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## 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 62271-110:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62271-110:2009.

### Nationellt förord

Europastandarden EN 62271-110:2009

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62271-110, Second edition, 2009 - High-voltage switchgear and controlgear - Part 110: Inductive load switching**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 62271-1, utgåva 1, 2009 och SS-EN 62271-100, utgåva 2, 2009.

Tidigare fastställd svensk standard SS-EN 62271-110, utgåva 1, 2005, gäller ej fr o m 2012-04-01.

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ICS 29.130.10

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Denna standard är fastställd av SEK Svensk Elstandard, som också kan lämna upplysningar om **sakinnehållet** i standarden.  
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Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

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

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English version

**High-voltage switchgear and controlgear -  
Part 110: Inductive load switching  
(IEC 62271-110:2009)**

Appareillage à haute tension -  
Partie 110: Manoeuvre  
de charges inductives  
(CEI 62271-110:2009)

Hochspannungs-Schaltgeräte  
und -Schaltanlagen -  
Teil 110: Schalten induktiver Lasten  
(IEC 62271-110:2009)

This European Standard was approved by CENELEC on 2009-04-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

**CENELEC**

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

**Central Secretariat: avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 17A/843/FDIS, future edition 2 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 was approved by CENELEC as EN 62271-110 on 2009-04-01.

This European Standard supersedes EN 62271-110:2005.

The main changes from EN 62271-110:2005 are that all references to EN 60694 have been replaced with EN 62271-1.

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.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2010-01-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2012-04-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 62271-110:2009 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 60470                      NOTE Harmonized as EN 60470:2000 (not modified).

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**Annex ZA**  
(normative)

**Normative references to international publications  
with their corresponding European publications**

**Addition** to Annex ZA of EN 62271-100:

<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 - Part 100: Alternating current circuit-breakers	EN 62271-100	2009



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# HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

## Part 110: Inductive load switching

### 1 General

#### 1.1 Scope

This International Standard 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 1000 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 [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 CIGRE Technical Brochure 305 [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 is otherwise applicable.

#### 1.2 Normative references

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

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