

Tap-changers – Part 1: Performance requirements and test methods

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60214-1:2003 sisaldab Euroopa standardi EN 60214-1:2003 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 17.07.2003 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 11.04.2003.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 60214-1:2003 consists of the English text of the European standard EN 60214-1:2003.

This standard is ratified with the order of Estonian Centre for Standardisation dated 17.07.2003 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 11.04.2003.

The standard is available from Estonian standardisation organisation.

ICS 29.180

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English version

Tap-changers
Part 1: Performance requirements and test methods
(IEC 60214-1:2003)

Changeurs de prises
Partie 1: Prescriptions de performances
et méthodes d'essai
(CEI 60214-1:2003)

Stufenschalter
Teil 1: Leistungsanforderungen
und Prüfverfahren
(IEC 60214-1:2003)

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 14/457/FDIS, future edition 1 of IEC 60214-1, prepared by IEC TC 14, Power transformers, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60214-1 on 2003-03-01.

This European Standard supersedes EN 60214:1997.

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) 2003-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2006-03-01

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 and ZA are normative and annex D is informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60214-1:2003 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.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|---------------------------------|-----------------|--|-------------------------|----------------------------|
| IEC 60060 | Series | High-voltage test techniques | EN 60060 | Series |
| IEC 60076-1 (mod) A1 | 1993 | Power transformers Part 1: General | EN 60076-1 A11 | 1997 |
| | 1999 | | A1 | 2000 |
| | | | A12 | 2002 |
| IEC 60076-3 + corr. December | 2000 2000 | Part 3: Insulation levels, dielectric tests and external clearances in air | EN 60076-3 | 2001 |
| IEC 60137 | - ¹⁾ | Insulated bushings for alternating voltages above 1 000 V | - | - |
| IEC 60214-2 | - ¹⁾ | Tap changers Part 2: Application guide | - | - |
| IEC 60270 | - ²⁾ | High-voltage test techniques - Partial discharge measurements | EN 60270 | 2001 ³⁾ |
| IEC 60296 | - ²⁾ | Specification for unused mineral insulating oils for transformers and switchgear | - | - |
| IEC 60354 | - ²⁾ | Loading guide for oil-immersed power transformers | - | - |
| IEC 60529 | - ²⁾ | Degrees of protection provided by enclosures (IP Code) | EN 60529 + corr. May | 1991 ³⁾ 1993 |

1) At draft stage.

2) Undated reference.

3) Valid edition at date of issue.

INTERNATIONAL STANDARD

IEC
60214-1

First edition
2003-02

Tap-changers –

**Part 1:
Performance requirements
and test methods**

*This **English-language** version is derived from the original **bilingual** publication by leaving out all French-language pages. Missing page numbers correspond to the French-language pages.*



Reference number
IEC 60214-1:2003(E)

Publication numbering

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IEC
60214-1

First edition
2003-02

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Part 1: Performance requirements and test methods

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE **XA**

For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TAP-CHANGERS –

**Part 1: Performance requirements
and test methods**

FOREWORD

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International Standard IEC 60214-1 has been prepared by IEC technical committee 14: Power transformers

This first edition of IEC 60214-1 cancels and replaces IEC 60214 published in 1989. This first edition constitutes a technical revision.

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

| FDIS | Report on voting |
|-------------|------------------|
| 14/457/FDIS | 14/462/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.

IEC 60214 consists of the following parts, under the general title *Tap-changers*:

Part 1: Performance requirements and test methods

Part 2: Application guide (*under consideration*)

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

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

TAP-CHANGERS –

Part 1: Performance requirements and test methods

1 Scope

This part of IEC 60214 applies to on-load tap-changers of both resistor and reactor types, off-circuit tap-changers, and their motor drive mechanisms. It applies mainly to tap-changers immersed in transformer oil according to IEC 60296 but may also be used for tap-changers with gas insulation or immersed in other insulating liquids insofar as conditions are applicable.

It applies to power and distribution transformers of all types and also to reactors.

It does not apply to transformers and reactors mounted on railway rolling stock.

2 Normative references

The following referenced documents are indispensable for the application 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 60060, *High voltage test techniques*

IEC 60076-1:2000, *Power transformers – Part 1: General*

IEC 60076-3:2000, *Power transformers – Part 3: Insulation levels, dielectric tests and external clearances in air*

IEC 60137, *Insulated Bushings for alternating voltages above 1 000 volts*¹

IEC 60214-2, *Tap-changers – Part 2: Application guide*²

IEC 60270, *High voltage test techniques – Partial discharge measurements*

IEC 60296, *Specification for unused mineral insulating oils for transformers and switchgear*

IEC 60354, *Loading guide for oil-immersed transformers*

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

¹ To be published.

² At present under revision, document currently IEC 60542.