SLOVENSKI STANDARD
SIST EN 60265-2:1998

01-februar-1998

High-voltage switches - Part 2: High voltage switches for rated voltages of 52 kV and above (IEC 265-2:1988 + corrigendum Feb.1990)

High-voltage switches -- Part 2: High-voltage switches for rated voltages of 52 kV and above

Hochspannungs-Lastschalter -- Teil 2: Hochspannungs-Lastschalter für Nennspannungen ab 52 kV und darüber

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Interrupteurs à haute tension -- Partie 2: Interrupteurs à haute tension de tension assignée égale ou supérieure à 52 kV

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Ta slovenski standard je istoveten z: **EN 60265-2:1993**

ICS:

29.120.40	Stikala	Switches
29.130.10	Visokonapetostne stikalne in krmilne naprave	High voltage switchgear and controlgear

SIST EN 60265-2:1998 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPEENNE

EUROPÄISCHE NORM

EN 60265-2

August 1993

UDC 621.316.542.027.667

Supersedes HD 355.2 S2:1991

Descriptors: Switches, high-voltage, tests, characteristics

ENGLISH VERSION

High-voltage switches
Part 2: High-voltage switches for rated voltages of 52 kV and above
(IEC 265-2:1988 + corrigendum 1990)

Interrupteurs à haute tension
Deuxième partie: Interrupteurs à haute tension de tension assignée égale ou supérieure à 52 kV
(CEI 265-2:1988 + corrigendum 1990)

Hochspannungs-Lastschalter
Teil 2: Hochspannungs-Lastschalter für Nennspannungen ab 52 kV und darüber
(IEC 265-2:1988 + Corrigendum 1990)

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This European Standard was approved by CENELEC on 1993-07-06. 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.

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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.

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

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FOREWORD

At the request of CENELEC Technical Committee TC 17A, High-voltage switchgear and controlgear, HD 355.2 S2:1991 (IEC 265-2:1988 + corrigendum February 1990) was submitted to the CENELEC voting procedure for conversion into a European Standard.

The text of the International Standard was approved by CENELEC as EN 60265-2 on 6 July 1993.

The following dates were fixed:

- latest date of publication of an identical national standard	(dop)	1994-03-01
- latest date of withdrawal of conflicting national standards	(dow)	-

Annexes designated "normative" are part of the body of the standard. In this standard, annex ZA is normative.

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ENDORSEMENT NOTICE

The text of the International Standard IEC 265-5:1988 + corrigendum February 1990 was approved by CENELEC as a European Standard without any modification.

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ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

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

IEC Publication	Date	Title	EN/HD	Date
50(441)	1984	International Electrotechnical Vocabulary (IEV) - Chapter 441: Switchgear, controlgear and fuses	-	-
56 (mod)	1987	High-voltage alternating-current circuit-breakers	HD 348 S4	1991
59	1938	IEC standard current ratings	-	-
71-1	1976	Insulation co-ordination - Part 1: Terms, definitions, principles and rules	-	-
129	1984	Alternating current disconnectors (isolators) and earthing switches	HD 408 S2	1990
137	1984	Bushings for alternating voltages above 1000 V	-	-
270	1981	Partial discharge measurements	-	-
694	1980	Common clauses for high-voltage switchgear and controlgear standards	HD 448 S2*	1989

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* HD 448 S2 includes A1:1985 to IEC 694

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NORME INTERNATIONALE
INTERNATIONAL STANDARD

CEI
IEC
265-2

Première édition
First edition
1988

Interrupteurs à haute tension

Deuxième partie:
Interrupteurs à haute tension de tension assignée égale ou supérieure à 52 kV

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High-voltage switches

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Part 2:
High-voltage switches for rated voltages of 52 kV and above

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International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE X

Pour prix, voir catalogue en vigueur
For price, see current catalogue

SIST EN 60265-2:1998

Publication 265-2 de la CEI
(Première édition - 1988)

