

STN	Výkonové transformátory Časť 24: Špecifikácia distribučných transformátorov regulujúcich napätie (VRDT)	STN EN IEC 60076-24 35 1100
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Power transformers - Part 24: Specification of voltage regulating distribution transformers (VRDT)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/20

Obsahuje: EN IEC 60076-24:2020, IEC 60076-24:2020

EUROPEAN STANDARD

EN IEC 60076-24

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2020

ICS 29.180

English Version

**Power transformers - Part 24: Specification of voltage regulating
distribution transformers (VRDT)
(IEC 60076-24:2020)**

Transformateurs de puissance - Partie 24: Spécification des
transformateurs de distribution régulateurs de tension
(VRDT)
(IEC 60076-24:2020)

Leistungstransformatoren - Teil 24: Spezifikation für
spannungsregelnde Verteilungstransformatoren (VRDT)
(IEC 60076-24:2020)

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Europäisches Komitee für Elektrotechnische Normung

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

EN IEC 60076-24:2020 (E)**European foreword**

The text of document 14/1050/FDIS, future edition 1 of IEC 60076-24, prepared by IEC/TC 14 "Power transformers" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60076-24:2020.

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) 2021-05-13
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-08-13

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The text of the International Standard IEC 60076-24:2020 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 60068-2 (series)	NOTE	Harmonized as EN IEC 60068-2 (series)
IEC 60076-13	NOTE	Harmonized as EN 60076-13

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 60068-2-1	-	Environmental testing - Part 2-1: Tests - Test A: Cold	EN 60068-2-1	-
IEC 60068-2-2	-	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	-
IEC 60068-2-11	-	Basic environmental testing procedures - Part 2-11: Tests - Test Ka: Salt mist	-	-
IEC 60068-2-30	-	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	EN 60068-2-30	-
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
IEC 60076-1	-	Power transformers - Part 1: General	EN 60076-1	-
IEC 60076-2	-	Power transformers - Part 2: Temperature rise for liquid-immersed transformers	EN 60076-2	-
IEC 60076-5	-	Power transformers - Part 5: Ability to withstand short circuit	EN 60076-5	-
IEC 60076-7	-	Power transformers -- Part 7: Loading guide for oil-immersed power transformers	-	-
IEC 60076-10	-	Power transformers - Part 10: Determination of sound levels	EN 60076-10	-
IEC 60076-11	-	Power transformers - Part 11: Dry-type transformers	EN IEC 60076-11	-
IEC 60076-12	-	Power transformers - Part 12: Loading guide for dry-type power transformers	-	-
IEC 60255-21-1	-	Electrical relays - Part 21: Vibration, shock, bump and seismic tests on measuring relays and protection equipment - Section One: Vibration tests (sinusoidal)	EN 60255-21-1	-

EN IEC 60076-24:2020 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60255-21-2	-	Electrical relays - Part 21: Vibration, shock, bump and seismic tests on measuring relays and protection equipment - Section Two: Shock and bump tests	EN 60255-21-2	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	-	-
IEC 61000-6-2	-	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments	EN IEC 61000-6-2	-
IEC 61000-6-4	-	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments	EN IEC 61000-6-4	-
IEC 61000-6-5	-	Electromagnetic compatibility (EMC) - Part 6-5: Generic standards - Immunity for equipment used in power station and substation environment	EN 61000-6-5	-
IEC 61010-1	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements	-	-
IEC 61010-2-201	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-201: Particular requirements for control equipment	-	-
-	-	Power transformers - Additional European requirements	EN 50708	-



IEC 60076-24

Edition 1.0 2020-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Power transformers –

Part 24: Specification of voltage regulating distribution transformers (VRDT)

Transformateurs de puissance –

Partie 24: Spécification des transformateurs de distribution régulateurs de tension (VRDT)

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IEC 60076-24

Edition 1.0 2020-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Power transformers –
Part 24: Specification of voltage regulating distribution transformers (VRDT)**

**Transformateurs de puissance –
Partie 24: Spécification des transformateurs de distribution régulateurs de
tension (VRDT)**

INTERNATIONAL
ELECTROTECHNICAL
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INTERNATIONALE

ICS 29.180

ISBN 978-2-8322-8564-0

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CONTENTS

FOREWORD	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Environmental conditions	7
5 Electrical characteristics and general requirements	7
5.1 General	7
5.2 Regulation steps	7
5.3 Voltage steps	8
5.4 Regulation range	8
6 Service life	8
7 Parallel operation of the VRDT	8
8 Loss level	8
9 Sound power level	8
10 Rating plate	8
11 Tests	9
11.1 Routine tests	9
11.2 Functional tests	9
11.3 Type tests	9
11.4 Special tests	9
11.5 Tests for the control unit (electronic or data transfer part)	10
11.5.1 Functionality test during erection and commissioning	10
11.5.2 Type tests	10
Bibliography	11

INTERNATIONAL ELECTROTECHNICAL COMMISSION

POWER TRANSFORMERS –

**Part 24: Specification of voltage regulating
distribution transformers (VRDT)**

FOREWORD

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International Standard IEC 60076-24 has been prepared by IEC technical committee 14: Power transformers.

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

FDIS	Report on voting
14/1050/FDIS	14/1055/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.

A list of all parts in the IEC 60076 series, published under the general title *Power transformers*, 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 "<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.

POWER TRANSFORMERS –

Part 24: Specification of voltage regulating distribution transformers (VRDT)

1 Scope

This document applies to medium power transformers from 25 kVA up to 3 150 kVA with highest voltage for equipment up to 36 kV, or in low voltage (LV) networks with highest voltage for equipment of up to 1,1 kV equipped with voltage regulating devices.

Voltage regulating distribution transformers are transformers equipped with components to control primary or secondary voltage for on-load voltage regulation purposes.

The main objective of the installation of a VRDT is to regulate the LV network voltage level (i.e. 400 V), to avoid violation of the limits defined by relevant standards or regulations. The VRDT must operate properly as a step down and step up transformer.

Transformers covered by this document comply with the relevant requirements set out in IEC 60076 (all parts) and, unless otherwise stated in this document, they also comply with European Standards EN 50160 and EN 50588-1.

2 Normative references

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IEC 60068-2-1, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

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

IEC 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

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

IEC 60076-2, *Power transformers – Part 2: Temperature rise for liquid-immersed transformers*

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IEC 61010-1, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements*

IEC 61010-2-201, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-201: Particular requirements for control equipment*

EN 50708, *Power transformers – Additional European requirements*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN