

High-voltage switchgear and controlgear - Part 102:
Alternating current disconnectors and earthing
switches

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 62271-102:2018 sisaldab Euroopa standardi EN IEC 62271-102:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 62271-102:2018 consists of the English text of the European standard EN IEC 62271-102:2018.
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English Version

High-voltage switchgear and controlgear -
Part 102: Alternating current disconnectors and earthing
switches
(IEC 62271-102:2018)

Appareillage à haute tension -
Partie 102: Sectionneurs et sectionneurs de terre à courant
alternatif
(IEC 62271-102:2018)

Hochspannungs-Schaltgeräte und -Schaltanlagen -
Teil 102: Wechselstrom-Trennschalter und -
Erdungsschalter
(IEC 62271-102:2018)

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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/1173/FDIS, future edition 2 of IEC 62271-102, 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 62271-102:2018.

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- latest date by which the national (dow) 2021-06-19
standards conflicting with the
document have to be withdrawn

This document supersedes EN 62271-102:2002.

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Endorsement notice

The text of the International Standard IEC 62271-102:2018 was approved by CENELEC as a European Standard without any modification.

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

IEC 60507:2013	NOTE	Harmonized as EN 60507:2014 (not modified).
IEC 60447:2004	NOTE	Harmonized as EN 60447:2004 (not modified).
IEC 60060-1:2010	NOTE	Harmonized as EN 60060-1:2010 (not modified).

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 60050-151	-	International Electrotechnical Vocabulary - - Part 151: Electrical and magnetic devices		-
IEC 60050-441	-	International Electrotechnical Vocabulary - - (IEV) - Chapter 441: Switchgear, controlgear and fuses		-
IEC 60050-471	-	International Electrotechnical Vocabulary - - Part 471: Insulators		-
IEC 60050-614	-	International electrotechnical vocabulary - - Part 614: Generation, transmission and distribution of electricity - Operation		-
IEC 60071-2	-	Insulation co-ordination - - Part 2: Application guidelines	EN IEC 60071-2	-
IEC 60137	-	Insulated bushings for alternating voltages above 1000 V	EN 60137	-
IEC 60270	-	High-voltage test techniques - Partial discharge measurements	EN 60270	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
+A1	1999		corr. May +A1	1993
+A2	2013		+A2	2000
IEC 60865-1	-	Short-circuit currents - Calculation of effects - Part 1: Definitions and calculation methods	EN 60865-1	2013
IEC 62262	2002	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	EN 62262	-
IEC 62271-1	2017	High-voltage switchgear and controlgear - Part 1: Common specifications for alternating current switchgear and controlgear	EN 62271-1	2002
				2017

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62271-100	2008	High-voltage switchgear and controlgear -	EN 62271-100	2009
+A1	2012	Part 100: Alternating current circuit-	+A1	2012
+A2	2017	breakers	+A2	2017
IEC 62271-101	2012	High-voltage switchgear and controlgear -	EN 62271-101	2013
+A1	2017	Part 101: Synthetic testing	-	-
IEC 62271-200	2011	High-voltage switchgear and controlgear -	EN 62271-200	2012
		Part 200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV		
IEC 62271-201	2014	High-voltage switchgear and controlgear -	EN 62271-201	2014
		Part 201: AC solid-insulation enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV		
IEC 62271-203	2011	High-voltage switchgear and controlgear -	EN 62271-203	2012
		Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV		
IEC/TR 62271-305	-	High-voltage switchgear and controlgear -	-	-
		Part 305: Capacitive current switching capability of air-insulated disconnectors for rated voltages above 52 kV		
ISO 2768-1	-	General tolerances -	EN 22768-1	-
		Part 1: Tolerances for linear and angular dimensions without individual tolerance indications		

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –**Part 102: Alternating current disconnectors and earthing switches****FOREWORD**

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International Standard IEC 62271-102 has been prepared by subcommittee 17A: Switching devices, of IEC technical committee 17: High-voltage switchgear and controlgear.

This second edition cancels and replaces the first edition published in 2001, Amendment 1:2011 and Amendment 2:2013. This edition constitutes a technical revision.

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

- a) new numbering according to IEC 17/1025/RQ to harmonize with ISO/IEC Directives, Part 2, and IEEE Std. C37.100.1;
- b) clause numbering has been aligned with IEC 62271-1:2017;
- c) the Scope has been extended to cover all indoor and outdoor installations. Consideration of switching devices having disconnecting and/or earthing switch functionalities, apart from other functions, are also covered by this document;

- d) ratings have been moved from Annexes B, C and E to Clause 5; the order of the subclauses now corresponds to the order of subclauses in Clause 7;
- e) new rating values for bus-transfer current and bus-transfer voltage have been assigned;
- f) new class of mechanical endurance for earthing switches has been added (M1);
- g) subclause "Rated values of electrical endurance for earthing switches" is now called "Classification of earthing switches for short-circuit making capability";
- h) new subclause with ratings for ice-coating has been added;
- i) new subclause with classification of bus-charging switching capability has been added;
- j) new withstand requirements for interlocking devices have been added;
- k) the way to comply with the requirements of the isolating distance of disconnectors has been modified;
- l) design and construction requirements for position-indicating devices have been modified, aligning the requirements for position indication and signalling;
- m) the value of the operating force has been changed;
- n) the test procedures and validation criteria have been revised and modified where necessary;
- o) requirements for applied voltage during single-phase test on non-simultaneous closing earthing switches have been changed;
- p) non-verifiable requirements have been deleted;
- q) a new subclause has been added for testing mechanical interlocking devices;
- r) the high- and low-temperature test is mandatory if the temperature limits for the service conditions of the apparatus (defined by the manufacturer) are above +40 °C or below –5 °C, and a more detailed testing procedure is given;
- s) the testing procedure to verify the proper functioning of the position-indicating device allows a more practicable testing for every technology used;
- t) a new Annex B has been added with title: "Current-switching capability required of disconnectors and earthing switches";
- u) a new Annex C has been added with title: "Tolerances on test quantities for type tests";
- v) a new Annex E has been added with title: "Extension of validity of type tests".

This standard is to 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, except annexes, is used as in IEC 62271-1:2017. Additional subclauses are numbered from 101.

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

FDIS	Report on voting
17A/1173/FDIS	17A/1180/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 "<http://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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