SVENSK STANDARD SS-EN 60730-1

Fastställd	Utgåva	Sida	Ansvarig kommitté
2012-02-15	4	1 (1+290)	SEK TK 23

Automatiska elektriska styr- och reglerdon för hushållsbruk – Del 1: Allmänna fordringar

Automatic electrical controls for household and similar use – Part 1: General requirements

Som svensk standard gäller europastandarden EN 60730-1:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60730-1:2011.

Nationellt förord

Europastandarden EN 60730-1:2011

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60730-1, Fourth edition, 2010 - Automatic electrical controls for household and similar use - Part 1: General requirements**

utarbetad inom International Electrotechnical Commission, IEC.

I bilaga ZB redovisas en svensk avvikelse, vilken inom CENELEC accepterats till följd av speciella nationella förhållanden.

I bilaga ZC redovisas en svensk avvikelse, vilken inom CENELEC noterats vara föranledd av svenska myndigheters föreskrifter.

Standarden ersätter tidigare fastställd svensk standard SS-EN 60730-1, utgåva 3, 2001, SS-EN 60730-1/A1, utgåva 1, 2005, SS-EN 60730-1/A2, utgåva 1, 2009, SS-EN 60730-1/A11, utgåva 1, 2002, SS-EN 60730-1/A12, utgåva 1, 2003, SS-EN 60730-1/A13, utgåva 1, 2004, SS-EN 60730-1/A14, utgåva 1, 2005, SS-EN 60730-1/A16, utgåva 1, 2007, SS-EN 60730-1/A16 C1, utgåva 1, 2010 och SS-EN 60730-1 C1, utgåva 1, 2007.

SS-EN 60730-1, utgåva 4, 2012, gäller endast i det fall det finns en Del 2 för en särskild typ av styr- och reglerdon eller för styr- och reglerdon för särskilda användningsområden. Där så befinns rimligt kan dock Del 1 tillämpas på styr- och reglerdon som ej omfattas av någon Del 2, i vilket fall ytterligare fordringar kan bli nödvändiga.

ICS 97.120

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Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

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Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

EN 60730-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2011

ICS 97.120

Supersedes EN 60730-1:2000 + corr. Aug.2007 + A1:2004 + A2:2008 + A12:2003 + A13:2004 + A14:2005 + A16:2007 + corr. Mar.2010

English version

Automatic electrical controls for household and similar use - Part 1: General requirements

(IEC 60730-1:2010, modified)

Dispositifs de commande électrique automatiques à usage domestique et analogue -
Partie 1: Exigences générales
(CEI 60730-1:2010, modifiée)

Automatische elektrische Regel- und Steuergeräte für den Hausgebrauch und ähnliche Anwendungen -
Teil 1: Allgemeine Anforderungen
(IEC 60730-1:2010, modifiziert)

This European Standard was approved by CENELEC on 2011-10-24. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60730-1:2011 E

SEK Svensk Elstandard

Foreword

The text of the International Standard IEC 60730-1:2010, prepared by IEC/TC 72, Automatic controls for household use, together with the common modifications prepared by the Technical Committee CENELEC TC 72, Automatic controls for household use, was submitted to the CENELEC Unique Acceptance Procedure and approved by CENELEC as EN 60730-1:2011.

This document supersedes EN 60730-1:2000 + corr. Aug.2007 + A12:2003 + A1:2004 + A13:2004 + A14:2005 + A16:2007 + corr. Mar.2010 + A2:2008.

The main technical modifications of this European Standard since the above previous edition are listed below:

– changes to the low temperature test requirements for in-line cords;
– revision to the pollution degree for the environment surrounding contacts;
– addition to the use of screwless terminals on printed circuit boards and revisions to creepage distances;
– additions of EN 55011 EMC requirements;
– incorporation of EMC test levels from EN 60335 series;
– additional testing for flexible cords;
– revisions to the requirements for resistance to heat, fire and tracking including replacement of Clause 21 and Annexes F and G;
– new requirements in H.27.1 for first and second fault approach to ensure functional safety;
– incorporation of software techniques from EN 61508-3 in H.11.12;
– updates to the references and bibliography;
– the keyword index was deleted as unnecessary due to the availability of search functions for electronic editions of the standard.

