



# SLOVENSKI STANDARD

## SIST EN 60947-1:1999

01-julij-1999

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**Low-voltage switchgear and controlgear - Part 1: General rules (IEC 60947-1:1996, modified, (corrigendum Mar. 1998))**

Low-voltage switchgear and controlgear -- Part 1: General rules

Niederspannungsschaltgeräte -- Teil 1: Allgemeine Festlegungen

Appareillage à basse tension -- Partie 1: Règles générales

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**Ta slovenski standard je istoveten z: EN 60947-1:1997**

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**ICS:**

29.130.20	Niskonapetostne stikalne in krmilne naprave	Low voltage switchgear and controlgear
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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60947-1**

November 1997

ICS 29.120.60

Supersedes EN 60947-1:1991 and its amendments

Descriptors: Low-voltage switchgear and controlgear, characteristics, specification, test

English version

**Low-voltage switchgear and controlgear**  
**Part 1: General rules**  
(IEC 60947-1:1996, modified)

Appareillage à basse tension  
Partie 1: Règles générales  
(CEI 60947-1:1996, modifiée)

Niederspannungsschaltgeräte  
Teil 1: Allgemeine Festlegungen  
(IEC 60947-1:1996, modifiziert)

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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

The text of the International Standard IEC 60947-1:1996, prepared by SC 17B, Low-voltage switchgear and controlgear, of IEC TC 17, Switchgear and controlgear, together with common modifications prepared by the Technical Committee CENELEC TC 17B, Low-voltage switchgear and controlgear including dimensional standardization, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 60947-1 on 1997-10-01.

This European Standard supersedes EN 60947-1:1991 and its amendments A11:1994, A2:1995 and A1:1996.

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) 1998-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-06-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes C, K, L, M and ZA are normative and annexes A, B, D, E, F, G, H and J are informative.

Annex ZA has been added by CENELEC.

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**Endorsement notice**

The text of the International Standard IEC 60947-1:1996 was approved by CENELEC as a European Standard with agreed common modifications as given below.

**COMMON MODIFICATIONS****7 Constructional and performance requirements**

7.1.2 **Delete** the last paragraph just before the note.

**8 Tests**

8.2.6 **Delete** this subclause.

8.2.6.1 **Delete** this subclause.

8.2.6.2 **Delete** this subclause.

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## Annex ZA (normative)

Normative references to international publications  
with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050(151)	1978	International Electrotechnical Vocabulary (IEV) Chapter 151: Electrical and magnetic devices	-	-
IEC 60050(441)	1984	Chapter 441: Switchgear, controlgear and fuses	-	-
IEC 60050(604)	1987	Chapter 604: Generation, transmission and distribution of electricity - Operation	-	-
IEC 60050(826)	1982	Chapter 826: Electrical installations of buildings	HD 384.2 S1	1986
IEC 60060	series	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1 EN 60060	1991 series
IEC 60068-2-3	1969	Basic environmental testing procedures Part 2: Tests - Test Ca: Damp heat, steady state	HD 323.2.3 S2 <sup>1)</sup>	1987
IEC 60071-1	1993	Insulation co-ordination Part 1: Definitions, principles and rules	EN 60071-1	1995
IEC 60073	1991	Coding of indicating devices and actuators by colours and supplementary means	EN 60073 <sup>2)</sup>	1993
IEC 60085	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
IEC 60099-1	1991	Surge arresters Part 1: Non-linear resistor type gapped surge arresters for a.c. systems	EN 60099-1	1994

1) HD 323.2.3 S2 includes A1:1984 to IEC 60068-2-3.

