AS 4372—1996
IEC 1233:1994

Australian Standard®

High-voltage alternating current circuit-breakers—Inductive load switching

This Australian Standard was prepared by Committee EL/7, Power Switchgear. It was approved on behalf of the Council of Standards Australia on 22 January 1996 and published on 5 May 1996.

The following interests are represented on Committee EL/7:

Australian-British Chamber of Commerce

Australian Chamber of Commerce and Industry

Australian Electrical and Electronic Manufacturers Association

Electricity Supply Association of Australia

Institution of Engineers, Australia

Railways of Australia Committee

Testing Interests, Australia

WorkCover Authority of N.S.W.

This Standard was issued in draft form for comment as DR 95221.

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High-voltage alternating current circuit-breakers—Inductive load switching

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7337 0384 4

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/7 on Power Switchgear. It is identical with and has been reproduced from IEC 1233:1994, *High-voltage alternating current circuit-breakers—Inductive load switching*.

This Standard is the result of a consensus among representatives on the Joint Committee to produce it as an Australian Standard.

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

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

(a) The AS number is shown only on the cover and title page, while the international Standard number appears only on the cover.

(b) In the source text, 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to international Standards should be replaced by equivalent Australian Standards, as follows:

Reference to International Standard		*Australian Standard*	
IEC		AS	
50	International Electrotechnical Vocabulary (IEV)	1852	International Electrotechnical Vocabulary
50(441)	Chapter 441: Switchgear, controlgear and fuses	1852.441	Part 441: Switchgear, controlgear and fuses
56	High-voltage alternating-current circuit-breakers	2006	High voltage a.c. switchgear and controlgear—Circuit-breakers for rated voltages above 1000 V

CONTENTS

Clause *Page*

SECTION 5: APPLICATION GUIDE FOR A.C. HIGH-VOLTAGE CIRCUIT-BREAKERS FOR SHUNT REACTOR CURRENT SWITCHING

Page

Clause

Annexes

First published as AS 4372— 1996.

AUSTRALIAN STANDARD

HIGH-VOLTAGE ALTERNATING CURRENT CIRCUIT-BREAKERS — INDUCTIVE LOAD SWITCHING

Section 1: General

1.1 *Scope*

This report is applicable to circuit-breakers which are used for switching of:

- transformer magnetizing currents, or
- currents of high-voltage motors, or
- currents of shunt reactors.

It is also applicable to contactors used for switching the currents of high-voltage motors.

1.2 *Normative references*

The following normative documents contain provisions which, through reference in this text, constitute provisions of this technical report. At the time of publication of this standard, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this technical report are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 50(441): 1984, *International Electrotechnical Vocabulary (IEV) - Chapter 441: Switchgear, controlgear and fuses*

IEC 56:1987, *High-voltage alternating-current circuit-breakers*

1.3 *Auxiliary voltages and pressures*

Inductive load switching tests shall be made with rated supply voltage applied to the closing and opening devices and auxiliary circuits and with rated pressures of compressed gas supply for operation and for interruption.

NOTE - The re-ignition behaviour of the circuit-breaker may be checked at the minimum functional pressure of the extinguishing medium.

Section 2: Transformer magnetizing currents

2.1 *General*

Due to the non-linear behaviour of the transformer iron core it is not possible to correctly model the switching of transformer magnetizing current by linear components in a test station. Tests using a transformer (for example, a test transformer) will be only valid for the transformer tested and cannot be representative for other transformers.

2.2 *Transformer magnetizing current for circuit-breakers with rated voltages of 100 kV and above*

Experience indicates that when interrupting magnetizing currents of unloaded transformers under steady-state conditions and at voltages not exceeding their rated voltage, the overvoltages are small. Tests are therefore not specified to simulate this switching condition.