

Australian Standard™

Power transformers

**Part 4: Guide to the lightning impulse
and switching impulse testing—
Power transformers and reactors**



This Australian Standard was prepared by Committee EL-008, Power Transformers. It was approved on behalf of the Council of Standards Australia on 15 December 2005.
This Standard was published on 25 January 2006.

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, Department of Environment and Heritage
Australian Institute of Petroleum
Energy Networks Association
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 Standards may also be withdrawn.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 476, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 05401.

Australian Standard™

Power transformers

Part 4: Guide to the lightning impulse and switching impulse testing— Power transformers and reactors

Originated as AS 2732—1984.
Revised and redesignated AS 60076.4—2006.

COPYRIGHT

© Standards Australia

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 7098 3

PREFACE

This Standard was prepared by the Standards Australia Committee EL-008, Power Transformers to supersede AS 2732—1984 on publication.

The objective of this Standard is to provide designers, manufacturers, purchasers and users of power transformers with additional information on the lightning and switching impulse testing of power transformers and reactors.

This Standard is identical with, and has been reproduced from IEC 60076-4, Ed.1.0 (2002), *Power transformers Part 4: Guide to the lightning impulse and switching impulse testing—Power transformers and reactors*.

The AS 60076 series, *Power transformers* consists of the following parts:

AS

60076.1 Part 1: General

60076.4 Part 4: Guide to the lightning impulse and switching impulse testing—Power transformers and reactors (this Standard)

60076.11 Part 11: Dry-type transformers

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 'IEC 60076-4' should read 'AS 60076.4'.
- (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

	<i>Page</i>
1 Scope	1
2 Normative references	1
3 General	2
4 Specified waveshapes	2
5 Test circuit	2
6 Calibration	4
7 Lightning impulse tests	4
7.1 Waveshapes	4
7.2 Impulses chopped on the tail	5
7.3 Terminal connections and applicable methods of failure detection	5
7.4 Test procedures	6
7.5 Recording of tests	7
8 Switching impulse tests	10
8.1 Special requirements	10
8.2 Transformers	10
8.3 Reactors	14
9 Interpretation of oscillograms or digital recordings	15
9.1 Lightning impulse	15
9.2 Switching impulse	17
10 Digital processing, including transfer function analysis	18
11 Impulse test reports	20
Annex A (informative) Principles of waveshape control	25
Annex B (informative) Typical oscillograms and digital recordings	32

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-