



# Certificate of Compliance

**Certificate:** 2615594

**Master Contract:** 218481

**Project:** 2631365

**Date Issued:** June 10, 2013

**Issued to:** Max-Air Technology, Inc.

751 Hoff Rd  
O'Fallon, MO 63366  
USA  
Attention: Jon Davis

*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.*



*Marius Manastireanu*

**Issued by:** Marius Manastireanu

## **PRODUCTS**

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

**CLASS 2258 02** - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

**Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III; Temp Code T4A**

**Ex d IIB T5 Gb; Ex tb IIIC T108°C Db**

**Class I, Zone 1, AEx d IIB T5 Gb; Class II, Zone 21 AEx tb IIIC T 108°C Db**

- Limit Switch Boxes 48 Series with electrical ratings and Hazardous Locations Classification per Table below; Ambient Temperature Range -20°C to +60°C, Enclosure is Type 4X and IP67 rated

**aa      48      -      b      c      0      d      e**

**aa = Market Designation**

**MS = Mechanical Switch**

**PS = Magnetic Proximity Switch**

**IS = Inductive Proximity Switch**



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**48 = Box Design**

- **b = Conduit entry Type**
- **1 = 1/2"-14 NPT**
- **c = Switch quantity**
- **2 = 2 switches**
- **3 = 3 switches**
- **4 = 4 switches**
- **0 = Fixed value**
- **0 d = Housing material**
- **0 M = Aluminum**
- **0 7 = Stainless steel**
- **0 e = Switch Type**
- **0 0 = Silver Plated Mechanical SPDT switches, 250Vac/dc max & 11Amax (50/60 Hz)**
- **0 S = Gold Plated Mechanical SPDT switches, 250Vac/dc max & 0.1 A max (50/60 Hz)**
- **0 A = IFM Electronic, NS5002 (IS-2002-N/OLED/1D/2G) rated 15Vdc & 50mA max.**
- **0 B = IFM Electronic, IS5001 (IS-3002-BPOG) rated 10..36 Vdc & 200mA**
- **0 C = IFM Electronic, IS5026 (IS-2002-FROG/PH) rated 5..36Vdc, 200mA**
- **0 E = IFM Electronic, IS0003 (IS-2002-AROA RT) rated 20...140Vac (47...63 Hz) or 10...140Vdc & 200mA max**
- **0 F = Pepperl+Fuchs, NJ2-V3-N rated 8.2Vdc & 3mA**
- **0 G = Pepperl+Fuchs, NBB2-V3-E2 rated 30Vdc max & 100mA max**
- **0 H = Hamlin, 59140 rated 200Vdc max and 0.5A max**



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- **0**                   **M = HSI Sensing, HSR-834W rated 500Vdc max & 3A max**
  - **0**                   **N = Stem, E530 rated 300Vdc max & 3A max**
  - **0**                   **f = Mounting means/bracket used**
  - **0**                   **Alpha or numeric symbols identifying mounting means**

**Class I, Division 2, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III; Temperature Code T4A**

**Ex nA IIC T5 Gc; Ex tb IIIC T108°C Db**

**Class I, Zone 2 AEx nA IIC T5 Gc; Class II, Zone 21, AEx tb IIIC T108°C Db**

- Limit Switch Boxes 48 Series with electrical ratings and Hazardous Locations Classification per Table below; Ambient Temperature Range -20°C to +60°C, Enclosure is Type 4X and IP67 rated

**aa        48    -    b        c        0        d        e        f**

**aa = Market Designation**

**PS = Magnetic Proximity Switch**

**IS = Inductive Proximity Switch**

**48 = Box Design**

- **b = Conduit entry Type**
- **1 = 1/2"-14 NPT**
- **2 = M20 x 1.5**
- **c = Switch quantity**
- **2 = 2 switches**
- **3 = 3 switches**
- **4 = 4 switches**
- **0 = Fixed value**



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- 0 **d = Housing material**
- 0 **M** = Aluminum
- 0 **7** = Stainless steel
- 0 **e = Switch Type**
- 0 **A** = IFM Electronic, NS5002 (IS-2002-N/OLED/1D/2G) rated 15Vdc & 50mA max
- 0 **B** = IFM Electronic, IS5001 (IS-3002-BPOG) rated 10..36 Vdc & 200mA
- 0 **C** = IFM Electronic, IS5026 (IS-2002-FROG/PH) rated 5..36Vdc, 200mA
- 0 **E** = IFM Electronic, IS0003 (IS-2002-AROA RT) rated 20..140Vac (47...63 Hz) or 10...140Vdc & 200mA max
- 0 **F** = Pepperl+Fuchs, NJ2-V3-N rated 8.2Vdc & 3mA
- 0 **G** = Pepperl+Fuchs, NBB2-V3-E2 rated 30Vdc max & 100mA max
- 0 **H** = Hamlin, 59140 rated 200Vdc max and 0.5A max
- 0 **M** = HSI Sensing, HSR-834W rated 500Vdc max & 3A max
- 0 **N** = Stem, E530 rated 300Vdc max & 3A max
- 0 **f = Mounting means/bracket used**
- 0 Alpha or numeric symbols identifying mounting means

Notes:

1) Electrical ratings for this application are dictated by the limiting internal switch with the lowest electrical ratings.

2) Wiring to or from this device, which enters or leaves the system enclosure, must utilize wiring methods suitable for Class I Division 1, respectively Class 1 Division 2 Hazardous Locations, as appropriate for the installation.

