



# SLOVENSKI STANDARD

## SIST EN 60669-1:2018

01-junij-2018

**Nadomešča:**

**SIST EN 60669-1:2000**

**SIST EN 60669-1:2000/A1:2004**

**SIST EN 60669-1:2000/A2:2008**

**SIST EN 60669-1:2000/IS1:2009**

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**Stikala za gospodinjске in podobne fiksne električne napeljave - 1. del: Splošne zahteve (IEC 60669-1:2017, spremenjen)**

Switches for household and similar fixed electrical installations - Part 1: General requirements (IEC 60669-1:2017, modified)

Schalter für Haushalt und ähnliche ortsfeste elektrische Installationen - Teil 1: Allgemeine Anforderungen (IEC 60669-1:2017, modifiziert)

Interrupteurs pour installations électriques fixes domestiques et analogues - Partie 1: Exigences générales (IEC 60669-1:2017, modifiée)

**Ta slovenski standard je istoveten z: EN 60669-1:2018**

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**ICS:**

29.120.40      Stikala      Switches

**SIST EN 60669-1:2018**      en,fr,de

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 60669-1:2018

<https://standards.iteh.ai/catalog/standards/sist/fbe6f2fe-8907-4d48-97ae-7df6b5e7d9f1/sist-en-60669-1-2018>

EUROPEAN STANDARD

**EN 60669-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2018

ICS 29.120.40

Supersedes EN 60669-1:1999, EN 60669-1:1999/IS1:2009

English Version

Switches for household and similar fixed electrical installations -  
Part 1: General requirements  
(IEC 60669-1:2017 , modified)

Interrupteurs pour installations électriques fixes  
domestiques et analogues - Partie 1: Exigences générales  
(IEC 60669-1:2017 , modifiée)

Schalter für Haushalt und ähnliche ortsfeste elektrische  
Installationen - Teil 1: Allgemeine Anforderungen  
(IEC 60669-1:2017 , modifiziert)

This European Standard was approved by CENELEC on 2017-02-13. 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.

SIST EN 60669-1:2018

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, Serbia, 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: Rue de la Science 23, B-1040 Brussels

**EN 60669-1:2018 (E)****European foreword**

The text of document 23B/1235/FDIS, future edition 4 of IEC 60669-1, prepared by IEC/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 60669-1:2018.

A draft amendment, which covers common modifications to IEC 60669-1 (23B/1235/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 this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-08-16
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2019-02-16

EN 60669-1:2018 supersedes EN 60669-1:1999.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60669-1:2017 are prefixed "Z".

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.

For the relationship with EU Directive see informative Annex ZZ, which is an integral part of this document.

<https://standards.iteh.ai/catalog/standards/sist/fbe6f2fe-8907-4d48-97ae-7df6b5e7d9f1/sist-en-60669-1-2018>

**Endorsement notice**

The text of the International Standard IEC 60669-1:2017 was approved by CENELEC as a European Standard with agreed common modifications.

**COMMON MODIFICATIONS****1 Scope**

**Replace** NOTE 2 by "Void"

**2 Normative references**

**Replace** the text of Clause 2 by:

NOTE Normative references to international publications are listed in Annex ZA (normative).

### 3 Terms and definitions

Add the following definitions:

#### 3.Z1

##### **surface-type switch**

switch, which when mounted, projects wholly above the surface on which it is mounted

#### 3.Z2

##### **flush-type switch**

switch mainly intended to be mounted in a flush-type box

#### 3.Z3

##### **semi flush-type switch**

switch mainly intended to be mounted in a semi flush-type box

#### 3.Z4

##### **panel-type switch**

switch mainly intended for mounting to a panel having an aperture through which the intended accessible surface of the switch protrudes

#### 3.Z5

##### **architrave-type switch**

switch having a cover plate of such proportions that it may be accommodated within an architrave

#### 3.Z6

##### **live part**

[IEV 442-01-40] conductor or conductive part intended to be energized in normal use, including a neutral conductor, but, by convention, not the combined protective and neutral conductor (PEN)

Note 1 to entry: This concept does not necessarily imply a risk of electric shock.

