SVENSK STANDARD SS-EN 62271-102

Fastställd	Utgåva	Sida	Ansvarig kommitté
2003-01-29	1	1 (1+96)	SEK TK 17AC

Kopplingsapparater för spänning över 1 kV – Del 102: Frånskiljare och jordningskopplare för växelström

High-voltage switchgear and controlgear – Part 102: High-voltage alternating current disconnectors and earthing switches

Som svensk standard gäller europastandarden EN 62271-102:2002. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62271-102:2002.

Nationellt förord

Europastandarden EN 62271-102:2002[*)]

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62271-102[**)], First edition, 2001 - High-voltage switchgear and controlgear - Part 102: High-voltage alternating current disconnectors and earthing switches**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60694, utgåva 1, 1996.

Tidigare fastställd svensk standard SS-EN 60129, utgåva 1, 1994, SS-EN 60129/A1, utgåva 1, 1994, SS-EN 60129/A2, utgåva 1, 1996, SS-EN 61129, utgåva 1, 1994, SS-EN 61129/A1, utgåva 1, 1996, SS-EN 61259, utgåva 1, 1995 och SS-IEC 129, utgåva 1, 1990, gäller ej fr o m 2005-03-01.

[*)] EN 62271-102:2002 ikraftsattes 2003-01-29 som SS-EN 62271-102 genom offentliggörande, d v s utan utgivning av något svenskt dokument.

[**)] Corrigendum, April 2002 och May 2003, till IEC 62271-102:2001, är inarbetade i standarden.

ICS 29.130.10; 29.130.99

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EUROPEAN STANDARD **EN 62271-102**

NORME EUROPÉENNE

EUROPÄISCHE NORM July 2002

ICS 29.130.10;29.130.99

Supersedes EN 60129:1994 + A1:1994 + A2:1996;
EN 61129:1994 + A1:1995 and
EN 61259:1994

English version

High-voltage switchgear and controlgear Part 102: High-voltage alternating current disconnectors and earthing switches

(IEC 62271-102:2001 + corrigendum 2002)

Appareillage à haute tension
Partie 102: Sectionneurs et sectionneurs de terre à courant alternatif haute tension
(CEI 62271-102:2001
+ corrigendum 2002)

Hochspannungs-Schaltgeräte
Teil 102: Hochspannungs-Wechselstrom-Trennschalter und -Erdungsschalter
(IEC 62271-102:2001
+ Corrigendum 2002)

This European Standard was approved by CENELEC on 2002-03-05. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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

Ref. No. EN 62271-102:2002 E

SEK Svensk Elstandard

Foreword

The text of document 17A/617/FDIS, future edition 1 of IEC 62271-102, prepared by SC 17A, High-voltage switchgear and controlgear, of IEC TC 17, Switchgear and controlgear, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62271-102 on 2002-03-05.

This European Standard supersedes the European Standards EN 60129:1994 + A1:1994 + A2:1996 , EN 61129:1994 + A1:1995 and EN 61259:1994.

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)	2003-02-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2005-03-01

This European Standard is to be used in conjunction with EN 60694:1996 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. Additional subclauses are numbered from 101.

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A, B, C, E, F and ZA are normative and annex D is informative.
Annex ZA has been added by CENELEC.

The numbering of the standards falling under the responsibility of IEC/SC 17A and IEC/SC 17B will apply the following principle:

a) Common standards prepared by SC 17A and SC 17C will start with IEC 62271-001;

b) Standards of SC 17A will start with IEC 62271-100;

c) Standards of SC 17C will start with IEC 62271-200;

d) Guides prepared by SC 17A and SC 17C will start with IEC 62271-300.

The following table provides an overview of the relationship between the old and the new numbering of standards falling under the responsibility of CLC/TC 17A and CLC/TC 17C.

IEC 62271/ EN 62271	High-voltage switchgear and controlgear –	Number of previous standard, if any	
Part	**Orignal title**	**IEC**	**EN/HD**
1	Common specifications	60694; 60517	EN 60694; EN 60517
100	High-voltage alternating circuit-breakers	60056	HD 348, mod.
101	Synthetic testing of high-voltage alternating current circuit-breakers	60427	EN 60427
102	Alternating current disconnectors and earthing switches	60129	EN 60129
103	Switches for rated voltages above1 kV and less than 52 kV	60265-1	EN 60265-1
104	High-voltage switches for rated voltages of 52 kV and above	60265-2	EN 60265-2
105	High-voltage alternating current switch-fuse combinations	60420	EN 60420
106	High-voltage alternating current contactors and contactor-based motor-starters	60470	EN 60470
107	High-voltage alternating current switchgear-fuse combinations	New	--
108	Switchgear having combined functions	New	--
200	A.C.-metal enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	60298	EN 60298
201	A.C.-insulation -enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 38 kV	60466	--
202	High-voltage/low-voltage prefabricated substations	61330	EN 61330
203	Gas-insulated metal-enclosed switchgear for rated voltages of 72,5 kV and above	60517; 61259	EN 60517; EN 61259
204	Rigid high-voltage gas-insulated transmission lines for rated voltages of 72,5 kV and above	61640	--
300	Guide for seismic qualification of high-voltage alternating current circuit-breakers	61166	EN 61166
301	High-voltage alternating current circuit-breakers - Inductive load switching	61233	--
302	High-voltage alternating current circuit-breakers - Guide for short-circuit and switching test procedures for metal-enclosed and dead tank circuit-breakers	61633	--
303	High-voltage switchgear and controlgear - Use and handling of sulphur hexafluoride (SF_6) in high-voltage switchgear and controlgear	61634	--
304	Additional requirements for enclosed switchgear and controlgear from 1 kV to 72,5 kV to be used in severe climatic conditions	60932	--
305	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	60859	--
306	Direct connection between power transformers and gas-insulated metal-enclosed switchgear for rated voltages of 72,5 kV and above	61639	--
307	High-voltage switchgear and controlgear - The use of electronic and associated technologies in auxiliary equipment of switchgear and controlgear	62063	--
308	High-voltage alternating current circuit-breakers - Guide for asymmetrical short-circuit breaking test duty T100a	62215	--

Endorsement notice

The text of the International Standard IEC 62271-102:2001 and its corrigendum April 2002 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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 60137	1995	Insulated bushings for alternating voltages above 1 kV	EN 60137	1996
IEC 60265-1	1998	High-voltage switches Part 1: Switches for rated voltages above 1 kV and less than 52 kV	EN 60265-1	1998
IEC 60265-2 + corr. February	1988 1990	Part 2: High-voltage switches for rated voltages of 52 kV and above	EN 60265-2	1993
IEC 60298	1990	A.C. metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	EN 60298[1)] + A11	1996 1999
IEC 60466	1987	A.C. insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 38 kV	-	-
IEC 60517	1990	Gas-insulated metal-enclosed switchgear for rated voltages of 72,5 kV and above	EN 60517[2)] + A11	1996 1999
IEC 60694	1996	Common specifications for high-voltage switchgear and controlgear standards	EN 60694 + corr. May	1996 1999
IEC 60865-1	1993	Short-circuit currents – Calculation of effects Part 1: Definitions and calculation methods	-	-
ISO 2768-1	1989	General tolerances Part 1: Tolerances for linear and angular dimensions without individual tolerance indications	EN 22768-1	1993

1) EN 60298 includes corrigendum April 1995 and A1:1994 to IEC 60298:1990.

2) EN 60517 includes corrigendum April 1995 and A1:1994 to IEC 60517:1990.

CONTENTS

1 General 21
1.1 Scope 21
1.2 Normative references 21
2 Normal and special service conditions 23
3 Definitions 23
3.1 General terms 23
3.2 Assemblies of switchgear and controlgear 23
3.3 Parts of assemblies 23
3.4 Switching devices 23
3.5 Parts of switching devices 27
3.6 Operation 29
3.7 Characteristic quantities 31
4 Ratings 35
4.1 Rated voltage (U_r) 37
4.2 Rated insulation level 37
4.3 Rated frequency (f_r) 37
4.4 Rated normal current and temperature rise 37
4.5 Rated short-time withstand current (I_k) 37
4.6 Rated peak withstand current (I_p) 39
4.7 Rated duration of short-circuit (t_k) 39
4.8 Rated supply voltage of closing and opening devices and of auxiliary and control circuits (U_a) 39
4.9 Rated supply frequency of closing and opening devices and of auxiliary circuits 39
4.10 Rated pressure of compressed gas supply for insulation and/or operation 39
4.101 Rated short-circuit making current 39
4.102 Rated contact zone 39
4.103 Rated mechanical terminal load 41
4.104 Rated values of the bus-transfer current switching capability of disconnectors 43
4.105 Rated values of the induced current switching capability of earthing switches 45
4.106 Rated values of mechanical endurance for disconnectors and earthing switches 45
4.107 Rated values of electrical endurance for earthing switches 45
5 Design and construction 45
5.1 Requirements for liquids in disconnectors and earthing switches 45
5.2 Requirements for gases in disconnectors and earthing switches 45
5.3 Earthing of disconnectors and earthing switches 45
5.4 Auxiliary and control equipment 47
5.5 Dependent power operation 47
5.6 Stored energy operation 47
5.7 Independent manual operation 47

