

Australian/New Zealand Standard™

Power transformers

Part 6: Reactors



AS/NZS 60076.6:2013

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-008, Power Transformers. It was approved on behalf of the Council of Standards Australia on 27 September 2013 and on behalf of the Council of Standards New Zealand on 27 September 2013.
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The following are represented on Committee EL-008:

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Australian Chamber of Commerce and Industry
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-008, Power Transformers, to supersede AS 1028—1992, *Power reactors and earthing transformers*.

The objective of this Standard is to provide designers, suppliers, purchasers and users of reactors with requirements that apply to the specification, testing and application of various types of reactors.

This Standard is identical with, and has been reproduced from, IEC 60076-6, Ed. 1.0 (2007), *Power transformers, Part 6: Reactors*.

The previous edition, AS 1028—1992, was an adoption with national modifications of IEC 60289, Ed. 2.0 (1988), *Reactors*. IEC 60076-6, Ed. 1.0 (2007) is a technical revision of IEC 60289, Ed. 2.0 (1998), and includes the following significant changes:

- (a) Wide extension of the ‘definitions’, ‘rating’ and ‘tests’ clauses.
- (b) More consequent distinction between definition and rating.
- (c) ‘Tests’ clauses take into account the latest revisions of relevant IEC 60076 standards.
- (d) Dielectric testing of reactors is now in accordance with the dielectric testing of transformers in AS/NZS 60076.3:2008.
- (e) Consequent distinction between oil-immersed and dry-type reactors.
- (f) Document offers easier handling and is more of a stand-alone document.
- (g) Introduction of the discharge reactor as part of Clause 9.
- (h) Introduction of the turn-to-turn overvoltage test for dry-type reactors (Annex E).
- (i) Important background information given by the following newly introduced informative annexes:
 - (i) Annex A—Information on shunt reactor switching and on special applications.
 - (ii) Annex B—Magnetic characteristic of reactors.
 - (iii) Annex C—Mutual reactance, coupling factor and equivalent reactances of three-phase reactors.
 - (iv) Annex D—Temperature correction of losses for liquid-immersed gapped-core and magnetically-shielded air-core reactors.
 - (v) Annex F—Short-circuit testing.
 - (vi) Annex G—Resistors—Characteristics, specification and tests.

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

- (A) In the source text ‘this part of IEC 60076’ should read ‘this Australian/New Zealand Standard’.
- (B) A full point should be substituted for a comma when referring to a decimal marker.

The terms ‘normative’ and ‘informative’ have been used in this Standard 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.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
IEC		AS/NZS	
60076	Power transformers	60076	Power transformers
60076-1	Part 1: General	60076.1	Part 1: General (IEC 60076-1, Ed. 2.1 (2000) MOD)
60076-2	Part 2: Temperature rise for liquid-immersed transformers	60076.2	Part 2: Temperature rise for liquid-immersed transformers (IEC 60076-2, Ed. 3.0 (2011) MOD)
60076-3	Part 3: Insulation levels, dielectric tests and external clearances in air	60076.3	Part 3: Insulation levels, dielectric tests and external clearances in air (IEC 60076-3, Ed. 2 (2000) MOD)
		AS	
60076-4	Part 4: Guide to the lightning impulse and switching impulse testing—Power transformers and reactors	60076.4	Part 4: Guide to the lightning impulse and switching impulse testing—Power transformers and reactors
		AS/NZS	
60076-5	Part 5: Ability to withstand short circuit	60076.5	Part 5: Ability to withstand short circuit (IEC 60076-5, Ed. 3.0 (2006) MOD)
60076-7	Part 7: Loading guide for oil-immersed power transformers	60076.7	Part 7: Loading guide for oil-immersed power transformers (IEC 60076-7, Ed. 1.0 (2005) MOD)
		AS	
60076-8	Part 8: Application guide	2374	Power transformers
		2374.8	Part 8: Application guide
		AS/NZS	
60076-10	Part 10: Determination of sound levels	60076.10	Part 10: Determination of sound levels
		AS	
60076-11	Part 11: Dry-type transformers	60076.11	Part 11: Dry-type transformers
		AS/NZS	
60137	Insulated bushings for alternating voltages above 1 000 V	60137	Insulated bushings for alternating voltages above 1 000 V (IEC 60137, Ed. 5.0 (2003) MOD)
		AS	
60270	High-voltage test techniques—Partial discharge measurements	60270	High-voltage test techniques—Partial discharge measurements

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