

BS EN 60065:2014+A11:2017

Incorporating corrigenda December 2015 and December 2016



BSI Standards Publication

**Audio, video and similar
electronic apparatus —
Safety requirements
(IEC 60065:2014, modified)**

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National foreword

This British Standard is the UK implementation of EN 60065:2014+A11:2017. It is derived from IEC 60065:2014, incorporating corrigenda December 2015 and December 2016. It supersedes BS EN 60065:2014 which is withdrawn.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **[C]** **[C]**.

The UK participation in its preparation was entrusted to Technical Committee EPL/108, Safety of electronic equipment within the field of audio/video, information technology and communication technology.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Amendments/corrigenda issued since publication

Date	Text affected
31 July 2017	Implementation of IEC corrigendum December 2015: Subclause 9.1.1.2 updated
31 July 2017	Implementation of IEC corrigendum December 2016: Subclause 12.7.1 updated
31 July 2017	Implementation of CENELEC amendment A11:2017: Italian A-deviation removed from Annex ZC

English Version

Audio, video and similar electronic apparatus - Safety
requirements
(IEC 60065:2014, modified)

Appareils audio, vidéo et appareils électroniques analogues
- Exigences de sécurité
(CEI 60065:2014, modifiée)

Audio-, Video- und ähnliche elektronische Geräte -
Sicherheitsanforderungen
(IEC 60065:2014, modifiziert)

This European Standard was approved by CENELEC on 2014-11-17. 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.

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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

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Foreword

This document (EN 60065:2014) consists of the text of IEC 60065:2014 prepared by IEC/TC 108 "Safety of electronic equipment within the field of audio/video, information technology and communication technology", together with the common modifications prepared by CLC/TC 108X "Safety of electronic equipment within the fields of Audio/Video, Information Technology and Communication Technology".

The following dates are fixed:

- latest date by which the document has to be implemented at national level (dop) 2015-11-17
by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-11-17

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.

EN 60065:2014 supersedes EN 60065:2002.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60065:2014 are prefixed "Z".

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

Endorsement notice

The text of the International Standard IEC 60065:2014 was approved by CENELEC as a European Standard with agreed common modifications.

Foreword to amendment A11

This document (EN 60065:2014/A11:2017) has been prepared by CLC/TC 108X "Safety of electronic equipment within the fields of Audio/Video, Information Technology and Communication Technology".

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) 2017-12-14
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2019-12-14

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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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
-	-	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	-
IEC 60027	series	Letter symbols to be used in electrical technology	EN 60027	series
IEC 60038 (mod)	2009	IEC standard voltages	EN 60038	2011
IEC 60068-2-6	2007	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008
IEC 60068-2-31	2008	Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	EN 60068-2-31	2008
IEC 60068-2-75	-	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
IEC 60085	-	Electrical insulation - Thermal evaluation 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 + corr. June + corr. October + A1	2003 2003 2003 2009	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112 - - + A1	2003 - - 2009
IEC 60127	series	Miniature fuses	EN 60127	series
IEC 60127-6	-	Miniature fuses - Part 6: Fuse-holders for miniature cartridge fuse-links	EN 60127-6	-
IEC 60167	1964	Methods of test for the determination of the insulation resistance of solid insulating materials	HD 568 S1 ¹⁾	1990
IEC 60216	series	Electrical insulating materials - Thermal endurance properties	EN 60216	series
IEC 60227 (mod)	series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	HD 21 ²⁾	series
IEC 60227-2 + corr. April	1997 1998	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 2: Test methods	-	-
IEC 60245	series	Rubber insulated cables - Rated voltages up to and including 450/750 V	-	-
IEC 60249-2	series	Base materials for printed circuits - Part 2: Specifications	-	-
IEC 60268-1	1985	Sound system equipment - Part 1: General	HD 483.1 S2 ³⁾	1989

1) HD 568 S1:1990 is partially superseded by EN 62631-1:2011, which is based on IEC 62631-1:2011.

2) 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.

