



CSA C22.2 No. 62368-1:19
(IEC 62368-1:2018, MOD)
National Standard of Canada



CSA C22.2 No. 62368-1:19
Audio/video, information and communication technology equipment —
Part 1: Safety requirements
(IEC 62368-1:2018, MOD)



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Audio/video, information and
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Preface

This is the harmonized CSA Group and UL standard for Audio/video, information and communication technology equipment – Part 1: Safety requirements. It is the third edition of CSA C22.2 No. 62368-1 and the third edition of UL 62368-1. This edition of CSA-C22.2 No. 62368-1 supersedes the previous edition published on December 1, 2014. This edition of UL 62368-1 supersedes the previous edition published on December 1, 2014.

This harmonized standard is based on IEC Publication 62368-1, third edition, Audio/video, information and communication technology equipment – Part 1: Safety requirements, issued October 2018. IEC Publication 62368-1 is copyrighted by the IEC.

This harmonized standard was prepared by CSA Group and Underwriters Laboratories Inc. (UL). The efforts and support of the Technical Harmonization Committee (THC 62368) for Audio/Video, Information Technology, and Communication Technology Equipment are gratefully acknowledged.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This standard was reviewed by the CSA Subcommittee on Safety of Electronic Equipment within the Field of Audio/Video, Information, and Communication Technology, under the jurisdiction of the CSA Technical Committee on Consumer and Commercial Products and the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA Technical Committee. This standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

Note: Although the intended primary application of this standard is stated in its scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.

Level of harmonization

This standard adopts the IEC text with national differences.

This standard is published as an equivalent standard for CSA Group and UL.

An equivalent standard is a standard that is substantially the same in technical content, except as follows: Technical national differences are allowed for codes and governmental regulations as well as those recognized as being in accordance with NAFTA Article 905, for example, because of fundamental climatic, geographical, technological, or infrastructural factors, scientific justification, or the level of protection that the country considers appropriate. Presentation is word for word except for editorial changes.

All national differences from the IEC text are included in the CSA Group and UL versions of the standard. While the technical content is the same in each organization's version, the format and presentation may differ.

Reasons for differences from IEC

Differences from the IEC are being added in order to address safety and regulatory situations present in the US and Canada.

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

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For CSA Group, the text, figures, and tables of International Electrotechnical Commission Publication 62368-1, Audio/video, information and communication technology equipment – Part 1: Safety requirements, copyright 2018, are used in this standard with the consent of the International Electrotechnical Commission. The IEC Foreword and Introduction are not a part of the requirements of this standard but are included for information purposes only.

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NATIONAL DIFFERENCES

GENERAL

National Differences from the text of International Electrotechnical Commission (IEC) Publication 62368-1, Audio/video, information and communication technology equipment – Part 1: Safety requirements, copyright 2018, are indicated by notations (differences) and are presented in bold text. The national difference type is included in the body.

There are five types of National Differences as noted below. The difference type is noted on the first line of the National Difference in the standard. The standard may not include all types of these National Differences.

DR – These are National Differences based on the **national regulatory requirements**.

D1 – These are National Differences which are based on **basic safety principles and requirements**, elimination of which would compromise safety for consumers and users of products.

D2 – These are National Differences from IEC requirements based on existing **safety practices**. These requirements reflect national safety practices, where empirical substantiation (for the IEC or national requirement) is not available or the text has not been included in the IEC standard.

DC – These are National Differences based on the **component standards** and will not be deleted until a particular component standard is harmonized with the IEC component standard.

DE – These are National Differences based on **editorial comments or corrections**.

Each national difference contains a description of what the national difference entails. Typically one of the following words is used to explain how the text of the national difference is to be applied to the base IEC text:

Addition / Add - An addition entails adding a complete new numbered clause, subclause, table, figure, or annex. Addition is not meant to include adding select words to the base IEC text.

Modification / Modify - A modification is an altering of the existing base IEC text such as the addition, replacement or deletion of certain words or the replacement of an entire clause, subclause, table, figure, or annex of the base IEC text.

Deletion / Delete - A deletion entails complete deletion of an entire numbered clause, subclause, table, figure, or annex without any replacement text.

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FOREWORD

INTERNATIONAL ELECTROTECHNICAL COMMISSION

AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT – Part 1: Safety requirements

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

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International Standard IEC 62368-1 has been prepared by TC 108: Safety of electronic equipment within the field of audio/video, information technology and communication technology.

This third edition cancels and replaces the second edition published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- addition of requirements for outdoor equipment;
- new requirements for optical radiation;
- addition of requirements for insulating liquids;

- addition of requirements for work cells;
- addition of requirements for wireless power transmitters;
- addition of requirements for fully insulated winding wire (FIW);
- alternative method for determination of top, bottom and side openings for fire enclosures;
- alternative requirements for sound pressure.

