



IEC 62271-200

Edition 3.1 2024-06
CONSOLIDATED VERSION

INTERNATIONAL STANDARD



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

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.130.10

ISBN 978-2-8322-9349-2

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 62271-200 edition 3.1 contains the third edition (2021-05) [documents 17C/782/FDIS and 17C/792/RVD] and its amendment 1 (2024-06) [documents 17C/933/FDIS and 17C/938/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

IEC 62271-200 has been prepared by subcommittee 17C: Assemblies, of IEC technical committee 17: High-voltage switchgear and controlgear. It is an International Standard.

This third edition cancels and replaces the second edition published in 2011. This edition constitutes a technical revision.

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

- a) clause numbering aligned with IEC 62271-1:2017, including the adoption of the subclause names of Clause 3;
- b) in Clause 3 specific definitions are added for "in service", "normal operating condition" and "normal use";
- c) internal arc testing on pole-mounted switchgear is taken out of this document, as it is now covered by the specific standard IEC 62271-214:2019;
- d) a more precise description of earthing circuit is given with the inclusion of ratings and test requirements;
- e) number of mechanical tests on interlocks is reduced for type testing; a more precise description of forces to apply during type testing is given (refer to 7.102);
- f) resistance measuring on main circuit is only needed before continuous current tests (as reference for routine tests) and no longer needed after this continuous current test. Rationale for this deletion is that this measured resistance does not mean anything; as the temperature rise test was just finished, a new temperature rise test will not give new information;
- g) IEC 62271-100:2021, IEC 62271-103:2021, IEC 62271-105:2021 and IEC 62271-106:2021 are referred to in the document;
- h) IEC 62271-107:2019 and IEC IEEE 62271-37-013:2015 are also considered in 7.101.2;
- i) a more precise description of LSC category is given with the inclusion of an explanatory flowchart (Annex D);
- j) examples not covered by the IAC test are transferred from Clause 6 to 9.103;
- k) the term "assembly" is defined in Clause 3 and used as synonym for "metal-enclosed switchgear and controlgear" in this document;
- l) "metallic" is replaced by "metal" where applicable;
- m) 6.105 is now covered by 7.7;
- n) a 1 s rule was introduced for Criterion 4 during IAC tests regarding hot gases versus glowing particles as cause of ignition;
- o) a more precise description of internal arc tests for switchgear with protrusions is given in Annex A.

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/standardsdev/publications.

This document should be read in conjunction with IEC 62271-1:2017, to which it refers and which is applicable unless otherwise specified. In order to simplify the indication of corresponding requirements, the same numbering of clauses and subclauses is used as in IEC 62271-1:2017. Amendments to these clauses and subclauses are given under the same numbering, whilst additional subclauses, are numbered from 101.

The reader's attention is drawn to the fact that Annex C lists all of the "in-some-country" clauses on differing practices of a less permanent nature relating to the subject of this document.

A list of all parts in 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 and its amendment 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,
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INTRODUCTION

High-voltage (IEC 60050-601:1985, 601-01-27) switchgear refers to rated voltages above 1 kV. However, medium-voltage is commonly used for distribution systems with rated voltages above 1 kV and generally applied up to and including 52 kV; refer to IEC 60050-601:1985, 601-01-28 [1]¹.

Although primarily dedicated to three-phase systems, this document can also be applied to single-phase and two-phase systems.

Switchgear and controlgear assemblies having a solid-insulation enclosure are covered by IEC 62271-201.

Generally, gas-filled medium-voltage designs have design pressures below 500 kPa, as mentioned for example in the introduction of EN 50187.

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¹ Numbers in square brackets refer to the Bibliography.