[https://standards.iteh.ai/catalog/standards/sist/fbe612fe-8907-4d48-97ae-](https://standards.iteh.ai/catalog/standards/sist/fbe612fe-8907-4d48-97ae-7df6b5e7d9f1/sist-en-60669-1-2018)

[7df6b5e7d9f1/sist-en-60669-1-2018](https://standards.iteh.ai/catalog/standards/sist/fbe612fe-8907-4d48-97ae-7df6b5e7d9f1/sist-en-60669-1-2018)

#### 3.Z7

##### **type test**

test of one or more switches made to a certain design to show that the design meets certain specifications

#### 3.Z8

##### **routine test**

test to which each individual switch is subjected during and/or after manufacture to ascertain whether it complies with certain criteria

#### 3.Z9

##### **switch without gap construction**

switch having a semiconductor switching device which has no contact gap

**EN 60669-1:2018 (E)****6 Ratings**

6.1 **Replace** all subclause by:

Preferred values of rated voltage are 230 V, 250 V, 400 V, or 440 V.

6.2 **Replace** Table 2 by:

**Table 2 - Relationship between rated current of the switch and rated power of the SBL circuit**

Rated current of the switch [A]	Rated power of the SBL circuit [W]
Up to and including 10	100
Above 10 up to and including 13	150
Above 13 up to and including 16	200
Above 16 up to and including 20	250

**7 Classification**

7.7 **Add** NOTE Z1 and renumber existing note as NOTE 1:

NOTE Z1 See Annex ZB for special national conditions.

**8 Marking**

8.1 **Replace** NOTE 4 and NOTE 5 by:

NOTE 4 See Annex ZB for special national conditions.

Convenor note: The relevant national committees should propose the exact text for Annex ZB, SNC related to the notes in this paragraph.

8.3 **Replace** NOTE 2 by:

NOTE 2 See Annex ZB for special national conditions.

**10 Protection against electric shock**

10.2 **Add** note after first paragraph:

NOTE See Annex ZB for special national conditions.

10.3.2 **Replace** "Cover or cover plate" by "covers, cover-plates and other parts of the enclosure".

10.3.3 **Replace** "Cover or cover plate" by "covers, cover-plates and other parts of the enclosure".

**Add** note:

NOTE See Annex ZB for special national conditions.

- 10.5 **Add** NOTE Z1 and renumber existing note as NOTE 1  
NOTE Z1 See Annex ZB for special national conditions.
- 11 **Provision for earthing**
- 11.2 **Add** note:  
NOTE See Annex ZC for A-deviations.
- 12 **Terminals**
- 12.2.5 **Replace** the text of index a in Table 6 by “Void”  
**Add** at the end of the subclause NOTE Z1 and renumber existing note as NOTE 1:  
NOTE Z1 See Annex ZB for special national conditions.  
**Renumber** NOTE by NOTE 1
- 12.2.6 **Replace** NOTE 2 by:  
NOTE 2 See Annex ZB for special national conditions.
- 13 **Constructional requirements**
- 13.15.2 **Replace** note by:  
NOTE See Annex ZB for special national conditions.
- 15 **Resistance to ageing, protection provided by enclosures of switches, and resistance to humidity**
- 15.1 **Replace** in the 10<sup>th</sup> paragraph, the value “55 %” by “75 %”.

## EN 60669-1:2018 (E)

## 19 Normal operation

## 19.3 Replace Table 19 by:

Table 19 – Values for  $I_{peak}$  and  $I^2t$ 

(A)	$I_{peak}$ [A]	$I^2t$ [A <sup>2</sup> s]	Rated power of the SBL circuit [W]
Up to and including 10	108	2,8	100
Above 10 up to and including 13	142	5,5	150
Above 13 up to and including 16	170	9	200
Above 16 up to and including 20	192	13	250

Delete the paragraph before Table 20.

Replace Table 20 by:

Table 20 – Calculated circuit parameters

Rated current (A)	230 V	
	$R_2$ [Ω]	C [μF]
Up to and including 10	1,9	125
Above 10 up to and including 13	2,25	180
Above 13 up to and including 16	0,95	240
Above 16 up to and including 20	0,8	310

## 20 Mechanical strenght

## 20.1 Replace the first dash by:

– for all types of switches and their dedicated boxes, where applicable.....20.2

Delete the third dashed item.

## 22 Screws, current-carrying parts and connections

## 22.1 Delete the second sentence of the second paragraph.

## 23 Creepage distances, clearances and distances through sealing compound

Add the following subclause after 23.2:

**23.Z1** Surface-type switches shall not have bare current-carrying strips at the back.

*Compliance is checked by inspection.*



Add the following clause after Clause 26:

## **Z1 Electromagnetic fields (EMF) requirements**

Electromagnetic field generated by switches covered by this part of the standard are considered negligible. Therefore, these requirements are deemed to be met without performing any test.

## **Annex A Additional requirements for switches having facilities for the outlet and retention of flexible cables**

Add the following after Subclause 7.10

### **8 Marking**

8.1 Add the following paragraph at the end of this subclause:

In addition for switches where a cord anchorage is intended to clamp effectively flexible cables other than those nominal cross-sectional areas appropriate to the rating of the switch as given in Table 2, then the minimum and maximum size for which the anchorage is provided may be marked in an area adjacent to the anchorage, e.g. "6 mm – 16 mm" or "6 – 16". This information shall be put on the switch and/or the packaging unit.

### **13 Construction requirements**

13.Z1 Add at the end of the subclause:

For flexible cable outlet switches:

- it shall be clear how the reliefs from strain and the prevention of twisting is intended to be effected,
- the cord anchorage, or at least part of it, shall be integrated with or permanently fixed to one of the components parts of the switch,
- makeshift methods, such as tying the flexible cable in a knot or tying the ends with a string, shall not be used,
- cord anchorage shall be suitable for the different types of flexible cables for which they are intended.

Rewirable switches with earthing connection shall be designed with ample space for slack of the earthing conductors in such a way that, if the strain relief should fail, the connection of the earthing conductor is subjected to strain after the connection of current carrying conductors and that, in the case of excessive stresses, the earthing conductor will break after the current carrying conductors.

## **Annex D Additional requirements for insulation-piercing terminals**

Change "informative" by "normative"

## **Annex E Additional requirements and tests for switches intended to be used at a temperature lower than $-5\text{ }^{\circ}\text{C}$**

Replace NOTE 4 by:

NOTE See Annex ZB for special national conditions.

Add the following Annex after Annex ZC:

### **Annex ZD Routine test**

(Under consideration)

## EN 60669-1:2018 (E)

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](http://www.cenelec.eu)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60038 (mod)	2009	IEC standard voltages	EN 60038	2011
IEC 60068-2-75	2014	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	2014
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
+A1	2009		+A1	2009
IEC 60212	2010	Standard conditions for use prior to and during the testing of solid electrical insulating materials	EN 60212	2011
IEC 60227-5	2011	Polyvinyl chloride insulated cables of rated - voltages up to and including 450/750 V - Part 5: Flexible cables (cords)	-	-
IEC 60228	2004	Conductors of insulated cables	EN 60228 + corr. May	2005 2005
IEC 60245-4	2011	Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 4: Cords and flexible cables	-	-
IEC 60417-DB	-	Graphical symbols for use on equipment	-	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
+A1	1999		+A1	2000
+A2	2013		+A2	2013
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 + corr. December	2004 2007
			+A12	2010
+A1 (mod)	2008		+A1	2009
+A2	2015		+A2	201X <sup>1)</sup>

<sup>1)</sup> To be published.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60695-2-10	2000	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	2001 <sup>2)</sup>
IEC 60695-2-11	2014	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT)	EN 60695-2-11	2014
IEC 60998-1 (mod)	2002	Connecting devices for low-voltage circuits for household and similar purposes - Part 1: General requirements	EN 60998-1	2004
IEC 60998-2-1 (mod)	-	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units	EN 60998-2-1	-
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 60998-2-3	-	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	-
IEC 60998-2-4	-	Connecting devices for low voltage circuits for household and similar purposes - Part 2-4: Particular requirements for twist- on connecting devices	EN 60998-2-4	-
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
ISO 1456	2009	Metallic and other inorganic coatings - Electrodeposited coatings of nickel, nickel plus chromium, copper plus nickel and of copper plus nickel plus chromium	EN ISO 1456	2009
ISO 2081	2008	Metallic and other inorganic coatings - Electroplated coatings of zinc with supplementary treatments on iron or steel	EN ISO 2081	2008
ISO 2093	1986	Electroplated coatings of tin; Specification and test methods	-	-

<sup>2)</sup> Superseded by EN 60695-2-10:2013 (IEC 60695-2-10:2013).

