

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**High-voltage switchgear and controlgear –
Part 211: Direct connection between power transformers and gas-insulated
metal-enclosed switchgear for rated voltages above 52 kV**

**Appareillage à haute tension –
Partie 211: Raccordements directs entre transformateurs de puissance et
appareillage sous enveloppe métallique à isolation gazeuse de tensions
assignées supérieures à 52 kV**



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CONTENTS

FOREWORD	4
1 General	6
1.1 Scope	6
1.2 Normative references	6
2 Normal and special service conditions	7
2.1 Normal service conditions	7
2.2 Special service conditions	7
3 Terms and definitions	7
4 Rating	8
4.1 Rated voltage (U_r)	8
4.2 Rated insulation level	8
4.3 Rated frequency (f_r)	9
4.4 Rated continuous current (I_r) and temperature rise	9
4.5 Rated short-time withstand current (I_k) and rated thermal short-time current (I_{th})	9
4.6 Rated peak withstand current (I_p) and rated dynamic current (I_d)	9
4.7 Rated duration of short-circuit (t_k) and rated duration (t_{th})	9
4.8 Rated filling pressure p_{re} of gas for insulation	9
5 Design and construction	10
5.1 Limits of supply	10
5.2 Pressure withstand requirements	11
5.3 Gas and vacuum tightness	11
5.4 Mechanical forces applied on the connection interface	12
5.5 Mechanical forces applied on the bushing flange	12
5.6 Horizontal and vertical displacement	13
5.7 Vibrations	13
6 Type tests	14
6.1 General	14
6.2 Dielectric tests	14
6.2.1 Dielectric tests of bushing	14
6.2.2 Dielectric tests of transformer connection in a single phase enclosure	14
6.2.3 Dielectric tests of transformer connection in a three phase enclosure	14
6.3 Cantilever load withstand tests	14
6.4 Gas tightness tests	15
7 Routine tests	15
7.1 General	15
7.2 External pressure test of the bushing	15
7.3 Tightness tests	15
8 Standard dimensions and tolerances	15
8.1 Single-phase direct connection between oil-filled transformer and switchgear	15
8.2 Three-phase direct connection between oil-filled transformer and switchgear	15
8.3 Connection between gas-insulated transformer and switchgear	16

8.4	Transformer tolerances	16
8.5	Mounting of the transformer on its foundation	16
9	Information to be given with enquiries, tenders and orders	16
10	Transport, storage, erection, operation and maintenance	16
	Bibliography.....	21
	Figure 1 – Typical direct connection between power transformer and gas-insulated metal-enclosed switchgear.....	17
	Figure 2 – Standard dimensions for typical direct connection between power transformer and gas-insulated metal-enclosed switchgear	18
	Figure 3 – Transformer tolerances for a typical direct connection shown on the example of a three-phase power transformer connected to a single-phase gas-insulated metal-enclosed switchgear.....	19
	Figure 4 – Transformer tolerances for a typical direct connection shown on the example of a three-phase power transformer connected to a three-phase gas-insulated metal-enclosed switchgear up to 170 kV	20
	Table 1 – Moment and forces applied on the bushing flange and transformer	13

INTERNATIONAL ELECTROTECHNICAL COMMISSION

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 211: Direct connection between power transformers and gas-insulated metal-enclosed switchgear for rated voltages above 52 kV

FOREWORD

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International Standard IEC 62271-211 has been prepared by subcommittee 17C: High-voltage switchgear and controlgear assemblies, of IEC technical committee 17: Switchgear and controlgear.

This first edition cancels and replaces the first edition of IEC/TR 61639:1996 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) transfer from technical report to international standard;
- b) the minimum voltage rating was changed from 72,5 kV to above 52 kV;
- c) update of normative references;
- d) definition of insulated junction including limit of supply;

- e) definition of dielectric test of gas-insulated metal-enclosed switchgear for transformer connection in a three phase enclosure;
- f) addition of interface tolerances at transformer side;
- g) addition of transformer tolerances in service;
- h) addition of exceptional loads for bushings and flanges;
- i) consideration of oil- and gas-insulated transformers;
- j) inclusion of three-phase enclosed direct connections.

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

FDIS	Report on voting
17C/596/FDIS	17C/600/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.

A list of all parts in the IEC 62271 series, published under the general title *High-voltage switchgear and controlgear*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 211: Direct connection between power transformers and gas-insulated metal-enclosed switchgear for rated voltages above 52 kV

1 General

1.1 Scope

This part of IEC 62271 is applicable to single and three phase direct connections between gas-insulated metal-enclosed switchgear (GIS) for rated voltages above 52 kV and transformer arrangements to establish electrical and mechanical interchange ability and to determine the limits of supply of for the transformer connection.

Direct connections are immersed on one end in the transformer oil or insulating gas and on the other end in the insulating gas of the switchgear.

Transformer arrangements are single-phase transformers with single-phase enclosed arrangement, three-phase transformers with three single-phase enclosed arrangements or three-phase transformers with a three-phase enclosed arrangement with three transformer bushings.

The connection satisfies the requirements of IEC 62271-203 for gas-insulated metal-enclosed switchgear, IEC 60076 for power transformer and IEC 60137 for completely immersed bushings.

For the purpose of this international standard the term "switchgear" is used for "gas-insulated metal-enclosed switchgear".

1.2 Normative references

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.

IEC 60076 (all parts), *Power transformers*

IEC 60137:2008, *Insulated bushings for alternating voltages above 1 000 V*

IEC 61936-1, *Power installations exceeding 1 kV a.c. – Part 1: Common rules*

IEC 62271-1:2007, *High-voltage switchgear and controlgear – Part 1: Common specifications*

IEC 62271-203:2011, *High-voltage switchgear and controlgear – Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV*

IEC 62271-207, *High-voltage switchgear and controlgear – Part 207: Seismic qualification for gas-insulated switchgear assemblies for rated voltages above 52 kV*