SVENSK STANDARD SS-EN 60669-2-5

Fastställd	Utgåva	Sida	Ansvarig kommitté
2016-12-14	1	1 (1+53)	SEK TK 23

Strömställare för fasta installationer (installationsströmställare) i hushåll och liknande – Del 2-5: Särskilda fordringar på strömställare med tillbehör för anslutning till installationsbuss

Switches for household and similar fixed electrical installations – Part 2-5: Particular requirements – Switches and related accessories for use in home and building electronic systems (HBES)

Som svensk standard gäller europastandarden EN 60669-2-5:2016. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60669-2-5:2016.

Nationellt förord

Europastandarden EN 60669-2-5:2016

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60669-2-5, First edition, 2013 - Switches for household and similar fixed electrical installations - Part 2-5: Particular requirements - Switches and related accessories for use in home and building electronic systems (HBES)**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60669-1, utgåva 2, 2000, SS-EN 60669-2-1, utgåva 3, 2005 och dess separat utgivna tillägg.

Tidigare fastställd svensk standard SS-EN 50428, utgåva 1, 2005, SS-EN 50428/A1, utgåva 1, 2007 och SS-EN 50428/A2, utgåva 1, 2009, gäller ej fr o m 2020-08-31.

ICS 29.120.40

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60669-2-5

September 2016

ICS 29.120.40

Supersedes EN 50428:2005

English Version

Switches for household and similar fixed electrical installations - Part 2-5: Particular requirements - Switches and related accessories for use in home and building electronic systems (HBES) (IEC 60669-2-5:2013 , modified)

Interrupteurs pour installations électriques fixes domestiques et analogues - Partie 2-5: Prescriptions particulières - Interrupteurs et appareils associés pour usage dans les systèmes électroniques des foyers domestiques et bâtiments (HBES) (IEC 60669-2-5:2013 , modifiée)

Schalter für Haushalt und ähnliche ortsfeste elektrische Installationen - Teil 2-5: Besondere Anforderungen - Schalter und ähnliches Installationsmaterial zur Verwendung in elektronischer Systemtechnik für Heim und Gebäude (ESHG) (IEC 60669-2-5:2013 , modifiziert)

This European Standard was approved by CENELEC on 2015-08-31. 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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 60669-2-5:2016 E

SEK Svensk Elstandard

European foreword

The text of document 23B/1110/FDIS, future edition 1 of IEC 60669-2-5, prepared by SC 23B "Plugs, socket-outlets and switches", of IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60669-2-5:2016.

A draft amendment, which covers common modifications to IEC 60669-2-5:2013 (23B/1110/FDIS), was prepared by CLC/TC 23BX "Switches, boxes and enclosures for household and similar purposes, plugs and socket outlets for d.c. and for the charging of electrical vehicles including their connectors" and approved by CENELEC.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2017-03-23
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2020-08-31

This document supersedes EN 50428:2005.

This standard has to be used in conjunction with EN 60669-1:1999 and EN 60669-2-1:2004 and their amendments. It lists the additional changes necessary to convert it into the European Standard: "*Switches for household and similar fixed electrical installations - Collateral standard - Switches and related accessories for use in home and building electronic systems (HBES)*".

When this standard states "addition", "modification" or "replacement", the relevant text of EN 60669-1:1999 or EN 60669-2-1:2004 and their amendments (hereinafter called Part 1 and Part 2-1 respectively) is to be adapted accordingly.

NOTE The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 201 are additional to those in Part 2-1;
- additional annexes to Part 1 are lettered AA, BB, etc.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60669-2-5:2013 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 document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s), see informative Annexes ZZA, ZZB and ZZC, which are integral parts of this document.

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.

Publication	Year	Title	EN/HD	Year
IEC 60050	series	International Electrotechnical Vocabulary (IEV)	-	-
IEC 60364-4-41 (mod)	-	Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41	2007
-	-		+ corrigendum Jul.	2007
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	2003
IEC 60669-1 (mod)	1998	Switches for household and similar fixed-electrical installations - Part 1: General requirements	EN 60669-1	1999
+ A1 (mod)	1999		+ A1	2002
+ A2 (mod)	2006		+ A2	2008
IEC 60669-2-1 (mod)	2002	Switches for household and similar fixed electrical installations - Part 2-1: Particular requirements - Electronic switches	EN 60669-2-1	2004
-	-		+ corrigendum Dec.	2007
+ A1 (mod)	2008		+ A1	2009
-	-		+ A12	2010
IEC 60670-1 (mod)	-	Boxes and enclosures for electrical accessories for household and similar fixed electrical installations - Part 1: General requirements	EN 60670-1	2005
-	-		+ corrigendum Nov.	2007
-	-		+ corrigendum Mar.	2010

Publication	Year	Title	EN/HD	Year
IEC 60715	-	Dimensions of low-voltage switchgear and controlgear - Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations	EN 60715	2001
IEC 60990	-	Methods of measurement of touch current and protective conductor current	EN 60990	1999
IEC 61000-2-2	-	Electromagnetic compatibility (EMC) - Part 2-2: Environment - Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems	EN 61000-2-2	2002
IEC 61000-3-2	-	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	EN 61000-3-2	2006
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	EN 61000-3-3	2013
IEC 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009
IEC 61000-4-3	-	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2006
IEC 61000-4-4	-	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	2012
IEC 61000-4-5	-	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2006

Publication	Year	Title	EN/HD	Year
IEC 61000-4-6	-	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2014
IEC 61000-4-8	-	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	2010
IEC 61000-4-11	-	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 61000-4-20	2010	Electromagnetic compatibility (EMC) - Part 4-20: Testing and measurement techniques - Emission and immunity testing in transverse electromagnetic (TEM) waveguides	EN 61000-4-20	2010
IEC 61058-1 (mod.)	2000	Switches for appliances - Part 1: General requirements	EN 61058-1	2002 [1)]
+ A1	2001		-	-
+ A2	2007		+ A2	2008
IEC 61140	2001	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2002
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	2009
CISPR 14	series	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus	EN 55014	series
CISPR 15	-	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	EN 55015	2013
CISPR 22 (mod)	-	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022	2010
-	-		+ AC	2011

1) EN 61058-1:2002 includes IEC 61058-1:2000/A1:2001 (not modified).

