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TECHNICAL SPECIFICATION

High-voltage switchgear and controlgear – Part 316: Direct current by-pass switches and paralleling switches

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONTENTS

FOREWORD 5
1 Scope 7
2 Normative references 7
3 Terms and definitions 8
3.1 General terms and definitions 8
3.2 Assemblies of switchgear and controlgear 9
3.3 Parts of assemblies 9
3.4 Switching devices 9
3.5 Parts of switchgear and controlgear 11
3.6 Operational characteristics of switchgear and controlgear 13
3.7 Characteristic quantities 15
3.8 Index of definitions 20
4 Normal and special service conditions 22
5 Ratings 22
5.1 General 22
5.2 Rated direct voltage (U_{rd}) 23
5.3 Rated insulation level (U_{dd}, U_p, U_s) 24
5.4 Rated continuous current (I_{rd}) 24
5.5 Rated values of short-time withstand current 24
5.6 Rated supply voltage of auxiliary and control circuits (U_a) 24
5.7 Rated supply frequency of auxiliary and control circuits 24
5.8 Rated pressure of compressed gas supply for controlled pressure systems 24
5.101 Rated commutation current 25
5.102 Rated operating sequence 25
6 Design and construction 25
6.1 Requirements for liquids in switchgear and controlgear 25
6.2 Requirements for gases in switchgear and controlgear 25
6.3 Earthing of switchgear and controlgear 25
6.4 Auxiliary and control equipment and circuits 25
6.5 Dependent power operation 26
6.6 Stored energy operation 26
6.7 Independent unlatched operation (independent manual or power operation) 26
6.8 Manually operated actuators 26
6.9 Operation of releases 26
6.10 Pressure/level indication 26
6.11 Nameplates 26
6.12 Locking devices 28
6.13 Position indication 28
6.14 Degrees of protection provided by enclosures 28
6.15 Creepage distances for outdoor insulators 28
6.16 Gas and vacuum tightness 28
6.17 Tightness for liquid systems 28
6.18 Fire hazard (flammability) 28
6.19 Electromagnetic compatibility (EMC) 28
6.20 X-ray emission 28
6.21 Corrosion 28

6.22 Filling levels for insulation, switching and/or operation 28
6.101 Design of BPSs and PSs 29
6.102 General requirement for operation 29
6.103 Pressure limits of fluids for operation 30
6.104 Time quantities 30
6.105 Static mechanical loads 30
7 Type tests 31
7.1 General 31
7.2 Dielectric tests 32
7.3 Resistance measurement 35
7.4 Continuous current tests 35
7.5 Short-time withstand current and peak withstand current tests 36
7.6 Verification of the protection 36
7.7 Tightness tests 36
7.8 Electromagnetic compatibility tests (EMC) 36
7.9 Additional tests on auxiliary and control circuits 37
7.10 X-radiation test procedure for vacuum interrupters 38
7.101 Mechanical and environmental tests 38
7.102 Current commutation test 47
8 Routine tests 47
8.1 General 47
8.2 Dielectric test on the main circuit 47
8.3 Tests on auxiliary and control circuits 48
8.4 Measurement of the resistance of the main circuit 48
8.5 Tightness test 48
8.6 Design and visual checks 48
8.101 Mechanical operating tests 48
9 Guide to the selection of switchgear and controlgear (informative) 50
9.1 General 50
9.2 Selection of rated values 50
9.3 Cable-interface connections 52
9.4 Continuous or temporary overload due to changed service conditions 52
9.5 Environmental aspects 53
10 Information to be given with enquiries, tenders and orders (informative) 53
10.1 General 53
10.2 Information with enquiries and orders 53
10.3 Information to be given with tenders 54
11 Transport, storage, installation, operation instructions and maintenance 55
11.1 General 55
11.2 Conditions during transport, storage and installation 55
11.3 Installation 55
11.4 Operating instructions 61
11.5 Maintenance 61
11.101 Resistors and capacitors 61
12 Safety 61
13 Influence of the product on the environment 61
Annex A (normative) Tolerances on test quantities during type tests 62
Annex B (normative) Records and reports of type tests 65

B.1 Information and results to be recorded 65
B.2 Information to be included in type test reports 65
Annex C (informative) Voltages associated with BPSs in different configurations 67
C.1 General 67
C.2 Case 1: BPS consisting of a single switching unit 67
C.3 Case 2: BPS consisting of two series connected switching units 69
Annex D (normative) Use of mechanical characteristics and related requirements 71
Bibliography 75

