



Fire detection and alarm systems

Part 18: Input/output devices

STANDARDS
Australia

Currently in preview, click buy full version

This Australian Standard® was prepared by Committee FP-002, Fire Detection, Warning, Control and Intercom Systems. It was approved on behalf of the Council of Standards Australia on 30 November 2015.

This Standard was published on 23 December 2015.

The following are represented on Committee FP-002:

- Association of Hydraulic Services Consultants Australia
 - Australasian Fire and Emergency Service Authorities Council
 - Australian Building Codes Board
 - Australian Chamber of Commerce and Industry
 - Australian Industry Group
 - Australian Institute of Building Surveyors
 - CSIRO
 - Deafness Forum of Australia
 - Department of 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 7240.18:2015.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting www.standards.org.au

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard[®]

Fire detection and alarm systems

Part 18: Input/output devices

First published as AS ISO 7240.18:2015.

COPYRIGHT

© Standards Australia Limited

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968.

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

ISBN 978 1 76035 369 8

PREFACE

This Standard was prepared by the Standards Australia Committee FP-002, Fire Detection, Warning, Control and Intercom Systems.

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

This Standard is identical with, and has been reproduced from ISO 7240-18:2009, *Fire detection and alarm systems, Part 18: Input/output devices*.

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

- (a) In the source text 'this part of ISO 7240' should read 'this Australian Standard'.
- (b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
ISO		AS	
7240	Fire detection and alarm systems	7240	Fire detection and alarm systems
7240-1	Part 1: General and definitions	7240.1	Part 1: General and definitions
IEC		AS	
60068	Environmental testing	60068	Environmental testing
60068-1	Part 1: General and guidance	60068.1	Part 1: General and guidance
60068-2-1	Part 2-1: Tests—Test A: Cold	60068.2.1	Part 2.1: Tests—Test A: Cold
60068-2-2	Part 2-2: Tests—Test B: Dry heat	60068.2.2	Part 2.2: Tests—Test B: Dry heat
60068-2-6	Part 2-6: Tests—Test Fc: Vibration (sinusoidal)	60068.2.6	Part 2.6: Tests—Test Fc: Vibration (sinusoidal)
60068-2-27	Part 2-27: Tests—Test Ea and guidance: Shock	60068.2.27	Part 2.27: Tests—Test Ea and guidance: Shock
60068-2-30	Part 2-30: Tests—Test Db: Damp heat, cyclic (12 h + 12 h cycle)	60068.2.30	Part 2.30: Tests—Test Db: Damp heat, cyclic (12 h + 12 h cycle)
60068-2-42	Part 2-42: Tests—Test Kc: Sulphur dioxide test for contacts and connections	60068.2.42	Part 2.42: Tests—Test Kc: Sulphur dioxide test for contacts and connections
60068-2-75	Part 2-75: Tests—Test Eh: Hammer tests	60068.2.75	Part 2.75: Tests—Test Eh: Hammer tests
60068-2-78	Part 2-78: Tests—Test Cab: Damp heat, steady state	60068.2.78	Part 2.78: Tests—Test Cab: Damp heat, steady state

Only normative references that have been adopted as Australian Standards have been listed.

CONTENTS

1	Scope	1
2	Normative references	1
3	Terms and definitions	2
3.1	Terms	2
3.2	Abbreviated terms	2
4	Requirements	2
4.1	Compliance	2
4.2	Monitoring of detachable devices	2
4.3	Marking and data	3
4.4	Documentation	3
4.5	Requirements for software controlled devices	3
5	Tests	5
5.1	General	5
5.2	Performance and variation in supply parameters	7
5.3	Dry heat (operational)	7
5.4	Cold (operational)	8
5.5	Damp heat, cyclic (operational)	9
5.6	Damp heat, steady state (endurance)	10
5.7	Sulfur dioxide (SO ₂) corrosion (endurance)	10
5.8	Shock (operational)	11
5.9	Impact (operational)	12
5.10	Vibration, sinusoidal (operational)	13
5.11	Vibration, sinusoidal (endurance)	14
5.12	Electromagnetic compatibility (EMC) immunity tests	15
6	Test report	16

INTRODUCTION

This part of ISO 7240 is based on a European standard, EN 54-18, prepared by the European Committee for standardization CEN/TC 72 "*Fire detection and fire alarm systems*".

The term input/output devices, used in this part of ISO 7240, covers a wide range of different types of devices that are intended for different applications and can, therefore, have different functions. This part of ISO 7240 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.

Currently in preview, click buy full version

AUSTRALIAN STANDARD

Fire detection and alarm systems**Part 18:
Input/output devices****1 Scope**

This part of ISO 7240 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 part of ISO 7240 can be used to assess this function.

An input/output device can include signal amplifiers and signal transfer in separate enclosures, in which case the requirements of this part of ISO 7240 shall apply.

Control and indicating equipment and ancillary control and indicating equipment (e.g. repeater panels and fire brigade panels) are not covered by this part of ISO 7240.

2 Normative references

The following referenced documents are indispensable for the application 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 60068-2-75:1997, *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*