Additionally, this European Standard is the editorial result of the combined texts of EN 60730-1:2000 and its amendments, except where CENELEC common modifications have already been incorporated in IEC 60730-1:2010, together with the deletion of additional ‘in some countries’ paragraphs and ‘under consideration’ paragraphs which have been introduced in IEC 60730-1:2010.

The following dates are fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2012-10-24
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	– *

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.

** Justification for no dow:*

This European Standard replaces EN 60730-1:2000 and its amendments. However, EN 60730-1:2000 remains valid until all the Part 2's which are used in conjunction with it have been withdrawn. No date of withdrawal (dow) has been given pending the updating of all the Part 2's to align with this EN 60730-1:2011. The applicable date of withdrawal is given in each Part 2. It is intended the dow for this Part 1 will be fixed once all the Part 2's have been updated.

This Part 1 is to be used in conjunction with the appropriate Part 2 for a particular type of control, or for controls for particular applications. This Part 1 may also be applied, so far as reasonable, to controls not mentioned in a Part 2, and to controls designed on new principles, in which case additional requirements may be necessary.

Subclauses which are additional to those in IEC 60730-1:2010 are numbered 601, 602 etc. Annexes which are additional to those in IEC 60730-1:2010 are prefixed "Z".

Where reference is made to other international or harmonized standards, the edition of that standard quoted in Annex ZA (normative) is applicable.

Special national conditions causing a deviation from this European Standard are listed in Annex ZB (normative) which forms part of this standard.

National deviations from this European Standard are listed in Annex ZC (informative).

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EU Directive 2004/108/EC. See Annex ZZ.

NOTE In this standard the following print types are used:

– Requirements proper: in roman type.

– *Test specifications: in italic type.*

– Explanatory matter: in smaller roman type.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

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

Publication	Year	Title	EN/HD	Year
IEC 60038 (mod)	-	IEC standard voltages	EN 60038	-
IEC 60065 (mod) + corr. August + A1 (mod) - -	2001 2002 2005 - -	Audio, video and similar electronic apparatus - Safety requirements	EN 60065 + corr. August + A1 + A11 + A12	2002 2007 2006 2008 2011
IEC 60068-2-75	-	Environmental testing Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	-
IEC 60085	2007	Electrical insulation - Thermal evaluation and designation	EN 60085	2008
IEC 60099-1	-	Surge arresters Part 1: Non-linear resistor type gapped surge arresters for a.c. systems	EN 60099-1	-
IEC 60112 + corr. June + corr. October	2003 2003 2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
IEC 60127-1	2006	Miniature fuses Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links	EN 60127-1	2006
IEC 60227-1	-	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V Part 1: General requirements	-	-
IEC 60227-5 (mod) - -	1979 - -	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V Part 5: Flexible cables (cords)	HD 21.5 S3[1] + A1 + A2[2]	1994 1999 2001
IEC 60245-1	-	Rubber insulated cables - Rated voltages up to and including 450/750 V Part 1: General requirements	-	-

[1] Superseded by EN 50525-2-11 and EN 50525-2-71

[2] HD 21.5 S3 includes A2 to IEC 60227-5.

IEC 60269-1	-	Low-voltage fuses Part 1: General requirements	EN 60269-1	-
IEC 60335-1 (mod)	2001	Household and similar electrical appliances	EN 60335-1	2002
+ corr. December	2005	- Safety	-	-
-	-	Part 1: General requirements	+ corr. July	2009
-	-		+ corr. May	2010
-	-		+ A11	2004
+ A1	2004		+ A1	2004
-	-		+ corr. January	2007
-	-		+ A12	2006
-	-		+ corr. February	2007
+ A2	2006		+ A2	2006
+ corr. August	2006		-	-
-	-		+ A13	2008
-	-		+ A14	2010
IEC 60364	series	Low-voltage electrical installations	HD 60364	series
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	EN 60384-14	-
IEC 60384-16	-	Fixed capacitors for use in electronic equipment Part 16: Sectional specification: Fixed metallized polypropylene film dielectric d.c. capacitors	EN 60384-16	-
IEC 60384-17	-	Fixed capacitors for use in electronic equipment Part 17: Sectional specification: Fixed metallized polypropylene film dielectric a.c. and pulse capacitors	EN 60384-17	-
IEC 60417	series	Graphical symbols for use on equipment	-	-
IEC 60423	-	Conduit systems for cable management - Outside diameters of conduits for electrical installations and threads for conduits and fittings	EN 60423	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
-	-		+ corr. May	1993
+ A1	1999		+ A1	2000
IEC 60539	series	Directly heated negative temperature coefficient thermistors	EN 60539	series
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	2003	Insulation coordination for equipment within low-voltage systems Part 3: Use of coating, potting or moulding for protection against pollution	EN 60664-3	2003

IEC 60695-2-10	-	Fire hazard testing Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	-
IEC 60695-2-11 + corr. January	2000 2001	Fire hazard testing Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001
IEC 60695-10-2	-	Fire hazard testing Part 10-2: Abnormal heat - Ball pressure test	EN 60695-10-2	-
IEC 60730	series	Automatic electrical controls for household and similar use	EN 60730	series
IEC 60738-1	-	Thermistors - Directly heated positive temperature coefficient Part 1: Generic specification	EN 60738-1	-
IEC 60738-1-1	-	Thermistors - Directly heated positive step-function temperature coefficient Part 1-1: Blank detail specification - Current limiting application - Assessment level EZ	EN 60738-1-1	-
IEC 60947-1	2007	Low-voltage switchgear and controlgear Part 1: General rules	EN 60947-1	2007
IEC 60998-2-2 (mod)	-	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 60998-2-3 (mod) + corr. November	2002 2006	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	EN 60998-2-3	2004
IEC(/TR) 61000	series	Electromagnetic compatibility (EMC)	EN 61000	series
IEC 61000-3-2 + A1 + A2	2005 2008 2009	Electromagnetic compatibility (EMC) Part 3-2: Limits - Limits for harmonic current emissions (equipment input current <= 16 A per phase)	EN 61000-3-2 + A1 + A2	2006 2009 2009
IEC 61000-3-3	2008	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	EN 61000-3-3	2008
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009

IEC 61000-4-3 + A1	2006 2007	Electromagnetic compatibility (EMC) Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3 + A1	2006 2008
IEC 61000-4-4 + corr. June	2004 2007	Electromagnetic compatibility (EMC) Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	2004
IEC 61000-4-5 + corr. October	2005 2009	Electromagnetic compatibility (EMC) Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2006
IEC 61000-4-6	2008	Electromagnetic compatibility (EMC) Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2009
IEC 61000-4-8 + A1	1993 2000	Electromagnetic compatibility (EMC) Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8 + A1 [3]	1993 2001
IEC 61000-4-11	2004	Electromagnetic compatibility (EMC) Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	2004
IEC 61000-4-13 + A1	2002 2009	Electromagnetic compatibility (EMC) Part 4-13: Testing and measurement techniques - Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests	EN 61000-4-13 + A1	2002 2009
IEC 61000-4-28 + A1 + A2	1999 2001 2009	Electromagnetic compatibility (EMC) Part 4-28: Testing and measurement techniques - Variation of power frequency, immunity test for equipment with input current not exceeding 16 A per phase	EN 61000-4-28 + A1 + A2	2000 2004 2009
IEC 61058-1 (mod)	-	Switches for appliances Part 1: General requirements	EN 61058-1	-
IEC 61210 (mod)	-	Connecting devices - Flat quick-connect terminations for electrical copper conductors - Safety requirements	EN 61210	-
IEC 61249	series	Materials for printed boards and other interconnecting structures	EN 61249	series

[3] EN 61000-4-8 is superseded by EN 61000-4-8:2010, which is based on IEC 61000-4-8:2009.