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 2-5: Particular requirements – Switches and related accessories for use in home and building electronic systems (HBES)

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
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International Standard IEC 60669-2-5 has been prepared by subcommittee 23B: Plugs, socket-outlets and switches, of IEC technical committee 23: Electrical accessories.

The text of this standard is based on the following documents:

FDIS	Report on voting
23B/1110/FDIS	23B/1129/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This part of IEC 60669 is partially based on IEC 60669-1:1998, its Amendment 1:1999 and Amendment 2:2006 and IEC 60669-2-1:2002 and its Amendment 1:2008. In cases where parts of these standards apply, this will be mentioned explicitly by a normative cross-reference describing the extent to which the referenced element (clause, subclause, figure, table, etc.) applies. Subclauses, figures, tables or notes which are additional to those in IEC 60669-1 and IEC 60669-2-1 and their amendments are numbered starting from 101 and 201 respectively, additional annexes are lettered AA, BB, etc.

This part of IEC 60669 lists the changes necessary to convert those standards into a specific standard for home and building electronic systems (HBES) switches and related accessories.

In this standard, the following print types are used:

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

A list of all parts in the IEC 60669 series, published under the general title *Switches for household and similar fixed-electrical installations,* can be found on the IEC website.

The following differences exist in the countries indicated below.

– Clause 26: all CENELEC countries.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 2-5: Particular requirements – Switches and related accessories for use in home and building electronic systems (HBES)

1 Scope

This part of IEC 60669 applies to HBES switches with a working voltage not exceeding 250 V a.c. and a rated current up to and including 16 A for household and similar fixed electrical installations either indoors or outdoors and to associated electronic extension units.

It applies to:

– HBES switches for the operation of lamp circuits and the control of the brightness of lamps (dimmers) as well as the control of the speed of motors (e.g. those used in ventilating fans) and for other purposes (e.g. heating installations);

– sensors, actuators, switched-socket-outlets, associated electronic extension units, etc.

In the present standard the word "HBES switch" is applied to describe all kinds of HBES devices e.g. switches, sensors, actuators, switched-socket-outlets, associated electronic extension units, etc.

The operation and control are performed:

– intentionally by a person via an actuating member, a key, a card, etc., via a sensing surface or a sensing unit, by means of touch, proximity, turn, optical, acoustic, thermal;

– by physical means, e.g. light, temperature, humidity, time, wind velocity, presence of people;

– by any other influence;

and transmitted:

– by an electronic signal via several media, e.g. powerline (mains), twisted pair, optical fibre, radio frequency, infra-red, etc.

HBES switches complying with this standard are suitable for use at ambient temperatures not normally exceeding 25 °C, but occasionally reaching 35 °C.

This part of IEC 60669also applies to mounting boxes for HBES switches, with the exception of those for flush-type HBES switches which are covered by IEC 60670-1.

NOTE 1 In the following country flush mounted boxes are covered by both EN 60670-1 and BS 4662: UK

Functional safety aspects of HBES switches are not covered by this standard. Functional safety requirements are covered by the standards of the devices which are controlled by the HBES.

In locations where special conditions prevail, e.g. higher temperature, special constructions may be required.

NOTE 2 This standard is not intended to cover devices falling within the scope of IEC 60730.

NOTE 3 Within this Part 2-5, for any reference to IEC 60669-2-1 and its Amendment 1:2008, the term “electronic switches” is replaced by “HBES switches”.

NOTE 4 In the following country, HBES switches complying with this standard are suitable for use at ambient temperatures not normally exceeding 35 °C, but occasionally reaching 40 °C: CN.

2 Normative references

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.

IEC 60050 (all parts), *International Electrotechnical Vocabulary,* available at: <http://www.electropedia.org>

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

IEC 60669-1:1998, *Switches for household and similar fixed-electrical installations – Part 1: General requirements*
Amendment 1:1998
Amendment 2:2006

IEC 60669-2-1:2002, *Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic switches*
Amendment 1:2008

IEC 60364-4-41, *Low-voltage electrical installations– Part 4-41: Protection for safety – Protection against electric shock*

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

IEC 60670-1, *Boxes and enclosures for electrical accessories for household and similar fixed electrical installations – Part 1: General requirements*

IEC 60715, *Dimensions of low-voltage switchgear and controlgear – Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations*

IEC 60990*, Methods of measurement of touch current and protective conductor current*

IEC 61000-2-2, *Electromagnetic compatibility (EMC) – Part 2-2: Environment – Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems*

IEC 61000-3-2, *Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16A 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 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 61000-4-6, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

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*

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

IEC 61058-1, *Switches for appliances – Part 1: General requirements*
Amendment 1:2000
Amendment 2:2007

IEC 61140:2001, *Protection against electric shock – Common aspects for installation and equipment*

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*

CISPR 14 (all parts), *Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus*

CISPR 15, *Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment*

CISPR 22, *Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement*