

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 It supersedes BS EN 62271-110:2009, which is withdrawn.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.

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Published by BSI Standards Limited 2013

ISBN 978 0 71748 2

ICS 29.130.10

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 June 2013.

Amendments/corrigenda issued since publication

Date	Text affected
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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)

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-11-01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

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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:

<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

CONTENTS

1	General	6
1.1	Scope	6
1.2	Normative references	6
2	Normal and special service conditions	6
3	Terms and definitions	7
4	Ratings	8
5	Design and construction	8
6	Type tests	8
6.1	General	8
6.2	Dielectric tests	9
6.3	Radio interference voltage (r.i.v.) test	9
6.4	Measurement of the resistance of circuits	9
6.5	Temperature-rise tests	9
6.6	Short-time withstand current and peak withstand current tests	9
6.7	Verification of protection	9
6.8	Tightness tests	9
6.9	Electromagnetic compatibility tests (EMC)	9
6.101	Mechanical and environmental tests	9
6.102	Miscellaneous provisions for making and breaking tests	9
6.103	Test circuits for short-circuit making and breaking tests	10
6.104	Short-circuit test quantities	10
6.105	Short-circuit test procedure	10
6.106	Basic short-circuit test-duties	10
6.107	Critical current tests	10
6.108	Single-phase and double-earth fault tests	10
6.113	High-voltage motor current switching tests	10
6.114	Shunt reactor current switching tests	16
7	Routine tests	27
8	Guide to selection of switchgear and controlgear	27
9	Information to be given with enquiries, tenders and orders	27
10	Transport, storage, installation, operation and maintenance	27
11	Safety	27
12	Influence of the product on the environment	27
	Annex A (normative) Calculation of t_3 values	29
	Bibliography	31
	Figure 1 – Motor switching test circuit and summary of parameters	12
	Figure 2 – Illustration of voltage transients at interruption of inductive current for first phase clearing in a three-phase non-effectively earthed circuit	16
	Figure 3 – Reactor switching test circuit – Three-phase test circuit for in-service load circuit configurations 1 and 2 (Table 2)	18
	Figure 4 – Reactor switching test circuit – Single-phase test circuit for in-service load circuit configurations 1, 2 and 4 (Table 2)	19

Figure 5 – Reactor switching test circuit – Three-phase test circuit for in-service load circuit configuration 3 (Table 2).....	20
Figure 6 – Illustration of voltage transients at interruption of inductive current for a single-phase test	28
Table 1 – Test duties at motor current switching tests	14
Table 2 – In-service load circuit configurations	17
Table 3 – Standard values of prospective transient recovery voltages – Rated voltages 12 kV to 170 kV for effectively and non-effectively earthed systems – Switching shunt reactors with isolated neutrals (Table 2: In-service load circuit configuration 1)	21
Table 4 – Standard values of prospective transient recovery voltages – Rated voltages 100 kV to 1 200 kV for effectively earthed systems – Switching shunt reactors with earthed neutrals (Table 2: In-service load circuit configuration 2).....	22
Table 5 – Standard values of prospective transient recovery voltages – Rated voltages 12 kV to 52 kV for effectively and non-effectively earthed systems – Switching shunt reactors with isolated neutrals (Table 2: In-service load circuit configuration 3)	23
Table 6 – Standard values of prospective transient recovery voltages – Rated voltages 12 kV to 52 kV for effectively and non-effectively earthed systems – Switching shunt reactors with earthed neutrals (Table 2: In-service load circuit configuration 4).....	23
Table 7 – Load circuit 1 test currents	24
Table 8 – Load circuit 2 test currents	24
Table 9 – Test duties for reactor current switching tests	25

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 62271-306¹, 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.