2) EN 60073:1993 is superseded by EN 60073:1996, which is based on IEC 60073:1996.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60112	1979	Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions	HD 214 S2	1980
IEC 60216	1990	Guide for the determination of thermal endurance properties of electrical insulating materials Part 1: General guidelines for ageing procedures and evaluation of test results	EN 60216-3-2 HD 611	1995 series
IEC 60269-1	1986	Low-voltage fuses Part 1: General requirements	EN 60269-1	1989
IEC 60269-2	1986	Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)	EN 60269-2	1995
IEC 60364-4-443	1990	Electrical installations of buildings Part 4: Protection for safety Chapter 44: Protection against overvoltages Section 443 - Protection against overvoltages of atmospheric origin or due to switching	-	-
IEC 60417	1973	Graphical symbols for use on equipment Index, survey and compilation of the single sheets	HD 243 S12 <sup>3)</sup>	1995
IEC 60439-1	1992	Low-voltage switchgear and controlgear assemblies Part 1: Type-tested and partially type-tested assemblies	EN 60439-1 <sup>4)</sup> + corr. August + corr. February	1994 1994 1995
IEC 60445	1988	Identification of equipment terminals and of terminations of certain designated conductors, including general rules for an alphanumeric system	EN 60445	1990
IEC 60447	1993	Man-machine interface (MMI) - Actuating principles	EN 60447	1993
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60617-7	1983 <sup>5)</sup>	Graphical symbols for diagrams Part 7: Switchgear, controlgear and protective devices	-	-

3) HD 243 S12 includes supplements A:1974 to M:1994 to IEC 60417.

4) EN 60439-1 includes the corrigendum December 1993 to IEC 60439-1.

5) IEC 60617-7:1996 is harmonized as EN 60617-7:1996.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. November 1996	1996
IEC 60695-2-1/0	1994	Fire hazard testing Part 2: Test methods Section 1/sheet 0: Glow-wire test methods General	EN 60695-2-1/0	1996
IEC 60695-2-1/1	1994	Section 1/sheet 1: Glow-wire end-product test and guidance	EN 60695-2-1/1 <sup>6)</sup>	1996
IEC 60695-2-1/2	1994	Section 1/sheet 2: Glow-wire flammability test on materials	EN 60695-2-1/2	1996
IEC 60695-2-1/3	1994	Section 1/sheet 3: Glow-wire ignitability test on materials	EN 60695-2-1/3	1996
IEC 60695-2-2	1991	Section 2: Needle-flame test	EN 60695-2-2	1994
IEC 60707	1981	Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source	HD 441 S1	1983
IEC 60981	1989	Extra-heavy duty rigid steel conduits for electrical installations	-	-
IEC 60998-1 (mod)	1990	Connecting devices for low-voltage circuits for household and similar purposes Part 1: General requirements	EN 60998-1	1993
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Section 2: Electrostatic discharge immunity test	EN 61000-4-2	1995
IEC 61000-4-3 (mod)	1995	Section 3: Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	1996
IEC 61000-4-4	1995	Section 4: Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 61000-4-5	1995	Section 5: Surge immunity test	EN 61000-4-5	1995
CISPR 11 (mod)	1990	Limits and methods of measurement of electromagnetic disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment	EN 55011 <sup>7)</sup>	1991

6) EN 60695-2-1/1 includes the corrigendum May 1995 to IEC 60695-2-1/1.

7) The title of EN 55011:1991 is: Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment.



<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
CISPR 22	1993	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	EN 55022	1994

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INTERNATIONALE  
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STANDARD

CEI  
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947-1

Deuxième édition  
Second edition  
1996-09

Appareillage à basse tension –

Partie 1:  
Règles générales

iTeh STANDARD PREVIEW  
(standards.iteh.ai)  
Low-voltage switchgear and controlgear –  
Part 1:  
General rules

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

## Part 1: General rules

## FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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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- International Standard IEC 947-1 has been prepared by subcommittee 17B: Low-voltage switchgear and controlgear, of IEC technical committee 17: Switchgear and controlgear.

This second edition replaces the first edition published in 1988, and the amendment 3 (1995), including amendments 1 (1994) and 2 (1995), and corrigendum (1996).

This second edition constitutes a technical revision.

The text of this standard is based on the first edition, corrigenda, amendments 1, 2 and 3 and the following documents:

FDIS	Report on voting
17B/739/FDIS	17B/782/RVD

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

Annexes C, K, L and M form an integral part of this standard.

Annexes A, B, D, E, F, G, H and J are for information only.