



# Certificate of Compliance

**Certificate:** 70024492

**Master Contract:** 238631

**Project:** 70024492


**Date Issued:** April 9, 2015

**Issued to:** OleumTech Corp.  
19762 Pauling  
Foothill Ranch, CA 92610  
USA

**Attention:** Mr. Patrick Clark

*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:** Andrew Sargent

## PRODUCTS

CLASS 2258 02 – PROCESS CONTROL EQUIPMENT – For Hazardous Locations

CLASS 2258 82 – PROCESS CONTROL EQUIPMENT – For Hazardous Locations – Certified to US Standards

**Class I, Division 2, Groups A, B, C, D T4**

**Ex nA IIC T4 Gc**

**Class I Zone 2 AEx nA IIC T4 Gc**

WIO Analog and Digital I/O modules, and Expansion Power modules.  $-40\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq 80\text{ }^{\circ}\text{C}$ . Models and ratings as described below.

Isolated 4-20 mA Analog I/O Module, 2 AI/2 AO - Model BM-A420-122. Supply from system backplane: 5V dc, 150 mA. Analog output 20.5 mA (use loop power,  $V_{\text{diff}}$  on Terminal = 5 Vdc).

0-10 V Analog I/O Module, 2 AI/2 AO - Model BM-A010-122. Supply from system backplane: 5 V dc, 70 mA. Analog output 0-10V, 1 mA max (minimum input impedance is 10K ohm).



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Isolated Digital I/O Module, 4 DI/4 DO - Model BM-D100-144. Supply from system backplane: 5 V dc, 56 mA. Digital output 30V, 1A (open drain output, sink current)

Expansion Power Module - Model BM-1000-PM1. Supply 9 to 30 V dc CLASS 2/SELV, 6.8 W max. Output to system backplane: 5 V dc, 1 A Max.

**Class I, Division 2, Groups A, B, C, D T3**

**Ex nA IIC T3 Gc**

**Class I Zone 2 AEx nA IIC T3 Gc**

WIO Wireless radio modules.  $-40\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq 80\text{ }^{\circ}\text{C}$ . Models and ratings as described below.

Radio Module, 900 MHz - Model BM-0900-RM1. Supply 9 to 30 V dc CLASS 2/SELV, 6.8W max. Output to system backplane: 5 V dc, 1 A Max.

Radio Module, 2.4 GHz. - Model BM-2400-RM1. Supply 9 to 30 V dc CLASS 2/SELV, 6.8W max. Output to system backplane: 5 V dc, 1 A Max.

Radio Module, 915 MHz. - Model BM-0915-RM1. Supply 9 to 30 V dc CLASS 2/SELV, 6.8W max. Output to system backplane: 5 V dc, 1 A Max.

Radio Module, 2.4 GHz (Int'l) - Model BM-2410-RM. Supply 9 to 30 V dc CLASS 2/SELV, 6.8W max. Output to system backplane: 5 V dc, 1A Max.

Radio Module, 868 MHz - Model BM-0868-RM1. Supply 9 to 30 V dc CLASS 2/SELV, 6.8W max. Output to system backplane: 5 V dc, 1 A Max.

Notes:

1. All modules are to be used with accessory Data Rail, part number BS-010-BK, rated 150V max, 8A max.,  $-40\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq 80\text{ }^{\circ}\text{C}$ .
2. This is OPEN type equipment that must be installed within a suitable end-use enclosure that requires a tool to access, and is appropriately certified (e.g. Ex e, Ex nA, Ex d, Ex p, or equivalent protection), providing a minimum ingress protection level of IP54. The suitability of the enclosure is subject to investigation by the local Authority Having Jurisdiction at the time of installation.
3. The installer shall ensure that the service temperature of the enclosure is not exceeded and the maximum rated ambient temperature of the modules are not exceeded.
4. Wiring to or from this equipment, which enters or leaves the system enclosure, must utilize wiring methods suitable for Class I, Division 2 and/or Class I, Zone 2 Hazardous Locations, as appropriate for the installation.
5. External transient overvoltage protection must be provided in the power supplied to the equipment at a level not exceeding 140 % of the rated voltage at the power supply terminals of the apparatus.



