

Australian Standard™

**Fire detection, warning control and
intercom systems—System design,
installation and commissioning**

Part 1: Fire



S t a n d a r d s Australia

This Australian Standard was prepared by Committee FP-002, Automatic Fire Detection and Alarm Systems. It was approved on behalf of the Council of Standards Australia on 13 March 1995 and published on 5 June 1995.

The following interests are represented on Committee FP-002:

Asset Services—Department of Administrative Services
Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Chamber of Manufactures
Australian Electrical and Electronic Manufacturers Association
Australian Fire Authorities Council
Australian Fire Protection Association
Commonwealth Fire Board
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Fire detection, warning control and intercom systems—System design, installation and commissioning

Part 1: Fire

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee FP/2 on Automatic Fire Detection and Alarm Systems, to supersede AS 1670—1986. Its preparation is concurrent with the issue of AS 1603 in a number of parts to cover the requirements for specific items of equipment used in an automatic fire detection and alarm system and installed in accordance with this Standard.

This Standard incorporates Amendment No. 1 (June 1997), Amendment No. 2 (June 1998), Amendment No. 3 (May 2001) and Amendment No. 4 (November 2001). The changes required by the Amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

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

Maintenance requirements for fire detection and alarm equipment are included in AS 1851.8, Maintenance of fire protection equipment, Part 8: Fire detection and alarm systems.

In this edition, sections have been arranged to provide users of the Standard with a logical sequence as they work through the design, installation and commissioning of a fire alarm system.

This Standard has been considerably expanded to include many practices that are in current use and embrace additional scenarios where the previous edition was silent.

Appendix B ‘Guidance for the selection of detectors’ assists personnel engaged in the design, installation and commissioning of fire protection and suppression systems.

The commissioning section encompasses Appendices F and G which are report forms to indicate the installation content and its compliance with this Standard.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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STANDARDS AUSTRALIA

Australian Standard

Fire detection, warning control and intercom systems—System design, installation and commissioning

Part 1: Fire

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements for the design, installation, and commissioning of automatic fire detection and alarm systems comprising components complying with the requirements of the appropriate product Standards.

1.2 APPLICATION

All installations of automatic fire detection and alarm systems shall comply with the general requirements of Section 2 and specific requirements of Section 3, Section 4 and Section 8 with the additional requirements of Section 5, Section 6, or Section 7 according to the actuating device type, and the commissioning requirements of Section 9. Manual call points installed in conjunction with an automatic fire detection and alarm system or as a separate system shall comply with the general installation requirements of this Standard.

Where an automatic fire detection and alarm system is ancillary to an automatic fire-extinguishing installation, the detection system shall comply with the appropriate requirements of this Standard.

1.3 REFERENCED DOCUMENTS

A list of the documents referred to in this Standard is given in Appendix A.

1.4 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 2484.2 and those below apply.

1.4.1 Addressable system

Fire detection and alarm system that can identify the location of individual actuating devices on an alarm zone circuit (AZC).

1.4.2 Alarm investigation facility (AIF)

That part of the control and indicating equipment (CIE) which delays the transmission of a fire alarm to provide time for manual acknowledgment and investigation.

1.4.3 Alarm signalling equipment (ASE)

Equipment designed to communicate alarm and fault signals and other information between a fire alarm system and a monitoring service.

A1

1.4.4 Alarm verification facility (AVF)

That function of the CIE that verifies an alarm signal so that a spurious signal does not initiate an alarm signal to the monitoring service or ACF functions and alarm warning systems.

1.4.5 Approved and approval

Approved by, or the approval of, the regulatory authority.

1.4.6 Collective indication

Indication that is common to a group of actuating devices within a single alarm zone without identification of the individual device.

1.4.7 Corridor

A narrow enclosed thoroughfare, other than a lift lobby, not exceeding 3.5 m in width, and not used for trade or storage purposes.

1.4.8 Cupboard

An enclosure with a door or doors, which is an integral part of the building.

1.4.9 Distributed system

A fire detection and alarm system where sections of the CIE are remotely located from the fire indicator panel or where subindicator panel(s) communicate with a main fire indicator panel.

1.4.10 Extra-low voltage (ELV)

That voltage defined in AS 3000.

1.4.11 Level surface

Any surface, roof, or ceiling which has a slope of less than 1 in 20.

1.4.12 Low voltage (LV)

That voltage defined in AS 3000.

1.4.13 Monitoring service

A remote controlling station which receives fire alarm signals and transfers the signals to a firefighting service via a permanently connected telecommunications link.

1.4.14 Occupied area

An area which is readily accessible for occupation, transit or service.

1.4.15 Power supply

That portion of the CIE which supplies voltages necessary for operation of the CIE.

1.4.16 Protected area

An area of a building equipped with an automatic fire detection and alarm system installed in accordance with this Standard or an approved automatic fire suppression system.

1.4.17 Protected building

A building equipped throughout with an automatic fire detection and alarm system installed in accordance with this Standard or an approved automatic fire suppression system.

A1

1.4.18 Remote controlled equipment (RCE)

Remotely located parts of CIE that provide the connection of alarm zone circuits and other status monitoring circuits, or the connection of ancillary control and warning devices or any combination thereof without required visual and audible indications and user control facilities. Such facilities are provided at the FIP or SIP.

1.4.19 Sole occupancy unit

As defined in the Building Code of Australia (BCA) for a Class 2 and 3 building, and Class 4 part of a building.

1.5 COMPLIANCE WITH OTHER STANDARDS

The fire detection and alarm system shall comply with the appropriate electrical safety requirements specified in AS 3000 and the individual parts of the installation shall comply with the appropriate Australian Standards listed in Appendix A.

1.6 INTERPRETATION OF SPECIFIED LIMITING VALUES

For the purpose of assessing compliance with this Standard, the specified values herein shall be interpreted in accordance with the 'rounding method' described in AS 2706, i.e. the observed or calculated value shall be rounded to the same number of figures as in the specified limiting value and then compared with the specified limiting value. For example, for specified limiting values of 2.5, 2.50, and 2.500, the observed or calculated value would be rounded respectively to the nearest 0.1, 0.01, 0.001.