IEC 62386-202

Edition 1.0 2009-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Digital addressable lighting interface –
Part 202: Particular requirements for control gear – Self-contained emergency lighting (device type 1)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Interface d'éclairage adressable numérique –
Partie 202: Exigences particulières pour les appareillages de commande – Blocs autonomes d'éclairage de secours (dispositifs de type 1)

IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/1657aea6-bec7-4395-8c7e-

IEC 62386-202:2009

THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2009 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 la CEI ou du Comité national de la CEI du pays du demandeur.
Si vous avez des questions sur le copyright de la CEI ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de la CEI de votre pays de résidence.

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: 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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

- Catalogue of IEC publications: www.iec.ch/searchpub

The IEC on-line Catalogue enables you to search by a variety of criteria (reference number, text, technical committee,…). It also gives information on projects, withdrawn and replaced publications.

- IEC Just Published: www.iec.ch/online_news/justpub

Stay up to date on all new IEC publications. Just Published details twice a month all new publications released. Available on-line and also by email.

IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-f6f52aaeda1a/iec-62386-202-2009

- Electropedia: www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 20 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary online.

- Customer Service Centre: www.iec.ch/webstore/custserv

If you wish to give us your feedback on this publication or need further assistance, please visit the Customer Service Centre FAQ or contact us:
Email: csc@iec.ch
Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00

A propos de la CEI

La Commission Electrotechnique Internationale (CEI) 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 CEI

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

- Catalogue des publications de la CEI: www.iec.ch/searchpub/cur_fut-f.htm

Le Catalogue en-ligne de la CEI vous permet d'effectuer des recherches en utilisant différents critères (numéro de référence, texte, comité d'études,…). Il donne aussi des informations sur les projets et les publications retirées ou remplacées.

- Just Published CEI: www.iec.ch/online_news/justpub

Restez informé sur les nouvelles publications de la CEI. Just Published détaille deux fois par mois les nouvelles publications parues. Disponible en-ligne et aussi par email.

- Electropedia: www.electropedia.org

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

- Service Clients: www.iec.ch/webstore/custserv/custserv_entry-f.htm

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions, visitez le FAQ du Service clients ou contactez-nous:
Email: csc@iec.ch
Tél.: +41 22 919 02 11
Fax: +41 22 919 03 00

IEC 62386-202

Edition 1.0 2009-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3f52ec5c454/iec-62386-202-2009

Digital addressable lighting interface – Part 202: Particular requirements for control gear – Self-contained emergency lighting (device type 1)

Interface d'éclairage adressable numérique – Partie 202: Exigences particulières pour les appareillages de commande – Blocs autonomes d'éclairage de secours (dispositifs de type 1)

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX XE

ICS 29.140.50; 29.140.99

ISBN 978-2-88910-688-2

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

CONTENTS

FOREWORD 5
INTRODUCTION 7
1 Scope 8
2 Normative references 8
3 Terms and definitions 8
4 General 10
5 Electrical specifications 10
6 Interface power suppy 10
7 Transmission protocol structure 10
8 Timing 10
9 Method of operation 10
10 Declaration of variables 14
11 Definition of commands 15
12 Test procedures 26
Annex A (informative) Examples 104
Bibliography 107

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Figure 1 – Example of light level definitions 12
Figure 2 – Modes of operation 13
Figure 3 – Application extended control or configuration command sequence example 16
Figure 4 – Test sequence 'Features' 27

IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3052ae5c454/iec-62386-202-2009

Figure 5 – Test sequence 'RESET' 30
Figure 6 – Test sequence '100 ms-timeout' 32
Figure 7 – Test sequence 'Commands in-between' 34
Figure 8 – Test sequence 'Persistent memory' 36
Figure 9 – Test sequence 'ON AND OFF' 39
Figure 10 – Test sequence 'OFF WITH FADING' 41
Figure 11 – Test sequence 'Physical address allocation' 42
Figure 12 – Test sequence 'QUERY LAMP POWER ON' 44
Figure 13 – Test sequence 'REST' 45
Figure 14 – Test sequence 'INHIBIT' 47
Figure 15 – Test sequence 'START/STOP FUNCTION TEST' 48
Figure 16 – Test sequence 'FUNCTION TEST FAILURE' 50
Figure 17 – Test sequence 'FUNCTION TEST REQUEST PENDING' 52
Figure 18 – Test sequence 'START/STOP DURATION TEST' 53
Figure 19 – Test sequence 'DURATION TEST FAILURE' 54
Figure 20 – Test sequence 'DURATION TEST REQUEST PENDING' 56
Figure 21 – Test sequence 'TESTS IN PARALLEL' 58
Figure 22 – Test sequence 'LAMP TIMER' 59
Figure 23 – Test sequence 'STOP PENDING TEST' 60
Figure 24 – Test sequence 'STORE THE DTR AS EMERGENCY LEVEL' 62

