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UL 60320-1

**STANDARD FOR SAFETY**

APPLIANCE COUPLERS FOR HOUSEHOLD  
AND SIMILAR GENERAL PURPOSES – Part 1:  
General Requirements

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JULY 23, 2015 – UL 60320-1

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UL Standard for Safety for APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES – Part 1: General Requirements, UL 60320-1

Second Edition, Dated May 12, 2011

## *Summary of Topics*

***This revision is being issued to indicate the most recent designation of ANSI/UL 60320-1 as a Reaffirmed American National Standard.***

Adoption of the Second Edition of the Standard for Appliance Couplers for Household and Similar General Purposes - Part 1: General Requirements, IEC 60320-1 with Harmonized National Differences. Although this the original publication, it is being published as a second edition so that the numbering of subsequent editions will be synchronized with the number of the IEC standard on which it is based.

The Reaffirmation is substantially in accordance with UL's proposal on this subject dated May 29, 2015.

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The requirements in this Standard are now in effect, except for those paragraphs, sections, tables, figures, and/or other elements of the Standard having future effective dates as indicated in the preface. The prior text for requirements that have been revised and that have a future effective date are located after the Standard, and are preceded by a "SUPERSEDED REQUIREMENTS" notice.

The following table lists the future effective dates with the corresponding reference.

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Future Effective Dates	References
May 12, 2021	Entire standard

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Canadian Standards Association  
CAN/CSA C22.2 No. 60320-1-11  
First Edition  
(IEC 60320-1: 2001 + A1: 2007, MOD)



Underwriters Laboratories Inc.  
UL 60320-1  
Second Edition

**Appliances Couplers for Household and Similar General Purposes –  
Part 1: General Requirements**

May 12, 2011

(Title Page Reprinted: July 23, 2015)

This national standard is based on publication IEC 60320-1, Edition 2.1: 2007 (edition 2: 2001 consolidated with amendment 1: 2007).

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ANSI/UL 60320-1-11 2011 (R2015)

Approved by



Standards Council of Canada  
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### Commitment for Amendments

This standard is issued jointly by the Canadian Standards Association (CSA) and Underwriters Laboratories Inc. (UL). Comments or proposals for revisions on any part of the standard may be submitted to CSA or UL at any time. Revisions to this standard will be made only after processing according to the standards development procedures of CSA and UL. CSA and UL will issue revisions to this standard by means of a new edition or revised or additional pages bearing their date of issue.

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This ANSI/UL Standard for Safety consists of the Second Edition. The most recent designation of ANSI/UL 60320-1 as an American National Standard (ANSI) occurred on July 22, 2015. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface. The National Difference Page and IEC Foreword are also excluded from the ANSI approval of IEC-based standards.

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

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MAY 12, 2011

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Annex DVA (informative) Configurations for North American Ratings Table in Clause 6.2DV

Annex DVB (informative) Referenced standards that are informative

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## PREFACE

This is the harmonized CSA and UL standard for Appliance Couplers For Household And Similar General Purposes – Part 1: General Requirements. It is the first edition of CAN/CSA-C22.2 No. 60320-1 and the second edition of UL 60320-1. This standard is based on IEC 60320-1, Edition 2:1:2007 (edition 2: 2001 consolidated with amendment 1: 2007).

This harmonized standard was prepared by the Canadian Standards Association (CSA) and Underwriters Laboratories Inc. (UL).

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

This standard was reviewed by the CSA Integrated Committee on Pull-Off Plugs & Electro-Thermal Appliances, under the jurisdiction of the CSA Technical Committee on Wiring 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 approved as a National Standard of Canada by the Standards Council of Canada (SCC).

This Standard has been approved by the American National Standards Institute (ANSI) as an American National Standard.

Efforts have been made to synchronize the UL edition number with that of the corresponding IEC standard with which this standard is harmonized. As a result, one or more UL edition numbers have been skipped to match that of the IEC edition number.

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 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 and UL versions of the standard. While the technical content is the same in each organization's version, the format and presentation may differ.

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## 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 literal interpretation 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.

## CSA Effective Date

The effective date for CSA International will be announced through CSA Informs or a CSA certification notice.

## UL Effective Date

The effective date for UL 60320-1, second edition is May 12, 2021.

Between the present and May 12, 2021, new product submittals to UL must be evaluated under all requirements in this Standard or, if requested in writing, evaluated under presently effective requirements in the applicable UL standards only.

A UL effective date is one established by Underwriters Laboratories Inc. and is not part of the ANSI approved standard.

## IEC Copyright

For UL, the text, figures and tables of IEC publication 60320-1, Appliances Couplers for Household and Similar General Purposes – Part 1: General Requirements, including its Amendment 1, copyright 2007, are used in this Standard with the consent of the IEC and the American National Standards Institute (ANSI). The IEC copyrighted material has been reproduced with permission from ANSI. ANSI should be contacted regarding the reproduction of any portion of the IEC material. The IEC Foreword is not a part of the requirements of this Standard but is included for information purposes only. Copies of IEC Publication 60320-1 may be purchased from ANSI, 25 West 43rd Street, 4th Floor, New York, New York, 10036, (212) 642-4900.

For CSA, the text, figures, and tables of International Electrotechnical Commission Publication 60320-1, Appliances Couplers for Household and Similar General Purposes – Part 1: General Requirements, including its Amendment 1, copyright 2007, are used in this standard with the consent of the International Electrotechnical Commission. The IEC Foreword is not a part of the requirements of this standard but is included for information purposes only.

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## NATIONAL DIFFERENCES

### GENERAL

National Differences from the text of International Electrotechnical Commission (IEC) Publication 60320-1, Appliances Couplers for Household and Similar General Purposes – Part 1: General Requirements (2001), and its Amendment 1 (2007) are indicated by notations (differences) and are presented in bold text.

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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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES – Part 1: General requirements

#### FOREWORD

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 nongovernmental 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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9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60320-1 has been prepared by subcommittee 23G: Appliance couplers, of IEC technical committee 23: Electrical accessories.

This consolidated version of IEC 60320-1 consists of the second edition (2001) [documents 23G/215/FDIS and 23G/218/RVD] and its amendment 1 (2007) [documents 23G/272/FDIS and 23G/274/RVD].

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The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience.

It bears the edition number 2.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

Annex A forms an integral part of this standard.

IEC 60320 consists of the following parts, under the general title: *Appliance couplers for household and similar general purposes*:

- Part 2-1: Sewing machine couplers
- Part 2-2: Interconnection couplers for household and similar equipment
- Part 2-3: Appliance couplers with a degree of protection higher than IPX0

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

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## APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES – Part 1: General requirements

### 1 Scope

This part of IEC 60320 is applicable to two-pole appliance couplers for a.c. only, with or without earthing contact, with a rated voltage not exceeding 250 V and a rated current not exceeding 16 A, for household and similar general purposes and intended for the connection of a supply cord to electrical appliances or other electrical equipment for 50 Hz or 60 Hz supply.

NOTE 1 Appliance inlets integrated or incorporated in appliances or other equipment are within the scope of this standard. The dimensional and general requirements of this standard apply to such inlets, but certain tests may not be relevant.

NOTE 2 The requirements for connectors are based on the assumption that the temperature of the pins of the corresponding appliance inlets does not exceed

70 °C for connectors for cold conditions;

120 °C for connectors for hot conditions;

155 °C for connectors for very hot conditions.

NOTE 3 Appliance couplers complying with this standard are suitable for use at ambient temperatures not normally exceeding 25 °C, but occasionally reaching 35 °C.

NOTE 4 Appliance couplers complying with the standard sheets in this standard are intended for the connection of equipment having no special protection against moisture. If appliance couplers are used with equipment which may be subject to spillage of liquid in normal use then protection against moisture is to be provided by the equipment.

NOTE 5 Special constructions may be required

– in locations where special conditions prevail, for example, as in ships, vehicles and the like;

– in hazardous locations, for example, where explosions are liable to occur.

**1DV D1 Modify the first paragraph by replacing with the Clauses 1DV.1 and 1DV.2:**

**1DV.1** These requirements are applicable to two-pole appliance couplers for a.c. only, and with or without earthing contact, with a rated voltage not exceeding 250 V and a rated current not exceeding 20 A, for household and similar general purposes and intended for the connection of a supply cord to electrical appliances or other electrical equipment for 50 Hz or 60 Hz supply.

**1DV.2** This standard does not apply directly to the following devices, but supplements the standards applying to such devices:

– devices produced integrally with flexible cord or cable, which are covered by CSA C22.2 No. 21 and UL 817.

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## 1DV.3 Delete Note 1, Note 2, Note 3, Note 4, and Note 5

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050(151):1978,

*International Electrotechnical Vocabulary (IEV) – Chapter 151: Electrical and magnetic devices*

IEC 60068-2-32:1975,

*Environmental testing – Part 2: Tests – Test Ed: Free fall*

IEC/TR 60083:1997,

*Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC*

IEC 60112:1979,

*Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions*

IEC 60227 (all parts),

*Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60245 (all parts),

*Rubber insulated cables – Rated voltages up to and including 450/750 V*

IEC 60695-2-10:2000,

*Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods – Glow-wire apparatus and common test procedure*

IEC 60695-2-11:2000,

*Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

IEC 60695-2-12:2000,

*Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods – Glow-wire flammability test method for materials*

IEC 60695-2-13:2000,

*Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-wire ignitability test method for materials*

IEC 60730 (all parts),

*Automatic electrical controls for household and similar use*

IEC 60999-1:1999,

*Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm<sup>2</sup> up to 35 mm<sup>2</sup> (included)*

IEC 61058 (all parts),

*Switches for appliances*

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IEC 61140:1997,  
*Protection against electric shock – Common aspects for installation and equipment*

ISO 286-1:1988,  
*ISO system of limits and fits – Part 1: Bases of tolerances, deviations and fits*

ISO 1101:1983,  
*Technical drawings – Geometrical tolerancing – Tolerancing of form, orientation, location and run-out – Generalities, definitions, symbols, indications on drawings*

ISO 1456:1988,  
*Metallic coatings – Electrodeposited coatings of nickel plus chromium and of copper plus nickel plus chromium*

ISO 2081:1986,  
*Metallic coatings – Electroplated coatings of zinc on iron or steel*

ISO 2093:1986,  
*Electroplated coatings of tin – Specification and test methods*

**2DV.1 D2 Delete the following IEC publications in Clause 2:**

Delete IEC 60050

Delete IEC 60227

Delete IEC 60245

Delete IEC 60730

Delete IEC 61058

Delete IEC 61140

**2DV.2 D2 Add the following Canadian, IEC, and USA reference publications to Clause 2:**

Canada

CSA C22.2 No. 21-95 (R2009),  
*Cord Sets and Power Supply Cords*

CSA C22.2 No. 49-10,  
*Flexible Cord and Cables*

CAN/CSA-C22.2 No. 0.17-00 (R2009),  
*Evaluation of Properties of Polymeric Materials*

IEC

IEC 60695-11-10: 2003  
*Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods*

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