SVENSK STANDARD SS-EN 62271-203

Fastställd	Utgåva	Sida	Ingår i
2004-04-26	1	1 (1+71)	SEK Område 17C

Svenska Elektriska Kommissionen, SEK

Kopplingsapparater för spänning över 1 kV – Del 203: Gasisolerade metallkapslade ställverk med märkspänning högre än 52 kV

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

Som svensk standard gäller europastandarden EN 62271-203:2004. Den svenska standarden innehåller den offciella engelska språkversionen av EN 62271-203:2004.

Nationellt förord

Europastandarden EN 62271-203:2004

består av:

- **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
- **IEC 62271-203, First edition, 2003 - High-voltage switchgear and controlgear - Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV**

  utarbetad inom International Electrotechnical Commission, IEC.

SS-EN 62271-203 skall användas tillsammans med SS-EN 60694, utg 1, 1996 och dess separat utgivna ändringar och tillägg.

Tidigare fastställd svensk standard SS-EN 60517, utgåva 1, 1996 och SS-EN 60517/A11, utgåva 1, 1999, gäller ej fr o m 2007-02-01.

ICS 29.130.10

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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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)

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

Ref. No. EN 62271-203:2004 E

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.

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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.

Publication	Year	Title	EN/HD	Year
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-shealthed 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.

Publication	Year	Title	EN/HD	Year
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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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.

Common numbering of IEC 62271 publications falling under the responsibility of subcommittees SC 17A and SC 17C

IEC 62271 series	HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR	Old IEC number, if any
Part	New title	
1	Common specifications	IEC 60694
2	Seismic qualification for rated voltages of 72,5 kV and above	-
100	High-voltage alternating current circuit-breakers	IEC 60056
101	Synthetic testing	IEC 60427
102	High-voltage alternating current disconnectors and earthing switches	IEC 60129
103	Switches for rated voltages above 1 kV and less than 52 kV	IEC 60265-1
104	Switches for rated voltages of 52 kV and above	IEC 60265-2
105	Alternating current switch-fuse combinations	IEC 60420
106	Alternating current contactors and contactor-based motor-starters	IEC 60470
107	Alternating current switchgear-fuse combinations	-
108	Switchgear having combined functions	-
109	Series capacitor by-pass switches	-
200	AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	IEC 60298
201	Insulation-enclosed switchgear and controlgear for rated voltages up to and including 52 kV	IEC 60466
202	High-voltage/low-voltage prefabricated substations	IEC 61330
203	Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV	IEC 60517
204	High-voltage gas-insulated transmission lines for rated voltages of 72,5 kV and above	IEC 61640
(300)	Guide for seismic qualification of high-voltage alternating current circuit-breakers	IEC 61166
(301)	Guide for inductive load switching	IEC 61233
(302)	Guide for short-circuit and switching test procedures for metal-enclosed and dead tank circuit-breakers	IEC 61633
(303)	Use and handling of sulphur hexafluoride (SF_6) in high-voltage switchgear and controlgear	IEC 61634
(304)	Additional requirements for enclosed switchgear and controlgear from 1 kV to 72,5 kV to be used in severe climatic conditions	IEC 60932
(305)	Cable connections for gas-insulated metal-enclosed switchgear for rated voltages above 52 kV	IEC 60859
(306)	Direct connection between power transformers and gas-insulated metal-enclosed switchgear for rated voltages above 52 kV	IEC 61639
(307)	Use of electronic and associated technologies in auxiliary equipment of switchgear and controlgear	IEC 62063
308	Guide for asymmetrical short-circuit breaking test duty T100a	–
309	TRV parameters for high-voltage switchgear and controlgear for rated voltages above 1 kV and less than 100 kV	-
310	Electrical endurance testing for circuit-breakers rated 72,5 kV and above	-

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV

1 General

1.1 Scope

This standard specifies requirements for gas-insulated, metal-enclosed switchgear in which the insulation is obtained, at least partly, by an insulating gas other than air at atmospheric pressure, for alternating current of rated voltages above 52 kV, for indoor and outdoor installation, and for service frequencies up to and including 60 Hz.

For the purpose of this standard, the terms “GIS” and “switchgear” are used for “gas-insulated metal-enclosed switchgear”.

The gas-insulated metal-enclosed switchgear covered by this standard consists of individual components intended to be directly connected together and able to operate only in this manner.

This standard completes and amends, if necessary, the various relevant standards applying to the individual components constituting GIS.

1.2 Normative references

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.

Subclause 1.2 of IEC 60694 is applicable with the following additions:

IEC 60044-1, *Instrument transformers – Part 1: Current transformers*

IEC 60044-2, *Instrument transformers – Part 2: Inductive voltage transformers*

IEC 60068-2-11, *Environmental testing – Part 2: Tests. Test Ka: Salt mist*

IEC 60137, *Insulating bushings for alternating voltages above 1 000 V*

IEC 60141-1, *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, *Power cables with extruded insulation and their accessories for rated voltages above 30 kV (U_m = 36 kV) up to 150 kV (U_m = 170 kV) – Test methods and requirements*