Figure 25 – Test sequence 'EMERGENCY LEVEL vs. MIN / MAX' 64
Figure 26 – Test sequence 'STORE TEST TIMING' 66
Figure 27 – Test sequence 'EXECUTE AUTOMATIC TEST' 68
Figure 28 – Test sequence 'STORE TEST EXECUTION TIMEOUT' 70
Figure 29 – Test sequence 'STORE PROLONG TIME' 72
Figure 30 – Test sequence 'START IDENTIFICATION' 73
Figure 31 – Test sequence 'INTERFACE FAILURE' 74
Figure 32 – Test sequence 'QUERY BATTERY CHARGE' 75
Figure 33 – Test sequence 'QUERY HARDWIRED INHIBIT' 76
Figure 34 – Test sequence 'QUERY HARDWIRED SWITCHED MAINS POWER' 77
Figure 35 – Test sequence 'QUERY PHYSICAL SELECTED' 78
Figure 36 – Test sequence 'REST: APPLICATION EXTENDED COMMAND SEQUENCE' 80
Figure 37 – Test sequence 'INHIBIT & TEST: APPL. EXT. COMMAND SEQUENCES' 82
Figure 38 – Test sequence 'RESET FT DONE FLAG: APPL. EXT. COMMAND SEQUENCE' 84
Figure 39 – Test sequence 'RESET DT DONE FLAG: APPL. EXT. COMMAND SEQUENCE' 86
Figure 40 – Test sequence 'CONFIGURATION: Other command after Enable Device Type 1 88
Figure 41 – Test sequence 'CONFIGURATION: 100ms timeout' 90
Figure 42 – Test sequence 'CONFIGURATION: Commands in-between' 92
Figure 43 – Test sequence 'QUERY: Other command after Enable Device Type 1' 93
Figure 44 – Test sequence 'START IDENTIFICATION: APPL. EXT. COMMAND SEQUENCE' 95
Figure 45 – Test sequence 'Extended RESET' 97
Figure 46 – Test sequence 'Extended PERSISTENT MEMORY' 99
Figure 47 – Test sequence 'Restore Factory Settings' 101
Figure 48 – Test sequence 'Reserved DTR Selected Function' 102
Figure 49 – Test sequence 'QUERY EXTENDED VERSION NUMBER' 103
Figure A.1 – Duration test sequence example 105
Figure A.2 – Timing diagram for function and duration tests 105

Table 1 – Declaration of additional variables 14
Table 2 – Summary of the application extended command set 25
Table 3 – Types of emergency control gear 26
Table 4 – List of test sequences 'Configuration commands' 28
Table 5 – Parameters for test sequences 'RESET' 29
Table 6 – Parameters for test sequences '100 ms-timeout' 31
Table 7 – Parameters for test sequences 'Commands in-between' 33
Table 8 – Parameters for test sequences 'Persistent memory' 35
Table 9 – List of test sequences 'Arc power control commands' 37
Table 10 – Parameters for test sequences 'ON AND OFF' 38
Table 11 – Parameters for test sequences 'OFF WITH FADING' 40
Table 12 – List of test sequences 'Queries and reserved commands' 43

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3052ae5e454/iec-62386-202-2009

