



# SLOVENSKI STANDARD

## SIST EN 196200:2005

01-februar-2005

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dcXfcVb]a UgdYWZ\_UWUa U9B`% \* &\$%]b`9B`% \* &\$&

Sectional specification: Lever switches including Blank Detail Specifications EN 196201 and En 1962202

Rahmenspezifikation: Hebelschalter einschließlich Vordruck für Bauartspezifikation EN 196201 und EN 196202

Spécification intermédiaire: Interrupteurs à levier incluant les Spécifications Cadres EN 196201 et EN 196202

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Ta slovenski standard je istoveten z: **EN 196200**

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**ICS:**

31.220.20      Stikala      Switches

**SIST EN 196200:2005**      en

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EUROPEAN STANDARD

**EN 196200**

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2002

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English version

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including Blank Detail Specifications  
EN 196201 and En 1962202**

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat 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 Central Secretariat has the same status as the official versions.

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# CENELEC

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

This document has been prepared by the former CENELEC/TC CECC/SC 23JX, "Switches and sensors".

The text of the draft consisting of documents CECC 96 200:1988 and CECC(Secretariat)3262 was submitted to the formal vote; together with the voting report circulated as document CECC(Secretariat)3362, it was approved by CENELEC as EN 196200 on 1993-06-14.

The following dates were 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) 2003-06-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2003-06-01

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## The preparation of detail specifications

### General instructions

Detail specifications for lever switches shall be prepared by completing the following pro-forma as indicated by the guidelines given below and in accordance with CECC 96 000. The layout given shall be adhered to as closely as is practicable.

Each detail specification shall relate to only one type of lever switch as defined in 2.2.3( ) of CECC 96 000, and to one assessment level, but may if found convenient cover more than one style of that type and/or number of variants within each style. For lever switches, 'style' and 'variant' have meanings as defined below.

The style of a lever switch of a given type is determined by the following parameters:

- current and voltage ratings
- climatic category

Switches for which it is wished to claim structural similarity shall be of the same type and style, in accordance with 3.2 of CECC 96 000.

The variants within a style of lever switch are determined, for example, by the following parameters:

- number of poles
- bushing
- sealing
- lever
- terminations
- contact arrangement

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The DS shall contain all the necessary information to identify the particular type, style(s) and variant(s) of lever switch which it covers. This information shall include at least the following:

a) Ratings and characteristics

1) Ratings and characteristics shall be taken from the preferred list given in 2.3 of CECC 96 000 unless more severe values are to be prescribed.

2) Proof voltage shall be determined as stated in 4.3.4(4-1) of CECC 96 000.

b) Detailed dimensions including mounting.

c) Number of poles.

d) Bushing type.

e) Sealed or non-sealed.

f) Lever form.

g) Lever positions and mechanical operating characteristics.

h) Terminations.

i) Contact arrangement.

j) Indication/illumination.

k) Assessment level.

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### Terminology

The terminology used shall be in accordance with 2.2 of CECC 96 000. Any further special terms which are found necessary shall be defined in the detail specification.

Detailed instructions for completion of a detail specification

A completed detail specification shall consist of

1. a front page identifying the specification and the component
2. one or more pages of technical information
3. a test schedule

These shall be prepared in accordance with the following instructions.

### 1. Front page

The front page is intended to formally identify the specification and to provide sufficient technical information for the user to identify the general features of the switch and its principal characteristics. Its layout shall be as shown on page 7. The numbers between square brackets on page 7 refer to details which shall be inserted in accordance with items [1] to [9] below:

[1] The name of the National Standards Organization under whose authority the detail specification is published, followed by the manufacturer's name and address if appropriate.

[2] The CECC symbol and the number allocated by the CECC General Secretariat. (standards.iteh.ai)

[3] The number and issue number of the CECC generic specification; also national reference if different.

[4] If different from the CECC number, the national number, date of issue and any further information required by the national system, together with any amendment numbers.

[5] A statement of the class and sub-class (where applicable) of switch, as listed in 1.2 of CECC 96 000.

[6] Information on principal features of construction, such as provision of illumination, sealing, special mounting or termination facilities. It shall be staged if the switch is suitable for printed wiring applications.

For [5] and [6] the text shall be suitable for an entry in CECC 00 200 (QPL) and CECC 00 300 (Library list).

[7] An outline drawing with main dimensions which are of importance for inter-changeability, and/or reference to the appropriate national or international document for outlines. Alternatively, this drawing may be given in an appendix. Dimensions shall be given in millimetres.

[8] Level of quality assessment, in accordance with 3.1 below and with 3.4 of CECC 96 000.

[9] The principal ratings and characteristics of the switch. Those parameters which are not subject to lot-by-lot or periodic inspection shall be clearly identified as such.

## 2. Technical information

This section shall provide full technical details and performance characteristics of the switch, together with any other information required by the user. It shall be prepared by completing pages 7, 8 and 9 in accordance with the instructions given on those pages within square brackets.

## 3. Test schedule

3.1 This section shall fully identify the schedule of tests to which the component is subjected for quality conformance inspection and for qualification approval. Two alternative assessment levels, level D and level R, are provided for switches, and are detailed in tables 1 and 2 respectively; one of these levels shall be selected for preparation of the DS, depending upon the nature of the switch and its intended application. It is not permitted to delete inspection and test requirements from those laid down by the relevant table unless these are indicated as 'if applicable', but assessment levels intermediate between levels R and D, or more severe than level D, may be created by the introduction of additional tests and/or by tightened inspection levels. When such enhanced assessment levels are created, this shall be indicated in box [8] of page 7 by inserting 'D+' or 'R+' as appropriate.

3.2 The pro-forma test schedules for quality conformance inspection are given in tables 1 and 2 for levels D and R respectively. The appropriate table shall be completed with conditions of test and performance requirements as specified in 4.3 of CECC 96 000 for each test, and in accordance with the instructions given in the table in square brackets.

3.3 When the fixed sample size procedure is adopted for obtaining qualification approval in accordance with 3.3.3 of CECC 96 000, table 3 (level D) or table 4 (level R) shall be completed and used as appropriate. The conditions of test and the performance requirements shall be identical to those prescribed for quality conformance inspection in the completed table 1 or table 2.

Tables 3 and 4 are not required to be published as part of the detail specification.



3.4 When it is intended to reduce the number of contact sets tested, as permitted by 4.2 of CECC 96 000, the following shall be stated in the test schedules for each relevant sub-group:

- number of samples to have all their contact sets tested (minimum permitted = 50 % of the samples in each sub-group);
- total number of contact sets to be tested (minimum permitted = 1 set per switch on the rest of the samples).


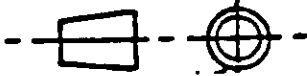
3.5 When it is intended to apply tests additional to those specified by the following tables, the test methods shall be clearly detailed, either by reference to the relevant test number in 4.3 of CECC 96 000 or, where the test is not defined by CECC 96 000, by stating in full the test method to be applied.

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Recommended layout for detail specifications for switches of assessed quality

[1]	Page of	[2] 
ELECTRONIC COMPONENT OF ASSESSED QUALITY: DETAIL SPECIFICATION IN ACCORDANCE WITH  CECC 96000: 1985 [3]	[4]	
<p>OUTLINE AND DIMENSIONS (mm)</p>  <p>First angle projection</p> <p style="text-align: center; color: red; font-weight: bold;">iTeh STANDARD PREVIEW (standards.iteh.ai)</p> <p style="text-align: center; color: red; font-size: small;">SIST EN 196200:2005 <a href="https://standards.iteh.ai/catalog/standards/sist/b47f1155-2020-4208-95e6-a55d9188fbae/sist-en-196200-2005">https://standards.iteh.ai/catalog/standards/sist/b47f1155-2020-4208-95e6-a55d9188fbae/sist-en-196200-2005</a></p> <p>NOTE - Other shapes are permitted within the dimensions given</p>	LEVER SWITCH [5]	
	PRINCIPAL CONSTRUCTIONAL FEATURES [6]	
	LEVEL OF QUALITY ASSESSMENT [8]	
PRINCIPAL RATINGS AND CHARACTERISTICS  [9]		
Information about manufacturers who have components qualified to this detail specification is available in the current CECC 00 200: Qualified Products List		

## 1 Basic information

### 1.1 General

(A statement of the principal usage features of the device; for example 'panel mounting, high current, extended life'.)

### 1.2 Range and variants available

(To include such details as number of poles, types of contacts, contact arrangements and lever types; for example 'one and two poles, 10 mm diameter, bush mounting, sealed, with tab terminations'.)

