
High-voltage switchgear and controlgear - Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV

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EUROPEAN STANDARD

EN 62271-203

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2004

ICS 29.130.10

Supersedes EN 60517:1996 + A11:1999

English version

**High-voltage switchgear and controlgear
Part 203: Gas-insulated metal-enclosed switchgear
for rated voltages above 52 kV
(IEC 62271-203:2003)**

Appareillage à haute tension
Partie 203: Appareillage sous enveloppe
métallique à isolation gazeuse
de tensions assignées supérieures
à 52 kV
(CEI 62271-203:2003)

Hochspannungs-Schaltgeräte und
-Schaltanlagen
Teil 203: Gasisolierte metallgekapselte
Schaltanlagen für Bemessungs-
spannungen von 52 kV und darüber
(IEC 62271-203:2003)

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This European Standard was approved by CENELEC on 2004-02-01. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 17C/312/FDIS, future edition 1 of IEC 62271-203, prepared by SC 17C, High-voltage switchgear and controlgear assemblies, of IEC TC 17, Switchgear and controlgear, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62271-203 on 2004-02-01.

This European Standard supersedes EN 60517:1996 + A11:1999.

Significant technical changes with respect to EN 60517:1996 are as follows: deleting not used technologies, like 3-phase PD measurements, adopting the content of EN 62271-1, Common clauses (under preparation), and harmonisation with IEEE C37.122. This makes the standard more up to date to today's products on the world market.

This standard is to be read in conjunction with EN 60694:1996 + A1:2000 + A2:2001, to which it refers and which is 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 60694. Amendments to these clauses and subclauses are given under the same numbering, whilst 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) 2004-11-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-02-01

Annexes ZA and ZB have been added by CENELEC
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Endorsement notice

The text of the International Standard IEC 62271-203:2003 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 referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60044-1 (mod)	- ¹⁾	Instrument transformers Part 1: Current transformers	EN 60044-1	1999 ²⁾
IEC 60044-2 (mod)	- ¹⁾	Part 2: Inductive voltage transformers	EN 60044-2	1999 ²⁾
IEC 60068-2-11	- ¹⁾	Environmental testing Part 2: Tests - Test Ka: Salt mist	EN 60068-2-11	1999 ²⁾
IEC 60137	- ¹⁾	Insulated bushings for alternating voltages above 1 kV	EN 60137	1996 ²⁾
IEC 60141-1	- ¹⁾	Tests on oil-filled and gas-pressure cables and their accessories Part 1: Oil-filled, paper or polypropylene paper laminate insulated, metal-sheathed cables and accessories for alternating voltages up to and including 500 kV	-	-
IEC 60840	- ¹⁾	Power cables with extruded insulation and their accessories for rated voltages above 30 kV (Um=36 kV) up to 150 kV (Um=170kV) - Test methods and requirements	-	-
IEC 60859	- ¹⁾	Cable connections for gas-insulated metal- enclosed switchgear for rated voltages of 72,5 kV and above – Fluid-filled and extruded insulation cables - Fluid-filled and dry type cable-terminations	-	-
IEC/TS 61462	- ¹⁾	Composite insulators – Hollow insulators for use in outdoor and indoor electrical equipment – Definitions, test methods, acceptance criteria and design recommendations	-	-

1) Undated reference.

2) Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61639	- ¹⁾	Direct connection between power transformers and gas-insulated metal-enclosed switchgear for rated voltages of 72,5 kV and above	-	-
IEC 61672-1	- ¹⁾	Electroacoustics - Sound level meters Part 1: Specifications	EN 61672-1	2003 ²⁾
IEC 61672-2	- ¹⁾	Part 2: Pattern evaluation tests	EN 61672-2	2003 ²⁾
IEC 62067	- ¹⁾	Power cables with extruded insulation and their accessories for rated voltages above 150 kV (Um = 170 kV) up to 500 kV (Um = 550 kV) - Test methods and requirements	-	-
IEC 62155 (mod)	- ¹⁾	Hollow pressurized and unpressurized ceramic and glass insulators for use in electrical equipment with rated voltages greater than 1 000 V	EN 62155	2003 ²⁾
IEC 62271-100	- ¹⁾	High-voltage switchgear and controlgear Part 100: High-voltage alternating-current circuit-breakers	EN 62271-100	2001 ²⁾
IEC 62271-102	- ¹⁾	Part 102: High-voltage alternating current disconnectors and earthing switches	EN 62271-102	2002 ²⁾
ISO 3231	- ¹⁾	Paints and varnishes - Determination of resistance to humid atmospheres containing sulphur dioxide	EN ISO 3231	1997 ²⁾

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Annex ZB
(informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

This European Standard does not fall under any Directive of the EC.

In the relevant CENELEC countries these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

<u>Clause</u>	<u>Deviation</u>
5.103.2	Italy (Italian pressure vessel code for electrical switchgear DM 1 December 1980 and DM 10 September 1981 published in Gazzetta Ufficiale n° 285 dated 16.10.1981)

For metal-enclosed switchgear and controlgear containing gas-filled compartments, the design pressure is limited to a maximum of 0,5 bar (gauge) and the volume is limited to a maximum of 2 m³. Gas filled compartments having a design pressure exceeding 0,5 bar (gauge) or a volume exceeding 2 m³ shall be designed according to the Italian pressure vessel code for electrical switchgear.

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CEI
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62271-203

Première édition
First edition
2003-11

Appareillage à haute tension –

Partie 203:

Appareillage sous enveloppe métallique
à isolation gazeuse de tensions assignées

supérieures à 52 kV

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Part 203:

Gas-insulated metal-enclosed switchgear
for rated voltages above 52 kV

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –**Part 203: Gas-insulated metal-enclosed switchgear
for rated voltages above 52 kV**

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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- 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 62271-203 has been prepared by subcommittee 17C: High-voltage switchgear and controlgear assemblies, of IEC technical committee 17: Switchgear and controlgear.

This first edition of IEC 62271-203 cancels and replaces the third edition of IEC 60517, published in 1990, and constitutes a technical revision.

With the revision, significant changes from the previous edition have been made. The most important changes are deleting not used technologies, like 3-phase PD measurements, adopting the content to IEC 62271-1 ‘Common Clauses’ and harmonisation with IEEE C37.122. This standard is now more up to date to today’s products on the world market.

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

FDIS	Report on voting
17C/312/FDIS	17C/316/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 International Standard should be read in conjunction with IEC 60694, second edition, published in 1996, its Amendment 1 (2000) and its Amendment 2 (2001), to which it refers and which is 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 60694. Amendments to these clauses and subclauses are given under the same numbering, whilst additional subclauses, are numbered from 101.

The committee has decided that the contents of this publication will remain unchanged until 2010. At this date, the publication will be

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

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COMMON NUMBERING OF IEC 62271 PUBLICATIONS FALLING UNDER THE RESPONSIBILITY OF SUBCOMMITTEES SC 17A AND SC 17C

In accordance with the decision taken at the joint SC 17A/SC 17C meeting in Frankfurt, June 1998 (item 20.7 of 17A/535/RM), a common numbering system has been established for the publications falling under the responsibility of SC 17A and SC 17C. IEC 62271 – *High-voltage switchgear and controlgear* is the publication number and main title element for the common publications.

The numbering of these publications will apply the following principle.

- a) Common standards prepared by SC 17A and SC 17C will start with IEC 62271-1.
- b) Standards of SC 17A will start with IEC 62271-100.
- c) Standards of SC 17C will start with number IEC 62271-200.
- d) Publications prepared by SC 17A and SC 17C will start with number IEC 62271-300.

The table below relates the new numbers to the old numbers. The parts numbered (xxx) will be given a final number pending the decision to publish the revised publication as standard or technical report.

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