

# CERTIFICATION Notice

An Urgent Bulletin from CSA Group

**Hazardous Locations Products No. 23**

**See Attachment 1 for Effective Dates.**

**Date: August 27, 2015**

**See Attachment 1 for Application Due Dates**

Announcing: Standard CAN/CSA C22.2 No. 60079-11:14 (Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I" (IEC 60079-11:2011, MOD)) and superseding dates for Standards: CAN/CSA C22.2 No.157 (Intrinsically Safe and Non-incendive Equipment or Use in Hazardous Locations), CAN/CSA-E60079-11:02, CAN/CSA E79-11-95 and CAN/CSA C22.2 No. 60079-11:11

See Attachment 2 for affected Class Numbers.

To purchase the Standard, visit us at [www.shop.csa.ca](http://www.shop.csa.ca)

## Who is affected?

Manufacturers of intrinsically safe equipment and/or intrinsically safe associated equipment certified to CAN/CSA C22.2 No. 157, CAN/CSA-E60079-11:02, CAN/CSA E79-11-95, CAN/CSA C22.2 No. 60079-11:11 and other interested parties.

## What do you do?

1. CSA Group Service Delivery staff will contact you to address compliance with each revision as applicable to the product designs covered in your affected Certification Reports. In addition to updates to your Certificate(s) of Compliance & Report(s), testing may be required to comply with these revisions.
2. Please respond within thirty (30) days of receiving CSA Group's "Application for CSA

Certification Services" and "Quotation" communication. You must respond no later than the application dates listed in Attachment 1 in order to guarantee the update to your certification is completed by the corresponding effective dates, shown in the same attachment. If testing is needed, we will inform you of the samples required.

## Approvals:

See attachment 3

## Major Revisions:

See attachment 4

## Background and Rationale:

See attachment 5

For questions specific to your file or products contact your CSA Group technical staff associate.

Go to <http://www.csagroup.org/us/en/services/testing-and-certification/certified-product-listing> and enter your Master Contract # and the class numbers associated with this Notice to determine which of your products are affected.

## For technical questions on this Certification Notice

Contact Dorin Stochitoiu  
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or e-mail [dorin.stochitoiu@csagroup.org](mailto:dorin.stochitoiu@csagroup.org)

The standard edition or amendments announced in this Notice may be used for certification as of the date of issue of this Notice. The "Effective date" in this Notice is the date on which the current requirements, applicable to Certified products listed in the affected class numbers, expire and the standard edition or amendments announced in this Notice become the only requirements that may be used for certification.

In the event that currently certified products do not comply with the latest requirements outlined in this Notice after the "effective date", the certification of such models may be discontinued.



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# **ATTACHMENT 1**

## Effective Dates

The following effective dates apply:

a) **New** Intrinsically Safe Equipment and Associated Equipment

Between now and September 1, 2018, the following CSA Standards apply for certification of new intrinsically safe and associated equipment:

- (i) CAN/CSA C22.2 No.157-92;
- (ii) CAN/CSA C22.2 No. 60079-11:14;

After September 1, 2018 the CSA Standard CAN/CSA C22.2 No. 60079-11:14 applies for certification to new intrinsically safe and associated equipment.

b) **Existing certified** Intrinsically Safe Equipment and Associated Equipment

Up until September 1, 2020, the following CSA Standards apply when evaluating any revision of existing CSA certified intrinsically safe and associated equipment:

- (i) CAN/CSA C22.2 No.157-92;
- (ii) CAN/CSA C22.2 No. 60079-11:14;
- (iii) CAN/CSA C22.2 No. 60079-11:11;
- (iv) CAN/CSA-E60079-11:02;
- (v) CAN/CSA-E79-11-95

*Note: This means that the standards currently stated in the existing certifications remain applicable for the scope of revisions of existing certifications during the stated period.*

After September 1, 2020, the CSA Standard CAN/CSA C22.2 No. 60079-11:14 applies to existing CSA certified intrinsically safe and associated equipment requiring revisions.

Manufacturers must make an application no later than March 1, 2019 in order to guarantee that the evaluation of the revisions their certified equipment is completed by September 1, 2020.