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**APPLICABLE REQUIREMENTS**

|  |   |
|--|---|
| CSA C22.2 No. 0-10   | General Requirements - Canadian Electrical Code, Part II  |
| CAN/CSA-C22.2 No. 61010-1-12                                       | Electrical Equipment for Measurement, Control and Laboratory Use — Part 1: General requirements   |
| CAN/CSA-IEC 61010-2-201:14   | Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 2-201: Particular requirements for control equipment |
| CSA C22.2 No. 213-M1987<br><i>(Reaffirmed 2013)</i>                | Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations   |
| CAN/CSA-C22.2 No. 60079-0:11                                       | Explosive atmospheres — Part 0: Equipment — General requirement   |
| CAN/CSA-C22.2 No. 60079-15:12                                      | Electrical apparatus for explosive gas atmospheres — Part 15: Construction, test and marking of type of protection “n” electrical apparatus           |
| ANSI/UL 61010-1-2012<br><i>Third Edition</i>                       | Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use — Part 1: General Requirements                              |
| UL Subject 61010-2-201   | Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 2-201: Particular requirements for control equipment |
| ANSI/ISA-12.12.01-2007   | Non-incendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations            |
| ANSI/UL 60079-0-2013<br><i>Sixth Edition (July 26, 2013)</i>       | Explosive atmospheres – Part 0: Equipment – General requirements  |
| ANSI/UL 60079-15-2009<br><i>Fourth Edition (February 15, 2013)</i> | Electrical Apparatus for Explosive Gas Atmospheres – Part 15: Construction, Test and Marking of Type of Protection “n” Electrical Apparatus           |

**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.



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The following markings are provided on a CSA Accepted (Class 7923.01) or UL Recognized to Canadian requirements (PGJ18) and UL Recognized (PGJ12) or CSA Accepted to US Standards (Class 7923.81) adhesive nameplate, used with the printer and ribbon specified in the Listing, and is suitable for indoor use on polyester, at a maximum service temperature of 80°C or higher. Nameplate is affixed to the side of the module housing.

- Manufacturer's Name "OleumTech", or CSA Master Contract Number "238631" adjacent to the CSA Mark in lieu of manufacturer's name.
- Model number: As specified in the PRODUCTS section, above.
- Electrical ratings: As specified in the PRODUCTS section, above.
- ISO 60417, Symbol 5031  $\overline{\text{---}}$  shall be used adjacent to the DC input terminal rating.
- Ambient temperature rating: As specified in the PRODUCTS section, above.
- Manufacturing date in MMY format (or similar), or serial number traceable to year and month of manufacture. May be on a separate adhesive nameplate.
- The CSA Mark, with or without the "C" and "US" indicators, as shown on the Certificate of Conformity.
- The designation: "15.70024492X" adjacent to the CSA mark, or "CSA 15.70024492X" if not adjacent to CSA mark.

All modules, except radio modules:

- Hazardous Location designation: "Class I, Division 2, Groups A, B, C, D T4". The words "Class", "Division", and "Groups" may be abbreviated as "CL", "DIV", and "GRP" or "GP".
- Method of Protection markings: "Ex nA IIC T4 Gc" and "Class I, Zone 2 AEx nA IIC T4 Gc". The words "Class" and "Zone" may be abbreviated "CL", and "ZN".

Radio modules:

- Hazardous Location designation: "Class I, Division 2, Groups A, B, C, D T3". The words "Class", "Division", and "Groups" may be abbreviated as "CL", "DIV", and "GRP" or "GP".
- Method of Protection markings: "Ex nA IIC T3 Gc" and "Class I, Zone 2 AEx nA IIC T3 Gc". The words "Class" and "Zone" may be abbreviated "CL", and "ZN".
- The following words:
  - "WARNING – EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2/ ZONE 2".
  - "AVERTISSEMENT - RISQUE D'EXPLOSION – LA SUBSTITUTION DE COMPOSANTS PEUT RENDRE CE MATERIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE I, DIVISION 2/ ZONE 2".
  - "WARNING – EXPLOSION HAZARD – DO NOT CONNECT WHILE CIRCUITS ARE LIVE UNLESS AREA IS KNOWN TO BE NONHAZARDOUS".
  - "AVERTISSEMENT - RISQUE D'EXPLOSION. NE PAS DEBRANCHER TANT QUE LE CIRCUIT EST SOUS TENSION, A MOINS QU'IL NE S'AGISSE D'UN EMPLACEMENT NON DANGEREUX".