3) HD 483.1 S2:1989 includes A1:1998 to IEC 60268-1:1985.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60317-43	-	Specifications for particular types of winding wires - Part 43: Aromatic polyimide tape wrapped round copper wire, class 240	EN 60317-43	-
IEC 60320	series	Appliance couplers for household and similar general purposes	EN 60320	series
IEC 60320-1	-	Appliance couplers for household and similar general purposes - Part 1: General requirements	EN 60320-1	-
IEC 60335-1	-	Household and similar electrical appliances - Safety - Part 1: General requirements	EN 60335-1	-
IEC 60384-1 + corr. November	2008 2008	Fixed capacitors for use in electronic equipment - Part 1: Generic specification	EN 60384-1 -	2009 -
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 4)	2005
IEC 60410	1973	Sampling plans and procedures for inspection - by attributes		-
IEC 60417-DB		Graphical symbols for use on equipment, <i>available from:</i> < http://www.graphical-symbols.info/equipment >	-	-
IEC 60454	series	Pressure-sensitive adhesive tapes for electrical purposes	EN 60454	series
IEC 60529 -	1989 -	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
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 60695-11-5	2004	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2005

4) EN 60384-14:2005 is superseded by EN 60384-14:2013, which is based on IEC 60384-14:2013.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60695-11-10	2013	Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	2013
IEC 60730-1 (mod)	2010	Automatic electrical controls for household and similar use - Part 1: General requirements	EN 60730-1	2011
IEC 60747-5-5 + A1	2007 2013	Semiconductor devices - Discrete devices - Part 5-5: Optoelectronic devices - Photocouplers	EN 60747-5-5 -	2011 -
IEC 60825-1 + corr. August	2007 2008	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1 ⁵⁾	2007
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	2012	Winding wires - Test methods - Part 6: Thermal properties	EN 60851-6	2012
IEC 60906	series	IEC system of plugs and socket-outlets for household and similar purposes	-	-
IEC 60950-1 (mod) + corr. August - + corr. August - + A1 (mod) + corr. August - + A2 (mod)	2005 2006 - 2013 - 2009 2012 - 2013	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1 - + AC:2011 - + A11 + A1 - + A12 + A2	2006 - 2011 - 2009 2010 - 2011 2013
IEC 60990	-	Methods of measurement of touch current and protective conductor current	EN 60990	-
IEC 60998-2-2	-	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units	EN 60998-2-2	-
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	-

5) EN 60825-1:2007 is superseded by EN 60825-1:2014, which is based on IEC 60825-1:2014.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60999-2	-	Connecting devices - Electrical copper conductors - 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 61032 + corr. January	1997 2003	Protection of persons and equipment by enclosures - Probes for verification	EN 61032 -	1998 -
IEC 61051-2 + A1	1991 2009	Varistors for use in electronic equipment - Part 2: Sectional specification for surge suppression varistors	-	-
IEC 61058-1 (mod) + corr. January	2000 2009	Switches for appliances - Part 1: General requirements	EN 61058-1 ⁶⁾ -	2002 -
IEC/TR 61149	-	Guide for safe handling and operation of mobile radio equipment	-	-
IEC 61260	-	Electroacoustics - Octave-band and fractional-octave-band filters	EN 61260	-
IEC 61293	-	Marking of electrical equipment with ratings related to electrical supply - Safety requirements	EN 61293	-
IEC 61558-1 - + corr. March + corr. March + corr. April + A1	2005 - 2008 2010 2011 2009	Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests	EN 61558-1 + corr. August - - - + A1	2005 2006 - - - 2009
IEC 61558-2-16	-	Safety of 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 61965	-	Mechanical safety of cathode ray tubes	EN 61965	-
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 62151 + corr. March + corr. June	2000 2001 2001	Safety of equipment electrically connected to a telecommunication network	-	-

6) EN 61058-1:2002 includes A1:2001 to IEC 61058-1:2000 (mod).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62368-1	-	Audio/video, information and communication technology equipment - Part 1: Safety requirements	EN 62368-1	-
IEC 62471 (mod)	2006	Photobiological safety of lamps and lamp systems	EN 62471	2008
IEC Guide 104	-	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-
IEC Guide 112	-	Guide on the safety of multimedia equipment	-	-
ISO 261	-	ISO general-purpose metric screw threads - General plan	-	-
ISO 262	-	ISO general-purpose metric screw threads - Selected sizes for screws, bolts and nuts	-	-
ISO 306	2004	Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST)	EN ISO 306 7)	2004
ISO 2859-1 + corr. March	1999 2001	Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection	-	-
ISO 7000 DB		Graphical symbols for use on equipment - Registered symbols, available from: < http://www.graphical-symbols.info/equipment >	-	-
ISO 9773	-	Plastics - Determination of burning behaviour of flexible vertical specimens in contact with a small-flame ignition source	-	-
ITU-T Recommendation K.44	-	Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents - Basic Recommendation	-	-

7) EN ISO 306:2004 is superseded by EN ISO 306:2013, which is based on ISO 306:2013.