Interrupteurs à haute tension

Deuxième partie: Interrupteurs à haute tension de tension assignée égale ou supérieure à 52 kV

IEC Publication 265-2
(First edition - 1988)

High-voltage switches

Part 2: High-voltage switches for rated voltages of 52 kV and above

C O R R I G E N D U M 1

Page 6

Préface, après le premier paragraphe, insérer:

Elle constitue la deuxième partie de la CEI 265; elle annule et remplace la première édition de la CEI 265 (1968) ainsi que la CEI 265 A (1969), 265 B (1969) et 265 C (1970) pour les interrupteurs à haute tension de tension assignée égale ou supérieure à 52 kV.

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Page 7

Preface, after the first paragraph, insert:

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It forms Part 2 of IEC 265 and supersedes the first edition of IEC 265 (1968) as well as IEC 265 A (1969), 265 B (1969) and 265 C (1970) for high-voltage switches for rated voltages of 52 kV and above.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HIGH-VOLTAGE SWITCHES

Part 2: High-voltage switches for rated voltages of 52 kV and above

FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This standard has been prepared by IEC Sub-Committee 17A: High-voltage switchgear and controlgear, of IEC Technical Committee No. 17: Switchgear and controlgear.

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

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Six Months' Rule	Report on Voting
17A(CO)197 I, II	17A(CO)203

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Full information on the voting for the approval of this standard can be found in the Voting Report indicated in the above table.

The following IEC publications are quoted in this standard:

Publications Nos. 50 (441) (1984): International Electrotechnical Vocabulary (IEV), Chapter 441: Switchgear, controlgear and fuses.

56 (1987): High-voltage alternating-current circuit breakers.

59 (1938): IEC standard current ratings.

71-1 (1976): Insulation co-ordination, Part 1: Terms, definitions, principles and rules.

129 (1984): Alternating current disconnectors (isolators) and earthing switches.

137 (1984): Bushings for alternating voltages above 1000 V.

270 (1981): Partial discharge measurements.

694 (1980): Common clauses for high-voltage switchgear and controlgear standards.

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HIGH-VOLTAGE SWITCHES

Part 2:
High-voltage switches for rated voltages of 52 kV and above

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1. Scope

This standard is applicable to three-phase alternating-current switches, having making and breaking current ratings, for indoor and outdoor installations, for rated voltages 52 kV and above; and for rated frequencies up to and including 60 Hz.

This standard is also applicable to the operating devices of these switches and to their auxiliary equipment.

Notes 1. – Switches for gas insulated switchgear are covered by this standard.

2. – Switches having a disconnecting function and called switch-disconnectors are also covered by IEC Publication 129.

3. – Earthing switches are not covered by this standard. Earthing switches forming an integral part of a switch are covered by IEC Publication 129.

1.101 *Object*

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The main object of this standard is to establish requirements for switches used in transmission and distribution systems. General-purpose switches for this application shall comply with the following service applications:

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- carrying rated normal current continuously;
- carrying short-circuit currents for a specified time;

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- switching of mainly active loads;
- switching of no-load transformers;
- switching of the charging current of unloaded cables, overhead lines or busbars;
- switching of closed-loop circuits;
- making short-circuit currents.

A further object of this standard is to establish requirements for limited-purpose and special-purpose switches used in transmission and distribution systems.

Limited-purpose switches shall comply with one or more of the service applications indicated above.

Special-purpose switches may comply with one or more of the service applications indicated above and, in addition, shall be suitable for one or more of the following applications:

- switching single capacitor banks;
- switching back-to-back capacitor banks;
- switching shunt reactors including secondary or tertiary reactors switched from the primary side of the transformer;
- applications requiring an increased number of operating cycles;
- switching under earth fault conditions in systems with isolated neutral or in resonant earthed systems.

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2. Normal and special service conditions

IEC Publication 694 is applicable.

