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ALL-OR-NOTHING ELECTRICAL RELAYS (INSTANTANEOUS AND TIMING RELAYS)

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STANDARDS ASSOCIATION OF AUSTRALIA
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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS AND departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Electrical and Electronic Manufacturers Association

Confederation of Australian Industry

Department of Defence

Electrical Testing Laboratories

Electricity Supply Association of Australia

Railways of Australia Committee

Telecom Australia

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AUSTRALIAN STANDARD

ALL-OR-NOTHING ELECTRICAL RELAYS (INSTANTANEOUS AND TIMING RELAYS)

AS 2481—1981

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PREFACE

This standard was prepared by the Association's Committee on Electrical Relays.

In its preparation, reference was made to the following IEC publications and documents, and acknowledgment is made of the assistance received therefrom:

Publications:

IEC 255-0-20 (1974)	Contact Performance of Electrical Relays
IEC 255-1-00 (1975)	All-or-nothing Electrical Relays
IEC 255-4 (1976)	Single Input Energizing Quantity Measuring Relays With Dependent Specified Time
IEC 255-5 (1977)	Insulation Tests for Electrical Relays
IEC 255-7 (1978)	Test and Measurement Procedures for Electromechanical All-or-nothing Relays
IEC 664 (1980)	Insulation Co-ordination Within Low-voltage Systems Including Clearances and Creepage Distances for Equipment.

Documents:

41A (Netherlands) 1, November 1972 Proposal for standard testing procedures for relays with hermetically sealed contacts and for hermetically sealed relays.

41A (Secretariat) 7, January 1974 Sectional document for all-or-nothing electromechanical relays including telecommunication relays.

Although IEC TC 41 intends to classify its standards in four levels on a hierarchical basis (general, generic, group and particular subjects), it was considered that this Australian standard should be reasonably complete for the family of relays covered. Accordingly, this standard incorporates portions of a number of IEC publications. It was also considered desirable not to await the issue of IEC standards covering all aspects but to base some sections of this standard on IEC Secretariat documents still to be finalized.

Attention is drawn particularly to the following matters herein:

(a) Deviations from the IEC material mentioned (see Annex).

(b) The terms *to pick up* and *to drop out* (see Clauses 2.4.4 and 2.4.5) refer solely to the application and removal of energizing quantities. In the event of some defect, these might not result in the expected function. (See the terms 'to operate' and 'to return' — Clauses 2.5.8 and 2.5.9 respectively.)

(c) *Nominal range of ambient temperature.* Two standard ranges are specified (see Clause 3.4.1).

This standard may require reference to the following publications:

AS 1099	Basic Environmental Testing Procedures for Electrotechnology
AS 1199	Sampling Procedures and Tables for Inspection by Attributes
AS 1560	Recommendations for the Design and Use of Components Intended for Mounting on Printed Circuit Boards
AS 1852	International Electrotechnical Vocabulary
	1852(131) Electric and Magnetic Circuits
	1852(446) Electrical Relays
AS 1931	High Voltage Testing Techniques
AS 1939	Classification of Degrees of Protection Provided by Enclosures for Electrical Equipment
AS 3121	Approval and Test Specification for Insulating Mouldings
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
IEC 112	Method for Determining the Comparative and the Proof Tracking Indices of Solid Insulating Materials Under Moist Conditions
BS 9200	Reed Contact Units of Assessed Quality: Generic Data and Methods of Test

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for
ALL-OR-NOTHING ELECTRICAL RELAYS (INSTANTANEOUS AND TIMING RELAYS)

SECTION 1. SCOPE AND OBJECT

1.1 SCOPE. This standard specifies requirements for all-or-nothing electrical relays, including those with specified time, in new condition, and having contacts in their output circuits.

It may also specify some or all of the electrical requirements of relays with non-electrical inputs or outputs such as flow, temperature, and pressure relays.

NOTE: All-or-nothing relays are intended for use in applications such as power system protection and control, lifts, cranes, hoists, general industrial control, and electrical appliances.

Where the relays incorporate static devices, e.g. amplifiers or rectifiers, in their energizing circuits, special supplementary requirements may be necessary.

For special applications, e.g. marine, aeronautical, space, or in explosive atmospheres, additional requirements may need to be specified, e.g. double insulation in accordance with AS C100.

The standard is not intended to cover all aspects of relays used in telephony or telegraphy, or contactors, motor starters or control switching devices coming within the scope of AS 1029, AS 1202 and AS 1431, nor does it apply to relays for signalling and blocking systems for railways.

1.2 OBJECT. The objects of the standard are as follows:

(a) To define the terms used (see Section 2).

(b) To specify standard values (see Section 3).

(c) To specify permissible temperatures, accuracy of specified times, and mechanical and electrical requirements (see Section 4).

(d) To specify test methods (see Section 5).

(e) To specify characteristics, indications and marking (see Section 6).

(f) To specify information to be supplied with enquiries for particular relays (see Appendix L).