IEC 61558-2-6	-	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers	EN 61558-2-6	-
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 62326	series	Printed boards	EN 62326	series
CISPR 11 (mod)	2009	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011	2009
CISPR 14-1 + corr. January + A1	2005 2009 2008	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus Part 1: Emission	EN 55014-1 + A1	2006 2009
CISPR 16-1-1 + corr. October + A1	2010 2010 2010	Specification for radio disturbance and immunity measuring apparatus and methods Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus	EN 55016-1-1 + A1	2010 2010
CISPR 22 (mod)	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022	2010
ISO 16484-2	-	Building automation and control systems (BACS) Part 2: Hardware	-	-
-	-	Cables of rated voltages up to and including 450/750 V and having cross-linked insulation Part 4: Cords and flexible cables	HD 22.4 S4[4]	2004

[4] Superseded by EN 50525-2-21:2011.

Bibliography

Replace reference to IEC 60669-1:2007 by

EN 60669-1:1999 + A1:2002 + A2:2008, *Switches for household and similar fixed-electrical installations – Part 1: General requirements* (IEC 60669-1:1998, mod. + A1:1999, mod. + A2:2006, mod.)

Add the following after IEC 60950-1:2005:

EN 61000-4-20:2010, *Electromagnetic compatibility (EMC) – Part 4-20: Testing and measurement techniques – Emission and immunity testing in transverse electromagnetic (TEM) waveguides* (IEC 61000-4-20:2010)

EN 61000-6-1, *Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments* (IEC 61000-6-1)

EN 61000-6-2, *Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments* (IEC 61000-6-2)

Add the following after ISO 527-1:1993:

ISO 4046:1978, *Paper, board, pulp and related terms – Vocabulary*

CONTENTS

AUTOMATIC ELECTRICAL CONTROLS FOR HOUSEHOLD AND SIMILAR USE –

Part 1: General requirements

1 Scope and normative references

1.1 In general, this International Standard applies to automatic electrical controls for use in, on, or in association with equipment for household and similar use, including controls for heating, air-conditioning and similar applications. The equipment may use electricity, gas, oil, solid fuel, solar thermal energy, etc., or a combination thereof.

1.1.1 This International Standard applies to the inherent safety; to the operating values, operating times, and operating sequences where such are associated with equipment safety, and to the testing of automatic electrical control devices used in, or in association with, household or similar equipment.

This standard is also applicable to controls for appliances within the scope of IEC 60335-1.

This standard is also applicable to controls for building automation systems within the scope of ISO 16484-2

Throughout this standard the word "equipment" means "appliance and equipment."

This standard does not apply to automatic electrical controls intended exclusively for industrial applications unless explicitly mentioned in the relevant part 2.

This standard is also applicable to individual controls utilized as part of a control system or controls which are mechanically integral with multifunctional controls having non-electrical outputs.

Automatic electrical controls for equipment not intended for normal household use, but which nevertheless may be used by the public, such as equipment intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

See also Annex J.

This standard is also applicable to relays when used as controls for IEC 60335 appliances. Additional requirements for the safety and operating values of relays when used as controls for IEC 60335 appliances are contained in Annex U.

NOTE 1 These requirements are referred to by IEC 61810-1, Scope.

NOTE 2 This standard is intended to be used for the testing of any stand-alone relay which is intended to be used as a control of an appliance according to IEC 60335-1. It is not intended to be used for any other stand-alone relay, or to replace the IEC 61810 series of standards.

1.1.2 This standard applies to automatic electrical controls, mechanically or electrically operated, responsive to or controlling such characteristics as temperature, pressure, passage of time, humidity, light, electrostatic effects, flow, or liquid level, current, voltage, acceleration, or combinations thereof.

1.1.3 This standard applies to starting relays, which are a specific type of automatic electrical control, intended to switch the starting winding of a motor. Such controls may be built into, or be separate from, the motor.

