



**Automatic fire detection and
alarm systems**

Part 11: Visual warning devices

STANDARDS
Australia



AS 1603.11:2018

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 7 December 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 1603.11:2018.

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 318 7



Automatic fire detection and alarm systems

Part 11: Visual warning devices

First published as AS 1603.11—2001.
Second edition 2010.
Third edition 2018.

COPYRIGHT

© Standards Australia Limited 2018

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 (Cth).

Preface

This Standard was prepared by the Standards Australia Committee FP-002, Fire Detection, Warning, Control and Intercom Systems, to supersede AS 1603.11—2010.

The objective of this Standard is to provide manufacturers and designers of fire detection and alarm systems with requirements for the design and performance of visual warning devices intended to provide supplementary information in fire detection, warning, control and intercom systems.

This Standard differs from the last edition in the following ways:

- (a) The section on strobes has been removed. Strobe lights for fire alarm applications have been replaced by visual alarm devices in AS ISO 7240.23.
- (b) This Standard covers text displays only.
- (c) Environmental tests have been aligned with AS/AS ISO 7240 series Standards.

Each optional function is included as a separate entity, with its own set of associated requirements, in order to permit visual warning devices with many different combinations of functions to conform to this Standard.

Contents

Preface	ii
Section 1 Scope and general	1
1.1 Scope	1
1.2 Application	1
1.3 Normative references	1
1.4 Terms and definitions	1
Section 2 Requirements	2
2.1 General	2
2.2 Luminance requirements for internally illuminated, fixed message type VWD	2
2.2.1 Mean luminance	2
2.2.2 Luminance ratios	2
2.2.3 Uniformity	2
2.3 Luminance requirements for LED matrix, fixed message type VWD	3
2.3.1 Mean luminance	3
2.3.2 Uniformity	3
2.4 Luminance requirements for programmable message type VWD	3
2.4.1 Mean luminance	3
2.4.2 Uniformity	3
2.4.3 Flashing messages	3
2.4.4 Fire safety text messages	3
2.5 Maximum rated viewing distance	3
2.6 Countdown timer — optional function	4
2.7 Ancillary functions — optional	4
2.8 Supervision of detachable devices	4
2.9 Environmental classification	4
2.10 Flash rate — optional function	4
2.11 Synchronization — optional function	4
2.12 Remotely controlled VWD	5
2.13 Construction	5
2.13.1 Visual warning text contrast	5
2.13.2 Connecting factors	5
2.13.3 Materials	5
2.13.4 Ingress protection	5
2.13.5 Access	5
2.13.6 Adjustments	6
2.14 Requirements for software controlled devices	6
Section 3 Testing	6
3.1 General	6
3.1.1 Test specimens	6
3.1.2 Test schedule	6
3.2 Performance and variation in supply parameters	7
3.2.1 Objective of test	7
3.2.2 Test procedure	7
3.2.3 Requirements	7
3.3 Dry heat (operational)	7
3.3.1 General	7
3.3.2 Conditioning	8
3.4 Cold (operational)	8
3.4.1 General	8
3.4.2 Conditioning	8
3.5 Damp heat, cyclic (operational)	8
3.5.1 General	8
3.5.2 Conditioning	8
3.6 Damp heat, steady-state (endurance)	8

3.6.1	General.....	8
3.6.2	Conditioning.....	8
3.7	Electromagnetic compatibility (EMC) immunity tests (operational).....	9
3.7.1	General.....	9
3.7.2	Conditioning.....	9
3.8	Exposure to simulated solar radiation (endurance) (option with requirements).....	9
3.8.1	General.....	9
3.8.2	Objective of test.....	9
3.8.3	Test procedure.....	9
3.8.4	State of the specimen during exposure.....	9
3.8.5	Exposure.....	9
3.8.6	Measurements during exposure.....	9
3.8.7	Final measurements.....	9
3.8.8	Requirements.....	10
Section 4	Test report.....	10
Section 5	Markings.....	10
Section 6	Data.....	11
Bibliography	12

Australian Standard®

Automatic fire detection and alarm systems

Part 11: Visual warning devices

Section 1 Scope and general

1.1 Scope

This Standard specifies requirements, test methods and performance criteria for Visual Warning Devices (VWD) connected to a transmission path of a fire detection and alarm system.

1.2 Application

Visual warning devices (VWD) may be used to provide supplementary information to Visual Alarm Devices (VAD) or Audible Alarm Devices (AAD). This may include signals to hearing impaired persons, persons occupying high ambient noise environments, and persons in environments where audible alarms may have an adverse effect (e.g. hospital wards, broadcast studios). VWD are also required to be used in special hazards applications installed to AS 1670.5 specifications.

1.3 Normative references

The following are the normative reference documents in this Standard.

AS 4428.16, *Fire detection and alarm systems, Part 16: Emergency warning control and indicating equipment*

AS 60068.2.5, *Environmental testing, Part 2.5: Tests – Test Sa: Simulated solar radiation at ground level*

AS ISO 7240.1, *Fire detection and alarm systems, Part 1: General and definitions*

AS 7240.2, *Fire detection and alarm systems, Part 2: Fire detection control and indicating equipment (ISO 7240 2:2017, MOD)*

AS ISO 7240.18, *Fire detection and alarm systems, Part 18: Input/output devices*

AS ISO 7240.23, *Fire detection and alarm systems, Part 23: Visual alarm devices*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60695-11-10, *Fire hazard testing — Part 11-10: Test flames — 50 W horizontal and vertical flame test methods*

IEC 60695-11-20, *Fire hazard testing — Part 11-20: Test flames — 500 W flame test method*

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

1.4 Terms and definitions

The terms and definitions given in AS ISO 7240.1 and the following apply.

1.4.1

internally illuminated, fixed message type visual warning device

device illuminated by an internal light source in the alarm mode, to reveal an instructional message

1.4.2

programmable message type visual warning device

programmable device that displays a visual warning in a format that carries a message recognizable by the target occupants, using language characters or Australian or International Standard symbols