

Amendment to IEC 60694: Common specifications for high-voltage switchgear and controlgear - Clauses applicable to auxiliary equipment using electronic and associated technologies

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[SIST EN 60694:2001/A1:2002](https://standards.iteh.ai/catalog/standards/sist/daac260b-cb07-44a8-817e-c8ace41ac2c3/sist-en-60694-2001-a1-2002)
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EUROPEAN STANDARD

EN 60694/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2000

ICS 29.130.10

English version

**Common specifications for high-voltage switchgear
and controlgear standards
(IEC 60694:1996/A1:2000)**

Spécifications communes aux normes
de l'appareillage à haute tension
(CEI 60694:1996/A1:2000)

Gemeinsame Bestimmungen für
Hochspannungsschaltgeräte
(IEC 60694:1996/A1:2000)

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This amendment A1 modifies the European Standard EN 60694:1996; it was approved by CENELEC on 2000-11-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

<https://standards.iteh.ai/catalog/standards/sist/daac260b-cb07-44a8-817e->

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 amendment 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, Czech Republic, 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/579/FDIS, future amendment 1 to IEC 60694:1996, prepared by SC 17A, High-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 amendment A1 to EN 60694:1996 on 2000-11-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2001-08-01
- latest date by which the national standards conflicting
with the amendment have to be withdrawn (dow) 2003-11-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex ZA is normative and annex H informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of amendment 1:2000 to the International Standard IEC 60694:1996 was approved by CENELEC as an amendment to the European Standard without any modification.

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SIST EN 60694:2001/A1:2002

<https://standards.iteh.ai/catalog/standards/sist/daac260b-cb07-44a8-817e-c8ace41ac2c3/sist-en-60694-2001-a1-2002>

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
Add:				
IEC 60034-1 (mod)	1996	Rotating electrical machines Part 1: Rating and performance	EN 60034-1 + corr. February	1998 2000
IEC 60050-131	1978	International Electrotechnical Vocabulary (IEV) Chapter 131: Electric and magnetic circuits	-	-
IEC 60050-301	1983	Chapter 301: General terms on measurements in electricity	-	-
IEC 60050-351	1998	Part 351: Automatic control	-	-
IEC 60050-446	1983	Chapter 446: Electrical relays	-	-
IEC 60050-581	1978	Chapter 581: Electromechanical components for electronic equipment	-	-
IEC 60050-811	1991	Chapter 811: Electric traction	-	-
IEC 60051-2	1984	Direct acting indicating analogue electrical measuring instruments and their accessories Part 2: Special requirements for ammeters and voltmeters	EN 60051-2	1989
IEC 60051-4	1984	Part 4: Special requirements for frequency meters	EN 60051-4	1989
IEC 60051-5	1985	Part 5: Special requirements for phase meters, power factor meters and synchrosopes	EN 60051-5	1989
IEC 60064 (mod)	1993	Tungsten filament lamps for domestic and similar general lighting purposes - Performance requirements	EN 60064	1995
IEC 60073	1996	Basic and safety principles for man- machine interface, marking and identification - Coding principles for indication devices and actuators	EN 60073	1996
IEC 60081	1997	Double-capped fluorescent lamps - Performance specifications	EN 60081	1998
IEC 60083	1997	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60115-4	1982	Fixed resistors for use in electronic equipment Part 4: Sectional specification: Fixed power resistors	-	-
IEC 60130	Series	Connectors for frequencies below 3 MHz	EN 60130	Series
IEC 60227	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	1)	
IEC 60228 (mod)	1978	Conductors of insulated cables - First supplement: Guide to the dimensional limits of circular conductors	HD 383 S2 ²⁾	1986
IEC 60245	Series	Rubber insulated cables - Rated voltages up to and including 450/750 V	3)	
IEC 60255-8 (mod)	1990	Electrical relays Part 8: Thermal electrical relays	EN 60255-8	1998
IEC 60255-23	1994	Part 23: Contact performance	EN 60255-23	1996
IEC 60269-1	1998	Low-voltage fuses Part 1: General requirements	EN 60269-1	1998
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 60269-2-1 (mod)	1998	Part 2-1: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) Sections I to V: Examples of types of standardized fuses	HD 630.2.1 S4	2000
IEC 60309-1	1999	Plugs, socket-outlets and couplers for industrial purposes Part 1: General requirements	EN 60309-1	1999
IEC 60309-2	1999	Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories of harmonized configurations	EN 60309-2	1999
IEC 60326	Series	Printed boards	-	-
IEC 60393-1	1989	Potentiometers for use in electronic equipment Part 1: Generic specification	-	-
IEC 60417	Series	Graphical symbols for use on equipment	EN 60417	Series

1) HD 21 (series) is related to, but not directly equivalent with, IEC 60227.

