SLOVENSKI STANDARD
SIST EN 61259:1995
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Gas-insulated metal-enclosed switchgear for rated voltages 72,5 kV and above - Requirements for switching of bus-charging currents by disconnectors (IEC 1259:1994)

Gas-insulated metal-enclosed switchgear for rated voltages of 72,5 kV and above - Requirements for switching of bus-charging currents by disconnectors

Gasisolierte, metallgekapselte Schaltanlagen für Nennspannungen von 72,5 kV und darüber - Anforderungen an Trennschalter zum Schalten kapazitiver Ströme

Appareillage sous enveloppe métallique à isolation gazeuse de tension assignée égale ou supérieure à 72,5 kV - Prescriptions pour l'établissement et la coupure de courants de jeux de barres à vide par les sectionneurs

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ENGLISH VERSION

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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

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FOREWORD

The text of document 17C(CO)73, as prepared by Sub-Committee 17C: High-voltage enclosed switchgear and controlgear, of IEC Technical Committee 17: Switchgear and controlgear, was submitted to the IEC-CENELEC parallel vote in September 1993.

The reference document was approved by CENELEC as EN 61259 on 15 May 1994.

The following dates were fixed:

- latest date of publication of an identical national standard	(dop)	1995-04-15
- latest date of withdrawal of conflicting national standards	(dow)	1995-04-15

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

ENDORSEMENT NOTICE

The text of the International Standard IEC 1259:1994 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
129	1984	Alternating current disconnectors and earthing switches	EN 60129	1994

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

GAS-INSULATED METAL-ENCLOSED SWITCHGEAR FOR RATED VOLTAGES 72,5 kV AND ABOVE –

Requirements for switching of bus-charging currents by disconnectors

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 cooperation 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.

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3) They have the form of recommendations for international use 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.

International Standard IEC 1259 has been prepared by sub-committee 17C: High-voltage enclosed switchgear and controlgear, of IEC technical committee 17: Switchgear and controlgear.

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

DIS	Report on voting
17C(CO)73	17C(CO)81

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

INTRODUCTION

During the past decade, rated voltages for gas-insulated metal-enclosed substations have increased to levels of 420 kV and above. It has been found that particularly at these higher voltage levels disruptive discharges to earth might occur when switching small capacitive currents with gas-insulated metal-enclosed switchgear disconnectors, such as energizing or de-energizing unloaded sections of busbar duct or parallel capacitors of circuit breakers. Worldwide investigations clarified the reasons for this during recent years and gave insight into the complexity of very fast transient overvoltage phenomena which occur as an inherent part of capacitive switching with disconnectors in gas-insulated metal-enclosed switchgear. It was concluded that correct design of the disconnector is essential to avoid disruptive discharges to earth.

GAS-INSULATED METAL-ENCLOSED SWITCHGEAR FOR RATED VOLTAGES 72,5 kV AND ABOVE –

Requirements for switching of bus-charging currents by disconnectors

1 Scope and object

This International Standard applies to alternating current gas-insulated metal-enclosed disconnectors for rated voltages of 72,5 kV and above.

This standard provides test requirements for gas-insulated metal-enclosed disconnectors used to switch small capacitive currents (no load currents) such as occur when sections of busbars or grading capacitors are energized or de-energized.

NOTE - Simultaneous switching of disconnectors in the same circuit is not advisable and thus not considered in this standard.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was 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 document indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

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

3 Definitions

For the purpose of this International Standard, the following definitions apply.

3.1 **disconnector:** According to IEC 129.

3.2 **bus-charging current:** The current expressed as steady-state r.m.s. value which a disconnector shall make or break when energizing or de-energizing parts of a busbar system or similar capacitive loads.

3.3 **transient voltage to earth (TVE):** Voltage to earth which appears at the first pre-strike during a closing operation.