



SLOVENSKI STANDARD
SIST EN 61129:1995

01-december-1995

Alternating current earthing switches - Induced current switching (IEC 1129:1992)

Alternating current earthing switches - Induced current switching

Wechselstrom-Erdungsschalter - Schalten eingekoppelter Ströme

Sectionneurs de terre à courant alternatif - Etablissement et coupure de courants induits

Ta slovenski standard je istoveten z: EN 61129:1994

[SIST EN 61129:1995](https://standards.iteh.ai/catalog/standards/sist/00d453f4-5f5b-4424-b4d4-78ddb920db1c/sist-en-61129-1995)

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ICS:

29.120.40 Stikala Switches

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EUROPEAN STANDARD

EN 61129

NORME EUROPEENNE

EUROPÄISCHE NORM

February 1994

UDC 621.316.545.3:621.3.025.027.3

Descriptors: High-voltage, earthing switches, induced current switching

ENGLISH VERSION

Alternating current earthing switches
 Induced current switching
 (IEC 1129:1992)

Sectionneurs de terre à courant
 alternatif - Etablissement et
 coupure de courants induits
 (CEI 1129:1992)

Wechselstromschalter - Schalten
 eingekoppelter Ströme
 (IEC 1129:1992)

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This European Standard was approved by CENELEC on 1993-12-08.
 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 CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 1129:1992 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as EN 61129 on 8 December 1993.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1994-09-01
- latest date of withdrawal of conflicting national standards (dow) 1994-09-01

For products which have complied with the relevant national standard before 1994-09-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1999-09-01.

Annexes designated "normative" are part of the body of the standard. In this standard, annexes ZA and ZB are normative.

SIST EN 61129:1995

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ENDORSEMENT NOTICE

The text of the International Standard IEC 1129:1992 was approved by CENELEC as a European Standard without any modification.

ANNEX ZA (normative)

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

NOTE : 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	-	-
129	1984	Alternating current disconnectors and earthing switches	HD 408 S2	1990
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

ANNEX ZB (normative)

Special national conditions

Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions. If it affects harmonization, it forms part of the Harmonization Document.

For the countries for which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

BELGIUM

Rated voltage

To take account of a special national condition where there is an appreciable discrepancy between the actual network voltage and the next highest IEC rated voltage, one additional rated voltage is permitted, this being 82,5 kV.

When applying the present standard to alternating current earthing switches having a rated voltage of 82,5 kV, the standard values which have to be taken into account are those for the rated voltage of 100 kV specified by tables 1, 2 and 3.

NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
1129

Première édition
First edition
1992-02

Sectionneurs de terre à courant alternatif
Etablissement et coupure de courants induits

**Alternating current earthing switches
Induced current switching
(standards.iteh.ai)**

SIST EN 61129:1995

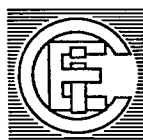
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Bureau Central de la Commission Electrotechnique Internationale 3, rue de Varembé Genève, Suisse



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

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For price, see current catalogue*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ALTERNATING CURRENT EARTHING SWITCHES
INDUCED CURRENT SWITCHING**
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.

iTeh STANDARD PREVIEW

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

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This standard is to be read in conjunction with IEC 129, IEC 694 and IEC 1128.

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

DIS	Report on Voting	Amendment to DIS	Report on Voting
17A(CO)215	17A(CO)218	17A(CO)222	17A(CO)229

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

ALTERNATING CURRENT EARTHING SWITCHES INDUCED CURRENT SWITCHING

1 General

1.1 Scope and object

This International Standard applies to alternating current earthing switches, rated 52 kV and above, capable of switching induced currents.

NOTE - The making and breaking of induced currents is occasionally required for earthing switches having rated voltages below 52 kV; however, induced current ratings and type tests are not normally required. Tests may be performed upon agreement between the user and manufacturer.

It is the object of this standard to establish switching requirements for earthing switches used to earth transmission lines. In a case of multiple configurations of overhead transmission lines, current may circulate in de-energized and earthed lines as a result of capacitive and inductive coupling with adjacent energized lines. Earthing switches applied to earth these lines shall therefore be capable of assuring the following service conditions:

- making and breaking of a capacitive current when the earth connection is open at one termination and earthing switching is performed at the other termination;
- making and breaking of an inductive current when the line is earthed at one termination and earthing switching is performed at the other termination;
- carrying continuously the capacitive and inductive currents.

1.2 Normative references

The following normative documents contain provisions which, through references 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 50(441): 1984, *International Electrotechnical Vocabulary (IEV) Chapter 441: Switchgear, controlgear and fuses.*

IEC 129: 1984, *Alternating current disconnectors and earthing switches.*

IEC 694: 1980, *Common clauses for high-voltage switchgear and controlgear standards.*

2 Normal and special service conditions

Clause 2 of IEC 694 is applicable.

3 Definitions

Clause 3 of IEC 129 is applicable with the additions noted below.

3.102.5 earthing switch: IEC 441-14-11 is applicable with the following addition: Earthing switches having rated voltages of 52 kV and above may be required to make, carry and break induced currents under normal conditions of the circuit.

3.106 electromagnetically induced current: The electromagnetically induced current is the inductive current which an earthing switch must make and break when the earthing switch connects to and disconnects from earth one termination of a de-energized transmission line, with the other termination earthed, with an energized line carrying current in parallel with, and in proximity to, the earthed line.

NOTES

1 The inductive current in a de-energized line earthed at both terminations is dependent upon the current in the energized line and the coupling factor to the energized line, as determined by the circuit configuration on the tower.

2 The inductive voltage across an open earthing switch at one termination of a line, when a second line termination is earthed, is dependent upon the current in the energized line, the coupling factor to the energized line, as determined by the circuit configuration on the tower, and the length of that part of the earthed line which is in proximity to an energized line.

3.107 electrostatically induced current: The electrostatically induced current is the capacitive current which an earthing switch must make and break when the earthing switch connects to or disconnects from earth one termination of a de-energized transmission line, with the other termination open, with an energized line in parallel with, and in proximity to, the earthed line.

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NOTES

1 The capacitive current in a de-energized line earthed at one termination is dependent upon the voltage of the energized line, the coupling factor to the energized line as determined by the circuit configuration on the tower, and the length of the earthed line between the earthed termination and the open termination.

2 The capacitive voltage across an open earthing switch at one termination of a line, when the second line termination is open, is dependent upon the voltage of the energized line and the coupling factor to the energized line, as determined by the circuit configuration on the tower.

4 Rating

Clause 4 of IEC 129 is applicable with the additions noted below.

Earthing switches having rated voltages of 52 kV and above may require induced current and voltage ratings. Depending upon the severity of the switching duty, earthing switches for this application are divided into two classes, as follows:

Class A - Earthing switches for application in circuits having relatively short sections of line or low coupling to adjacent energized circuits.

Class B - Earthing switches for application in circuits having relatively long lines or high coupling to adjacent energized circuits.