SLOVENSKI STANDARD
SIST EN 62368-1:2014

01-november-2014

Oprema za avdio/video, informacijsko in komunikacijsko tehnologijo - 1. del: Varnostne zahteve (IEC 62368-1:2014, spremenjen)

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

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Ta slovenski standard je istoveten z: **EN 62368-1:2014**

ICS:

33.160.01	Avdio, video in avdiovizualni sistemi na splošno	Audio, video and audiovisual systems in general
35.020	Informacijska tehnika in tehnologija na splošno	Information technology (IT) in general

SIST EN 62368-1:2014 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62368-1

August 2014

ICS 33.160.01; 35.020

English Version

Audio/video, information and communication technology equipment - Part 1: Safety requirements (IEC 62368-1:2014 , modified)

Equipements des technologies de l'audio/vidéo, de l'information et de la communication - Partie 1: Exigences de sécurité (CEI 62368-1:2014 , modifiée)

Einrichtungen für Audio/Video, Informations- und Kommunikationstechnik - Teil 1: Sicherheitsanforderungen (IEC 62368-1:2014 , modifiziert)

This European Standard was approved by CENELEC on 2014-06-20. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 62368-1:2014 E

Foreword

The text of document 108/521/FDIS, future edition 2 of IEC 62368-1:2014, prepared by IEC/TC 108 "Safety of electronic equipment within the field of audio/video, information technology and communication technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62368-1:2014.

A draft amendment, which covers common modifications to IEC 62368-1:2014, was prepared by CLC/TC 108X, "Safety of electronic equipment within the fields of Audio/Video, Information Technology and Communication Technology" and approved by CENELEC.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-06-20
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2019-06-20

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Requirement of sound pressure for personal music player addressed by the mandate M/452 are covered in 10.6 "Safeguards against acoustic energy sources".

For equipment falling within the scope of directives other than those against which this standard is harmonized, additional requirements from those directives may apply.

Endorsement notice

The text of the International Standard IEC 62368-1:2014 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

CONTENTS **Add** the following annexes:

Annex ZA (normative)	Normative references to international publications with their corresponding European publications
Annex ZB (normative)	Special national conditions
Annex ZC (informative)	A-deviations
Annex ZD (informative)	IEC and CENELEC code designations for flexible cords

Delete all the “country” notes in the reference document according to the following list:

0.2.1	Note	1	Note 3	4.1.15	Note
4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c
5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3
5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3

For special national conditions, see Annex ZB.

1 **Add** the following note:

NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.

4.Z1 **Add** the following new subclause after 4.9:

To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):

a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment;

b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;

c) it is permitted for **pluggable equipment type B** or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.

If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.

5.4.2.3.2.4 **Add** the following to the end of this subclause:

The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.

10.2.1 **Add** the following to [c] and [d] in Table 39:

For additional requirements, see 10.5.1.

10.5.1 **Add** the following after the first paragraph:

For RS 1 compliance is checked by measurement under the following conditions:

In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.

NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.

The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.

Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.

For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.

NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.

10.6.2.1 **Add** the following paragraph to the end of the subclause:

EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.

10.Z1 **Add** the following new subclause after 10.6.5.

10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz

The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).

For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566

G.7.1 **Add** the following note:

NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.

Bibliography **Add** the following standards:

Add the following notes for the standards indicated:

IEC 60130-9	NOTE	Harmonized as EN 60130-9.
IEC 60269-2	NOTE	Harmonized as HD 60269-2.
IEC 60309-1	NOTE	Harmonized as EN 60309-1.
IEC 60364	NOTE	some parts harmonized in HD 384/HD 60364 series.
IEC 60601-2-4	NOTE	Harmonized as EN 60601-2-4.
IEC 60664-5	NOTE	Harmonized as EN 60664-5.
IEC 61032:1997	NOTE	Harmonized as EN 61032:1998 (not modified).
IEC 61508-1	NOTE	Harmonized as EN 61508-1.
IEC 61558-2-1	NOTE	Harmonized as EN 61558-2-1.
IEC 61558-2-4	NOTE	Harmonized as EN 61558-2-4.
IEC 61558-2-6	NOTE	Harmonized as EN 61558-2-6.
IEC 61643-1	NOTE	Harmonized as EN 61643-1.
IEC 61643-21	NOTE	Harmonized as EN 61643-21.
IEC 61643-311	NOTE	Harmonized as EN 61643-311.
IEC 61643-321	NOTE	Harmonized as EN 61643-321.
IEC 61643-331	NOTE	Harmonized as EN 61643-331.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
		Safety of Toys – Part 1: Mechanical and physical properties	EN 71-1	-
		Sound system equipment: Headphones and earphones associated with personal music players — Maximum sound pressure level measurement methodology— Part 1: General method for "one package equipment"	EN 50332-1	-
		Sound system equipment: Headphones and earphones associated with personal music players — Maximum sound pressure level measurement methodology— Part 2: Matching of sets with headphones if either or both are offered separately, or are offered as one package equipment but with standardised connectors between the two allowing to combine components of different manufacturers or different design	EN 50332-2	-
		Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields (300 MHz - 3 GHz)	EN 50360	-
-	-	Insulating, sheathing and covering materials for low-voltage energy cables	EN 50363	(all parts)
-	-	Electrical test methods for low voltage energy cables	EN 50395	2005
-	-	Non electrical test methods for low voltage energy cables	EN 50396	2005
		General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) -- Part 3: Electrical safety requirements.	EN 50491-3	2009
		Product standard to demonstrate compliance of radio frequency fields from handheld and body-mounted wireless communication devices used by the general public (30 MHz - 6 GHz)	EN 50566	-
IEC 60027-1	-	Letter symbols to be used in electrical technology – Part 1: General	EN 60027-1	-

Publication	Year	Title	EN/HD	Year
IEC 60065	-	Audio, video and similar electronic apparatus – Safety requirements	EN 60065	-
IEC 60068-2-6	-	Environmental testing Part 2-6: Tests – Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-78	-	Environmental testing Part 2-78: Tests – Test Cab: Damp heat, steady state	EN 60068-2-78	-
IEC/TR 60083	-	Plugs and socket-outlets for domestic and similar general use standardised in member countries of IEC	-	-
IEC 60085	-	Electrical insulation – Thermal classification and designation	EN 60085	-
IEC 60086-4	-	Primary batteries – Part 4: Safety of lithium batteries	EN 60086-4	-
IEC 60107-1	1997	Methods of measurement on receivers for television broadcast transmissions – Part 1: General considerations - Measurements at radio and video frequencies	EN 60107-1	1997
IEC 60112	-	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	-
IEC 60127	(all parts)	Miniature fuses	EN 60127	(all parts)
IEC 60227-1	-	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V – Part 1: General requirements	HD 21 [1)]	-
IEC 60227-2	2003	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V – Part 2: Test methods	HD 21 [1)]	-
IEC 60245-1	-	Rubber insulated cables – Rated voltages up to and including 450/750V – Part 1: General requirements	HD 22 [2)]	-
IEC 60309	(all parts)	Plugs, socket-outlets and couplers for industrial purposes	EN 60309	(all parts)
IEC 60317	(all parts)	Specifications for particular types of winding wires	EN 60317	(all parts)
IEC 60317-43	-	Part 43: Aromatic polyimide tape wrapped round copper wire, class 240	EN 60317-43	-
IEC 60320	(all parts)	Appliance couplers for household and similar general purposes	EN 60320	(all parts)

[1)] The HD 21 series is related to, but not directly equivalent with the IEC 60227 series. Also EN 50363, EN 50395 and EN 50396 are to be taken into account.

[2)] The HD 22 series is related to, but not directly equivalent with the IEC 60245 series. Also EN 50363, EN 50395 and EN 50396 are to be taken into account.

Publication	Year	Title	EN/HD	Year
IEC 60320-1	-	Appliance couplers for household and similar general purposes – Part 1: General requirements	EN 60320-1	-
IEC 60320-2-2	-	Appliance couplers for household and similar general purposes – Part 2-2: Interconnection couplers for household and similar equipment	EN60320-2-2	-
IEC 60332-1-2	-	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable - Procedure for 1 kW pre-mixed flame	EN 60332-1-2	-
IEC 60332-1-3	-	Tests on electric and optical fibre cables under fire conditions – Part 1-3: Test for vertical flame propagation for a single insulated wire or cable - Procedure for determination of flaming droplets/particles	EN 60332-1-3	-
IEC 60332-2-2	-	Tests on electric and optical fibre cables under fire conditions – Part 2-2: Test for vertical flame propagation for a single small insulated wire or cable - Procedure for diffusion flame	EN 60332-2-2	-
IEC 60384-14	2005	Fixed capacitors for use in electronic equipment – Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	EN 60384-14	2005
IEC 60417	Data-base	Graphical symbols for use on equipment	-	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60664-3	-	Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution	EN 60664-3	-
IEC 60691	2002	Thermal-links - Requirements and application guide	EN 60691	2003
IEC 60695-10-2	-	Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test	EN 60695-10-2	-
IEC 60695-10-3	-	Fire hazard testing – Part 10-3: Abnormal heat – Mould stress relief distortion test	EN 60695-10-3	-
IEC 60695-11-5	2004	Fire hazard testing – Part 11-5: Test flames – Needle flame test methods – Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2005

