, Model SS2100 (ARM 9 Hardware).

Rated at 100-240Vac, 50/60Hz, 60W Max., or 18-24Vdc, 1.6A max. For use in an ambient temperature range of -20°C to +60°C. Temperature Code T3C or T3 when used with certified heater installed.

Relay contact ratings for external connection:

Inductive Load Ratings: AC → 15-250V, 3A N.O. Contact; 1.5A N.C. Contact

DC → 13-24V, 1A N.O. Contact; 1A N.C. Contact

Note(s):

1. The Analyzer enclosure has Type 4X and IP66 ratings. Refer to the Instruction Operating Manual for construction and installation requirements for maintaining these ratings.
2. The Analyzer plus Sample System assembly has IP66 ratings only. Refer to the Instruction Operating Manual for construction and installation requirements for maintaining these ratings.
3. Interconnection of the Analyzer enclosure and the Cell enclosure shall be accomplished using wiring methods approved for Class I, Division 2 hazardous locations as per the Canadian Electrical Code (CEC) Appendix J and Section 18-150 and the National Electrical Code (NEC) Article 501 and 505.
4. The 100-240 Vac power option is designed for single phase electric power input only. The single pole input fuse protection is not designed for split-phase electric power input.
5. This certification does not assess the connection of any external device to the relay contacts provided by the Model SS2100 trace gas monitor. Exception is the Solenoid Valves provided with the product.
6. A certified device must be connected to the relay contacts provided by Model SS2100. Final installation of this product in the intended application is subject to review by the local authority having jurisdiction.

**APPLICABLE REQUIREMENTS**

CAN/CSA C22.2 No. 0-M91	General Requirements – Canadian Electrical Code, Part II
CAN/CSA C22.2 No. 94-M91	Special Purpose Enclosures
CAN/CSA C22.2 No. 213-M1987	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA 61010-1-12	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements - Third Edition
ANSI/UL 61010-1	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements - Third Edition
CAN/CSA C22.2 No. 60529:05	Degrees of protection provided by enclosures (IP Code)
ANSI/ISA 12.12.01 - 2007	Non-Incendive Electrical Equipment for Use in Class I and II, Division 2, Class III Divisions 1 and 2 Hazardous (Classified) Locations
UL 50 11 <sup>th</sup> Edition	Enclosures for Electrical Equipment
ANSI/IEC 60529 - 2004	Degrees of protection provided by enclosures (IP Code)



## 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 products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The following markings appear on CSA Certified nameplate materials listed below:

-Pressure Sensitive “468” Computer printable brush serrated aluminum, 5mil to 25mil with screen process printing.

- Submitter’s Name or Master Contract Number 225996.
- Model number.
- Serial number.
- Complete electrical ratings.
- Input terminals identified as Line, Neutral and Ground. Use Earth ground symbol IEC 60417-5017.
- Replacement fuse type and rating marked adjacent to fuse holder.
- Hazardous Locations area marking: Class I, Division 2, Groups A, B, C, and D.
- Temperature Code T3C or T3 when used with heater.
- Environmental Ratings: Type 4X and IP66.
- The following caution markings shall appear on the product
  - WARNING - EXPLOSION HAZARD – DO NOT DISCONNECT IN HAZARDOUS LOCATIONS  
-OR-  
WARNING - EXPLOSION HAZARD – DO NOT DISCONNECT WHILE CIRCUIT IS ALIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS.
  - WARNING – EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2
  - POTENTIAL ELECTROSTATIC HAZARD, DO NOT WIPE WITH A DRY CLOTH  
-OR-  
WARNING – USE DAMP CLOTH TO CLEAN DISPLAY AND KEYPAD TO AVOID POTENTIAL STATIC ELECTRIC DISCHARGE”.
  - CLASS 1 LASER PRODUCT. REFER SERVICING TO MANUFACTURER QUALIFIED PERSONNEL
  - CAUTION – INVISIBLE LASER RADIATION WHEN OPEN. (*on optical head assembly*)



## *Supplement to Certificate of Compliance*

**Certificate:** 2055846

**Master Contract:** 225996

*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>
70219778	2019-05-09	Update report 2055846 project 70053338 to include three new power supplies tested before and replace some electronic boards with RoHS compliant boards and display (no design change).
000070217649	2019-03-27	Update of CSA report 2055846 to include Class I, Zone 2 IIC on the nameplate as per the NEC and ANSI/ISA 12.12.01 allowances.
000070053338	2016-11-11	Update Report 2055846 to add IP66 Ratings and some minor drawings updates.
000070023314	2015-08-12	UPDATE REPORT 2055846 MC 225996 TO RE-EVALUATE THE PRODUCT (SS2100 ARM9) WITH NEW POWER SUPPLY AND UPDATED PRINTED CIRCUIT BOARDS
0002717990	2014-05-02	Update of Report 2055846 to make minor product construction and descriptive document changes for the SS2100 (ARM 9 Hardware) trace gas monitor.
0002685375	2014-01-13	Update of Report 2055846 to make minor product construction changes for the SS2100 (ARM 9 Hardware) trace gas monitor.
0002585991	2013-10-07	Addition of Type 4X and IP65 ratings, deletion of Type 3 rating, and incorporation of component and electronic changes to the SS2100 (ARM9 Hardware) trace gas monitor and incorporation of necessary Descriptive Document updates.
0002559395	2012-11-07	Update to allow for the connection of any certified device to the relay contacts of Model SS2100 Trace Gas Monitor.
0002501435	2012-05-11	Possible update of Report 2055846 to include addition of PCB Temperature stabilization for analog board
0002406145	2011-03-22	Update of Report 2055846 to include alternate sealents used to seal keypad ribbon cable on enclosure door.



0002376297	2010-12-14	Update of Report 2055846 to include alternate 24Vdc - Dc converter.
0002320175	2010-06-21	Update of Report 2055846 to include an alternate 4-20mA Low Noise PCB and minor revisions.
0002195552	2009-07-23	Update of Report 2055846 to apply clerical corrections.
0002104477	2009-03-13	(EDM18: 1of1: CSA) Evaluation for possible update of report 2055846 for SS2100 to increase the ambient temperature from 50C to 60C on 18-32 Vdc option
0002055846	2008-08-30	Initial evaluation of Model SS2100 (ARM 9 Hardware) for use in hazardous locations; Class I, Division 2, Groups ABCD; 61010 evaluation; Tamb -20°C to +60°C