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Krafttransformatorer – Del 22-1: Transformator- och reaktortillbehör – Skyddsanordningar

*Power transformer and reactor fittings –
Part 22-1: Protective devices*

Som svensk standard gäller europastandarden EN IEC 60076-22-1:2019. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60076-22-1:2019.

Nationellt förord

Europastandarden EN IEC 60076-22-1:2019

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60076-22-1, First edition, 2019 - Power transformer and reactor fittings - Part 22-1: Protective devices**

utarbetad inom International Electrotechnical Commission, IEC.

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English Version

**Power transformers - Part 22-1: Power transformer and reactor
fittings - Protective devices
(IEC 60076-22-1:2019)**

Transformateurs de puissance - Partie 22-1: Accessoires
pour transformateurs de puissance et bobines d'inductance
- Dispositifs de protection
(IEC 60076-22-1:2019)

Leistungstransformatoren und Drosselspulen Anbauten -
Teil 22-1: Schutzeinrichtungen
(IEC 60076-22-1:2019)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 14/992/FDIS, future edition 1 of IEC 60076-22-1, prepared by IEC/TC 14 "Power transformers" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60076-22-1:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-12-05
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-03-05

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Endorsement notice

The text of the International Standard IEC 60076-22-1:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60076-6	NOTE	Harmonized as EN 60076-6
IEC 60255-27	NOTE	Harmonized as EN 60255-27
ISO 9001	NOTE	Harmonized as EN ISO 9001

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-3-3	1991	Environmental testing - Part 3-3: Guidance - Seismic test methods for equipments	EN 60068-3-3	1993
IEC 60076-1	2011	Power transformers - Part 1: General	EN 60076-1	2011
IEC 60076-7	-	Power transformers -- Part 7: Loading - guide for oil-immersed power transformers	-	-
IEC 60296	-	Fluids for electrotechnical applications - Unused mineral insulating oils for transformers and switchgear	EN 60296	-
IEC 60529	-	Degrees of protection provided by - enclosures (IP Code)	-	-
IEC 60721-3-4	-	Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 4: Stationary use at non-weatherprotected locations	EN 60721-3-4	-
IEC 60947-5-1	-	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices	EN 60947-5-1	-
ISO 228-1	-	Pipe threads where pressure-tight joints are not made on the threads -- Part 1: Dimensions, tolerances and designation	EN ISO 228-1	-
ISO 12944-6	-	Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 6: Laboratory performance test methods	EN ISO 12944-6	-

CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms and definitions	9
4 Service conditions	10
4.1 General.....	10
4.2 Degree of protection	10
4.3 Corrosion protection	11
4.4 Resistance to ambient conditions.....	11
4.5 Insulating liquid characteristics	11
4.6 Vibration withstand	11
4.7 Seismic requirements.....	11
5 Characteristics of switches	11
5.1 General.....	11
5.2 Dielectric strength (in accordance with IEC 60255-27)	11
6 General requirements for routine and type test	12
7 Protective devices	12
7.1 Gas and liquid actuated relay (Buchholz relay)	12
7.1.1 Additional service conditions	12
7.1.2 Mechanical requirements	12
7.1.3 Performance requirements.....	16
7.1.4 Tests	17
7.2 Gas and liquid sampling device at man's height.....	20
7.2.1 Additional service conditions – Operating pressure	20
7.2.2 Mechanical requirements	20
7.2.3 Performance requirements – Visibility	20
7.2.4 Tests	20
7.3 Protective relay for hermetically sealed liquid-immersed equipment	21
7.3.1 Additional service conditions	21
7.3.2 Mechanical requirements	22
7.3.3 Performance requirements.....	24
7.3.4 Tests	25
7.4 Direct reading dial type liquid level indicators	27
7.4.1 Mechanical requirements	27
7.4.2 Performance requirements.....	28
7.4.3 Tests	28
7.5 Liquid flow indicators	29
7.5.1 Mechanical requirements	29
7.5.2 Performance requirements.....	31
7.5.3 Tests	31
7.6 Pressure relief devices.....	33
7.6.1 Additional service conditions	33
7.6.2 Mechanical requirements	33
7.6.3 Performance requirements.....	36
7.6.4 Tests	37

