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AS 62271.203—2012

Australian Standard®

High-voltage switchgear and controlgear

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

STANDARDS
Australia

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- Australian British Chamber of Commerce
- Australian Industry Group
- Energy Australia
- Energy Networks Association
- Engineers Australia
- University of New South Wales

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

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-007, Power Switchgear to supersede AS 62271.203—2005, *High-voltage switchgear and controlgear*, Part 203: *Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV* (IEC 62271-203, Ed.1.0 (2003) MOD).

The objective of this Standard is to specify 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.

This Standard should be read in conjunction with IEC 62271-1:2007 (adopted as AS 62271.1—2012), 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 62271-1 (AS 62271.1). Amendments to these clauses and subclauses are given under the same numbering, whilst additional subclauses, are numbered from 101.

This Standard is identical with, and has been reproduced from IEC 62271-203, Ed.1.0 (2011), *High-voltage switchgear and controlgear*—Part 203: *Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV.*

Common numbering of Standards falling under the responsibility of EL-007

In accordance with the decision taken by EL-007, a common numbering system will be established in order to align the numbering of Australian Standards falling under the responsibility of EL-007 with the IEC Standards. All high-voltage switchgear and controlgear Standards will, at their next revision (or as equivalent Standards become available in IEC), become parts of the AS 62271 (*High-voltage switchgear and controlgear)* series. The table below gives the relationship between AS 62271 numbering and original Standard numbers. Standards current at the time of publication of this Standard are marked with an asterisk (*).

AS 62271 series part number	High-voltage switchgear and controlgear	Previous AS number
100*	High-voltage alternating current circuit-breakers	AS 2006
102*	Alternating current disconnectors and earthing switches	AS 1306
103	Switches for rated voltages above 1 kV and less than 52 kV	*AS/NZS 60265.1
104	Switches for rated voltages of 52 kV and above	*AS 60265.2
105	Alternating current switch-fuse combinations	*AS 2024
106	Alternating current contractors and contractor-based motor-starters	*AS 60470
110*	Inductive load switching	AS 4372
200*	AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	AS 2264
201*	AC insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	AS 2264
202*	High-voltage/low-voltage prefabricated substations	AS 61330
203*	Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV	AS 2263
301*	Dimensional standardization of terminals	AS 2395
303	Use and handling of sulphur hexafluoride (SF_6) in high-voltage switchgear and controlgear	*AS 2791
304	Additional requirements for enclosed switchgear and controlgear from 1 kV to 72.5 kV to be used in severe climactic conditions	*AS 4243
308*	Guide for asymmetrical short-circuit breaking test duty T100a	—

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text 'this part of IEC 62271' should read 'this part of AS 62271'.

(c) A full point substitutes for a comma when referring to a decimal marker.

Only normative references in the source document that have been adopted as Australia or Australia/New Zealand Standards have been listed as follows:

Reference to International Standard		*Australian or Australian/New Zealand Standard*	
IEC		AS	
60044	Instrument transformers	60044	Instrument transformers
60044-1	Part 1: Current transformers	60044.1	Part 1: Current transformers
60044-2	Part 2: Inductive voltage transformers	60044.2	Part 2: Inductive voltage transformers
60068	Basic environmental testing procedures	60068	Environmental testing
60068-2-11	Part 2.11: Tests—Test Ka: Salt mist	60068.2.11	Part 2.11: Tests—Test Ka: Salt mist
60270	High-voltage test techniques— Partial discharge measurements	60270	High-voltage test techniques—Partial discharge measurements
		AS/NZS	
60137	Insulated bushings for alternating voltages above 1000 V	60137	Insulated bushings for alternating voltages above 1000 V
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	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

CONTENTS

Page

Page

Page

AUSTRALIAN STANDARD

High-voltage switchgear and controlgear

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

1 General

1.1 Scope

This part of IEC 62271 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.

IEC 60044-1:1996, *Instrument transformers – Part 1: Current transformers*

IEC 60044-2:1997, *Instrument transformers – Part 2: Inductive voltage transformers*

IEC 60068-2-11, *Basic environmental testing procedures – Part 2-11: Tests – Test Ka: Salt mist*

IEC 60137:2008, *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-insulated, metal-sheathed cables and accessories for alternating voltages up to and including 400 kV*

IEC 60270, *High-voltage test techniques – Partial discharge measurements*

IEC 60376, *Specification of technical grade sulfur hexafluoride (SF_6) for use in electrical equipment*

IEC 60480, *Guidelines for the checking and treatment of sulfur hexafluoride (SF_6) taken from electrical equipment and specification for its re-use*

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*

