SVENSK STANDARD SS-EN IEC 62271-110

Fastställd	Utgåva	Sida	Ansvarig kommitté
2018-05-16	4	1 (1+33)	SEK TK 17AC

Kopplingsapparater för spänning över 1 kV – Del 110: Koppling av induktiva laster

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

Som svensk standard gäller europastandarden EN IEC 62271-110:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62271-110:2018.

Nationellt förord

Europastandarden EN IEC 62271-110:2018*)

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62271-110, Fourth edition, 2017*) - High-voltage switchgear and controlgear - Part 110: Inductive load switching**

utarbetad inom International Electrotechnical Commission, IEC.

EN från CENELEC som är identiska med motsvarande IEC-standarder och som görs tillgängliga för nationalkommittéerna efter den 1 januari 2018 får en beteckning som inleds med EN IEC istället för som tidigare bara EN.

Tidigare fastställd svensk standard SS-EN 62271-110, utgåva 3, 2013, gäller ej fr o m 2020-11-09.

*) Corrigendum 2018-03 till EN IEC 62271-110:2018 ingår i standarden. Corrigendum December 2017 och February 2018 till IEC 62271-110:2017 är inarbetade i standarden.

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Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: Box 1284, 164 29 KISTA
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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62271-110

February 2018

ICS 29.130.10

Supersedes EN 62271-110:2012

English Version

High-voltage switchgear and controlgear - Part 110: Inductive load switching (IEC 62271-110:2017)

Appareillage à haute tension - Partie 110: Manoeuvre de charges inductives (IEC 62271-110:2017)

Hochspannungs-Schaltgeräte und -Schaltanlagen - Teil 110: Schalten induktiver Lasten (IEC 62271-110:2017)

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

Ref. No. EN IEC 62271-110:2018 E

European foreword

The text of document 17A/1151/FDIS, future edition 2 of IEC 62271-110, prepared by SC17A "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 62271-110:2018.

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)	2018-08-09
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2020-11-09

This document supersedes EN 62271-110:2012.

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.

Endorsement notice

The text of the International Standard IEC 62271-110:2017 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.

Publication	Year	Title	EN/HD	Year
IEC 60050-441	-	International Electrotechnical Vocabulary (IEV) -- Chapter 441: Switchgear, controlgear and fuses	-	-
IEC 62271-1	2017	High-voltage switchgear and controlgear -- Part 1: Common specifications	EN 62271-1	2017
IEC 62271-100	2008	High-voltage switchgear and controlgear -- Part 100: Alternating current circuit-breakers	EN 62271-100	2009
+ A1	2012		+ A1	2012
IEC 62271-106	2011	High-voltage switchgear and controlgear -- Part 106: Alternating current contactors, contactor-based controllers and motor-starters	EN 62271-106	2011

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62271-110:2018/AC:2018-03

March 2018

ICS 29.130.10

English Version

High-voltage switchgear and controlgear - Part 110: Inductive load switching (IEC 62271-110:2017/COR1:2017, IEC 62271-110:2017/COR2:2018)

Appareillage à haute tension - Partie 110: Manoeuvre de charges inductives (IEC 62271-110:2017/COR1:2017 , IEC 62271-110:2017/COR2:2018)

Hochspannungs-Schaltgeräte und -Schaltanlagen - Teil 110: Schalten induktiver Lasten (IEC 62271-110:2017/COR1:2017 , IEC 62271-110:2017/COR2:2018)

This corrigendum becomes effective on 23 March 2018 for incorporation in the English language version of the EN.

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

Ref. No. EN IEC 62271-110:2018/AC:2018-03 E

SEK Svensk Elstandard SS-EN IEC 62271-110, utg 4:2018

Endorsement notice

The text of the corrigendum IEC 62271-110:2017/COR1:2017 , IEC 62271-110:2017/COR2:2018 was approved by CENELEC as EN IEC 62271-110:2018/AC:2018-03 without any modification.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

This fourth edition cancels and replaces the third edition published in 2012 and constitutes a technical revision.

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

– all switching devices are now covered, not only circuit-breakers;
– a limited number of T10 tests no longer covers shunt-reactor switching tests below 52 kV;
– evaluation and reporting of a re-ignition-free arcing time window has been added.

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

FDIS	Report on voting
17A/1151/FDIS	17A/1155/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 of the IEC 62271 series can be found, under the general title *High-voltage switchgear and controlgear*, 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.

The contents of the corrigenda of December 2017 and February 2018 have been included in this copy.

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 110: Inductive load switching

1 Scope

This part of IEC 62271 is applicable to AC switching devices 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. It is applicable to switching devices (including 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.

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

a) Owing 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 TR 62271-306, the characteristics of this duty are usually less severe than any other inductive current switching duty. Such a duty may produce severe overvoltages within the transformer winding(s) depending on the re-ignition behaviour of the switching device and transformer winding resonance frequencies.

NOTE 1 The switching of tertiary reactors from the high-voltage side of the transformer is not covered by this document.

NOTE 2 The switching of shunt reactors earthed through neutral reactors is not covered by this document. However, the application of test results according to this document, on the switching of neutral reactor earthed reactors (4-leg reactor scheme), is discussed in IEC TR 62271-306.

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, *International Electrotechnical Vocabulary – Chapter 441: Switchgear, controlgear and fuses* (available at www.electropedia.org)

IEC 62271-1:2017, *High-voltage switchgear and controlgear – Part 1: Common specifications for alternating current switchgear and controlgear*

IEC 62271-100:2008, *High-voltage switchgear and controlgear – Part 100: Alternating current circuit-breakers*
IEC 62271-100:2008/AMD1:2012

IEC 62271-106:2011, *High-voltage switchgear and controlgear – Part 106: Alternating current contactors, contactor-based controllers and motor-starters*