SLOVENSKI STANDARD
SIST EN 62271-110:2013

01-februar-2013

Nadomešča:
SIST EN 62271-110:2009

Visokonapetostne stikalne in krmilne naprave - 110. del: Preklapljanje induktivnega bremena (IEC 62271-110:2012 (EQV) + corrigendum Oct. 2012)

High-voltage switchgear and controlgear - Part 110: Inductive load switching (IEC 62271-110:2012 (EQV) + corrigendum Oct. 2012)

Hochspannungs-Schaltgeräte und -Schaltanlagen - Teil 110: Schalten induktiver Lasten (IEC 62271-110:2012 (EQV) + corrigendum Oct. 2012)

Appareillage à haute tension - Partie 110: Manoeuvre de charges inductives (IEC 62271-110:2012 (EQV) + corrigendum Oct. 2012)

Ta slovenski standard je istoveten z: **EN 62271-110:2012**

ICS:

29.130.10	Visokonapetostne stikalne in krmilne naprave	High voltage switchgear and controlgear

SIST EN 62271-110:2013 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62271-110

December 2012

ICS 29.130.10

Supersedes EN 62271-110:2009

English version

High-voltage switchgear and controlgear - Part 110: Inductive load switching

(IEC 62271-110:2012 + corrigendum Oct. 2012)

Appareillage à haute tension - Partie 110: Manoeuvre de charges inductives (CEI 62271-110:2012 + corrigendum Oct. 2012)

Hochspannungs-Schaltgeräte und -Schaltanlagen - Teil 110: Schalten induktiver Lasten (IEC 62271-110:2012 + corrigendum Oct. 2012)

This European Standard was approved by CENELEC on 2012-11-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 62271-110:2012 E

Foreword

The text of document 17A/1016/FDIS, future edition 3 of IEC 62271-110, 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 62271-110:2012.

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)	2013-08-01
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-11-01

This document supersedes EN 62271-110:2009.

EN 62271-110:2012 includes the following significant technical changes with respect to EN 62271-110:2009:

– former Table 2 has been split into three new tables to conform with EN 62271-100 and to address actual in-service circuit configurations;

– the criteria for successful testing has been revised to a more explicit statement (see 6.114.11a);

– comments received in response to 17A/959/CDV and 17A/981/RVC have been addressed.

This standard is to be read in conjunction with EN 62271-1:2008, and with EN 62271-100:2009, to which it refers and which are applicable, unless otherwise specified. In order to simplify the indication of corresponding requirements, the same numbering of clauses and subclauses is used as in EN 62271-1 and EN 62271-100. Additional subclauses are numbered from 101.

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 62271-110:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62271-106 NOTE Harmonized as EN 62271-106.

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.

Annex ZA of EN 62271-100:2009 is applicable with the following addition:

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

IEC 62271-110

Edition 3.0 2012-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

High-voltage switchgear and controlgear – Part 110: Inductive load switching

Appareillage à haute tension – Partie 110: Manœuvre de charges inductives

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX V

ICS 29.130.10

ISBN 978-2-83220-410-8

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

____

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 110: Inductive load switching

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.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62271-110 has been prepared by subcommittee 17A: High-voltage switchgear and controlgear, of IEC technical committee 17: Switchgear and controlgear.

This third edition cancels and replaces the second edition published in 2009 and constitutes a technical revision.

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

– former Table 2 has been split into three new tables to conform with IEC 62271-100 and to address actual in-service circuit configurations.
– the criteria for successful testing has been revised to a more explicit statement (see 6.114.11a).
– comments received in response to 17A/959/CDV and 17A/981/RVC have been addressed.

The text of this standard is based on the following documents:

FDIS	Report on voting
17A/1016/FDIS	17A/1025/RVD

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

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

This standard is to be read in conjunction with IEC 62271-1:2007, and with IEC 62271-100:2008, to which it refers and which are 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 and IEC 62271-100. Additional subclauses are numbered from 101.

A list of all the parts in the IEC 62271 series, 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 publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

The contents of the corrigendum of October 2012 have been included in this copy.

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 110: Inductive load switching

1 General

1.1 Scope

This part of IEC 62271 is applicable to a.c. circuit-breakers designed for indoor or outdoor installation, for operation at frequencies of 50 Hz and 60 Hz on systems having voltages above 1 000 V and applied for inductive current switching with or without additional short-circuit current breaking duties. The standard is applicable to circuit-breakers in accordance with IEC 62271-100 that are used to switch high-voltage motor currents and shunt reactor currents and also to high-voltage contactors used to switch high-voltage motor currents as covered by IEC 62271-106. For circuit-breakers applied to switch shunt reactor currents at rated voltages according to IEC 62271-1:2007 Tables 2a and 2b, combined voltage tests across the isolating distance are not required (refer to 4.2).

Switching unloaded transformers, i.e. breaking transformer magnetizing current, is not considered in this standard. The reasons for this are as follows:

a) due to the non-linearity of the transformer core, it is not possible to correctly model the switching of transformer magnetizing current using linear components in a test laboratory. Tests conducted using an available transformer, such as a test transformer, will only be valid for the transformer tested and cannot be representative for other transformers;

b) as detailed in IEC 62271-306[1], the characteristics of this duty are usually less severe than any other inductive current switching duty. It should be noted that such a duty may produce severe overvoltages within the transformer winding(s) depending on the circuit-breaker re-ignition behaviour and transformer winding resonance frequencies.

Short-line faults, out-of-phase current making and breaking and capacitive current switching are not applicable to circuit-breakers applied to switch shunt reactors or motors. These duties are therefore not included in this standard.

Subclause 1.1 of IEC 62271-100:2008 is otherwise applicable.

1.2 Normative references

Subclause 1.2 of IEC 62271-100:2008 is applicable with the following addition:

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

2 Normal and special service conditions

Clause 2 of IEC 62271-1:2007 is applicable.

---

[1] To be published.