Between now and September 1, 2025, the following CSA Standards remain valid for existing CSA certified intrinsically safe and associated equipment, without revisions of such certifications:

- (i) CAN/CSA C22.2 No.157-92 (or earlier editions);
- (ii) CAN/CSA C22.2 No. 60079-11:14;
- (iii) CAN/CSA C22.2 No. 60079-11:11;
- (iv) CAN/CSA E60079-11:02
- (v) CAN/CSA E79-11-95

*Note: This means that the certifications already done to these standards remain valid for the period stated, providing that no revisions of such certifications are necessary.*

After September 1, 2025, unless superseded by further notices, the CSA Standard CAN/CSA C22.2 No. 60079-11:14 applies to all new intrinsically safe and associated equipment and to any previously CSA certified equipment.

Manufacturers must make an application no later than March 1, 2024 in order to guarantee that the evaluation to their equipment is completed by September 1, 2025.

Manufacturers may, if they wish, make an application at any time to have their equipment evaluated to the new requirements of CAN/CSA C22.2 No. 60079-11:14.

## **ATTACHMENT 2**

### Affected Class Numbers

Class No:

2228 01, RADIO APPLIANCES - Transmitters and Receivers, Amateur, Commercial and Communication - For Hazardous Locations  
2258 01, PROCESS CONTROL EQUIPMENT - Custom Built - For Hazardous Locations  
2258 02, PROCESS CONTROL EQUIPMENT - For Hazardous Locations  
2258 03, PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non Incendive Systems - For Hazardous Locations  
2258 04, PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations  
2268 01, SOUND RECORDING AND REPRODUCING EQUIPMENT - For Hazardous Locations  
2908 16, COMMERCIAL HEATERS – Infrared, Catalytic – For Hazardous Locations  
3218 01, INDUSTRIAL CONTROL EQUIPMENT - Custom Built - For Hazardous Locations  
3218 02, INDUSTRIAL CONTROL EQUIPMENT - Motor Controllers - Auxiliary Devices-For Hazardous Locations  
3218 03, INDUSTRIAL CONTROL EQUIPMENT - Motor Controllers - Magnetic - For Hazardous Locations  
3218 04, INDUSTRIAL CONTROL EQUIPMENT - Motor Controllers - Manual - For Hazardous Locations  
3218 05, INDUSTRIAL CONTROL EQUIPMENT - Motor Controllers - Miscellaneous - For Hazardous Locations  
3218 06, INDUSTRIAL CONTROL EQUIPMENT - Miscellaneous Apparatus - For Hazardous Locations  
3228 01, VALVES - For Hazardous Locations  
3228 02, VALVES - Actuators - For Hazardous Locations  
3838 03, AGRICULTURAL EQUIPMENT, PACKAGING EQUIPMENT AND PAINT SPRAYERS - Sprayers - Paint - Haz-Loc  
4818 03, SIGNAL APPLIANCES - Miscellaneous - For Hazardous Locations  
4828 01, SIGNAL APPLIANCES - Combustible Gas Detection Instruments - For Hazardous  
4828 02, SIGNAL APPLIANCES - Toxic Gas Detection Instruments - For Hazardous Locations  
4828 31, SIGNAL APPLIANCES - Combustible Gas Detection Instruments - For Hazardous Locations-Components  
4828 32, SIGNAL APPLIANCES - Toxic Gas Detection Instruments -For Hazardous Locations-Components  
4838 01, TELECOMMUNICATION EQUIPMENT - For Hazardous Locations  
8728 01, LABORATORY EQUIPMENT - For Hazardous Locations  
9012 01, FLAMMABLE LIQUID HANDLING EQUIPMENT - Dispensers  
9068 01, SCALES - For Hazardous Locations  
9098 01, MISCELLANEOUS - For Hazardous Locations

## **ATTACHMENT 3**

### Approvals

Approvals of intrinsically safe equipment and/or intrinsically safe associated equipment certified to CAN/CSA C22.2 No. 157, CAN/CSA-E60079-11:02, CAN/CSA E79-11-95, CAN/CSA C22.2 No. 60079-11:11 are affected according to the effective dates listed in Attachment 1.

## **ATTACHMENT 4**

## Major Revisions

The significant changes in CSA C22.2 No. 60079-11:14 with respect to the CSA C22.2 No. 60079-11:11 are listed below:

- The merging of the apparatus requirements for FISCO;
- The merging of the requirements for combustible dust atmospheres;
- Clarification of the requirements for accessories connected to intrinsically safe apparatus such as chargers and data loggers;
- Addition of new test requirements for opto-isolators;
- Introduction of Annex H about ignition testing of semiconductor limiting power supply circuits;
- Update of requirements for encapsulation, including change of Annex D from informative to normative;
- Introduction of Annex HA as part of Canadian deviations to allow the use of this standard for marking and use in Canadian Division System

The significant changes in CSA C22.2 No. 60079-11:11 with respect to the CAN/CSA E60079-11:02 are listed below:

- introduction of level of protection "ic" (this level of protection has been introduced to allow removal of the 'energy limitation' concept from 60079-15);
- introduction of Annex F that allows reduction in segregation distance requirements when the pollution degree has been reduced by installation or enclosure;
- introduction of alternative spark test apparatus construction when used with high current circuits;
- introduction of Annex E that provides a method for transient energy test;
- changes in the table of 'Temperature classification of tracks on PCB's' to allow correlation with IPC-2152;
- allowing alternative methods of rating resistors when used to limit the discharge from capacitance;
- introduction of methods to deal with the spark ignition energy consideration when high current low voltage cells and batteries are used;
- introduction of tests to measure the maximum pressure in sealed battery containers;
- introduction of methods to deal with fault application on voltage enhancement IC's;
- introduction of infallible connection methods for SMD's (surface mount devices);
- introduction of alternative methods to deal with the spark ignition energy in circuits with both inductance and capacitance;
- introduction of alternative high voltage test for transformers;
- introduction of methods to assess the reduction of effective capacitance when protected by series resistances;
- introduction of Group I data for permitted short circuit current and permitted capacitance in the tables of Annex A;
- introduction of requirements for evaluation of electrochemical cells;
- consideration of the fuse cold resistance for spark ignition assessment;
- addition of requirements to evaluate blocking capacitors;
- introduction of test requirements for infallible traces;
- introduction of requirements for pcb vias;
- eliminate the fuse/resistor specific requirement protection for lithium batteries (from previous Canadian deviations);
- allowance of current limitation using semiconductor devices for ia protection as part of Canadian deviations;

There are significant differences between CSA C22.2 No. 60079-11:14 when compared with standards CAN/CSA E79-11:95 and CSA C22.2 No. 157 and there are also major differences in interpretations of applicability of concepts and stringency of their applications, in essence related to:

- application of faults (countable, non-countable)
- safety factors and application of safety factors
- ratings of critical components
- application of spacing requirements
- pcb requirements and infallible traces and connections
- requirements for encapsulation when as critical feature

Following table is the summary of the processes that shall be expected when the a manufacturer request is made for existing certifications that include obsolete standards subject to this notice, to be upgraded to the latest edition of CAN/CSA C22.2 No. 60079-11:

<b>Applicable requirement listed in the existing CSA report</b>	<b>Construction review</b>	<b>Tests</b>
CAN/CSA C22.2 No. 60079-11:11	Construction gap analysis expected, as applicable to the product	As necessary, based on results of the construction review
CAN/CSA C22.2 No.157; CAN/CSA-E60079-11:02; CAN/CSA-E79-11-95	Full construction review expected, including necessary analytic assessment for intrinsic safety	As necessary, based on result of the construction review and of review of tests listed in the existing CSA report

## **ATTACHMENT 5**

### Background and Rationale

Standard CAN/CSA C22.2 No. 60079-11:14 - Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i” (IEC 60079-11:2011, MOD) was published in 2014. It supersedes the 2011 edition and represents the Canadian adoption of the sixth edition of IEC 60079-11 with national deviations.

As part of the Canadian deviations, Annex HA of CAN/CSA C22.2 No. 60079-11:14 outlines specific requirements to permit the use of this standard to evaluate and mark intrinsically safe and associated equipment for Canadian Divisions applications (i.e. Class I, Division 1, Groups....) in addition to the traditional marking of protection method for Zones covered by the core of the IEC standard (i.e. Ex ia IIC...). As result the new standard addresses both Zones and Division markings for intrinsically safe equipment and associated devices for Canada. The Standard CSA C22.2 No. 157 (originally used for evaluation and marking intrinsically safe and associated equipment for Canadian Divisions applications), as well as, older IEC adoptions CAN/CSA-E60079-11:02, CAN/CSA E79-11-95 are all being phased out and are not further maintained.