CAN/ULC 541:2023

Speakers for Fire Alarm and Signaling Systems, Including Accessories

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Standard for Speakers for Fire Alarm and Signaling Systems, Including Accessories, CAN/ULC 541

Fifth Edition, Dated May 26, 2023

Summary of Topics

This Fifth Edition of CAN/ULC 541 dated May 26, 2023 has been issued to incorporate changes from proposals dated May 31, 2022 and October 28, 2022.

The requirements are substantially in accordance with Proposal(s) on this subject dated May 31, 2022 and October 28, 2022.

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ULC Standards
CAN/ULC 541:2023
Fifth Edition

ULSE Inc.
ANSI/UL 1480
Seventh Edition

Speakers for Fire Alarm and Signaling Systems, Including Accessories

May 26, 2023

(Title Page Reprinted: May 26, 2023)

Approved American National Standard
ANSI

ANSI/UL 1480-2023

NATIONAL STANDARD OF CANADA
STANDARDS COUNCIL OF CANADA
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ULC Preamble

International Classification for Standards (ICS): 13.220.20; 13.320

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Preface

This is the common ULSE and ULC Standard for Speakers for Fire Alarm and Signaling Systems, Including Accessories. It is the fifth edition of CAN/ULC 541 and the seventh edition of UL 1480.

This common standard was prepared by ULSE, ULC Standards, and the NEMA Technical Harmonization Committee on Notification Appliances. The standard was formally approved by the ULSE Technical Committee on Signal Appliances and the ULC Technical Committee on Fire Alarm and Life Safety Equipment and Systems. The efforts and support of the NEMA Technical Harmonization Committee, ULSE Technical Committee, and ULC Technical Committee are gratefully acknowledged.

Only metric SI units of measurement are used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

Annexes A, B and C are identified as normative and form a mandatory part of this Standard.

Annexe D is identified as informative and is for informational purposes only.

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.

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INTRODUCTION

1 Scope

1.1 These requirements apply to speakers, rated at 300 V or less, for fire alarm and signaling systems intended for indoor and/or outdoor installation:

a) In Canada only: in accordance with CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, and with ULC-S524, Standard for Installation of Fire Alarm Systems.

b) In the United States only: in accordance with the National Electrical Code, NFPA 70, and the National Fire Alarm and Signaling Code, NFPA 72.

1.2 These requirements apply to speakers for use in ordinary (non-hazardous or non-corrosive) locations.

1.3 This Standard also covers protective covers and other accessories used with speakers.

1.4 Speakers for use in hazardous or corrosive locations shall comply with the requirements of this Standard and the applicable requirements:

a) In Canada only: CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, with respect to the hazard or category classification.

b) In the United States only: the National Electrical Code, NFPA 70.

1.5 Each product or device referred to as a speaker in this Standard is a speaker assembly suitable for separate installation as a component of a fire alarm system.

1.6 A supplementary visual signal, incorporated as part of a speaker which is intended for fire alarm application shall comply with the requirements of this Standard and the applicable requirements of the Standard for Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories, ULC 526 and UL 1638.

1.7 Speakers intended for use with fire alarm systems and having integral amplifiers shall comply with the requirements in this standard in addition to the applicable requirements in:

a) In Canada only: ULC 527, Standard for Control Units for Fire Alarm Systems.

b) In the United States only: UL 864, Control Units and Accessories for Fire Alarm Systems.

1.8 Speakers intended for installations requiring a low frequency (520 Hz) notification to awaken sleeping persons shall also be evaluated to:

a) In Canada only: ULC 527, Control Units for Fire Alarm Systems.

b) In the United States only: UL 864, Standard for Control Units and Accessories for Fire Alarm Systems.

1.9 Speakers intended for use in air-handling spaces (plenums) shall comply with the requirements in this standard and the requirements in:

a) In Canada only: ULC-S142, Standard Method of Fire Test for Heat and Visible Smoke Release for Discrete Products.

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b) In the United States only: UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.

1.10 These requirements do not cover the following:

a) Speakers intended for personal or private consumer use;

b) Speakers which are intended for commercial or professional audio applications; and

c) Speakers intended for security applications.

2 Components

2.1 Except as indicated in 2.2, a component of a product covered by this Standard shall comply with the requirements for that component. See Annex A for a list of Standards covering components generally used in the products covered by this Standard.

2.2 A component need not comply with a specific requirement that:

a) Involves a feature or characteristic not needed in the application of the component in the product covered by this Standard; or

b) Is superseded by a requirement in this Standard.

2.3 A component shall be used in accordance with rating(s) established by its manufacturer for the intended conditions of use.

3 Units of Measurement

3.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

4 Referenced Publications

4.1 Any undated reference to a code or standard appearing in the requirements of this Standard shall be interpreted as referring to the latest edition of that code or standard.

4.2 The following publications are referenced in this Standard:

ASA S12.51/ISO 3741, *Determination of sound power levels and sound energy levels of noise sources using sound pressure – Precision methods for reverberation test rooms*

ASTM B86, *Specifications for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings*

ASTM B117, *Standard Practice for Operating Salt Spray (Fog) Apparatus*

ASTM E28, *Standard Test Methods for Softening Point of Resins Derived from Pine Chemicals and Hydrocarbons, by Ring-and-Ball Apparatus*

CTA-CEB 19, *Recommended Loudspeaker Safety Practices*

CSA 6.19, *Residential carbon monoxide alarming devices*

CSA C22.1, *Canadian Electrical Code, Part I, Safety Standard for Electrical Installations*

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