IEC 62911

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

## Audio, video and information technology equipment – Routine electrical safety testing in production



## Appareils audio, vidéo et matériel de traitement de l'information – Essais individuels de série, en production, pour la vérification de la sécurité électrique



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# Audio, video and information technology equipment - Routine electrical safety testing in production

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IEC 62911 has been prepared by IEC technical committee 108: Safety of electronic equipment within the field of audio/video, information technology and communication technology. It is an International Standard.

This second edition cancels and replaces the first 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) this edition aligns with the terminology and requirements of IEC 62368-1:2023;

b) test conditions for DC mains have been added;

c) smaller size technical changes were made.

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

| Draft | Report on voting |
|---|---|
| 108/833/FDIS | 108/837/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 http://www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at http://www.iec.ch/publications.



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

– compliance statements and test specifications: in *italic 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- withdrawn, or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 International Standard defines routine test (3.16) procedures for use during or after manufacturing of complete equipment, sub-assemblies or components, complying with IEC 62368-1 and powered by an AC mains (3.7) or DC mains (3.7), to detect manufacturing failures and unacceptable tolerances in manufacturing and materials.

NOTE 1 Not all the tests defined in this document are necessarily performed at the end product manufacturing location. The optimal location for the routine tests (3.16) can be defined by the equipment manufacturer and reviewed under the applicable conformity assessment scheme.

NOTE 2 The test procedures in this document are intended to identify production and manufacturing errors. These test procedures are not intended for product development or verification (see IEC 62368-1 [1]).

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

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



## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.



ISO and IEC maintain terminology databases for use in standardization at the following addresses:

– IEC Electropedia: available at https://www.electropedia.org/
– ISO Online browsing platform: available at https://www.iso.org/obp

**3.1**
**accessible**
touchable by a body part

[SOURCE: IEC 62368-1:2023 [2], 3.3.6.1, modified - Note to entry omitted.]

**3.2**
**basic insulation**
insulation to provide a basic safeguard against electric shock

Note 1 to entry: This concept does not apply to insulation used exclusively for functional purposes.

[SOURCE: IEC 62368-1:2023 [2], 3.3.5.1]

**3.3**
**double insulation**
insulation comprising both basic insulation (3.2) and supplementary insulation

[SOURCE: IEC 62368-1:2023 [2], 3.3.5.2]

**3.4**
**class I equipment**
equipment with basic insulation (3.2) used as a basic safeguard, and with protective bonding and protective earthing (3.11) used as a supplementary safeguard

Note 1 to entry: Class I equipment can be provided with class II construction.

[SOURCE: IEC 60050-851:2008 [3], 851-15-10, modified – The definition has been adapted to the safeguard principle; addition of a new Note 1 to entry.]

**3.5**
**device**
material element or assembly of such elements intended to perform a required function

Note 1 to entry: A device may form part of a larger system (for example, a server node installed in a rack system).

[SOURCE: IEC 60050-151:2001 [4], 151-11-20, modified — In Note 1 to entry, replacement of "device" with "system", and addition of the text within parenthesis.]

**3.6**
**functional earthing**
earthing a point or points in a system or in an installation or in equipment, for purposes other than electrical safety

[SOURCE: IEC 60050-195:2021 [5], 195-01-13, modified — Addition of "a point or points in a system or in an installation or in equipment".]



**3.7**
**mains**
AC or DC power distribution system (external to the equipment) that supplies operating power to the equipment



Note 1 to entry: Mains include public or private utilities and, unless otherwise specified in this document, equivalent sources such as motor-driven generators and uninterruptible power supplies.

Note 2 to entry: Powering external circuits by using communications cables and circuits that are isolated from the mains (for example, data, voice, PoE, USB, HDMI, Coaxial, RFT and similar circuits in Table 13 of IEC 62368-1:2023 [2]) are not considered to be mains.

[SOURCE: IEC 62368-1:2023 [2], 3.3.1.3, modified - Addition of Note 2 to entry.]

**3.8**
**permanently connected equipment**
equipment that can only be electrically connected to or disconnected from the mains (3.7) by the use of a tool

[SOURCE: IEC 62368-1:2023 [2], 3.3.3.6]

**3.9**
**protective bonding conductor**
protective conductor in the equipment provided for protective equipotential-bonding of parts required to be earthed for safety purposes

Note 1 to entry: A protective bonding conductor is internal in the equipment.

[SOURCE: IEC 62368-1:2023 [2], 3.3.11.9]