1.1.4 This standard applies to manual controls when such are electrically and/or mechanically integral with automatic controls.

Requirements for manual switches not forming part of an automatic control are contained in IEC 61058-1.

1.2 This standard applies to controls with a rated voltage not exceeding 690 V and with a rated current not exceeding 63 A.

1.3 This standard does not take into account the response value of an automatic action of a control, if such a response value is dependent upon the method of mounting the control in the equipment. Where a response value is of significant purpose for the protection of the user, or surroundings, the value defined in the appropriate household equipment standard or as determined by the manufacturer shall apply.

1.4 This standard applies also to controls incorporating electronic devices, requirements for which are contained in Annex H.

This standard applies also to controls using NTC or PTC thermistors, requirements for which are contained in Annex J.

1.5 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 60038, *IEC standard voltages*

IEC 60065:2001, *Audio, video and similar electronic apparatus – Safety requirements*[1)]
Amendment 1 (2004)

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

IEC 60085:2007, *Electrical insulation – Thermal evaluation and designation*

IEC 60099-1, *Surge arresters – Part 1: Non-linear resistor type gapped arresters for a.c. systems*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60127-1:2006, *Miniature fuses – Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links*

IEC 60227-1, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 1: General requirements*

IEC 60245-1, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 1: General requirements*

IEC 60269-1, *Low-voltage fuses – Part 1:General requirements*

1) There exists a consolidated edition 7.1 including IEC 60065:2001 and its Amendment 1 (2004).

IEC 60335-1:2001, *Household and similar electrical appliances – Safety – Part 1: General requirements*[2)]
Amendment 1 (2004)
Amendment 2 (2006)

IEC 60364 (all parts), *Low-voltage electrical installations*

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 60384-16, *Fixed capacitors for use in electronic equipment – Part 16: Sectional specification: Fixed metallized polypropylene film dielectric d.c. capacitors*

IEC 60384-17, *Fixed capacitors for use in electronic equipment – Part 17: Sectional specification: Fixed metallized polypropylene film dielectric a.c. and pulse capacitors*

IEC 60417 (all parts), *Graphical symbols for use on equipment*

IEC 60423, *Conduit systems for cable management – Outside diameters of conduits for electrical installations and threads for conduits and fittings*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP code)*[3)]
Amendment 1 (1999)

IEC 60539 (all parts), *Directly heated negative temperature coefficient thermistors*

IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60664-3:2003, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

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

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

IEC 60738-1-1, *Thermistors – Directly heated positive step-function temperature coefficient – Part 1-1: Blank detail specification – Current limiting application – Assessment level EZ*

IEC 60947-1:2007, *Low-voltage switchgear and controlgear – Part 1: General rules*

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2) There exists a consolidated edition 4.2 including IEC 60335-1:2001 and its Amendments 1 (2004) and 2 (2006).

3) There exists a consolidated edition 2.1 including IEC 60529:1989 and its Amendment 1 (1999).

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*

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Amendment 1 (2008)
Amendment 2 (2009)[4)]

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IEC 61000-4-4:2004, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5:2005, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-6:2008, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

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Amendment 1 (2000)

IEC 61000-4-11:2004, *Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests*

IEC 61000-4-13:2002, *Electromagnetic compatibility (EMC) – Part 4-13: Testing and measurement techniques – Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests*[6)]
Amendment 1 (2009)

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4) There exists a consolidated edition 3.2 including IEC 61000-3-2:2005 and its Amendments 1 (2008) and 2 (2009).

5) There exists a consolidated edition 1.1 including IEC 61000-4-8:1993 and its Amendment 1 (2000).

6) There exists a consolidated edition 1.1 including IEC 61000-4-13:2002 and its Amendment 1 (2009).

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Amendment 1 (2001)
Amendment 2 (2009)

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7 There exists a consolidated edition 1.1 including IEC 61000-4-28:1999, its Amendment 1 (2001) and Amendment 2 (2009).

8) There exists a consolidated edition 5.1 including CISPR 14-1:2005 and its Amendment 1 (2008).