Figure 1 – Example of the location of BPSs in an HVDC transmission system 10
Figure 2 – Example of the location of a CPS in an HVDC transmission system 11
Figure 3 – Example of the location of a LPS in an HVDC transmission system 11
Figure 4 – BPS and PS – Opening and closing operations 15
Figure 5 – BPS and PS – Close-open cycle 16
Figure 6 – BPS and PS – Open-close cycle 17
Figure 7 – Example of two series connected BPSs 29
Figure 8 – Test sequence for low temperature test 42
Figure 9 – Test sequence for high temperature test 44
Figure 10 – Humidity test 46
Figure C.1 – HVDC system with 3 series connected converter units per pole 67
Figure C.2 – Different ways to connect a BPS to the grid 68
Figure C.3 – HVDC system with 2 series connected converter units per pole 70
Figure D.1 – Example of reference mechanical characteristics (idealised curve) 72
Figure D.2 – Reference mechanical characteristics of Figure D.1 with the envelopes centred over the reference curve (+5 %, –5 %) 72
Figure D.3 – Reference mechanical characteristics of Figure D.1 with the envelope fully displaced upward from the reference curve (+10 %, –0 %) 73
Figure D.4 – Reference mechanical characteristics of Figure D.1 with the envelope fully displaced downward from the reference curve (+0 %, –10 %) 74

Table 1 – Nameplate information 27
Table 2 – Examples of static horizontal and vertical forces for static terminal load 30
Table 3 – Mandatory type tests 31
Table 4 – Test conditions in general case for BPSs according to Alternative 1 33
Table 5 – Test conditions in general case for BPSs according to Alternative 2 34
Table 6 – Test conditions in general case for PSs 34
Table 7 – Number of operating sequences 40
Table A.1 – Tolerances on test quantities for type tests 63
Table C.1 – Voltage across the post insulator 69

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 316: Direct current by-pass switches and paralleling switches

FOREWORD

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IEC TS 62271-316 has been prepared by subcommittee 17A: Switching devices, of IEC technical committee 17: High-voltage switchgear and controlgear. It is a Technical Specification.

The text of this Technical Specification is based on the following documents:

Draft	Report on voting
17A/1407/DTS	17A/1414/RVDTS

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Technical Specification is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This document shall be read in conjunction with IEC TS 62271-5:2024, to which it refers, and which is applicable unless otherwise specified in this document. In order to simplify the indication of corresponding requirements, the same numbering of clauses and subclauses is used as in IEC TS 62271-5. Modifications to these clauses and subclauses are given under the same references whilst additional subclauses are numbered from 101.

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 document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 316: Direct current by-pass switches and paralleling switches

1 Scope

This part of IEC 62271, which is a Technical Specification, is applicable to direct current (DC) by-pass switches (BPS) and paralleling switches (PS) designed for indoor or outdoor installation and for operation on HVDC transmission systems having direct voltages of 100 kV and above.

Switches other than mechanical switching devices used for the same applications specified here are not covered by this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60050-151, *International Electrotechnical Vocabulary (IEV) – Part 151: Electrical and magnetic devices*, (available at www.electropedia.org)

IEC 60050-441, *International Electrotechnical Vocabulary (IEV) – Part 441: Switchgear, controlgear and fuses*, (available at www.electropedia.org)

IEC 60050-442, *International Electrotechnical Vocabulary (IEV) – Part 442: Electrical accessories*, (available at www.electropedia.org)

IEC 60050-461, *International Electrotechnical Vocabulary (IEV) – Part 461: Electric cables*, (available at www.electropedia.org)

IEC 60050-601, *International Electrotechnical Vocabulary (IEV) – Part 601: Generation, transmission and distribution of electricity – General*, (available at www.electropedia.org)

IEC 60050-614, *International Electrotechnical Vocabulary – Part 614: Generation, transmission and distribution of electricity – Operation*, (available at www.electropedia.org)

IEC 60060-1, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60071-11:2022, *Insulation coordination – Part 11: Definitions, principles and rules for HVDC system*

IEC 60071-12:2022, *Insulation coordination – Part 12: Application guidelines for LCC HVDC converter stations*

IEC 60296, *Fluids for electrotechnical applications – Mineral insulating oils for electrical equipment*

IEC 60376, *Specification of technical grade sulphur hexafluoride (SF_6) and complementary gases to be used in its mixtures for use in electrical equipment*

IEC 60480, *Specifications for the re-use of sulphur hexafluoride (SF_6) and its mixtures in electrical equipment*

IEC 60633:2019, *High-voltage direct current (HVDC) transmission – Vocabulary*

IEC TS 62271-5:2024, *High-voltage switchgear and controlgear – Part 5: Common specifications for direct current switchgear*

IEC 62271-102:2018, *High-voltage switchgear and controlgear – Part 102: Alternating current disconnectors and earthing switches*
IEC 62271-102:2018/AMD1:2022

IEC TS 62271-315:2024, *High-voltage switchgear and controlgear – Part 315: Direct current (DC) transfer switches*