7.7	Pressure relief valves	38
7.7.1	Additional service conditions	38
7.7.2	Mechanical requirements	38
7.7.3	Performance requirements – Nominal operating pressure	39
7.7.4	Tests	39
7.8	Direct reading mechanical dial type liquid temperature indicators	40
7.8.1	Mechanical requirements	40
7.8.2	Performance requirements	41
7.8.3	Tests	42
7.9	Direct reading mechanical dial type winding temperature indicators	44
7.9.1	Mechanical requirements	44
7.9.2	Performance requirements	46
7.9.3	Tests	47
7.10	Shutter valve	48
7.10.1	Additional service conditions	48
7.10.2	Mechanical requirements	48
7.10.3	Functional requirements	49
7.10.4	Performance requirements	50
7.10.5	Tests	51
7.11	Liquid-flow controlled relay for on-load tap-changer	52
7.11.1	Additional service conditions	52
7.11.2	Mechanical requirements	53
7.11.3	Performance requirements	54
7.11.4	Tests	55
7.12	Sudden pressure relay	57
7.12.1	Additional service conditions	57
7.12.2	Mechanical requirements	57
7.12.3	Performance requirements	58
7.12.4	Tests	59
7.13	Dial type gas detecting device	61
7.13.1	Additional service conditions	61
7.13.2	Mechanical requirements	61
7.13.3	Performance requirements – Switches	63
7.13.4	Tests	64
7.14	Gas detecting device for sealed compartment	65
7.14.1	Additional service conditions	65
7.14.2	Mechanical requirements	66
7.14.3	Performance requirements	67
7.14.4	Tests	68
7.15	Leakage detector for insulating liquid to water heat exchangers	69
7.15.1	Additional service conditions	69
7.15.2	Mechanical requirements	70
7.15.3	Performance requirements	70
7.15.4	Tests	71
	Bibliography	73
	Figure 1 – DN 25 to 100 with circular flanges	14
	Figure 2 – DN 25 with threaded connections	15

Figure 3 – Gas and liquid operated relay with rectangular flanges for DN 80 mm	16
Figure 4 – Outline and mounting details: general view	23
Figure 5 – Fixing detail and terminal box arrangement	24
Figure 6 – Flange interface	35
Figure 7 – Maximum overall dimensions	36
Figure 8 – Mounting interface and general overall dimensions	39
Figure 9 – General overall dimensions	54
Figure 10 – Overall dimensions	58
Figure 11 – Sudden pressure rise relay response curves	59
Figure 12 – Overall dimensions	63
Figure 13 – Mounting arrangement	65
Figure 14 – Mounting dimensions	67
Table 1 – Dielectric strength of switches – Power frequency	12
Table 2 – Dielectric strength of switches – Impulse	12
Table 3 – Preferred dimensions of relay body in mm	14
Table 4 – Flange dimensions in mm	14
Table 5 – Alternative dimensions of relay in mm	15
Table 6 – Alternative flange dimensions of the relay in mm	15
Table 7 – Making and breaking capacity – Buchholz relay	16
Table 8 – Steady liquid flow for relay operation	17
Table 9 – Identification of relays	23
Table 10 – Making and breaking capacity – Protective relay	25
Table 11 – Making and breaking capacity – OLI	28
Table 12 – Making and breaking capacity – OFI	31
Table 13 – Fixing interface dimensions according to Figure 6	34
Table 14 – Overall dimensions according to Figure 7	35
Table 15 – Making and breaking capacity – PRD	37
Table 16 – Fixing interface and overall dimensions according to Figure 8	39
Table 17 – Making and breaking capacity – OTI	42
Table 18 – Making and breaking capacity – WTI	46
Table 19 – Making and breaking capacity – Shutter valve	50
Table 20 – Preferred dimensions of relay body in mm	54
Table 21 – Flange dimensions in mm	54
Table 22 – Making and breaking capacity – Liquid flow relay	55
Table 23 – Making and breaking capacity – Sudden pressure relay	59
Table 24 – Making and breaking capacity – Dial type gas detecting device	63
Table 25 – Making and breaking capacity – Gas detecting device	67
Table 26 – Making and breaking capacity – Leakage detector	71

INTERNATIONAL ELECTROTECHNICAL COMMISSION

POWER TRANSFORMERS –**Part 22-1: Power transformer and reactor fittings – Protective devices**

FOREWORD

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International Standard IEC 60076-22-1 has been prepared by IEC technical committee TC14: Power transformers.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
14/992/FDIS	14/997/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

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

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INTRODUCTION

This Part 22-1 of the IEC 60076 series covers all accessories relevant to the safety of transformers or reactors and having a function of signalization of abnormal operating conditions, and outlines the operation requirements specific to each accessory.

POWER TRANSFORMERS –

Part 22-1: Power transformer and reactor fittings – Protective devices

1 Scope

This part of IEC 60076-22 applies to protective devices mounted on liquid-immersed power transformers in accordance with IEC 60076-1 and reactors in accordance with IEC 60076-6 with or without conservator for indoor or outdoor installation. It outlines the service conditions and the mechanical and electrical requirements that are common to all the devices, which are relevant for the safety of the machine having a function of signalization of abnormal operating conditions.

It also outlines the operation requirements specific to each device as well as, in some cases, the preferred dimensions relevant for interchangeability and the type and routine test to be performed.

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 60068-3-3:1991, *Environmental testing – Part 3-3: Guidance – Seismic test methods for equipments*

IEC 60076-1:2011, *Power transformers – Part 1: General*

IEC 60076-7, *Power transformers – Part 7: Loading guide for oil-immersed power transformers*

IEC 60296, *Fluids for electrotechnical applications – Unused mineral insulating oils for transformers and switchgear*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60721-3-4, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 4: Stationary use at non-weatherprotected locations*

IEC 60947-5-1, *Low-voltage switchgear and control gear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*

ISO 228-1 *Pipe threads where pressure-tight joints are not made on the threads – Part 1: Dimensions, tolerances and designation*

ISO 12944-6, *Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Part 6: Laboratory performance test methods*