CAN/ULC-S527:2019

STANDARD FOR CONTROL UNITS FOR FIRE ALARM SYSTEMS

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Standard for Control Units for Fire Alarm Systems, CAN/ULC-S527

Fourth Edition, Dated April 2019

Summary of Topics

This Fourth Edition of CAN/ULC-S527, Standard for Control Units for Fire Alarm Systems, includes requirements for control units for fire alarm systems, including accessories, and reflects SCC approval.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD. IN THOSE INSTANCES, THE RELEVANT VERSIONS ARE AVAILABLE FOR PURCHASE.

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STANDARD FOR CONTROL UNITS FOR FIRE ALARM SYSTEMS

ICS 13.220.20; 13.320

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Third Edition . . . . . April 2011
Amendment 1 . . . . . July 2014
FOURTH EDITION . . . . . APRIL 2019

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PREFACE

This is the Fourth Edition of the Standard for Control Units for Fire Alarm Systems, CAN/ULC-S527:2019.

This Edition of the Standard was developed and reviewed by the ULC Subcommittee on Control Units (S500F/SC2) and formally approved by the ULC Standards Committee on Fire Alarm and Life Safety Equipment and Systems.

This Standard has been developed in compliance with the requirements of Standards Council of Canada (SCC) for accreditation of a Standards Development Organization.

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.

Appendices A to E, identified as informative, are for informational purposes only.

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.

This Fourth Edition National Standard of Canada is based on, and now supersedes, the Third Edition. This Standard also supersedes, and has consolidated, CAN/ULC-C100-12, Smoke Control System Equipment.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. ULC Standards shall not be held responsible for identifying any or all such patent rights.

Requests for interpretation of this Standard should be sent to ULC Standards. The requests should be worded in such a manner as to permit a “yes” or “no” answer based on the literal text of the requirement concerned.

This CAN/ULC-S527 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

Comments or proposals for revisions on any part of the Standard may be submitted at any time. Proposals should be submitted via a Proposal Request in the On-Line Collaborative Standards Development System (CSDS) at https://csds.ul.com/canada.

This Standard is intended to be used for conformity assessment.

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1 Scope

1.1 This Standard covers control units, fire alarm systems and control unit accessories for use in accordance with the Standard for the Installation of Fire Alarm Systems, CAN/ULC-S524, in accordance with CSA-C22.1, Safety Standard for Electrical Installations, Canadian Electrical Code, Part I; and the National Building Code of Canada.

1.2 This Standard also covers smoke control features, releasing device service and standalone power supplies.

1.3 Where a fire alarm system is shared by other systems for other than fire alarm operation, the non-fire functions shall not interfere with the required operation of the fire alarm system.

1.4 This Standard does not cover replacement parts for fire alarm systems that consist of products or subassemblies of complete products manufactured in accordance with previous editions of ULC-S527. Replacement parts that do not comply with the current edition of this Standard shall be manufactured in accordance with the edition of this Standard that they were previously in compliance with and shall be marked “For Replacement Only – Complies with ULC-S527-xx” (where xx represents the edition of the Standard that they were previously in compliance with).

1.5 If a fire alarm system incorporates the features and functions of a proprietary fire alarm system or fire signal receiving centre, then the requirements of CAN/ULC-S559, Equipment for Fire Signal Receiving Centres and Systems, shall apply.

1.6 Transponders of distributed type systems are classified as control units and the requirements of this Standard shall apply.

1.7 These requirements apply to control units and control unit accessories for ordinary (non-hazardous) indoor and outdoor locations.

1.8 These requirements do not apply to field devices unless the device is used as a component of a control unit or control unit accessory.

1.9 Test, service, and other software and programming methods, including software compare program, intended for use with the control unit shall be evaluated with the control units.

1.10 Changes or additions to the products covered by this Standard shall be tested according to the relevant sections of this Standard. Examples of changes and additions may be:

a) Firmware;

b) Change or additional features to system operation (e.g. voice alarm);

c) Electrical/electronic or mechanical components; and

d) Other software temporarily or permanently installed in a control unit, such as for test or maintenance.

NOTE: The Authority Having Jurisdiction (AHJ) may require that these changes be reviewed to verify conformance by a nationally recognized certification laboratory.

1.11 The term "product" as used in this Standard refers to all items of equipment covered by the Scope.

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1.12 Unless otherwise indicated, all voltage and current values stated in this Standard are root-mean-square (rms).

1.13 The requirements of this Standard apply uniformly to all equipment regardless of whether used as a component of a control unit or separately enclosed and referred to as a control unit accessory.

2 Reference Publications

The documents shown below are referenced in the text of this Standard. Unless otherwise stated elsewhere in this Standard such reference shall be considered to indicate the edition and/or revisions of the document available at the date on which the Committee approved this ULC Standard. All undated references shall be interpreted as referring to the latest edition of that document.

Documents Published by the Institute of Electrical and Electronics Engineers (IEEE)
445 Hoes Lane, Piscataway, New Jersey, 08854-1331 USA
Telephone: (732) 981 0060

• ANSI Y32.9-1972 (R1989), Graphic Symbols for Electrical Wiring and Layout Diagrams Used in Architecture and Building Construction

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Documents Published by the American Society for Testing and Materials (ASTM)
100 Barr Harbour Drive, PO Box C700, West Conshohocken, PA 19428-2959 U.S.A.
Telephone: (610) 832-9585
www.astm.org

• ASTM B117-16, Standard Practice for Operating Salt Spray (Fog) Apparatus
• ASTM B240-13, Standard Specification for Zinc and Zinc-Aluminum (ZA) Alloys in Ingot Form for Foundry and Die Castings
• ASTM D396-17, Standard Specification for Fuel Oils
• ASTM E11-17, Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves

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• CAN/CSA 60065-16, Audio, Video, and Similar Electronic Apparatus – Safety Requirements
• CSA-C22.1-18, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations
• CAN/CSA-C22.2 No. 0-10, General Requirements – Canadian Electrical Code, Part II
• CAN/CSA-C22.2 No. 0.4-04 (R2013), Bonding of Electrical Equipment
• CSA-C22.2 No. 0.15-15, Adhesive Labels
• CAN/CSA-C22.2 No. 0.17-00 (R2013), Evaluation of Properties of Polymeric Materials
• CSA-C22.2 No. 65-13, Wire Connectors
• CSA-C22.2 No. 66.1-06 (R2015), Low Voltage Transformers – Part 1: General Requirements
• CSA-C22.2 No. 66.2-06 (R2015), Low Voltage Transformers – Part 2: General Purpose Transformers
• CSA-C22.2 No. 66.3-06 (R2015), Low Voltage Transformers – Part 3: Class 2 and Class 3 Transformers
• CSA-C22.2 No. 94.1-15, Enclosures for electrical equipment, non-environmental considerations
• CSA-C22.2 No. 107.3-14, Standard for Uninterruptable Power Systems
• CAN/CSA C22.2 No. 60950-1A and 1B-2007 (R 2012), Information Technology Equipment Safety – Part 1: General Requirements, with Amendments 1 and 2
• CSA-C22.2 No. 153-14, Electrical Quick-Connect Terminals
• CSA-C22.2 No. 158-10 (R 2014), Terminal Blocks
• CAN/CSA-E60384-1-14, Fixed Capacitors for Use in Electronic Equipment – Part 1: Generic Specification

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Telephone: (613) 993-2463 or 1-800-672-7990

• NBC 2015, National Building Code of Canada

Documents Published by ULC Standards
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Telephone: (416) 757-3611, ext. 61744; FAX (613) 231-5977, “ATTN: Publications”
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• CAN/ULC-S102-14, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies
• CAN/ULC-S524:2014-AMD1 (2016), Installation of Fire Alarm Systems
• CAN/ULC-S525:2016, Audible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories
• CAN/ULC-S526:2016, Visible Signaling Devices for Fire Alarm Systems, Including Accessories
• CAN/ULC-S528:2014-AMD1 (2017), Manual Stations for Fire Alarm Systems, Including Accessories Systems
• CAN/ULC-S529:2016, Smoke Detectors for Fire Alarm Systems
• CAN/ULC-S536-13, Inspection and Testing of Fire Alarm Systems
• CAN/ULC-S541:2016, Speakers for Fire Alarm and Signaling Systems, Including Accessories
• CAN/ULC-S559-13, Equipment for Fire Signal Receiving Centres and Systems

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http://assist.daps.dla.mil/quicksearch/

• MIL-HDBK-338 Revision B (2012), Military Handbook Electronic Reliability Design Handbook

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Documents Published by the International Organization for Standardization (ISO)
Available from Information Handling Services Canada, 1 Antares Drive, Suite 200,
Ottawa, ON, Canada, K2E 8C4
Telephone: 1-800-267-8220
www.ihscanada.ca

• ISO 9001:2015, Quality management systems-Requirements
• ISO 3:1973, Preferred numbers – Series of preferred numbers

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• IEC 60695-11-3:2012, Fire hazard testing – Part 11-3: Test flames – 500 W flames – Apparatus and confirmational test methods