## EN 60669-1:2018 (E)

**Annex ZB**  
(normative)

**Special national conditions**

**Special national condition:** National characteristic or practice that cannot be changed over a long period, e.g. climatic conditions, electrical earthing conditions. If it affects harmonization, it forms part of the European Standard.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

Clause      Special national condition

**7.7**            **Belgium, Finland, Germany, Netherlands, Norway and Sweden**

Design B is not used due to installation practice.

**8.1**            **United Kingdom**

**Add** after the first paragraph:

The marking of the type reference is not used.

**Germany**

**Add** at the index n:

n) the symbol that electrotechnical expertise is required (see IEC 60417-6182) is to be placed on the packaging.

**8.3**            **United Kingdom**

**Add** at the end:

The marking of the type reference is not used.

**10.2**          **Norway**

**Add** after the first paragraph:

Due to the lack of an earthing conductor in many existing old buildings, accessories requiring earth connection cannot normally be used.

Clause      Special national condition10.3.3      **Norway**

**Add** after the first paragraph:

Due to the lack of an earthing conductor in many existing old buildings, accessories requiring earth connection cannot normally be used.

10.5      **Norway**

**Add** after the second paragraph:

Due to the lack of an earthing conductor in many existing old buildings, accessories requiring earth connection cannot normally be used.

12.2.5      **Finland, Norway and Sweden**

**Add** at the end:

The test shall be repeated with rigid solid conductors in the case they exist in the relevant IEC standard, if the first test has been made with rigid stranded conductors. In the case rigid stranded conductors do not exist, the test may be made with rigid solid conductors only.

12.2.6      **Finland, Norway and Sweden**

**Add** the following paragraph at the end of the subclause:

An additional test with one rigid solid conductor and one rigid stranded conductor with the same nominal cross-sectional area connected at the same time is required for terminals allowing the connection of two conductors.

13.15.2      **Denmark, Finland, Norway, Sweden and Switzerland**

This subclause is mandatory.

Annex E      **Finland, Norway and Sweden**

This annex is normative.

**EN 60669-1:2018 (E)****Annex ZC**  
(informative)**A-Deviations**

**A-Deviation:** National deviations due to regulation, the alteration of which is for the time being outside the competence of CENELEC member.

This European Standard falls under Directive 2014/35/EU.

NOTE (from CEN/CENELEC IR Part 2, 3.1.9): Where standards fall under EC Directives, it is the view of the Commission of the European Communities (OJ No C 59; 1982-03-09) that the effect of the decision of the Court of Justice in case 815/79 Cremonini/Vrankovich (European Court Reports 1980, p.3583) is that compliance with A-deviations is no longer mandatory and that the free movement of the products complying with such a standard should not be restricted except under the safeguard procedure provided for the relevant Directive.

A-deviations in an EFTA-country are valid instead of the relevant provisions of the European Standard in that country until they have been removed.

<u>Clause</u>	<u>Special national condition</u>
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11.2	<b>Belgium</b> (Reglement General sur les Installations Electriques, R.G.I.E. § 73.02).
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**Replace** the second paragraph by:

They shall have a capacity not less than that of the corresponding terminals for the supply conductors except that any additional external earthing terminal shall be of a size suitable for conductors of at least 4 mm<sup>2</sup>.

SIST EN 60669-1:2018

<https://standards.iteh.ai/catalog/standards/sist/fbe6f2fe-8907-4d48-97ae-7df6b5e7d9f1/sist-en-60669-1-2018>

**Annex ZZ**  
(informative)

**Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered**

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

**Table ZZ.1 – Correspondence between this European standard and Annex I of Directive 2014/35/EU [2014 OJ L96]**

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1(a) the <u>essential characteristics</u> , the recognition and observance of which will ensure that electrical equipment will be used safely and in applications for which it was made, <u>shall be marked on the electrical equipment, or, if this is not possible, on an accompanying document</u>	<p style="text-align: center;">iTech STANDARD PREVIEW (standards.itech.ai) Clause 1 to 7 8 - Marking Annex D Annex E (See SNC)</p>	
1.(b) <u>ensure that it can be safely and properly assembled and connected;</u>	<p>Clause 1 to 7 8 - Marking 9 - Dimensions 10 - Protection against electrical shock 11 - Provision for earthing 12 - Terminals 13 - Constructional requirements 14 – Mechanism 22 – Screws, current-carrying parts and connections Annex A Annex D Annex E (See SNC)</p>	