The text of this document is based on the following documents:

FDIS	Report on voting
108/701/FDIS	108/707/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62368 series, published under the general title *Audio/video, information and communication technology equipment*, can be found on the IEC website.

The “in some countries” notes regarding differing national practices are contained in the following clauses, subclauses and tables:

[0.2.1](#), [1](#), [3.3.8.1](#), [3.3.8.3](#), [4.1.15](#), [4.7.3](#), [5.2.2.2](#), [5.4.2.3.2.4](#), [5.4.2.5](#), [5.4.5.1](#), [5.4.10.2.1](#), [5.4.10.2.2](#), [5.4.10.2.3](#), [5.5.2.1](#), [5.5.6](#), [5.6.4.2.1](#), [5.6.8](#), [5.7.6](#), [5.7.7.1](#), [8.5.4.2.3](#), [10.5.3](#), [10.6.1](#), [F.3.3.6](#), [Y.4.1](#), [Y.4.5](#), [Table 12](#), [Table 13](#), [Table 14](#) and [Table 39](#).

In this document, the following print types or formats are used:

- requirements proper and normative annexes: in roman type;
- compliance statements and test specifications: *in italic type*;
- notes/explanatory matter: in smaller roman type;
- normative conditions within tables: in smaller roman type;
- terms that are defined in [3.3](#): **bold**.

In figures and tables, if colour is available:

- green colour denotes a class 1 energy source;
- yellow colour denotes a class 2 energy source;
- red colour denotes a class 3 energy source.

A comparison of terms introduced in this document that are different from other existing IEC documents is given in Annex [W](#).

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE Explanatory information related to IEC 62368-1 is contained in IEC TR 62368-2. It provides rationale together with explanatory information related to this document.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

DV.1 DE Modification: Add the following to the IEC Foreword:

The numbering system in the standard uses a space instead of a comma to indicate thousands and uses a comma instead of a period to indicate a decimal point. For example, 1 000 means 1,000 and 1,01 means 1.01.

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INTRODUCTION

0 Principles of this product safety standard

0.1 Objective

This part of IEC 62368 is a product safety standard that classifies energy sources, prescribes SAFEGUARDS against those energy sources, and provides guidance on the application of, and requirements for, those SAFEGUARDS.

The prescribed SAFEGUARDS are intended to reduce the likelihood of pain, injury and, in the case of fire, property damage.

The objective of the INTRODUCTION is to help designers to understand the underlying principles of safety in order to design safe equipment. These principles are informative and not an alternative to the detailed requirements of this document.

0.2 Persons

0.2.1 General

This document describes SAFEGUARDS for the protection of three kinds of persons: the ORDINARY PERSON, the INSTRUCTED PERSON, and the SKILLED PERSON. Unless otherwise specified, the requirements for an ORDINARY PERSON apply. This document assumes that a person will not intentionally create conditions or situations that could cause pain or injury.

NOTE 1 In Australia, the work conducted by an instructed person or skilled person may require formal licensing from regulatory authorities.

NOTE 2 In Germany, a person may only be regarded as an instructed person or a skilled person if certain legal requirements are fulfilled.

0.2.2 Ordinary person

ORDINARY PERSON is the term applied to all persons other than INSTRUCTED PERSONS and SKILLED PERSONS. ORDINARY PERSONS include not only users of the equipment, but also all persons who may have access to the equipment or who may be in the vicinity of the equipment. Under NORMAL OPERATING CONDITIONS or ABNORMAL OPERATING CONDITIONS, ORDINARY PERSONS should not be exposed to parts comprising energy sources capable of causing pain or injury. Under a SINGLE FAULT CONDITION, ORDINARY PERSONS should not be exposed to parts comprising energy sources capable of causing injury.

0.2.3 Instructed person

INSTRUCTED PERSON is a term applied to persons who have been instructed and trained by a SKILLED PERSON, or who are supervised by a SKILLED PERSON, to identify energy sources that may cause pain (see [Table 1](#)) and to take precautions to avoid unintentional contact with or exposure to those energy sources. Under NORMAL OPERATING CONDITIONS, ABNORMAL OPERATING CONDITIONS or SINGLE FAULT CONDITIONS, INSTRUCTED PERSONS should not be exposed to parts comprising energy sources capable of causing injury.

0.2.4 Skilled person

SKILLED PERSON is a term applied to persons who have training or experience in the equipment technology, particularly in knowing the various energies and energy magnitudes used in the equipment. SKILLED PERSONS are expected to use their training and experience to recognize energy sources capable of causing pain or injury and to take action for protection from injury from those energies. SKILLED PERSONS should also be protected against unintentional contact or exposure to energy sources capable of causing injury.