Publication	Year	Title	EN/HD	Year
IEC 60695-11-10	-	Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods	EN 60695-11-10-	-
IEC 60695-11-20	1999	Fire hazard testing – Part 11-20: Test flames – 500 W flame test methods	EN 60695-11-20	1999
IEC/TS 60695-11-21	-	Fire hazard testing – Part 11-21: Test flames – 500 W vertical flame test methods for tubular polymeric materials	-	-
IEC 60728-11 (mod)	2005	Cable networks for television signals, sound signals and interactive services – Part 11: Safety	EN 60728-11	2005
IEC 60730	(all parts)	Automatic electrical controls for household and similar use	EN 60730	(all parts)
IEC 60730-1 (mod)	2010	Automatic electrical controls for household and similar use – Part 1: General requirements	EN 60730-1	2011
IEC 60738-1 +A1	2006 2009	Thermistors – Directly heated positive temperature coefficient – Part 1: Generic specification	EN 60738-1 +A1	2006 2009
IEC 60747-5-5	2007	Semiconductor devices – Discrete devices Part 5-5: Optoelectronic devices – Photocouplers	EN 60747-5-5	2011
IEC 60825-1	2007	Safety of laser products – Part 1: Equipment classification and requirements	EN 60825-1	2007
IEC 60825-2	2004	Safety of laser products – Part 2: Safety of optical fibre communication systems (OFCS)	EN 60825-2	2004
IEC 60825-12	-	Safety of laser products – Part 12: Safety of free space optical communication systems used for transmission of information	EN 60825-12	-
IEC 60851-3	2009	Winding wires – Test methods – Part 3: Mechanical properties	EN 60851-3	2009
IEC 60851-5	2008	Winding wires – Test methods – Part 5: Electrical properties	EN 60851-5	2008
IEC 60851-6	1996	Winding wires – Test methods – Part 6: Thermal properties	EN 60851-6	1996
IEC 60896-11	-	Stationary lead-acid batteries – Part 11: Vented types – General requirements and methods of tests	EN 60896-11	-
IEC 60896-21	2004	Stationary lead-acid batteries – Part 21: Valve regulated types –Methods of test	EN 60896-21	2004
IEC 60896-22	-	Stationary lead-acid batteries – Part 22: Valve regulated types – Requirements	EN 60896-22	-

Publication	Year	Title	EN/HD	Year
IEC 60906-1	-	IEC System of plugs and socket-outlet for household and similar purposes – Part 1: Plugs and socket-outlets 16 A 250 V a.c.	-	-
IEC 60906-2	-	IEC System of plugs and socket-outlet for household and similar purposes – Part 2: Plugs and socket-outlets 15 A 125 V a.c.	-	-
IEC 60947-1	-	Low-voltage switchgear and controlgear – Part 1: General rules	EN 60947-1	-
IEC 60950-1 (mod)	2005	Information technology equipment – Safety – Part 1: General requirements	EN 60950-1	2006
IEC 60950-22	2005	Information technology equipment – Safety – Part 22: Equipment to be installed outdoors	EN 60950-22	2006
IEC 60950-23	-	Information technology equipment – Safety – Part 23: Large data storage equipment	EN 60950-23	-
IEC 60990	1999	Methods of measurement of touch current and protective conductor current	EN 60990	1999
IEC 60998-1	-	Connecting devices for low-voltage circuits for household and similar purposes – Part 1: General requirements	EN 60998-1	-
IEC 60999-1	-	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^2 up to 35 mm^2 (included)	EN 60999-1	-
IEC 60999-2	-	Connecting devices – Electrical copper conductors 470 – Safety requirements for screw-type and screwless-type clamping units – Part 2: Particular requirements for clamping units for conductors above 35 mm^2 up to 300 mm^2 (included)	EN 60999-2	-
IEC 61051-1		Varistors for use in electronic equipment – Part 1: Generic specification		
IEC 61051-2 A1	1991 2009	Varistors for use in electronic equipment – Part 2: Sectional specification for surge suppression varistors	-	-
IEC 61056-1	-	General purpose lead-acid batteries (valve-regulated types) – Part 1: General requirements, functional characteristics - Methods of test	EN 61056-1	-
IEC 61056-2	-	General purpose lead-acid batteries (valve-regulated types) – Part 2: Dimensions, terminals and marking	EN 61056-2	-
IEC 61058-1 (mod) +A1	2000 2001	Switches for appliances Part 1: General requirements	EN 61058-1	2002
+A2	2007		+A2	2008

Publication	Year	Title	EN/HD	Year
IEC 61140	2001	Protection against electric shock – Common aspects for installation and equipment	EN 61140	2002
IEC/TS 61201	2007	Use of conventional touch voltage limits – Application guide	-	-
IEC 61204-7	-	Low-voltage power supplies, d.c. output – Part 7: Safety requirements	EN 61204-7	-
IEC 61293	-	Marking of electrical equipment with ratings related to electrical supply – Safety requirements	EN 61293	-
IEC 61427	-	Secondary cells and batteries for Photovoltaic energy systems (PVES) – General requirements and methods of test	EN 61427	-
IEC/TS 61430	-	Secondary cells and batteries – Test methods for checking the performance of devices designed for reducing explosion hazards – Lead-acid starter batteries	-	-
IEC 61434	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes – Guide to designation of current in alkaline secondary cell and battery standards	EN 61434	-
IEC 61558-1	2005	Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests	EN 61558-1	2005
IEC 61558-2-16	-	Safety of power transformers, reactors, power supply units and similar products for voltages up to 1 100 V – Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units	EN 61558-2-16	-
IEC 61643-11	-	Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods	-	-
IEC 61810-1	2008	Electromechanical elementary relays – Part 1: General and safety requirements	EN 61810-1	2008
IEC 61959	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes – Mechanical tests for sealed portable secondary cells and batteries	EN 61959	-
IEC 61965	2003	Mechanical safety of cathode ray tubes	EN 61965	2003
IEC 61984	-	Connectors – Safety requirements and tests	EN 61984	-
IEC 62133	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications	EN 62133	-
IEC 62281	-	Safety of primary and secondary lithium cells and batteries during transport	-	-

Publication	Year	Title	EN/HD	Year
IEC 62471 (mod)	2006	Photobiological safety of lamps and lamp systems	EN 62471	2008
IEC/TR 62471-2	-	Photobiological safety of lamps and lamp systems – Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety	-	-
IEC 62485-2	-	Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries	-	-
ISO 178	-	Plastics - Determination of flexural properties	EN ISO 178	-
ISO 179-1	-	Plastics - Determination of Charpy impact properties – Part 1: Non-instrumented impact test	EN ISO 179	-
ISO 180	-	Plastics - Determination of Izod impact strength	EN ISO 180	-
ISO 306	-	Plastics – Thermoplastic materials – Determination of Vicat softening temperatures (VST)	EN ISO 306	-
ISO 527	(all parts)	Plastics – Determination of tensile properties	EN ISO 527	(all parts)
ISO 871	-	Plastics – Determination of ignition temperature using a hot-air furnace	-	-
ISO 3864	(all parts)	Graphical symbols – Safety colours and safety signs	-	-
ISO 3864-2	-	Graphical symbols – Safety colours and safety signs – Part 2: Design principles for product safety labels	-	-
ISO 4892-1	-	Plastics – Methods of exposure to laboratory light sources – Part 1: General guidance	EN ISO 4892-1	-
ISO 4892-2	2006	Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps	EN ISO 4892-2	2006
ISO 4892-4	-	Plastics – Methods of exposure to laboratory light sources – Part 4: Open-flame carbon-arc lamps	-	-
ISO 7000	Data-base	Graphical symbols for use on equipment – Index and synopsis	-	-
ISO 7010	-	Graphical symbols – Safety colours and safety signs – Safety signs used in workplaces and public areas	EN ISO 7010	-
ISO 8256	-	Plastics - Determination of tensile-impact strength	EN ISO 8256	-
ISO 9772	-	Cellular plastics - Determination of horizontal burning characteristics of small specimens subjected to a small flame	-	-

Publication	Year	Title	EN/HD	Year
ISO 9773	-	Plastics - Determination of burning behaviour of thin flexible vertical specimens in contact with a small-flame ignition source	EN ISO 9773	-