Table 13 – Parameters for test sequences 'INHIBIT' 46
Table 14 – Parameters for test sequences 'FUNCTION TEST FAILURE' 49
Table 15 – Parameters for test sequences 'FUNCTION TEST REQUEST PENDING' 51
Table 16 – Parameters for test sequences 'DURATION TEST REQUEST PENDING' 55
Table 17 – Parameters for test sequences 'TESTS IN PARALLEL' 57
Table 18 – Parameters for test sequences 'STORE THE DTR AS EMERGENCY LEVEL' 61
Table 19 – Parameters for test sequences 'EMERGENCY LEVEL vs. MIN / MAX' 63
Table 20 – Parameters for test sequences 'STORE TEST TIMING' 65
Table 21 – Parameters for test sequences 'EXECUTE AUTOMATIC TEST' 67
Table 22 – Parameters for test sequences 'STORE TEST EXECUTION TIMEOUT' 69
Table 23 – Parameters for test sequences 'STORE PROLONG TIME' 71
Table 24 – Parameters for test sequences 'REST: APPLICATION EXTENDED COMMAND SEQUENCE' 79
Table 25 – Parameters for test sequences 'INHIBIT & TEST: APPL. EXT. COMMAND SEQUENCES' 81
Table 26 – Parameters for test sequences 'RESET FT DONE FLAG: APPL. EXT. COMMAND SEQUENCE' 83
Table 27 – Parameters for test sequences 'RESET DT DONE FLAG: APPL. EXT. COMMAND SEQUENCE' 85
Table 28 – Parameters for test sequences 'CONFIGURATION: Other command after Enable Device Type 1 87
Table 29 – Parameters for test sequences 'CONFIGURATION: 100ms timeout' 89
Table 30 – Parameters for test sequences 'CONFIGURATION: Commands in-between' 91
Table 31 – Parameters for test sequences 'QUERY: Other command after Enable Device Type 1' 93
Table 32 – Parameters for test sequences 'START IDENTIFICATION: APPL. EXT. COMMAND SEQUENCE' 94
Table 33 – Parameters for test sequences 'Extended RESET' 96
Table 34 – Parameters for test sequences 'Extended PERSISTENT MEMORY' 98
Table 35 – Parameters for test sequences 'Restore Factory Settings' 100

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f057dca0-6ec7-4595-8c7e-d3053ac5c45e/iec-62386-202-2009

INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIGITAL ADDRESSABLE LIGHTING INTERFACE –

Part 202: Particular requirements for control gear – Self-contained emergency lighting (device type 1)

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 provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3052ae5c454/iec-62386-202-2009

International Standard IEC 62386-202 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/880/FDIS	34C/887/RVD

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

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

This Part 202 is intended to be used in conjunction with IEC 62386-101 and IEC 62386-102, which contain general requirements for the relevant product type (control gear or control devices).

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

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

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3052ae5c454/iec-62386-202-2009

INTRODUCTION

This first edition of IEC 62386-202 is published in conjunction with IEC 62386-101 and IEC 62386-102. 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.

This International Standard, and the other parts that make up IEC 62386-200 series, in referring to any of the clauses of IEC 62386-101 or IEC 62386-102, specify the extent to which such a clause is applicable and the order in which the tests are to be performed; The parts also include additional requirements, as necessary. All parts that make up the IEC 62386-200 series are self-contained and therefore do not include references to each other.

Where the requirements of any of the clauses of IEC 62386-101 or IEC 62386-102 are referred to in this International Standard by the statement "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 101 or Part 102 apply, except any which are inapplicable to the specific type of lamp control gear covered by this Part 202.

All numbers used in this International Standard are decimal numbers unless otherwise noted. Hexadecimal numbers are given in the format 0xVV, where VV is the value. Binary numbers are given in the format XXXXXXXXb or in the format XXXX XXXX, where X is 0 or 1; 'x' in binary numbers means 'don't care'.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3052ae5c454/iec-62386-202-2009

DIGITAL ADDRESSABLE LIGHTING INTERFACE –

Part 202: Particular requirements for control gear – Self-contained emergency lighting (device type 1)

1 Scope

This International Standard specifies a protocol and test procedures for the control by digital signals of electronic control gear for use on a.c. or d.c. supplies, associated with self-contained emergency lighting.

NOTE Tests in this standard are type tests. Requirements for testing individual control gear during production are not included.

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.

iTeh STANDARD PREVIEW

IEC 62386-101:2009, *Digital addressable lighting interface – Part 101: General requirements – System*

(standards.iteh.ai)

IEC 62386-102:2009, *Digital addressable lighting interface – Part 102: General requirements – Control gear*

IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3052ae5c454/iec-62386-202-2009

3 Terms and definitions

For the purposes of this document, the terms and definitions given in Clause 3 of IEC 62386-101:2009 and Clause 3 of IEC 62386-102:2009 apply, together with the following.

3.1
normal mode (for self-contained emergency control gear)
mode in which mains supply is available, with the battery charged or charging

3.2
emergency mode (for self-contained emergency control gear)
mode in which mains supply has failed and whilst the control gear is powered by the battery until deep discharge point

3.3
rest mode (for self-contained emergency control gear)
mode in which the lamp is intentionally off whilst the control gear is powered by the battery

3.4
inhibit mode (for self-contained emergency control gear)
mode in which the control gear is powered from the mains but prevented from going into emergency mode in the event of mains failure

3.5
extended emergency mode (for self-contained emergency control gear)
mode in which the control gear continues to operate the lamp in the same way as in emergency mode for the programmed prolong time after the restoration of the mains supply

3.6
function test
test to check the integrity of the circuit and the correct operation of a lamp, a changeover device and the self-contained battery

3.7
duration test
test to check if the self-contained battery supplies the system within the limits of rated duration of emergency operation

3.8
hardwired inhibit
optional additional input of the control gear which prevents the control gear from going into the emergency mode.

