



# Certificate of Compliance

**Certificate:** 70185090

**Master Contract:** 227773

**Project:** 70185090

**Date Issued:** January 15, 2019

**Issued to:** Advanced Micro Instruments Inc.  
225 Paularino Ave  
Costa Mesa,  
CA 92626  
USA

**Attention:** Charles Schacht

*The products listed below 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 US Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only*



**Issued by:**

James Jarman

## **PRODUCTS**

**CLASS 2258 02** – Process Control Equipment - For Hazardous Locations

**Class I, Division 1, Groups C & D, T3A**  
**-20°C ≤ Ta ≤ + 49°C**

AMI BARRACUDA MODEL 4010BR-AC and 4010BR-DC Trace moisture measuring device

Explosionproof with intrinsically safe output to attached external measurement section;  
AC Input rated: 117Vac~, 60Hz, 0.5A (Analogue Output: 1-5V or 4-20mA and USB)  
DC Input rated: 10-28Vdc, 1.2A @ 12V

**CLASS 2258 82** – Process Control Equipment - For Hazardous Locations Certified to U.S. Standards

**Class I, Division 1, Groups C & D, T3A**  
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**Conditions of Acceptability:**

- i. Connection to mains shall be made in accordance with ANSI/NFPA 70, NEC, with CSA C22.1, CEC, Part 1, or both as appropriate.
- ii. The 4010BR contains shunt zener diode interfaces, which are internally connected to the external grounding stud on the explosionproof enclosure. This external grounding stud requires connection to a suitable intrinsic safety ground in accordance with the applicable code of practice. The external grounding stud shall be appropriately marked in accordance with the applicable code of practice.
- iii. The optical output has been assessed for passing through the following potentially explosive atmospheres that may be present in the process line:
  - a. Zone 2, Groups IIA and IIB, independent of T-class
  - b. Zone 2, Group IIC, with temperature classes T1/T2/T3/T4
  - c. Class I, Division 2, Groups A and B, temperature codes T1/T2/T3/T4
  - d. Class I, Division 2, Groups C and D, independent of temperature code

In all cases, the optical radiation shall be prevented from leaving the enclosure, apart from passing through the process fluid.

- iv. This equipment is for use indoors only.
- v. A suitably approved conduit seal shall be installed by the user within 50 mm of the explosionproof enclosure wall.
- vi. Blanking elements are provided by the manufacturer and shall be fitted by the user to all unused conduit entries to maintain the explosionproof characteristics of the equipment.
- vii. Equipment is only to be installed by manufacturer trained personnel.
- viii. If at any time there is a conflict between the system safety provisions and any relevant local (national or regional) requirements, the local requirements always take precedence
- ix. Equipment has only been tested for all aspects of Hazard in the safety standard. No evaluation of functional safety and performance characteristics has been conducted.
- x. A circuit breaker, specified in the installation/user manual must be installed in line with the supply to the unit.



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**APPLICABLE REQUIREMENTS**

- C22.2 No. 0-10 (R2015) - General Requirements – Canadian Electrical Code, Part II
- C22.2 No. 61010-1-12 (R2017) - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use — Part 1: General Requirements
- C22.2 No. 30-M1986 (R2016) - Explosion-Proof Enclosures for Use in Class I Hazardous Locations
- CSA-C22.2 No. 60079-0:15 - Explosive atmospheres – Part 0: Equipment – General requirements
- CSA-C22.2 No. 60079-11:14 - Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i”
- CAN/CSA-C22.2 No. 60079-28:16 - Explosive atmospheres — Part 28: Protection of equipment and transmission systems using optical radiation
- ANSI/UL-61010-1-2016– 3<sup>rd</sup> Edition - Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements
- UL1203 – 5<sup>th</sup> Edition - Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
- ANSI/UL 60079-0 - 6<sup>th</sup> Edition - Explosive atmospheres – Part 0: Equipment – General requirements
- ANSI/UL 60079-11 – 6<sup>th</sup> Edition - Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety “i”
- ANSI/UL 60079-28 – 2<sup>nd</sup> Edition - Explosive Atmospheres – Part 28: Protection of Equipment and Transmission Systems Using Optical Radiation



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## 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.

All labels are silkscreened onto a metallic substrate, with a minimum thickness of  $\geq 0.5\text{mm}$ .

- CSA Monogram with c us Indicator (The products listed 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), as shown on the Certificate of Compliance.
- Manufacturers name "Advanced Micro Instruments Inc", or CSA Master Contract number "227773" adjacent the CSA Mark, in lieu of manufacturers name.
- Model designation, as specified in the PRODUCTS section, above.
- Complete electrical rating, as specified in the PRODUCTS section, above.
- Maximum ambient temperature rating, as specified in the PRODUCTS section, above.
- Date code / Serial number traceable to month and year of manufacture.
- Hazardous locations designation US/CAN - "Class I, Division 1, Groups C & D" as specified in the PRODUCTS section, above or equivalent.
- Temperature code, as specified in the PRODUCTS section, above.
- Protective earthing TERMINAL shall be identified by IEC 60417 symbol No 5019, adjacent to the TERMINAL.
- 4010BR-AC only - Marked with Symbol 12, Caution, and possibility of electric shock. 
- The warning words: - "DO NOT OPEN IN AN EXPLOSIVE ATMOSPHERE" and "NE PAS OUVRIR EN ATMOSPHERE EXPLOSIVE" or equivalent;
- The warning words: - "SEAL REQUIRED WITHIN 50mm OF ENCLOSURE" and "SCELLEMENT REQUIS A MOINS DE 50mm" or equivalent.
- The warning words - "FOR INDOOR USE ONLY" and "POUR USAGE INTÉRIEUR UNIQUEMENT, NE PAS UTILISER À L'EXTÉRIEUR" or equivalent.