5.8 Operation of releases 47
5.9 Low- and high-pressure interlocking and monitoring devices 47
5.10 Nameplates 47
5.11 Interlocking devices 49
5.12 Position indication 49
5.13 Degree of protection by enclosures 49
5.14 Creepage distances 51
5.15 Gas and vacuum tightness 51
5.16 Liquid tightness 51
5.17 Flammability 51
5.18 Electromagnetic compatibility (EMC) 51
5.101 Special requirements for earthing switches 51
5.102 Requirements in respect of the isolating distance of disconnectors 51
5.103 Mechanical strength 53
5.104 Operation of disconnectors and earthing switches– Position of the movable contact system and its indicating and signalling devices 53
5.105 Maximum force required for manual operation 55
5.106 Dimensional tolerances 55
6 Type tests 57
6.1 General 57
6.2 Dielectric tests 59
6.3 Radio interference voltage (riv) test 63
6.4 Measurement of the resistance of circuits 63
6.5 Temperature-rise tests 63
6.6 Short-time withstand current and peak withstand current tests 63
6.7 Verification of the protection 69
6.8 Tightness tests 69
6.9 Electromagnetic compatibility tests (EMC) 69
6.101 Test to prove the short-circuit making performance of earthing switches 69
6.102 Operating and mechanical endurance tests 71
6.103 Operation under severe ice conditions 79
6.104 Operation at the temperature limits 83
6.105 Test to verify the proper functioning of the position indicating device 85
6.106 Bus-transfer current switching tests 85
6.107 Induced current switching tests 85
6.108 Bus-charging switching tests 85
7 Routine tests 85
7.1 Dielectric test on the main circuit 85
7.2 Dielectric test on auxiliary and control circuits 87
7.3 Measurement of the resistance of the main circuit 87
7.4 Tightness test 87
7.5 Design and visual checks 87
7.101 Mechanical operating tests 87

8 Guide to the selection of disconnectors and earthing switches 89
8.101 General 89
8.102 Selection of rated values for normal service conditions 89
9 Information to be given with enquiries, tenders and orders 95
9.101 Information to be given with enquiries and orders 95
9.102 Information to be given with tenders 99
10 Rules for transport, storage, installation, operation and maintenance 101
10.1 Conditions during transport, storage and installation 101
10.2 Installation 101
10.3 Operation 101
10.4 Maintenance 103
11 Safety 103
11.1 Electrical aspects 103
11.2 Mechanical aspects 103
11.3 Thermal aspects 103
11.4 Operation aspects 103

Annex A (normative) Design and testing of position indicating devices 117
A.1 General 117
A.2 Normal and special service conditions 117
A.3 Definitions 117
A.4 Ratings 119
A.5 Design and construction 119
A.6 Type tests 119
A.7 Routine tests 125

Annex B (normative) Bus-transfer current switching by disconnectors 127
B.1 General 127
B.2 Normal and special service conditions 127
B.3 Definitions 127
B.4 Ratings 129
B.5 Design and construction 129
B.6 Type tests 131

Annex C (normative) Induced current switching by earthing switches 141
C.1 General 141
C.2 Normal and special service conditions 141
C.3 Definitions 141
C.4 Ratings 143
C.5 Design and construction 145
C.6 Type tests 147

Annex D (informative) Test voltage for the most disadvantageous dielectric position of an earthing switch during operation (temporary approach) 161

Annex E (normative) Special requirements for disconnectors and earthing switches used in gas-insulated and/or metal-enclosed switchgear 163
E.1 General....163
E.2 Normal and special service conditions 163
E.3 Definitions....163
E.4 Ratings 165
E.5 Design and construction....165
E.6 Type tests 167
E.7 Routine tests....169
E.8 Guide to the selection of disconnectors and earthing switches 171
E.9 Information to be given with enquiries, tenders and orders....171
E.10 Rules for transport, storage, installation, operation and maintenance....171

