AS ISO 7240.18:2018

Australian STANDARD

# Fire detection and alarm systems

# Part 18: Input/output devices



STANDARDS Australia

AS ISO 7240.18:2018

This Australian Standard® was prepared by FP-002, Fire Detection, Warning, Control and Intercom Systems. It was approved on behalf of the Council of Standards Australia on 30 November 2018.

This Standard was published on 20 December 2018.

The following are represented on Committee FP-002:

Association of Hydraulic Services Consultants Australia
Australasian Fire and Emergency Service Authorities Council
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Institute of Building Surveyors
CSIRO
Deafness Forum of Australia
Department of Health and Human Services (VIC)
Engineers Australia
Fire Protection Association Australia
National Electrical and Communications Association
National Fire Industry Association
Property Council of Australia
Society of Fire Safety

This Standard was issued in draft form for comment as DR AS ISO 7240.18:2018.



**Keeping Standards up-to-date**

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:
www.standards.org.au

www.saiglobal.com (sales and distribution)

ISBN 978 1 76072 306 4

Australian STANDARD

# Fire detection and alarm systems

# Part 18: Input/output devices

First published as AS ISO 7240.18:2015.
This edition AS ISO 7240.18:2018.



Published by SAI Global Pty Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia.

# Preface

This Standard was prepared by the Standards Australia Committee FP-002, Fire Detection, Warning, Control and Intercom Systems, to supersede AS ISO 7240.18:2015, *Fire detection and alarm systems, Part 18: Input/output devices*.

The objective of this Standard is to specify requirements, test methods and performance criteria for input/output devices connected to a transmission path of a fire detection and alarm system used to receive and/or transmit signals to or from the transmission path, necessary for the operation of the fire detection and fire alarm system and/or fire protection system.

An input/output device can be a physically separate device or its function can be integrated into another device, in which case this Standard can be used to assess this function.

This Standard is applicable to input/output devices which include signal amplifiers and signal transfer in separate enclosures.

Control and indicating equipment and ancillary control and indicating equipment (e.g. repeater panels and fire brigade panels) are not covered by this Standard.

This Standard is identical with, and has been reproduced from, ISO 7240-18:2017, *Fire detection and alarm systems — Part 18: Input/output devices*.

As this document has been reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

# Contents

# Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 21, *Equipment for fire protection and fire fighting*, Subcommittee SC 3, *Fire detection and alarm systems*.

This second edition cancels and replaces the first edition (ISO 7240-18:2009), which has been technically revised with the following changes:

— in 5.12 (electromagnetic compatibility immunity tests), EN 50130-4 has been replaced by IEC 62599-2;

— marking has been moved to a new Clause 7;

— data and software requirements have been moved to a new Clause 8.

A list of all the parts in the ISO 7240 series can be found on the ISO website.

# Introduction

The term input/output devices, used in this document, covers a wide range of different types of devices that are intended for different applications and can, therefore, have different functions. This document does not, therefore, include detailed functional requirements for the input/output devices but requires that their function is sufficiently specified by the manufacturer and that they function correctly in accordance with the manufacturer's specification.

# Australian Standard®

## Fire detection and alarm systems

## Part 18: Input/output devices

### 1 Scope

This document specifies requirements, test methods and performance criteria for input/output devices connected to a transmission path of a fire detection and alarm system used to receive and/or transmit signals to or from the transmission path, necessary for the operation of the fire detection and fire alarm system and/or fire protection system.

An input/output device can be a physically separate device or its function can be integrated into another device, in which case this document can be used to assess this function.

This document is applicable to input/output devices which include signal amplifiers and signal transfer in separate enclosures.

Control and indicating equipment and ancillary control and indicating equipment (e.g. repeater panels and fire brigade panels) are not covered by this document.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7240-1, *Fire detection and alarm systems — Part 1: General and definitions*

IEC 60068-1, *Environmental testing — Part 1: General and guidance*

IEC 60068-2-1, *Environmental testing — Part 2-1: Tests — Test A: Cold*

IEC 60068-2-2, *Environmental testing — Part 2-2: Tests — Test B: Dry heat*

IEC 60068-2-6, *Environmental testing — Part 2-6: Tests — Test Fc: Vibration (sinusoidal)*

IEC 60068-2-27, *Environmental testing — Part 2-27: Tests. Test Ea and guidance: Shock*

IEC 60068-2-30, *Environmental testing — Part 2-30: Tests — Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60068-2-42, *Environmental testing — Part 2-42: Tests — Test Kc: Sulphur dioxide test for contacts and connections*

IEC 60068-2-75, *Environmental testing — Part 2-75: Tests — Test Eh: Hammer tests*

IEC 60068-2-78, *Environmental testing — Part 2-78: Tests — Test Cab: Damp heat, steady state*

IEC 62599-2, *Alarm systems — Part 2: Electromagnetic compatibility — Immunity requirements for components of fire and security alarm systems*

### 3 Terms, definitions and abbreviated terms

For the purposes of this document, the terms and definitions given in ISO 7240-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp