This is a free page sample. Access the full version online.

NSAI Standards

Irish Standard
I.S. EN 62386-303:2017

Digital addressable lighting interface - Part 303: Particular requirements - Input devices - Occupancy sensor

© CENELEC 2017 No copying without NSAI permission except as permitted by copyright law.

This is a free page sample. Access the full version online.

I.S. EN 62386-303:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:	*Published:*
EN 62386-303:2017	2017-09-15

This document was published under the authority of the NSAI and comes into effect on:	ICS number:
2017-10-03	29.140.50 29.140.99 NOTE: If blank see CEN/CENELEC cover page

NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

National Foreword

I.S. EN 62386-303:2017 is the adopted Irish version of the European Document EN 62386-303:2017, Digital addressable lighting interface - Part 303: Particular requirements - Input devices - Occupancy sensor

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This is a free page sample. Access the full version online.

This page is intentionally left blank

This is a free page sample. Access the full version online.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62386-303

September 2017

ICS 29.140.50; 29.140.99

English Version

Digital addressable lighting interface - Part 303: Particular requirements - Input devices - Occupancy sensor (IEC 62386-303:2017)

Interface d'éclairage adressable numérique - Partie 303: Exigences particulières - Dispositifs d'entrée - Capteur de présence (IEC 62386-303:2017)

Digital adressierbare Schnittstelle für die Beleuchtung - Teil 303: Besondere Anforderungen - Eingabegeräte - Präsenzmelder (IEC 62386-303:2017)

This European Standard was approved by CENELEC on 2017-06-23. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2017 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

Ref. No. EN 62386-303:2017 E

This is a free page sample. Access the full version online.

European foreword

The text of document 34C/1313/FDIS, future edition 1 of IEC 62386-303, prepared by SC 34C "Auxiliaries for lamps", of IEC/TC 34 "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62386-303:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-03-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-06-23

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62386-303:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61347	NOTE	Harmonized in EN 61347 series.
IEC 61347-1	NOTE	Harmonized as EN 61347-1.

This is a free page sample. Access the full version online.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 62386-101	2014	Digital addressable lighting interface - Part 101: General requirements - System components	EN 62386-101	2014
+ A1	— [1]		-	-
IEC 62386-103	2014	Digital addressable lighting interface - Part 103: General requirements - Control devices	EN 62386-103	2014
+ A1	— [2]		-	-
IEC 62386-333	— [3]	Digital addressable lighting interface - Part 333: Particular requirements for control devices - Manual configuration (feature type 33)	EN 62386-333	— [4]

1) Under preparation. Stage at the time of publication: IEC ACDV 62386-101/AMD1:2017.

2) Under preparation. Stage at the time of publication: IEC ACDV 62386-103/AMD1:2017.

3) Under preparation. Stage at the time of publication: IEC CCDV 62386-333:2017.

4) Under preparation. Stage at the time of publication: prEN 62386-333:2016.

This is a free page sample. Access the full version online.

This page is intentionally left blank

This is a free page sample. Access the full version online.

IEC 62386-303

Edition 1.0 2017-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Digital addressable lighting interface – Part 303: Particular requirements – Input devices – Occupancy sensor

Interface d'éclairage adressable numérique – Partie 303: Exigences particulières – Dispositifs d'entrée – Capteur de présence

IEC 62386-303:2017-05(en-fr)

This is a free page sample. Access the full version online.

THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2017 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue
The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,…). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org
The world's leading online dictionary of electronic and electrical terms containing 20 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary
65 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue
Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,…). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient 20 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary
65 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.

This is a free page sample. Access the full version online.

IEC 62386-303

Edition 1.0 2017-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Digital addressable lighting interface – Part 303: Particular requirements – Input devices – Occupancy sensor

Interface d'éclairage adressable numérique – Partie 303: Exigences particulières – Dispositifs d'entrée – Capteur de présence

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 29.140.50; 29.140.99

ISBN 978-2-8322-4343-5

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

This is a free page sample. Access the full version online.