3. Definitions

For the definitions of general terms used in this standard, reference is made to the IEC Publications 50 (441) and 71-1.

3.101 *Switch* (441-14-10)

A switching device capable of making, carrying and breaking currents under normal circuit conditions, which may include specified operating overload conditions and also carrying for a specified time currents under specified abnormal circuit conditions, such as those of short-circuit.

3.102 *Switch-disconnector* (441-14-12)

A switch which, in the open position, satisfies the isolating requirements specified for a disconnector.

3.103 *General-purpose switch*

A switch capable of performing, with currents up to its rated breaking currents, all making and breaking operations which may normally occur. The switch shall also be capable of carrying and making short-circuit currents.

Note. – Refer to Sub-clause 4.114 for specific ratings of a general-purpose switch.

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3.104 *Limited-purpose switch*

A switch which complies with one or more, but not with all, service applications of a general-purpose switch.

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3.105 *Special-purpose switch*

A switch suitable for switching requirements other than those specified for a general-purpose switch.

Note. – Examples of such requirements are capacitor bank switching, shunt reactor switching, switching under earth fault conditions, and a capability of an increased number of operating cycles.

3.106 *Single capacitor bank switch*

A special-purpose switch intended for switching of a single capacitor bank with charging currents up to its rated single capacitor bank breaking current.

3.107 *Back-to-back capacitor bank switch*

A special-purpose switch intended for breaking capacitor bank-charging currents, with one or more capacitor banks connected to the bus or supply side of the switch, up to its rated back-to-back capacitor bank breaking current. The switch shall be capable of making the associated inrush current, up to its rated capacitor bank inrush making current.

3.108 *Shunt reactor switch*

A special-purpose switch intended for switching a shunt reactor, including secondary or tertiary reactors switched from the primary side of the transformer.

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3.109 *Breaking capacity* * (441-17-08)

3.110 *Mainly active load breaking capacity*

The breaking capacity when opening a mainly active load circuit in which the load can be represented by resistors and reactors in parallel.

3.111 *No-load transformer breaking capacity*

The breaking capacity when opening a no-load transformer circuit.

3.112 *Closed-loop breaking capacity*

The breaking capacity when opening a closed transmission line loop circuit, or a transformer in parallel with one or more transformers, i. e., a circuit in which both sides of the switch remain energized after breaking, and in which the voltage appearing across the terminals is substantially less than the system voltage.

3.113 *Cable-charging breaking capacity*

The breaking capacity when opening a cable circuit at no load.

3.114 *Line-charging breaking capacity*

The breaking capacity when opening an overhead line circuit at no load.

3.115 *Busbar charging breaking capacity*

The breaking capacity when opening a busbar circuit at no load.

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3.116 *Single capacitor bank breaking capacity*

The breaking capacity when opening a single capacitor bank circuit connected to a supply that does not include another capacitor bank adjacent to the bank being switched.

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3.117 *Back-to-back capacitor bank breaking capacity*

The breaking capacity when opening a capacitor bank circuit connected to a supply that includes one or more capacitor banks adjacent to the bank being switched.

3.118 *Capacitor bank inrush making current*

The high frequency and high magnitude current occurring when closing a capacitor bank circuit onto a supply including one or more capacitor banks adjacent to the bank being switched.

Note. – The frequency and magnitude of the inrush current depend upon the values of capacitance and the values of the inductance between the capacitor banks.

3.119 *Shunt reactor breaking capacity*

The breaking capacity when opening a shunt reactor circuit, including secondary or tertiary reactors switched from the primary side of the transformer.

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* *Note concerning the rated values:*
In English, the terms "rated making current" and "rated breaking current" are being used where formerly "rated making capacity" and "rated breaking capacity" were used, the intended meaning being adequately conveyed by the use of "rated". In French, the terms "pouvoir de fermeture assigné" and "pouvoir de coupure assigné" continue to be used.