AS 1930—1976

Australian Standard®

CIRCUIT-BREAKERS FOR DISTRIBUTION CIRCUITS

(up to and including 1000 V a.c. and 1200 V d.c.)

The following scientific, industrial and governmental organizations were officially represented on the committee entrusted with the preparation of this standard:

Associated Chambers of Manufactures of Australia

Australian-British Trade Association

Australian Electrical Manufacturers Association

Department of Defence

Department of Industry and Commerce

Electricity Supply Association of Australia

Institution of Engineers, Australia

Railways of Australia Committee

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PREFACE

This standard was prepared by a subcommittee of the Association's Committee on Industrial Switchgear and Controlgear as a revision of AS C410—1970, which it accordingly supersedes. It deals with circuit-breakers, both air-break and oil-break, for the control of distribution circuits of rated voltage up to and including 1000 V a.c. and 1200 V d.c.

This standard is based on IEC Publication 157-1 (1973), Low-voltage Switchgear and Controlgear, Part 1—Circuit-breakers, and acknowledgement is made of the assistance therefrom. The standard differs from that publication with respect to its scope and particular requirements. It applies to circuit-breakers having short-circuit performance category P-2, the category P-1 in IEC 157-1 having been omitted. Where departures from the IEC document are of a technical nature, they are shown by a rule in the margin against the clause, or part thereof, affected.

Some of the important changes from AS C410 are the introduction of rated operational and insulation voltages, rated thermal and uninterrupted currents, rated 8-hour and uninterrupted duties, cable and busbar sizes for temperature-rise tests, electrical endurance tests at rated thermal current, and tests for performance under conditions of overload.

In the application of this standard, reference may be necessary to the following standards:

AS 1023 Thermal Protection of Electric Motors
- Part 2—Thermal Overload Protective Devices

AS 1029 A.C. Contactors (up to and including 1000 V a.c.)

AS 1136 Switchgear and Controlgear Assemblies for Voltages up to 1000 V a.c.

AS 1202 A.C. Motor Starters (up to and including 1000 V)
- Part 1—Direct-on-line Starters
- Part 2—Star-delta Starters
- Part 3—Autotransformer Starters
- Part 4—Rheostatic Rotor Starters

AS 1431 Control Switching Devices for Voltages up to 650 V a.c. and 250 V d.c.
- Part 1—General Requirements
- Part 2—Pushbuttons and Related Control Switches including Pilot Lights*
- Part 3—Rotary Switches
- Part 4—Contactor Relays*
- Part 5—Position Switches*
- Part 6—Pilot Switches*

* In course of preparation.

AS 1939	Classification of Degrees of Protection Provided by Enclosures for Electrical Equipment
AS 3111	Approval and Test Specification for Miniature Over-current Circuit-breakers
AS C100	Approval and Test Specification for Definitions and General Requirements for Electrical Materials and Equipment
AS C320	Classification of Insulating Materials for Electrical Machinery and Apparatus on the Basis of Thermal Stability in Service
AS C411	Moulded Case Circuit-breakers
AS ....*	Oil-immersed Electrical Equipment for Explosive Atmospheres
AS ....*	Fuses with Enclosed Fuse Links (for Voltages up to and including 1000 V a.c. and 1500 V d.c.) Part 1—General Requirements Part 2—Fuses for Industrial Applications

* In course of preparation.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard Specification
for
CIRCUIT-BREAKERS FOR DISTRIBUTION CIRCUITS
(up to and including 1000 V a.c. and 1200 V d.c.)

SECTION 1. SCOPE AND OBJECT

1.1 SCOPE. This standard applies to circuit-breakers, the main contacts of which are intended to be connected to circuits the rated voltage of which does not exceed 1000 V a.c. or 1200 V d.c. It also contains additional requirements for integrally-fused circuit-breakers.

It does not apply to single and multipole—

(a) moulded case air circuit-breakers (see AS C411);

(b) miniature overcurrent circuit-breakers (see AS 3111);

(c) circuit-breakers having short-circuit performance category P-1 (see IEC Publication 157-1); and

(d) circuit-breakers intended for installation in rail or road vehicles or in aircraft.

NOTES:

1. Circuit-breakers which are dealt with in this standard may be provided with devices for automatic opening under predetermined conditions other than those of overcurrent and undervoltage, e.g. reversal of power or current. This standard does not deal with the verification of operation under such predetermined conditions.
2. Circuit-breakers when applied to marine use or to the protection of generators may also be required to comply with requirements not included in this standard.
3. Oil-immersed circuit-breakers to be used in explosive atmospheres will be subject to additional requirements. (See AS ...., Oil-immersed Electrical Equipment for Explosive Atmospheres.*)

1.2 OBJECT. The object of this standard is to state—

(a) the characteristics of circuit-breakers;

(b) the conditions with which circuit-breakers must comply with reference to—

* In course of preparation.