

**SLOVENSKI
STANDARD**

SIST EN 60947-1:2004

junij 2004

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

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ICS 29.130.20

Referenčna številka
SIST EN 60947-1:2004(en)

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SIST EN 60947-1:2004

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EUROPEAN STANDARD

EN 60947-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2004

ICS 29.130.20

Supersedes EN 60947-1:1999 + A1:2000 + A2:2001

English version

Low-voltage switchgear and controlgear
Part 1: General rules
(IEC 60947-1:2004)

Appareillage à basse tension
Partie 1: Règles générales
(CEI 60947-1:2004)

Niederspannungsschaltgeräte
Teil 1: Allgemeine Festlegungen
(IEC 60947-1:2004)

This European Standard was approved by CENELEC on 2004-04-01. 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 Central Secretariat or to any CENELEC member.

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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

The text of document 17B/1324/FDIS, future edition 4 of IEC 60947-1, prepared by SC 17B, Low-voltage switchgear and controlgear, of IEC TC 17, Switchgear and controlgear, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60947-1 on 2004-04-01.

This European Standard supersedes EN 60947-1:1999 + corrigendum October 1999 + A1:2000 + A2:2001.

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) 2005-01-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2007-04-01

This European Standard was prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and supports the essential requirements of Directive 89/336/EEC.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60947-1:2004 was approved by CENELEC as a European Standard without any modification.

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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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-151	2001	International Electrotechnical Vocabulary (IEV) Part 151: Electrical and magnetic devices	-	-
IEC 60050-441	1984	Chapter 441: Switchgear, controlgear and fuses	-	-
A1	2000		-	-
IEC 60050-604	1987	Chapter 604: Generation, transmission and distribution of electricity - Operation	-	-
A1	1998			
IEC 60050-826 + A1 + A2 + A3	1982 1990 1995 1999	Chapter 826: Electrical installations of buildings	HD 384.2 S2	2001
IEC 60060	Series	High-voltage test techniques	EN 60060	Series
IEC 60068-2-78	2001	Environmental testing Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001
IEC 60071-1	1993	Insulation co-ordination Part 1: Definitions, principles and rules	EN 60071-1	1995
IEC 60073	2002	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators	EN 60073	2002
IEC 60085	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
IEC 60216	Series	Electrical insulating materials - Properties of thermal endurance	EN 60216	Series
IEC 60269-1	1998	Low-voltage fuses Part 1: General requirements	EN 60269-1	1998

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60269-2	1986	Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)	EN 60269-2	1995
A1	1995		A1	1998
A2	2001		A2	2002
IEC 60364-4-44	2001	Electrical installations of buildings Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances	-	-
A1	2003		-	-
IEC 60417 database	-	Graphical symbols for use on equipment	-	-
IEC 60439-1	1999	Low-voltage switchgear and controlgear assemblies Part 1: Type-tested and partially type- tested assemblies	EN 60439-1	1999
IEC 60445	1999	Basic and safety principles for man- machine interface, marking and identification - Identification of equipment terminals and of terminations of certain designated conductors, including general rules for an alphanumeric system	EN 60445	2000
IEC 60447	1993	Man-machine interface (MMI) - Actuating principles	EN 60447 ¹⁾	1993
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
A1	1999		A1	2000
IEC 60617 database	-	Graphical symbols for diagrams	-	-
IEC 60664-1 + A1 + A2	1992 2000 2002	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	EN 60664-1	2003
IEC 60695-2-2	1991	Fire hazard testing Part 2: Test methods - Section 2: Needle-flame test	EN 60695-2-2	1994
A1	1994		A1	1995
IEC 60695-2-10	2000	Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	2001
IEC 60695-2-11	2000	Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001

¹⁾ EN 60447:1993 is superseded by EN 60447:2004, which is based on IEC 60447:2004.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60695-11-10	1999	Part 11-10: Test flames - 50 W horizontal and vertical flame test methods	EN 60695-11-10	1999
IEC 60947-5-1	1997	Low-voltage switchgear and controlgear Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices	EN 60947-5-1	1997
A1	1999		A1	1999
A2	1999		A2	2000
IEC 60981	1989	Extra-heavy duty rigid steel conduits for electrical installations	-	-
IEC 61000-3-2 (mod)	2000	Electromagnetic compatibility (EMC) Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)	EN 61000-3-2	2000
A1	2001		-	-
IEC 61000-3-3	1994	Part 3: Limits - Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤ 16 A	EN 61000-3-3 + corr. July	1995 1997
A1	2001		A1	2001
IEC 61000-4-2	1995	Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995
A1	1998		A1	1998
A2	2000		A2	2001
IEC 61000-4-3	2002	Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2002
A1	2002		A1	2002
IEC 61000-4-4	1995	Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	1995
A1	2000		A1	2001
A2	2001		A2	2001
IEC 61000-4-5	1995	Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	1995
A1	2000		A1	2001
IEC 61000-4-6	1996	Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	1996
A1	2000		A1	2001
IEC 61000-4-8	1993	Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	1993
A1	2000		A1	2001

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-11	1994	Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	1994
A1	2000		A1	2001
IEC 61000-4-13	2002	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	2002
IEC 61140	2001	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2002
IEC 61180	Series	High-voltage test techniques for low-voltage equipment	EN 61180-1	Series
CISPR 11	2003	Industrial scientific and medical (ISM) radio-frequency equipment - Electromagnetic disturbance characteristics - Limits and methods of measurement	-	-

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC

60947-1

Quatrième édition
Fourth edition
2004-03

Appareillage à basse tension –

**Partie 1:
Règles générales**

Low-voltage switchgear and controlgear –

**Part 1:
General rules**

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX XH
PRICE CODE

Pour prix, voir catalogue en vigueur
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 1: General rules

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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International Standard IEC 60947-1 has been prepared by subcommittee 17B: Low-voltage switchgear and controlgear, of IEC technical committee 17: Switchgear and controlgear.

This fourth edition of IEC 60947-1 cancels and replaces the third edition published in 1999, amendment 1 (2000) and amendment 2 (2001).

The document 17B/1324/FDIS, circulated to the National Committees as amendment 3, led to the publication of this new edition.

The text of this standard is based on the third edition, its amendments 1 and 2, and the following documents:

FDIS	Report on voting
17B/1324/FDIS	17B/1330/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.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

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

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