2) HD 383 S2 includes IEC 60228A:1992.

3) HD 22 (series) is related to, but not directly equivalent with, IEC 60245.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 60485	1974	Digital electronic d.c. voltmeters and d.c. electronic analogue-to-digital converters	-	-
IEC 60502-1	1997	Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV)	-	-
IEC 60669-1 (mod)	1998	Switches for household and similar fixed-electrical installations Part 1: General requirements	EN 60669-1	1999
IEC 60730-2-9 (mod)	1992	Automatic electrical controls for household and similar use Part 2: Particular requirements for temperature sensing controls	EN 60730-2-9	1995
IEC 60730-2-13 (mod)	1995	Part 2: Particular requirements for humidity sensing controls	EN 60730-2-13 + corr. May	1998 2000
IEC 60947-2	1995	Low-voltage switchgear and controlgear Part 2: Circuit-breakers	EN 60947-2 + corr. June	1996 1997
IEC 60947-3	1999	Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units	EN 60947-3	1999
IEC 60947-4-1	1990	Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters	EN 60947-4-1 + corr. June	1992 1997
IEC 60947-4-2 (mod)	1995	Part 4: Contactors and motor-starters -- Section 2: A.C. semiconductor motor controllers and starters	EN 60947-4-2	1996
IEC 60947-5-1	1997	Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices	EN 60947-5-1 + A12	1997 1999
IEC 60947-7-1	1989	Part 7-1: Ancillary equipment - Terminal blocks for copper conductors	EN 60947-7-1 + corr. June	1991 1997
IEC 60947-7-2	1995	Part 7: Ancillary equipment -- Section 2: Protective conductor terminal blocks for copper conductors	EN 60947-7-2 + corr. January	1995 1996
IEC 61000-4-1	1992	Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques -- Section 1: Overview of immunity tests	EN 61000-4-1	1994

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-4	1995	Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 61000-4-12	1995	Part 4-12: Testing and measurement techniques - Oscillatory waves immunity test - Basic EMC publication	EN 61000-4-12	1995
IEC 61000-4-17	1999	Part 4-17: Testing and measurement techniques - Ripple on d.c. input power port immunity test	EN 61000-4-17	1999
IEC 61000-4-29	2000	Part 4-29: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests	EN 61000-4-29	2000
IEC 61000-5	Series	Part 5: Installation and mitigation guidelines	-	-
IEC 61000-5-1	1996	Section 1: General considerations	-	-
IEC 61000-5-2	1997	Section 2: Earthing and cabling	-	-
IEC 61000-6-5		Part 6-5: Generic standards - Immunity for power station and substation environments	-	-
IEC 61020-4	1991	Electromechanical switches for use in electronic equipment Part 4: Sectional specification for lever (toggle) switches	-	-
IEC 61810	Series	Electromechanical non-specified time all-or-nothing relays	EN 61810	Series
IEC 61810-1	1998	Part 1: General requirements	EN 61810-1	1998

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
60694

1996

AMENDEMENT 1
AMENDMENT 1
2000-09

Amendement 1

**Spécifications communes aux normes
de l'appareillage à haute tension**

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Amendment 1

[SIST EN 60694:2001/A1:2002](https://standards.iteh.ai/sist-en-60694-2001/A1-2002)

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**Common specifications for high-voltage
switchgear and controlgear standards**

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

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For price, see current catalogue

FOREWORD

This amendment has been prepared by subcommittee 17A: High-voltage switchgear and controlgear, of IEC technical committee 17: Switchgear and controlgear.

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

FDIS	Report on voting
17A/579/FDIS	17A/588/RVD

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

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2012. At this date, the publication will be

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

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1.2 Normative references [SIST EN 60694:2001/A1:2002](https://standards.iteh.ai/catalog/standards/sist/daac260b-cb07-44a8-817e-c5acc41ac2c3/sist-en-60694-2001-am-2002)

<https://standards.iteh.ai/catalog/standards/sist/daac260b-cb07-44a8-817e-c5acc41ac2c3/sist-en-60694-2001-am-2002>
Insert in the existing list the title of the following standards:

IEC 60034-1:1996, *Rotating electrical machines – Part 1: Rating and performance*

