AS 60214.1—2005
IEC 60214-1, Ed.1.0 (2003)

AS 60214.1—2005

Australian Standard™

# Tap-changers

# Part 1: Performance requirements and test methods

This Australian Standard was prepared by Committee EL-008, Power Transformers. It was approved on behalf of the Council of Standards Australia on 8 December 2004.
This Standard was published on 14 January 2005.

---

The following are represented on Committee EL-008:

Australasian Railway Association
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Australian Greenhouse Office
Australian Institute of Petroleum
Electricity Supply Association of Australia
Institution of Engineers Australia
Testing interests (Australia)

---

## Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Web Shop at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

Australian Standards™ and other products and services developed by Standards Australia are published and distributed under contract by SAI Global, which operates the Standards Web Shop.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to the Chief Executive, Standards Australia, GPO Box 5420, Sydney, NSW 2001.

---

*This Standard was issued in draft form for comment as DR 04391.*

Australian Standard™

# Tap-changers

# Part 1: Performance requirements and test methods

First published as AS C378—1967.
Revised and redesignated AS 2326.1—1980.
Previous edition 1991.
Revised and redesignated AS 60214.1—2005.



Published by Standards Australia GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 6435 5

# PREFACE

This Standard was prepared by the Standards Australia Committee EL-008, Power Transformers to supersede AS 2326.1—1991 on publication.

The objective of this Standard is to provide manufacturers, suppliers and purchasers of tap changers, with minimum performance requirements and test methods for on-load tap-changers of both resistor and reactor types, off-circuit tap-changers, and their motor drive mechanisms. 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.

AS 60214, *Tap changers*, consists of the following parts:

60214.1 Part 1: Performance requirements and test methods. (This Standard.)

60214.2 Part 2: Application guide. (Document under revision. Current document AS 2326.2—1991)

This Standard is identical with, and has been reproduced from IEC 60214-1, Ed.1.0 (2003), *Tap-changers – Part 1: Performance requirements and test methods* except for a minor error in the IEC Standard which has been corrected. In the column headed ‘Type of switch’ in Table A.1, the ‘Converter’ switch has been corrected to ‘Diverter’ switch.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘this international standard’ should read ‘this Australian Standard’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

# CONTENTS

NOTES

STANDARDS AUSTRALIA

# Australian Standard

# 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.

References to international standards that are struck through in this clause are replaced by references to Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces is identified as such.

~~IEC 60060, *High voltage test techniques*~~

AS 1931.2, *High-voltage test techniques—Measuring systems* (identical to IEC 60060)

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*[*]

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

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

AS 60270, *High-voltage test techniques—Partial discharge measurements* (identical to IEC 60270)

---

[*] To be published.

† At present under revision, document currently IEC 60542.