

High-voltage switchgear and controlgear - Part 214:
Internal arc classification for AC metal-enclosed
pole-mounted switchgear and controlgear for rated
voltages above 1 kV and up to and including 52 kV

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN IEC 62271-214:2024 sisaldab Euroopa standardi EN IEC 62271-214:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 31.05.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN IEC 62271-214:2024 consists of the English text of the European standard EN IEC 62271-214:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 31.05.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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English Version

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(IEC 62271-214:2024)

Appareillage à haute tension - Partie 214 : Classification arc interne des appareillages sous enveloppe métallique à courant alternatif de tensions assignées supérieures à 1 kV et inférieures ou égales à 52 kV montées sur poteau
(IEC 62271-214:2024)

Hochspannungs-Schaltgeräte und -Schaltanlagen - Teil 214: Störlichtbogenklassifikation für metallgekapelte, mastmontierte Schaltanlagen für Bemessungsspannungen über 1 kV bis einschließlich 52 kV
(IEC 62271-214:2024)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 17C/924/FDIS, future edition 2 of IEC 62271-214, prepared by SC 17C "Assemblies" of IEC/TC 17 "High-voltage switchgear and controlgear" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62271-214:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-02-21 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2027-05-21 document have to be withdrawn

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In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 62271-200:2021	NOTE	Approved as EN IEC 62271-200:2021 (not modified)
IEC/TR 62271-307:2015	NOTE	Approved as CLC IEC/TR 62271-307:2019 (not modified)
IEC 60038:2009	NOTE	Approved as EN 60038:2011
IEC 60059:1999	NOTE	Approved as EN 60059:1999 (not modified)
IEC 60059:1999/A1:2009	NOTE	Approved as EN 60059:1999/A1:2009 (not modified)

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**High-voltage switchgear and controlgear –
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**Appareillage à haute tension –
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métallique à courant alternatif de tensions assignées supérieures à 1 kV et
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –**Part 214: Internal arc classification for AC metal-enclosed pole-mounted switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV**

FOREWORD

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IEC 62271-214 has been prepared by subcommittee 17C: Assemblies, of IEC technical committee 17: High voltage switchgear and controlgear. It is an International Standard.

This second edition cancels and replaces the first edition published in 2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) indicators positioning update;
- b) neutral earthing connection of the test circuit for three-phase tests;
- c) general review for consistency with IEC 62271-200, Ed.3.0:2021.

The text of this International Standard is based on the following documents:

Draft	Report on voting
17C/924/FDIS	17C/931/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This standard shall be read in conjunction with IEC 62271-1, second edition, published in 2017, to which it refers, and which is applicable unless otherwise specified in this standard. In order to simplify the indication of corresponding requirements, the same numbering of clauses and subclauses is used as in IEC 62271-1. Amendments to these clauses and subclauses are given under the same references whilst additional subclauses are numbered from 101. Any clause with the term "Not applicable" relates to the clause not being relevant to IEC 62271-214, and does not infer the clause is or is not relevant for its applicable switchgear standard.

A list of all parts of the IEC 62271 series, published under the general title *High-voltage switchgear and controlgear*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

IEC 62271-214 has been developed due to the requirement to remove IAC Type C designated pole-mounted switchgear from IEC 62271-200. IEC 62271-214 is to be considered independent of IEC 62271-200, however it is still related to other product standards of the IEC 62271 series.

Only open terminal pole-mounted switchgear and controlgear has been considered within this document.

This equipment relates to operation in three-phase, two-phase and single-phase systems.

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HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 214: Internal arc classification for AC metal-enclosed pole-mounted switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV

1 Scope

This part of IEC 62271 specifies requirements for internal arc classification of AC metal-enclosed pole-mounted switchgear and controlgear with rated voltages above 1 kV and up to and including 52 kV with service frequencies up to and including 60 Hz.

This document is applicable to three-phase, two-phase and single-phase open terminal equipment for which an internal arc classification is assigned. Enclosures may include fixed and removable components and may be filled with fluid (liquid or gas) to provide insulation.

NOTE 1 The IAC classification takes into account the installation disposition of the high-voltage switchgear and controlgear and worker's operating area.

NOTE 2 For the use of this document, high-voltage (IEC 60050-601:1985, 601-01-27) is the rated voltage above 1 000 V. However, medium voltage (IEC 60050-601:1985, 601-01-28) is commonly used for distribution systems with voltages above 1 kV and generally applied up to and including 52 kV; refer to [1]¹.

This document does not preclude that other equipment may be included in the same enclosure. In such a case, any possible influence of that equipment on the switchgear and controlgear is to be taken into account.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-151:2001, *International Electrotechnical Vocabulary (IEV) – Part 151: Electrical and magnetic devices*

IEC 60050-151:2001/AMD1:2013

IEC 60050-151:2001/AMD2:2014

IEC 60050-151:2001/AMD3:2019

IEC 60050-151:2001/AMD4:2020

IEC 60050-151:2001/AMD5:2021

IEC 60050-441:1984, *International Electrotechnical Vocabulary (IEV) – Part 441: Switchgear, controlgear and fuses*

IEC 60050-441:1984/AMD1:2000

IEC 62271-1:2017, *High-voltage switchgear and controlgear – Part 1: Common specifications for alternating current switchgear and controlgear*

IEC 62271-1:2017/AMD1:2021

¹ Numbers in square brackets refer to the Bibliography.

IEC 62271-200:2021, *High-voltage switchgear and controlgear – Part 200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62271-1, IEC 60050-151 and IEC 60050-441, as well as the following apply.

NOTE 1 The classification system for definitions of IEC 62271-1:2017 is not followed. Terms and definitions are referenced and prioritized in the following order:

- Clause 3 of this document;
- IEC 62271-1:2017;
- IEC 60050-441;
- IEC 60050-151.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

NOTE 2 Additional definitions are classified so as to be aligned with the classification system used in IEC 60050-441.

3.1 General terms and definitions

3.1.101

metal-enclosed switchgear and controlgear

switchgear and controlgear assemblies with an external metal enclosure intended to be earthed, and completely assembled except for external connections

[SOURCE: IEC 60050-441:1984, 441-12-04, modified – "complete" has been replaced by "completely assembled"; NOTE has been deleted.]

3.1.102

enclosure

part of an assembly providing a specified degree of protection of equipment against external influences and a specified degree of protection against approach to or contact with live parts and against contact with moving parts

[SOURCE: IEC 60050-441:1984, 441-13-01, modified – <of an assembly> has been deleted.]

3.1.103

high-voltage compartment

compartment of switchgear and controlgear, containing high-voltage conducting parts, enclosed except for openings necessary for interconnection, control or ventilation, where one segment of the compartment can be part of the outer earthed metallic enclosure

3.1.104

component

essential part of the high-voltage or earthing circuits of pole-mounted switchgear and controlgear which serves a specific function (e.g. circuit-breaker, disconnecter, switch, fuse, instrument transformer, bushing, busbar)