CONTENTS

FOREWORD 4
INTRODUCTION 6
1 Scope 8
2 Normative references 8
3 Terms and definitions 8
4 General 9
4.1 General 9
4.2 Version number 9
4.3 Insulation 9
5 Electrical specification 9
6 Interface power supply 9
7 Transmission protocol structure 9
8 Timing 10
9 Method of operation 10
9.1 General 10
9.2 Instance type 10
9.3 Input signal and value 10
9.3.1 General 10
9.3.2 Input signal mapping for movement sensors 10
9.3.3 Input signal mapping for presence sensors 12
9.4 Events 12
9.4.1 Priority use 12
9.4.2 Bus usage 12
9.4.3 Encoding 13
9.4.4 Event configuration 13
9.4.5 Event generation 14
9.4.6 Movement trigger and catching 14
9.5 Configuring the input device 14
9.5.1 Using the hold timer 14
9.5.2 Using the report timer 15
9.5.3 Using the deadtime timer 15
9.5.4 Setting the timers 15
9.5.5 Manual configuration 16
9.6 Exception handling 16
9.6.1 Physical sensor failure 16
9.6.2 Manufacturer specific errors 16
9.6.3 Error value 16
10 Declaration of variables 17
11 Definition of commands 18
11.1 General 18
11.2 Overview sheets 18
11.2.1 General 18
11.2.2 Standard commands 18
11.3 Event messages 19
11.3.1 INPUT NOTIFICATION (*device/instance, event*) 19
11.3.2 POWER NOTIFICATION (*device*) 19

This is a free page sample. Access the full version online.

11.4 Device control instructions 19
11.5 Device configuration instructions 19
11.6 Device queries 19
11.7 Instance control instructions 19
11.7.1 General 19
11.7.2 CATCH MOVEMENT 19
11.7.3 CANCEL HOLD TIMER 19
11.8 Instance configuration instructions 20
11.8.1 General 20
11.8.2 SET EVENT FILTER (*DTR0*) 20
11.8.3 SET HOLD TIMER (*DTR0*) 20
11.8.4 SET REPORT TIMER (*DTR0*) 20
11.8.5 SET DEADTIME TIMER (*DTR0*) 20
11.9 Instance queries 20
11.9.1 General 20
11.9.2 QUERY INSTANCE ERROR 20
11.9.3 QUERY DEADTIME TIMER 20
11.9.4 QUERY HOLD TIMER 20
11.9.5 QUERY REPORT TIMER 20
11.9.6 QUERY CATCHING 21
11.10 Special commands 21
Bibliography 22

Figure 1 – IEC 62386 graphical overview 6
Figure 2 – State diagram for movement based sensor 11
Figure 3 – State diagram for presence sensor 12

Table 1 – Meaning of *"inputValue"* 10
Table 2 – Occupancy and vacancy events 13
Table 3 – Event filter 14
Table 4 – Event timer setting 15
Table 5 – "*manualCapabilityInstance3xx*" values 16
Table 6 – "*instanceErrorByte*" values 17
Table 7 – Declaration of device variables 17
Table 8 – Restrictions to instance variables defined in IEC 62386-103:2014 and IEC 62386-103:2014/AMD1:— 17
Table 9 – Declaration of instance variables 18
Table 10 – Standard commands 18

This is a free page sample. Access the full version online.

INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIGITAL ADDRESSABLE LIGHTING INTERFACE –

Part 303: Particular requirements – Input devices – Occupancy sensor

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62386-303 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

The text of this standard is based on the following documents:

FDIS	Report on voting
34C/1313/FDIS	34C/1333/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 303 of IEC 62386 is intended to be used in conjunction with:

This is a free page sample. Access the full version online.

- Part 101, which contains general requirements for system components;
- Part 103, which contains general requirements for control devices.

A list of all parts in the IEC 62386 series, published under the general title: *Digital addressable lighting interface*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

This is a free page sample. Access the full version online.

INTRODUCTION

IEC 62386 contains several parts, referred to as series. The 1xx series includes the basic specifications. Part 101 contains general requirements for system components, Part 102 extends this information with general requirements for control gear and Part 103 extends it further with general requirements for control devices.

The 2xx parts extend the general requirements for control gear with lamp specific extensions (mainly for backward compatibility with Edition 1 of IEC 62386) and with control gear specific features.

The 3xx parts extend the general requirements for control devices with input device specific extensions describing the instance types as well as some common features that can be combined with multiple instance types.

This first edition of IEC 62386-303 is to be used in conjunction with IEC 62386-101:2014, IEC 62386-101:2014/AMD1:—, IEC 62386-103:2014 and IEC 62386-103:2014/AMD1:— The division of IEC 62386 into separately published parts provides for ease of future amendments and revisions. Additional requirements will be added as and when a need for them is recognized.

The setup of the standards is graphically represented in Figure 1 below.