3) Enclosure Environmental ratings are achieved when conduit entries are torqued to at least 90.4 Nm (800 lbs/inch) and fasteners (Class A2-50) to 40Nm (354 lbs/inch) not-lubricated conditions.



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**APPLICABLE REQUIREMENTS**

CAN/CSA Standard C22.2 No. 0-10 August 2011	General Requirements – Canadian Electrical Code, Part II
CAN/CSA C22.2 No. 142-M1987 (Reaffirmed 2009)	Process Control Equipment – Industrial Products
UL 508 Seventeenth Edition	Industrial Control Equipment
CAN/CSA Standard C22.2 No. 25-M1966 Reaffirmed 2009	Enclosures for Use in Class II Groups E, F, and G Hazardous Locations
CAN/CSA Standard C22.2 No. 30-M1986 Reaffirmed 2007	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
UL 1203 Fourth Edition	Industrial Products Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for use in Hazardous (Classified) Locations
CAN/CSA C22.2 No. 213-M1987 Reaffirmed 2008	Non-incendive Electrical Equipment for Use in Class I, Division 2, Hazardous Locations – Industrial Products
ANSI/ISA 12.12.01 - 2012 Approved 9 July 2012	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
CAN/CSA-C22.2 No. 60079-0:11 (IEC 60079-0:2007, MOD)	Explosive atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-1:11 (IEC 60079-1:2007, MOD)	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures “d”
CAN/CSA-C22.2 No. 60079-15:12 (IEC 60079-15:2005, MOD)	Electrical apparatus for explosive gas atmospheres - Part 15: Construction, test and marking of type of protection “n” electrical apparatus
CAN/CSA-C22.2 No. 60079-31:12	Explosive atmospheres — Part 31:



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(IEC 60079-131:2008, MOD)	Equipment dust ignition protection by enclosure “t”
ANSI/ISA-60079-0 (12.00.01)-2009	Explosive atmospheres - Part 0: Equipment - General Requirements
ANSI/ISA-60079-1 (12.22.01)-2009	Explosive Atmospheres - Part 1: Equipment Protection by Flameproof Enclosures “d”
ANSI/ISA-60079-15 (12.12.02)-2012	Electrical Apparatus for Use in Class I, Zone 2 Hazardous (Classified) Locations: Type of Protection "n"
ANSI/ISA-60079-31 (12.10.03)-2009	Explosive Atmospheres – Part 31: Equipment Dust Ignition Protection by Enclosure “t”
CAN/CSA Standard C22.2 No. 94.1-07 and Harmonized ANSI/UL Standard 50 1st Ed. – Sep. 2007 & update No. 1, July 2008	Enclosures for Electrical Equipment, Non- Environmental Considerations
CAN/CSA Standard C22.2 No. 94.2-07 and Harmonized ANSI/UL Standard 50E 1st Ed. – Sep. 2007 & update No. 1, July 2008	Enclosures for Electrical Equipment, Environmental Considerations
CAN/CSA C22.2 No. 60529:05	Degrees of protection provided by enclosure (IP Code)
ANSI/ISA 60529:05	Degrees of protection provided by enclosure (IP Code)

**MARKINGS**

Markings appear on a minimum 0.02 inch thick aluminum or stainless steel nameplate, secured to the outside of the enclosure using non-removable fasteners in blind holes. The following marking details can be stamped, etched, silkscreened, molded or embossed on the nameplate:



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- Manufacturer Name: “Max-Air Technologies”, or CSA Master Contract Number”218481”, 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.
- Ambient temperature rating: As specified in the PRODUCTS section above.
- Manufacturer date in MMY format, or serial number, traceable to month of manufacture.
- Enclosure ratings: As specified in the PRODUCTS section above.
- The CSA Mark with or without “C” and “US” indicators, as shown on the Certificate of Conformity.
- Hazardous Locations designations: As specified in the PRODUCTS section above.
- Temperature code: As specified in the PRODUCTS section above, optional marking
- Terminal Designations adjacent to each field wiring terminal
- The ground designation “GND” or equivalent adjacent to the equipment terminal
- The following words for “Class I, Division 1, Group C and D” marked equipment:
  - “*Open circuit before removing cover*”, or “*Keep cover tight while circuits are alive*” or equivalent.
  - “*Seal required within 18 inches*” or equivalent
- The following words for “Class I, Division 2, Group A, B, C and D” marked equipment:
  - “*WARNING – EXPLOSION HAZARD – Substitution of components may impair suitability for Class I, Division 2*” or equivalent
  - “*WARNING – EXPLOSION HAZARD – Do not connect while circuit is alive unless area is known to be nonhazardous*” or equivalent

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, ambient temperature rating and enclosure ratings as described in the PRODUCTS section
- Specification for appropriate wiring to the connector, including definition of pin functions, and specification for wire gauge.
- Mounting and installation instructions, including dimensions, and the following words, or equivalent:
  - Wiring to or from this device, which enters or leaves the system enclosure, must utilize wiring methods suitable for Class I, Division 2 (or Division 1) Hazardous Locations, as appropriate for the installation.



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- Enclosure Environmental ratings are achieved when conduit entries are torqued to at least 90.4 Nm (800 lbs/inch) and fasteners (Class A2-50) to 40Nm (354 lbs/inch) not-lubricated conditions.
- Above warning statements pertaining to Class I Divisions 1, respectively Class I Division 2 Hazardous Locations

*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".*