IEC 60050(131):1978, *International Electrotechnical Vocabulary (IEV) – Chapter 131: Electric and magnetic circuits*

IEC 60050(301):1983, *International Electrotechnical Vocabulary (IEV) – Chapter 301: General terms on measurements in electricity*

IEC 60050-351:1998, *International Electrotechnical Vocabulary (IEV) – Part 351: Automatic control*

IEC 60050(446):1983, *International Electrotechnical Vocabulary (IEV) – Chapter 446: Electrical relays*

IEC 60050(581):1978, *International Electrotechnical Vocabulary (IEV) – Chapter 581: Electromechanical components for electronic equipment*

IEC 60050(811):1991, *International Electrotechnical Vocabulary (IEV) – Chapter 811: Electric traction*

IEC 60051-2:1984, *Direct acting indicating analogue electrical measuring instruments and their accessories – Part 2: Special requirements for ammeters and voltmeters*

IEC 60051-4:1984, *Direct acting indicating analogue electrical measuring instruments and their accessories – Part 4: Special requirements for frequency meters*

IEC 60051-5:1985, *Direct acting indicating analogue electrical measuring instruments and their accessories – Part 5: Special requirements for phase meters, power factor meters and synchrosopes*

IEC 60064:1993, *Tungsten filament lamps for domestic and similar general lighting purposes – Performance requirements*

IEC 60073:1996, *Basic and safety principles for man-machine interface, marking and identification – Coding principles for indication devices and actuators*

IEC 60081:1997, *Double-capped fluorescent lamps – Performance specifications*

IEC 60083:1997, *Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC*

IEC 60115-4:1982, *Fixed resistors for use in electronic equipment – Part 4: Sectional specification: Fixed power resistors*

IEC 60130 (all parts), *Connectors for frequencies below 3 MHz*

IEC 60227 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60228:1978, *Conductors of insulated cables*

[SIST EN 60694:2001/A1:2002](http://standards.iteh.ai/SIST-EN-60694-2001/A1-2002)

IEC 60245 (all parts), *Rubber insulated cables – Rated voltages up to and including 450/750 V*

IEC 60255-8:1990, *Electrical relays – Part 8: Thermal electrical relays*

IEC 60255-23:1994, *Electrical relays – Part 23: Contact performance*

IEC 60269-1:1998, *Low-voltage fuses – Part 1: General requirements*

IEC 60269-2:1986, *Low-voltage fuses – Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)*

IEC 60269-2-1:1998, *Low-voltage fuses – Part 2-1: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) – Sections I to V: Examples of types of standardized fuses*

IEC 60309-1:1999, *Plugs, socket-outlets and couplers for industrial purposes – Part 1: General requirements*

IEC 60309-2:1999, *Plugs, socket-outlets and couplers for industrial purposes – Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories*

IEC 60326 (all parts), *Printed boards*

IEC 60393-1:1989, *Potentiometers for use in electronic equipment – Part 1: Generic specification*

IEC 60417 (all parts), *Graphical symbols for use on equipment*

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*

IEC 60485:1974, *Digital electronic d.c. voltmeters and d.c. electronic analogue-to-digital converters*

IEC 60502-1:1997, *Power cables with extruded insulation and their accessories for rated voltages from 1 kV ($U_m = 1,2$ kV) up to 30 kV ($U_m = 36$ kV) – Part 1: Cables for rated voltages of 1 kV ($U_m = 1,2$ kV) and 3 kV ($U_m = 3,6$ kV)*

IEC 60669-1:1998, *Switches for household and similar fixed-electrical installations – Part 1: General requirements*

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IEC 60947-2:1995, *Low-voltage switchgear and controlgear – Part 2: Circuit-breakers*

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IEC 60947-5-1:1997, *Low-voltage switchgear and controlgear – Part 5: Control circuit devices and switching elements – Section One: Electromechanical control circuit devices*

IEC 60947-7-1:1989, *Low-voltage switchgear and controlgear – Part 7: Ancillary equipment – Section One: Terminal blocks for copper conductors*

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IEC 61000-4-1:1992, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 1: Overview of immunity tests – Basic EMC publication*

IEC 61000-4-4:1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 4: Electrical fast transient/burst immunity test – Basic EMC Publication*

IEC 61000-4-12:1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 12: Oscillatory waves immunity test – Basic EMC Publication*

IEC 61000-4-17:1999, *Electromagnetic compatibility (EMC) – Part 4-17: Testing and measurement techniques – Ripple on d.c. input power port immunity test*