NOTE The hardwired inhibit input is specified by the manufacturer. The state of the switch may be “active” or “inactive”.

3.9
prolong time
time the extended emergency mode will last after restoration of the mains supply

3.10
non-maintained control gear
control gear which operates the lamp only in emergency mode or test mode and supports neither arc power control commands nor corresponding configuration commands

iTeh STANDARD PREVIEW
(standards.iteh.ai)

3.11
maintained control gear
control gear which operates the lamp always, no matter whether the mains is present or not, but which supports neither arc power control commands nor corresponding configuration commands

IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3052ae5c454/iec-62386-202-2009

3.12
switched maintained non-dimmable control gear
control gear with physical minimum level equal to 254 (100 %)

NOTE If the mains is present, this type acts like a standard dimmable device with its minimum level set to 254. Therefore this type supports all arc power commands and corresponding configuration commands defined in Part 102. Because of the definition of the physical minimum level, all arc power commands will result in 'no reaction', 'lamp on' or 'lamp off' only – depending on the definition of the actual command.

3.13
switched maintained dimmable control gear
emergency control gear with a physical minimum level below 254 (100 %)

NOTE If the mains is present, this type acts like a standard dimmable device. Therefore this type supports all arc power commands and corresponding configuration commands defined in Part 102.

3.14
hardwired switch
optional additional input of the control gear to switch the lamp on and off in normal mode

NOTE The hardwired switch input is specified by the manufacturer. The state of the switch may be “on” or “off”.

3.15
integral emergency control gear
lamp control gear which forms a non-replaceable part of an emergency luminaire and which cannot be tested separately from the luminaire

3.16
deep discharge
situation in which the lamp can no longer be powered by the battery because the battery voltage has fallen to the lower battery threshold as defined by the cell manufacturer

4 General

The requirements of Clause 4 of IEC 62386-101:2009 and Clause 4 of IEC 62386-102:2009 shall apply.

5 Electrical specifications

The requirements of Clause 5 of IEC 62386-101:2009 and Clause 5 of IEC 62386-102:2009 shall apply.

6 Interface power supply

The requirements of Clause 6 of IEC 62386-101:2009 and Clause 6 of IEC 62386-102:2009 shall apply if the control gear has an integral power supply.

7 Transmission protocol structure

iTeh STANDARD PREVIEW

The requirements of Clause 7 of IEC 62386-101:2009 and Clause 7 of IEC 62386-102:2009 shall apply.

(standards.iteh.ai)

8 Timing

IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3052ae5c454/iec-62386-202-2009

The requirements of Clause 8 of IEC 62386-101:2009 and Clause 8 of IEC 62386-102:2009 shall apply.

9 Method of operation

9.1 Logarithmic dimming curve, arc power levels and accuracy

The requirements of Subclause 9.1 of IEC 62386-102:2009 shall apply only if the emergency control gear supports arc power commands and the corresponding configuration commands.

9.2 Power-on

The requirements of Sublause 9.2 of IEC 62386-102:2009 shall apply if the emergency control gear supports arc power control commands and where “power-on” means the application of mains supply once the battery supply is established.

Where "power-on" means application of the mains power, the control gear shall react properly to commands no later than 0.5 s after power-on.

Where “power-on” means application of only the battery supply, the control gear shall either remain in a power-down state or go into emergency mode or rest mode. If the control gear goes into emergency mode or rest mode it shall react properly to commands no later than 5 s after power-on.

If mains power is applied to the control gear when it is completely powered off, it shall go into normal mode.

NOTE 1 The battery supply is normally permanently connected to the control gear

NOTE 2 Low power clock circuits may take several seconds to start.

NOTE 3 It follows that the power-on time of emergency control gear may not be well synchronised with the power-on time of other control gear in the same system.

NOTE 4 The application of mains power to gear running on battery power is not a power-on event, but may change the mode of operation of the control gear as described in 9.9 below.

9.3 Interface-failure

If the control gear supports arc power commands and the corresponding configuration commands, then the requirements of Subclause 9.3 of IEC 62386-102:2009 shall apply, when the control gear is in normal mode. Otherwise, an interface failure as described in Subclause 9.3 of IEC 62386-102:2009 shall have no effect on the arc power level.