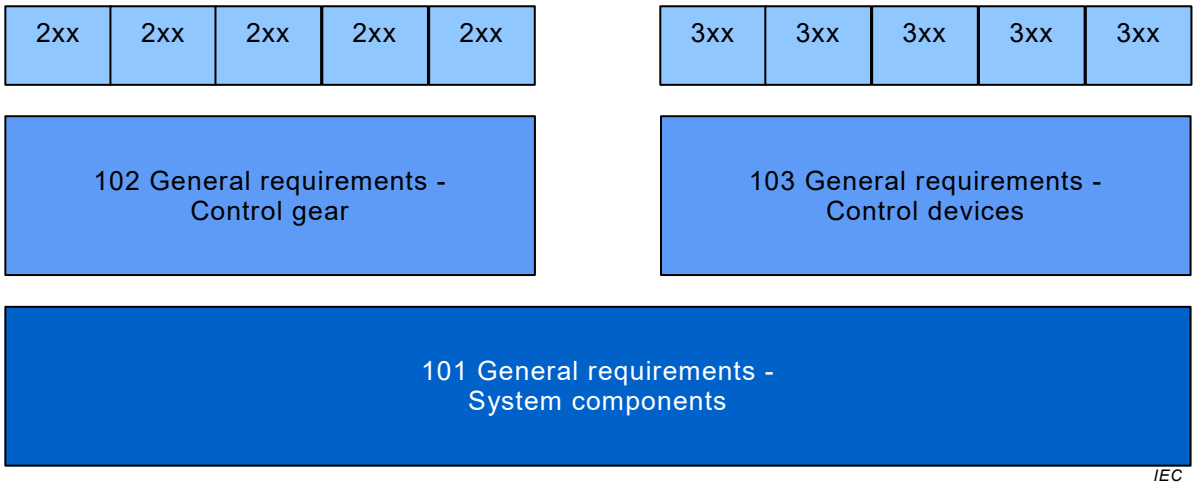

Figure 1 – IEC 62386 graphical overview

This document, and the other parts that make up the IEC 62386-300 series, in referring to any of the clauses of IEC 62386-1XX, specifies the extent to which such a clause is applicable; the parts also include additional requirements, as necessary.

Where the requirements of any of the clauses of IEC 62386-1XX are referred to in this document by the sentence “The requirements of IEC 62386-1XX, Clause “n” apply”, this sentence is to be interpreted as meaning that all requirements of the clause in question of Part 1XX apply, except any which are clearly inapplicable.

The standardization of the control interface for control devices is intended to achieve compatible co-existence and multi-master operation between electronic control gear and lighting control devices, below the level of building management systems. This document describes a method of implementing occupancy sensors.

All numbers used in this document are decimal numbers unless otherwise noted. Hexadecimal numbers are given in the format 0xVV, where VV is the value. Binary numbers are given in

This is a free page sample. Access the full version online.

the format XXXXXXXXb or in the format XXXX XXXX, where X is 0 or 1; “x” in binary numbers means “don't care”.

The following typographic expressions are used:

Variables: *“variableName”* or *“variableName[3:0]”*, giving only bits 3 to 0 of *“variableName”*.

Range of values: [lowest, highest]

Command: “COMMAND NAME”

This is a free page sample. Access the full version online.

DIGITAL ADDRESSABLE LIGHTING INTERFACE –

Part 303: Particular requirements – Input devices – Occupancy sensor

1 Scope

This part of IEC 62386 specifies a bus system for control by digital signals of electronic lighting equipment which is in line with the requirements of IEC 61347, with the addition of DC supplies.

This document is only applicable to IEC 62386-103:2014 and IEC 62386-103:2014/AMD1:— input devices that deliver occupancy information to the lighting control system through movement or presence sensing.

NOTE Requirements for testing individual products during production are not included.

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.

IEC 62386-101:2014, *Digital addressable lighting interface – Part 101: General requirements – System components*
IEC 62386-101:2014/AMD1:—[1]

IEC 62386-103:2014, *Digital addressable lighting interface – Part 103: General requirements – Control devices*
IEC 62386-103:2014/AMD1:—[2]

IEC 62386-333:—[3], *Digital addressable lighting interface – Part 333: Particular requirements for control devices – Manual configuration (feature type 33)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62386-101 and IEC 62386-103 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

---

[1] Under preparation. Stage at the time of publication: IEC ACDV 62386-101/AMD1:2017.

[2] Under preparation. Stage at the time of publication: IEC ACDV 62386-103/AMD1:2017.

[3] Under preparation. Stage at the time of publication: IEC CCDV 62386-333:2017.

SAI GLOBAL

This is a free preview. Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation