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Switches for appliances -
Part 1: General requirements

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC 61058-1has been prepared by subcommittee 23J: Switches for appliances, of IEC technical committee 23: Electrical accessories. It is an International Standard.

This fifth edition cancels and replaces the fourth edition published in 2016. This edition constitutes a technical revision.

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

a) Extension to 600 V in the scope;
b) Add requirements on ground-fuse (Clause 17);
c) DC arc extinction test (Annex P and Clause 17);
d) Table 5 re-arranged to line-up with classifications;
e) Table 6 correction due to inhomogeneous values;
f) Deletion of X3 capacitors in classification and in Table 19.

The text of this International Standard is based on the following documents:

Draft	Report on voting
23J/494/FDIS	23J/499/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 61058 series, published under the general title *Switches for appliances*, can be found on the IEC website.

In this document, the following print types are used:

– requirements proper: roman type;
– test specifications: *italic type*;
– explanatory matter: in smaller roman type.

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

– reconfirmed,
– withdrawn, or
– revised.

1 Scope

This part of IEC 61058 applies to switches or switching devices for appliances. The switches are intended to control electrical appliances and other equipment for household or similar purposes with a rated voltage not exceeding 600 V and a rated current not exceeding 63 A.

In the IEC 61058 series the terms "switching devices" and "switches" are used interchangeably.

Switches for appliances are intended to be operated by

– a person via an actuating member,

– indirect actuation,

– an actuating sensing unit.

Transmission of a signal between the actuating member or sensing unit and the switch can be connected by optical, acoustic, thermal, electrical or other relevant connection and can include remote controlled units.

This document applies to switches for appliances with additional control functions provided by the switch using electronic circuits.

This document applies to circuitry when evaluated with a switch and necessary for the switching function.

This part document applies in general to switches for appliances in conjunction with the following parts:

– Part 1-1: Requirements for mechanical switches, and/or

– Part 1-2: Requirements for electronic switches.

This document does not apply to switches covered by:

– IEC 60669 (all parts), *Switches for household and similar fixed-electrical installations*, and

– IEC 60730 (all parts), *Automatic electrical controls*.

NOTE 1 Attention is drawn to the fact that the end product standards for appliances can contain additional or alternative requirements for switches (see Annex O).

NOTE 2 Throughout this document, the word "appliance" means "appliance or equipment".

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60127 (all parts), *Miniature fuses*

IEC 60269-3, *Low-voltage fuses - Part 3: Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household or similar applications) - Examples of standardized systems of fuses A to F*

IEC 60384-14, *Fixed capacitors for use in electronic equipment - Part 14: Sectional specification - Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*

IEC 60417, *Graphical symbols for use on equipment* (available at: http://www.graphical-symbols.info/equipment)

IEC 60529:1989, *Degree of protection provided by enclosures (IP code)*
IEC 60529:1989/AMD1:1999
IEC 60529:1989/AMD2:2013

IEC 60617, *Graphical symbols for diagrams*

IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems - Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60691, *Thermal-links - Requirements and application guide*

IEC 60695-2-11, *Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products*

IEC 60695-10-2, *Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test method*

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

IEC 60695-11-20, *Fire hazard testing - Part 11-20: Test flames - 500 W flame test method*

IEC 60730 (all parts), *Automatic electrical controls*

IEC 60730-1:2022, *Automatic electrical controls - Part 1: General requirements*

IEC 60730-2-9:2015, *Automatic electrical controls - Part 2-9: Particular requirements for temperature sensing controls*
IEC 60730-2-9:2015/AMD1:2018
IEC 60730-2-9:2015/AMD2:2020

IEC 60738-1, *Thermistors - Directly heated positive temperature coefficient - Part 1: Generic specification*

IEC 61000-3-2, *Electromagnetic compatibility (EMC) - Part 3.2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)*

IEC 61000-3-3, *Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection*

IEC TS 61000-3-5, *Electromagnetic compatibility (EMC) - Part 3-5: Limits - Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 75 A*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test*

IEC 61000-4-3, *Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4, *Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test*

IEC 61000-4-5, *Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test*

IEC 61000-4-8, *Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test*

IEC 61000-4-11, *Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase*

IEC 61032:1997, *Protection of persons and equipment by enclosures - Probes for verification*

IEC 61058-1-1:2016, *Switches for appliances - Part 1-1: Requirements for mechanical switches*

IEC 61058-1-2:2016, *Switches for appliances - Part 1-2: Requirements for electronic switches*

IEC 61210, *Connecting devices - Flat quick-connect terminations for electrical copper conductors - Safety requirements*

IEC 62368-1:2023, *Audio/video, information and communication technology equipment - Part 1: Safety requirements*

CISPR 14-1, *Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission*

CISPR 15:2018, *Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment*
CISPR 15:2018/AMD1:2024

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[3] IEC 60085:2007, *Electrical insulation - Thermal evaluation and designation*

[4] IEC 61140, *Protection against electric shock - Common aspects for installation and equipment*

[5] IEC 60034-1:2010, *Rotating electrical machines - Part 1: Rating and performance*

[6] IEC 60228:2023, *Conductors of insulated cables*

[7] IEC 60050-151:2001, *International Electrotechnical Vocabulary - Part 151: Electrical and magnetic devices*

[8] IEC 60335-1, *Household and similar electrical appliances - Safety - Part 1: General requirements*

[9] IEC 60050-411:1996, *International Electrotechnical Vocabulary - Chapter 411: Rotating machinery*

[10] IEC 60065*:2014, Audio, video and similar electronic apparatus - Safety requirements*

[11] IEC 60335-2 (all parts), *Household and similar electrical appliances - Safety*

[12] IEC 60050-441:1984, *International Electrotechnical Vocabulary - Chapter 441: Switchgear, controlgear and fuses - Amendment 1: 2000*

[13] IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and* tests
IEC 60664-1:2020/AMD1:2025

[14] IEC 60893-1:2004, *Insulating materials - Industrial rigid laminated sheets based on thermosetting resins for electrical purposes - Part 1: Definitions, designations and general requirements*

[15] IEC 60050-826:2004, *International Electrotechnical Vocabulary - Part 826: Electrical installations*

[16] IEC 60998-2-3:2002, *Connecting devices for low-voltage circuits for household and similar purposes - Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units*

[17] IEC 60335 (all parts), *Household and similar electrical appliances - Safety*

[18] IEC 60745 (all parts), *Hand-held motor-operated electric tools -Safety*

[19] IEC 62368 (all parts), *Audio/video, information and communication technology equipment*

[20] IEC 60038, *IEC standard voltages*

[21] IEC 60060-1, *High-voltage techniques - Part 1: General definitions and test requirements*

[22] IEC 60068-2-75, *Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests*

[23] IEC 60112:2025, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

[24] IEC 60893-2, *Insulating materials - Industrial rigid laminated sheets based on thermosetting resins for electrical purposes - Part 2: Methods of test*

[25] IEC 62368 (all parts), *Audio/video, information and communication technology equipment*

[26] IEC 60335 (all parts), *Household and similar electrical appliances - Safety*

[27] IEC 60745(all parts), Hand-held motor-operated electric tools -Safety

[28] IEC 62368 (all parts), *Audio/video, information and communication technology equipment*

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