



BSI Standards Publication

High-voltage switchgear and controlgear

Part 112: Alternating current high-speed earthing switches
for secondary arc extinction on transmission lines

National foreword

This British Standard is the UK implementation of EN IEC 62271-112:2021. It is identical to IEC 62271-112:2021. It supersedes BS EN 62271-112:2013, which will be withdrawn on 28 March 2022.

The UK participation in its preparation was entrusted to Technical Committee PEL/17, High voltage switchgear, controlgear and assemblies.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Date	Text affected
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English Version

High-voltage switchgear and controlgear - Part 112: Alternating
current high-speed earthing switches for secondary arc
extinction on transmission lines
(IEC 62271-112:2021)

Appareillage à haute tension - Partie 112: Sectionneurs de
terre rapides à courant alternatif pour l'extinction de l'arc
secondaire sur les lignes de transport
(IEC 62271-112:2021)

Hochspannungs-Schaltgeräte und -Schaltanlagen - Teil
112: Schnellschaltende Wechselstrom-Erdungsschalter
zum Löschen von sekundären Lichtbögen auf Freileitungen
(IEC 62271-112:2021)

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European Committee for Electrotechnical Standardization
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 17A/1311/FDIS, future edition 2 of IEC 62271-112, prepared by SC 17A “Switching devices” of IEC/TC 17 “High-voltage switchgear and controlgear” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62271-112:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-05-17 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-08-17 document have to be withdrawn

This document supersedes EN 62271-112:2013 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users’ national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 62271-112:2021 was approved by CENELEC as a European Standard without any modification.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-441	1984	International Electrotechnical Vocabulary- (IEV) - Part 441: Switchgear, controlgear and fuses		-
+ A1	2000		-	-
IEC 62271-1	2017	High-voltage switchgear and controlgear -EN 62271-1 Part 1: Common specifications for alternating current switchgear and controlgear		2017
IEC 62271-100	2021	High-voltage switchgear and controlgear -- Part 100: Alternating-current circuit-breakers		-
IEC 62271-102	2018	High-voltage switchgear and controlgear -EN IEC 62271-102 Part 102: Alternating current disconnectors and earthing switches		2018
IEC 62271-200	2011	High-voltage switchgear and controlgear -EN 62271-200 Part 200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV		2012

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

**Part 112: Alternating current high-speed earthing switches
for secondary arc extinction on transmission lines**

FOREWORD

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IEC 62271-112 has been prepared by subcommittee 17A: Switching devices, 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 2013. This edition constitutes a technical revision.

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

The document has been updated to the second edition of IEC 62271-1:2017.

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

FDIS	Report on voting
17A/1311/FDIS	17A/1314/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/standardsdev/publications.

This International Standard 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.

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 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,
- replaced by a revised edition, or
- amended.

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HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 112: Alternating current high-speed earthing switches for secondary arc extinction on transmission lines

1 Scope

This part of IEC 62271 applies to AC high-speed earthing switches (hereinafter termed HSES) designed for indoor and outdoor installation and for operation at service frequencies of 50 Hz and 60 Hz on systems having rated voltages of 550 kV and above.

HSESs described in this document are intended to extinguish the secondary arc remaining after clearing faults on transmission lines by the circuit-breakers.

For more detailed information on HSESs, refer to Annex A.

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 60050-441:1984, *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 62271-100:2021, *High-voltage switchgear and controlgear – Part 100: Alternating current circuit-breakers*

IEC 62271-102:2018, *High-voltage switchgear and controlgear – Part 102: Alternating current disconnectors and earthing switches*

IEC 62271-200:2011, *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 Clause 3 of IEC 62271-1:2017, as well as the following apply.

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

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

Additional terms and definitions are classified so as to be aligned with the classification used in IEC 60050-441.

3.1 General terms and definitions

3.1.101

secondary arc

arc that remains at the faulted point after interruption of the short-circuit current fed by the network

Note 1 to entry: This secondary arc is supplied by electrostatic or electromagnetic induction from the adjacent live phases.

3.1.102

single-phase auto-reclosing scheme

auto-reclosing scheme in which a faulted phase circuit is opened and automatically re-closed independently from the other phases

3.1.103

multi-phase auto-reclosing scheme

auto-reclosing scheme applied to double circuit overhead lines in which all faulted phase circuits are opened and re-closed independently provided that at least two different phases remain unfaulted

Note 1 to entry: An example of multi-phase auto-reclosing scheme is indicated in Figure 1.