Each wiring terminal shall be permanently identified, adjacent to the terminal.



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An installation manual or data sheet shall be supplied with each unit, containing the following minimum marking information:

- Manufacturer's name and address
- Electrical ratings.
- Specification to provide transient protection in the power supply circuit, at a level not exceeding 140 % of the rated voltage at the power supply terminals of the apparatus.
- Specification for ambient temperature rating, As specified in the PRODUCTS section, above.
- Specification for appropriate wiring to the connectors, including definition of terminal functions, and specification for wire gauge.
- Specification that the power must be supplied from a certified Class 2 and/or SELV source that provides the equivalent of Reinforced or Double insulation between MAINS and the power input terminals of this equipment.
- Specification for field installed wiring to be rated 90°C or higher.
- Specification that the power source must be provided with a means for disconnection.
- A caution to de-energize system before servicing, or equivalent.
- Specification for Environmental ratings and Electrical application type: Permanently connected, Equipment Class II, Pollution Degree 2, Continuous operation, altitude 0-2000 meters.
- A statement regarding the intended use of the equipment, and statement that if the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- A specification that the equipment must be serviced only by personnel authorized by the manufacturer.
- Instructions for installation, identification of terminal connections, protective earthing, proper operation, system interconnection, cleaning, maintenance and service.
- Mounting and installation instructions, including dimensions, and the following words, or equivalent:
  - WIO modules are OPEN type equipment that must be installed within a suitable end-use enclosure that requires a tool to access, and is appropriately certified (e.g. Ex e, Ex nA or equivalent protection) and provides a minimum ingress protection level of IP54. The installer shall ensure that the service temperature of the enclosure and the maximum ambient temperature of the modules are not exceeded. The suitability of the enclosure is subject to investigation by the local Authority Having Jurisdiction at the time of installation.
  - Wiring to or from this equipment, which enters or leaves the system enclosure, must utilize wiring methods suitable for Class I, Division 2 and/or Class I, Zone 2 Hazardous Locations, as appropriate for the installation
- Specification identifying that the USB connector on the front of the communications module (wireless or RS-485) is for temporary connection only. This connector must not be used unless the area is known to be nonhazardous.
- Specification that the configuration switches and rotary module identification switches must not be operated unless the area is known to be nonhazardous.
- The following words, or suitable equivalent:
  - This equipment is suitable for installation in Class I, Division 2 / Zone 2, Group A, B, C, D hazardous locations or nonhazardous locations only.
  - WARNING - Explosion Hazard. Do not connect or disconnect this equipment unless power has been removed or the area is known to be nonhazardous.
  - AVERTISSEMENT - RISQUE D'EXPLOSION. NE PAS DEBRANCHER TANT QUE LE CIRCUIT EST SOUS TENSION, A MOINS QU'IL NE S'AGISSE D'UN EMPLACEMENT NON DANGEREUX.



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- WARNING - Explosion Hazard. Substitution of components may impair suitability for Class I, Division 2.
- AVERTISSEMENT - RISQUE D'EXPLOSION – LA SUBSTITUTION D E COMPOSANTSP EUTR ENDRE CE MATERIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE I, DIVISION 2;



## *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>  |
|----------------|---------------|---|
| 70024492       | April 9, 2015 | Original Certification of WIO Wireless Radio, Analog and Digital I/O modules, and Expansion Power modules, models BM-0868-RM1, BM-0900-RM1, BM-0915-RM1, BM-1000-PM1, BM-2400-RM1, BM-2410-RM, BM-A010-122, BM-A420-122, and BM-D100-144. |