BS EN 62271-110:2012

BSI Standards Publication

High-voltage switchgear and controlgear

Part 110: Inductive load switching

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National foreword

This British Standard is the UK implementation of EN 62271-110:2012. It is identical to IEC 62271-110:2012, incorporating corrigendum October 2012. It supersedes BS EN 62271-110:2009, which is withdrawn.

IEC corrigendum October 2012 corrects paragraph four in Subclause 6.114.3.

The UK participation in its preparation was entrusted to Technical Committee PEL/17, Switchgear, controlgear, and HV-LV co-ordination, to Subcommittee PEL/17/1, High-voltage switchgear and controlgear.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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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)

CENELEC

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• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-11-01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

CONTENTS

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.

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[1] To be published.