High-voltage switchgear and controlgear - Part 101: Synthetic testing (IEC 62271-101:2012)

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NATIONAL FOREWORD

See Eesti standard EVS-EN 62271-101:2013 sisaldab Euroopa standardi EN 62271-101:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 62271-101:2013 consists of the English text of the European standard EN 62271-101:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 11.01.2013.	Date of Availability of the European standard is 11.01.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English version

High-voltage switchgear and controlgear - Part 101: Synthetic testing

(IEC 62271-101:2012)

Appareillage à haute tension - Partie 101: Essais synthétiques (CEI 62271-101:2012)

Hochspannungs-Schaltgeräte und -Schaltanlagen - Teil 101: Synthetische Prüfung (IEC 62271-101:2012)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 17A/1015/FDIS, future edition 2 of IEC 62271-101, prepared by SC 17A, "High-voltage switchgear and controlgear", of IEC TC 17, "Switchgear and controlgear" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62271-101:2013.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2013-08-16
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-11-16

This document supersedes EN 62271-101:2006 + A1:2010.

EN 62271-101:2013 includes the following significant technical changes with respect to EN 62271-101:2006:

– addition of the new rated voltages of 1 100 kV and 1 200 kV;

– revision of Annex F regarding circuit-breakers with opening resistors;

– alignment with the EN 62271-100:2009 + A1: 2012.

This publication shall be read in conjunction with EN 62271-100:2009, to which it refers. The numbering of the subclauses of Clause 6 is the same as in EN 62271-100. However, not all subclauses of EN 62271-100 are addressed; merely those where synthetic testing has introduced changes.

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

Endorsement notice

The text of the International Standard IEC 62271-101:2012 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, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 62271-100	2008	High-voltage switchgear and controlgear -	EN 62271-100	2009
+ A1	2012	Part 100: Alternating current circuit-breakers	+ A1	2012

CONTENTS

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 101: Synthetic testing

1 Scope

This part of IEC 62271 mainly applies to a.c. circuit-breakers within the scope of IEC 62271-100. It provides the general rules for testing a.c. circuit-breakers, for making and breaking capacities over the range of test duties described in 6.102 to 6.111 of IEC 62271-100:2008, by synthetic methods.

It has been proven that synthetic testing is an economical and technically correct way to test high-voltage a.c. circuit-breakers according to the requirements of IEC 62271-100 and that it is equivalent to direct testing.

The methods and techniques described are those in general use. The purpose of this standard is to establish criteria for synthetic testing and for the proper evaluation of results. Such criteria will establish the validity of the test method without imposing restraints on innovation of test circuitry.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62271-100:2008, *High-voltage switchgear and controlgear – Part 100: Alternating current circuit-breakers*
Amendment 1:2012

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62271-100, as well as the following, apply.

3.1
direct test
test in which the applied voltage, the current and the transient and power-frequency recovery voltages are all obtained from a circuit having a single-power source, which may be a power system or special alternators as used in short-circuit testing stations or a combination of both

3.2
synthetic test
test in which all of the current, or a major portion of it, is obtained from one source (current circuit), and in which the applied voltage and/or the recovery voltages (transient and power frequency) are obtained wholly or in part from one or more separate sources (voltage circuits)

3.3
test circuit-breaker
circuit-breaker under test

SEE: 6.102.3 of IEC 62271-100:2008.