## 2 Ratings and characteristics

(Additional parameters may be stated where relevant. Values for all parameters shall be selected as prescribed in 2.3 of CECC 96 000. Characteristics and ratings are required to be stated only if called up by the test schedule for the relevant assessment level.)

### 2.1 Electrical ratings

Maximum and minimum switched ---- V (a.c. and/or d.c.)

Rated voltage ---- V (a.c. and/or d.c.)

Maximum and minimum switched ---- A (a.c. and/or d.c.)  
current

Maximum switched power ---- VA (a.c. and/or d.c.)

Maximum and minimum carrying ---- A (a.c. and/or d.c.)  
current

### 2.2 Environmental ratings

Climatic category ----/----/----

Shock severity ---- m/s<sup>2</sup>; ----s; ---- shocks in each  
plane

or

Bump severity ---- m/s<sup>2</sup>; ---- bumps; duration of each  
bump 6 ms

EN 196200:2002

Vibration	10 Hz to ---- Hz; displacement 0,75 mm; acceleration 98 m/s <sup>2</sup> (10 g); duration ----
Low air pressure	---- kPa (----- mbar)
Sealing	---- kPa (----- mbar) (conditions to be stated in accordance with 4.3.14 of CECC 96 000)

### 2.3 Mechanical characteristics

Operating force	---- N (min.), ---- N (max.)
Mechanical endurance	---- operations without load

### 2.4 Electrical characteristics

Electrical endurance	---- cycles (conditions to be stated)
Maximum initial contact resistance	---- mΩ (conditions to be stated)
Maximum final contact resistance	---- mΩ (conditions to be stated)
Minimum initial insulation resistance	---- MΩ (conditions to be stated)
Minimum final insulation resistance	---- MΩ (conditions to be stated)
Voltage proof	---- V r.m.s. (in accordance with 4.3.4 of CECC 96 000)
Capacitance	---- pF (conditions to be stated)

### 3 Marking information

(In accordance with 2.4 of CECC 96 000.)

#### 4 Ordering information

Orders for lever switches covered by this specification shall contain the following information:

- Number of the detail specification
- Details of manufacturer's codes for specific variants. (If appropriate. Information on the codes for variants may take the form of an appendix showing a typical ordering sheet.)

#### 5 Related documents

CECC 96 000.

(Any other documents referred to in this specification shall be listed.)

#### 6 Certified test records

(State either not required or required in accordance with 3.5 of CECC 96 000. If Certified Test Records are required their contents shall be defined.)

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#### 7 Structural similarity [SIST EN 196200:2005](https://standards.iteh.ai/catalog/standards/sist/b47f1154-c839-4087-85e6-1549181fae61/sist-en-196200-2005)

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(State either not applicable or to be applied in accordance with 3.2 of CECC 96 000. If applied, details of the grouping procedures shall be given.)

#### 8 Delayed delivery

(Either state in accordance with 3.6 of CECC 96 000, or state any deviation therefrom.)

## 9 Additional information

(Not for inspection purposes except where stated.)

(The following optional details may be given; this information may be presented in the form of an appendix.

- Unchecked parameters: information concerning factors (such as materials and flammability) which are not subject to regular quality conformance inspection but which may be of significance in selecting a switch for an application. Where basically equivalent components are available from more than one manufacturer, information may be provided in respect of detail differences.
- Special contractual information: any additional information demanded by special contractual requirements and which is required to be verified by a stated inspection procedure.
- Special details: any other information intended to assist the user in the application of the components.)

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**Table 1 - Test schedule for quality conformance inspection, assessment level D  
Group A (non-destructive)  
To be conducted on a sampling basis, lot-by-lot**

Test and measurements						
Sub-group	Title	a or i.a.	Conditions of test See individual test methods in 4.3 of CECC 96 000	IL	AQL	Requirements
A1	Visual examination	a	1-1 (note 1)	I	1,5 %	(Note 1)
A2	Outline dimensions	a	1-2 (note 1)	S3	1 %	(Note 1)
A3	Functional operation	a	1-7 (note 1)	II	1 %	(Note 1)
A4	Initial contact resistance	a	Either 2-1 (notes 1 & 2) or 2-2 (notes 1 & 2)	S3	1,5 %	----- mΩ max. (as in 2.4)