SLOVENSKI STANDARD
SIST EN 60694:2001

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Nadomeġļa:
SIST HD 448 S3:1996

Common specifications for high-voltage switchgear and controlgear standards

Common specifications for high-voltage switchgear and controlgear standards

Gemeinsame Bestimmungen für Hochspannungsschaltgeräte

Spécifications communes aux normes de l'appareillage à haute tension

Ta slovenski standard je istoveten z: **EN 60694:1996**

ICS:

29.130.10	Visokonapetostne stikalne in krmilne naprave	High voltage switchgear and controlgear

SIST EN 60694:2001 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Common specifications for high-voltage switchgear and controlgear standards
(IEC 694:1996)

Spécifications communes aux normes de l'appareillage à haute tension
(CEI 694:1996)

Gemeinsame Bestimmungen für Hochspannungsschaltgeräte
(IEC 694:1996)

This European Standard was approved by CENELEC on 1996-07-02. 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.

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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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 17A/458/FDIS, future edition 2 of IEC 694, prepared by SC 17A, High-voltage switchgear and controlgear, and SC 17C, High-voltage enclosed 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 60694 on 1996-07-02.

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)	1997-04-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	1997-04-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A, B, C and ZA are normative and annexes D to G are informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 694:1996 was approved by CENELEC as a European Standard without any modification.

In the official version, for annex G, Bibliography, the following notes have to be added for the standards indicated:

IEC 99-4	NOTE: Harmonized as EN 60099-4:1993 (not modified).
IEC 129	NOTE: Harmonized as EN 60129:1994 (not modified).
IEC 233	NOTE: Harmonized as HD 329 S1:1977 (not modified).
IEC 273	NOTE: Harmonized as HD 578 S1:1992 (not modified).
IEC 721-2-2	NOTE: Harmonized as HD 478.2.2 S1:1990 (not modified).
IEC 721-2-4	NOTE: Harmonized, together with A1:1988, as HD 478.2.4 S1:1989 (not modified).
IEC 721-3-3	NOTE: Harmonized as EN 60721-3-3:1995 (not modified).
IEC 721-3-4	NOTE: Harmonized as EN 60721-3-4:1995 (not modified).
IEC 1000-4-1	NOTE: Harmonized as EN 61000-4-1:1994 (not modified).
ISO 9001	NOTE: Harmonized as EN ISO 9001:1994 (not modified).
ISO 9002	NOTE: Harmonized as EN ISO 9002:1994 (not modified).

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.

Publication	Year	Title	EN/HD	Year
IEC 38 (mod)	1983	IEC Standard voltages[1)]	HD 472 S1	1989
IEC 50(151)	1978	International Electrotechnical Vocabulary (IEV) Chapter 151: Electrical and magnetic devices	-	-
IEC 50(191)	1990	Chapter 191: Dependability and quality of service	-	-
IEC 50(441)	1984	Chapter 441: Switchgear, controlgear and fuses	-	-
IEC 50(604)	1987	Chapter 604: Generation, transmission and distribution of electricity - Operation	-	-
IEC 50(826)	1982	Chapter 826: Electrical installations of buildings	HD 384.2 S1	1986
IEC 56 (mod)	1987	High-voltage alternating-current circuit-breakers	HD 348 S6[2)]	1995
IEC 59	1938	IEC standard current ratings	-	-
IEC 60-1	1989	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1	1991
IEC 68-2-17	1994	Environmental testing Part 2: Tests - Test Q: Sealing	EN 60068-2-17	1994
IEC 68-2-63	1991	Part 2: Test methods - Test Eg: Impact, spring hammer	EN 60068-2-63	1994

1) The title of HD 472 S1 is: Nominal voltages for low voltage public electricity supply systems.

2) HD 348 S6 includes A1:1992 + A2:1995 to IEC 56.

Publication	Year	Title	EN/HD	Year
IEC 71-1	1993	Insulation co-ordination Part 1: Definitions, principles and rules	EN 60071-1	1995
IEC 71-2	[3]	Part 2: Application guide	-	-
IEC 73	1991	Coding of indicating devices and actuators by colours and supplementary means	EN 60073 + corr. April	1993 1993
IEC 85	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
IEC 255-5	1977	Electrical relays Part 5: Insulation tests for electrical relays	-	-
IEC 270	1981	Partial discharge measurements	-	-
IEC 296	1982	Specification for unused mineral insulating oils for transformers and switchgear	-	-
IEC 376	1971	Specification and acceptance of new sulphur hexafluoride	-	-
IEC 417	1973	Graphical symbols for use on equipment - Index, survey and compilation of the single sheets	HD 243 S12[4]	1995
IEC 480	1974	Guide to the checking of sulphur hexafluoride (SF6) taken from electrical equipment	-	-
IEC 507	1991	Artificial pollution tests on high-voltage insulators to be used on a.c. systems	EN 60507	1993
IEC 529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 617	series	Graphical symbols for diagrams	EN 60617	series
IEC 721	series	Classification of environmental conditions	HD 478 EN 60721	series series
IEC 815	1986	Guide for the selection of insulators in respect of polluted conditions	-	-
IEC 816	1984	Guide on methods of measurement of short duration transients on low voltage power and signal lines	-	-

3) At present under IEC-CENELEC parallel vote (28/115/FDIS).

4) HD 243 S12 includes supplements A:1974 to M:1994 to IEC 417.