Annex F (normative) Gas-insulated metal-enclosed switchgear for rated voltages 72,5 kV and above – Requirements for switching of bus-charging currents by disconnectors 173
F.1 General....173
F.2 Normal and special service conditions 173
F.3 Definitions....173
F.6 Type tests 175

Figure 1 – Fixed contact parallel to support....103
Figure 2 – Fixed contact (as indicated in figure 8) perpendicular to support 105
Figure 3 – Three-phase test arrangement for disconnectors and earthing switches with rated voltages below 52 kV 105
Figure 4 – Single-phase test arrangement for disconnectors with a horizontal isolating distance and for earthing switches with rated voltage of 52 kV and above....107
Figure 5 – Single-phase test arrangement for divided support disconnectors (earthing switches) with a vertical isolating distance with rated voltages of 52 kV and above to be used with flexible conductors....109
Figure 6 – Single-phase test arrangement for divided support disconnectors (earthing switches) with a vertical isolating distance with rated voltages of 52 kV and above to be used with rigid conductors....111
Figure 7 – Example of the application of rated mechanical terminal loads to a two-column disconnector 113
Figure 8 – Example of the application of rated mechanical terminal loads to a pantograph disconnector....115
Figure A.1 – Position indicating device....125
Figure B.1 – Test circuits for bus-transfer current making and breaking tests 139
Figure C.1 – Test circuit for electromagnetically induced current making and breaking tests....157
Figure C.2 – Test circuits for electrostatically induced current making and breaking tests ...159
Figure F.1 – Test circuit for test duty 1 179
Figure F.2 – Typical voltage waveform (Including VFT and FT components)....181
Figure F.3 – Test circuit for test duty 2 183
Figure F.4 –Test circuit for test duty 3 183

Table 1 – Recommended contact zones for "fixed" contacts supported by flexible conductors 41
Table 2 – Recommended contact zones for "fixed" contacts supported by rigid conductors 41
Table 3 – Recommended static mechanical terminal loads 43
Table 3a – Classification of disconnectors for mechanical endurance 45
Table 4 – Nameplate information 49
Table 5 – Power frequency 1 min withstand voltages 61
Table 6 – Power frequency voltage tests 87
Table B.1 – Rated bus-transfer voltages for disconnectors 129
Table C.1 – Standardized values of rated induced currents and voltages for earthing switches 145
Table C.2 – Standardized values of recovery voltages for electromagnetically induced current breaking tests 151
Table C.3 – Test circuit capacitances (C_1 values) for electrostatically induced current making and breaking tests 153
Table F.1 – Test voltages for making and breaking tests 177
Table F.2 – Specified bus-charging currents 185
Table F.3 – Specified number of tests 185

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 102: Alternating current disconnectors and earthing switches

1 General

1.1 Scope

This part of IEC 62271 applies to alternating current disconnectors and earthing switches, designed for indoor and outdoor enclosed and open terminal installations for voltages above 1 000 V and for service frequencies up to and including 60 Hz.

It also applies to the operating devices of these disconnectors and earthing switches and their auxiliary equipment.

Additional requirements for disconnectors and earthing switches in enclosed switchgear and controlgear are given in IEC 60298, IEC 60466 and IEC 60517.

NOTE Disconnectors in which the fuse forms an integral part are not covered by this standard.

1.2 Normative references

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

IEC 60137:1995, *Insulating bushings for alternating voltages above 1 000 V*

IEC 60265-1:1998, *High-voltage switches – Part 1: Switches for rated voltages above 1 kV and less than 52 kV*

IEC 60265-2:1988, *High-voltage switches – Part 2: High-voltage switches for rated voltages of 52 kV and above*

IEC 60298:1990, *A.C. metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV*

IEC 60466:1987, *A.C. insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 38 kV*

IEC 60517:1990, *Gas-insulated metal-enclosed switchgear for rated voltages of 72,5 kV and above*

IEC 60694:1996, *Common specifications for high-voltage switchgear and controlgear standards*

IEC 60865-1:1993, *Short-circuit currents – Calculation of effects – Part 1: Definitions and calculation methods*

ISO 2768-1:1989, *General tolerances – Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*