Publication	Year	Title	EN/HD	Year
IEC 1000-4-4	1995	Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques -- Section 4: Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 1000-4-12	1995	Section 12: Oscillatory waves immunity test - Basic EMC publication	EN 61000-4-12	1995
IEC 1166	1993	High-voltage alternating current circuit-breakers - Guide for seismic qualification of high-voltage alternating current circuit-breakers	EN 61166	1993
IEC 1180-1	1992	High-voltage test techniques for low-voltage equipment Part 1: Definitions, test and procedure requirements	EN 61180-1	1994
IEC 1634	1995	High-voltage switchgear and controlgear - Use and handling of sulphur hexafluoride (SF6) in high-voltage switchgear and controlgear	-	-
CISPR 11 (mod)	1990	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment	EN 55011	1991
CISPR 16-1	1993	Specification for radio disturbance and immunity measuring apparatus and methods Part 1: Radio disturbance and immunity measuring apparatus	-	-
CISPR 18-2 A1	1986 1993	Radio interference characteristics of overhead power lines and high-voltage equipment - Part 2: Methods of measurement and procedure for determining limits	-	-

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Deuxième édition
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Spécifications communes aux normes de l'appareillage à haute tension

Common specifications for high-voltage switchgear and controlgear standards

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMON SPECIFICATIONS FOR HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR STANDARDS

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.

2) The formal decisions or agreements of the IEC on technical matters, express as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 694 has been prepared by subcommittee 17A: High-voltage switchgear and controlgear, and subcommittee 17C: High-voltage enclosed switchgear and controlgear, of IEC technical committee 17: Switchgear and controlgear.

This second edition replaces the first edition published in 1980 and its amendment 3 (1995), and constitutes a technical revision. It supersedes also the technical report IEC 1208 (1992).

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

FDIS	Report on voting
17A/458/FDIS	17A/479/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.

Annexes A, B and C form an integral part of this standard.

Annexes D to G are for information only.

The following differences exist in some countries:

6.2.11 The required test voltage for disconnectors and switch-disconnectors of all rated voltages is 100 % of the tabulated voltage in columns 3 of tables 1a or 1b and 2a or 2b (Canada, France, Italy).

COMMON SPECIFICATIONS FOR HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR STANDARDS

1 General

1.1 *Scope*

This International Standard applies to a.c. switchgear and controlgear, designed for indoor and outdoor installation and for operation at service frequencies up to and including 60 Hz on systems having voltages above 1000 V.

This standard applies to all high-voltage switchgear and controlgear except as otherwise specified in the relevant IEC standards for the particular type of switchgear and controlgear.

1.2 *Normative references*

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 38: 1983, *IEC standard voltages*

IEC 50(151): 1978, *International Electrotechnical Vocabulary (IEV) – Chapter 151: Electrical and magnetic devices*

IEC 50(191): 1990, *International Electrotechnical Vocabulary (IEV) – Chapter 191: Dependability and quality of service*

IEC 50(441): 1984, *International Electrotechnical Vocabulary (IEV) – Chapter 441: Switchgear, controlgear and fuses*

IEC 50(604): 1987, *International Electrotechnical Vocabulary (IEV) – Chapter 604: Generation, transmission and distribution of electricity – Operation*

IEC 50(826): 1982, *International Electrotechnical Vocabulary (IEV) – Chapter 826: Electrical installations of buildings*

IEC 56: 1987, *High-voltage alternating-current circuit-breakers*

IEC 59: 1938, *IEC standard current ratings*

IEC 60-1: 1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 68-2-17: 1994, *Environmental testing – Part 2: Tests – Test Q: Sealing*

IEC 68-2-63: 1991, *Environmental testing – Part 2: Tests – Test Eg: Impact, spring hammer*

IEC 71-1: 1993, *Insulation co-ordination – Part 1: Definitions, principles and rules*

IEC/FDIS 71-2, *Insulation coordination – Part 2: Application guide**

IEC 73: 1991, *Coding of indicating devices and actuators by colours and supplementary means*

IEC 85: 1984, *Thermal evaluation and classification of electrical insulation*

IEC 255-5: 1977, *Electrical relays – Part 5: Insulation tests for electrical relays*

IEC 270: 1981, *Partial discharge measurements*

IEC 296: 1982, *Specification for unused mineral insulating oils for transformers and switchgear*

IEC 376: 1971, *Specification and acceptance of new sulphur hexafluoride*

IEC 417: 1973, *Graphical symbols for use on equipment – Index, survey and compilation of the single sheets*

IEC 480: 1974, *Guide to the checking of sulphur hexafluoride (SF_6) taken from electrical equipment*

IEC 507: 1991, *Artificial pollution tests on high-voltage insulators to be used on a.c. systems*

IEC 529: 1989, *Degrees of protection provided by enclosures (IP code)*

IEC 617, *Graphical symbols for diagrams*

IEC 721, *Classification of environmental conditions*

IEC 815: 1986, *Guide for the selection of insulators in respect of polluted conditions*

IEC 816: 1984, *Guide on methods of measurement of short-duration transients on low-voltage power and signal lines*

IEC 1004-4-4: 1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 4: Electrical fast transient/burst immunity test – Basic EMC publication*

IEC 1004-4-12: 1996, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 12: Oscillatory waves immunity test – Basic EMC publication*

IEC 1166: 1993, *High-voltage alternating current circuit-breakers – Guide for seismic qualification of high-voltage alternating current circuit-breakers*

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* 28/115/FDIS