NOTE Although the requirements of Subclause 9.3 of IEC 62386-102:2009 state that on restoration of the idle voltage the control gear shall not change its state, in practice there may be an approximately simultaneous change of state if the restoration of the interface idle voltage coincides with the restoration of mains power.

9.4 Min and max level

If the control gear supports arc power commands and the corresponding configuration commands, then the requirements of Subclause 9.4 IEC 62386-102:2009 shall apply when the control gear is in normal mode.

The EMERGENCY LEVEL shall not be affected by the MIN LEVEL and MAX LEVEL settings.

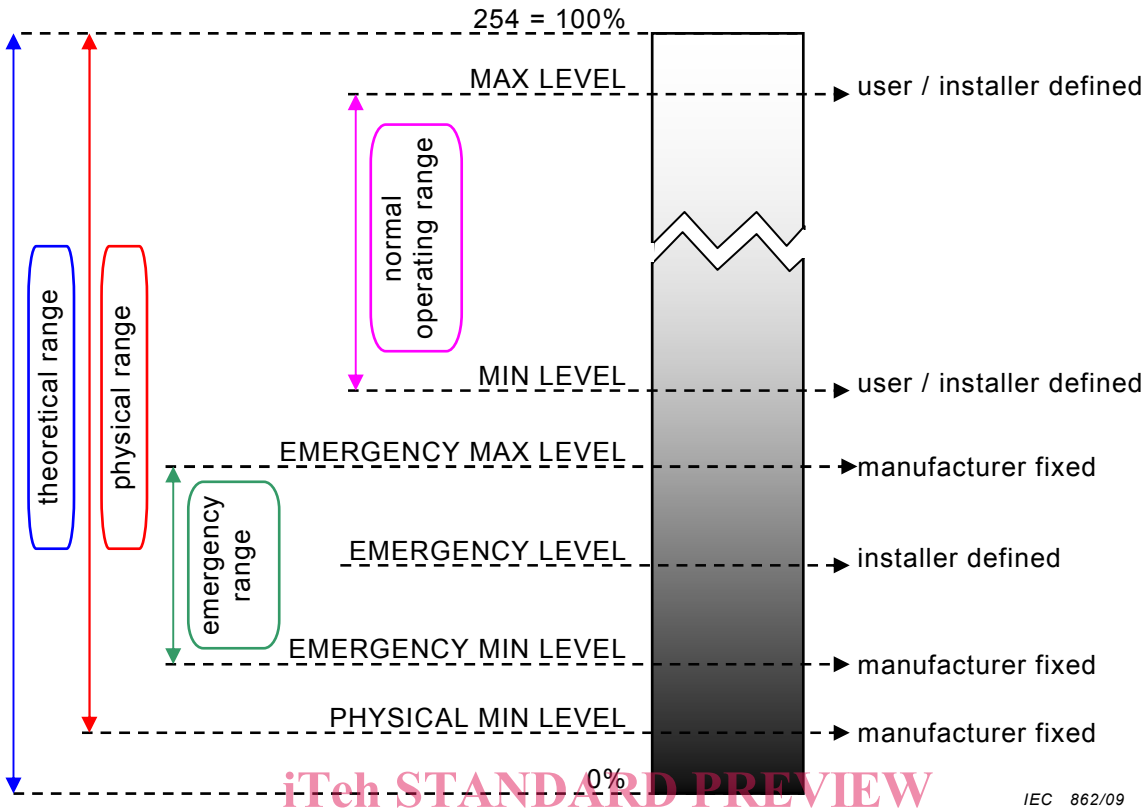
The MIN LEVEL and MAX LEVEL shall only affect the arc power level during normal mode; they have no relation with and shall therefore not be linked in any way to the EMERGENCY LEVEL, EMERGENCY MIN LEVEL and EMERGENCY MAX LEVEL.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/0b5b4f65-1ca4-4ce4-bcc1-d3052ae5e454/iec-62386-202-2009

NOTE 1 If commands affecting the EMERGENCY LEVEL are supported, then (because of the provisions of 11.2) programming an EMEGENCY LEVEL above the EMERGENCY MAX LEVEL or below the EMERGENCY MIN LEVEL causes the EMERGENCY LEVEL to be set to the EMERGENCY MAX LEVEL or EMERGENCY MIN LEVEL.

NOTE 2 PHYSICAL MIN LEVEL is the manufacturer-fixed minimum level for mains operation and is not necessarily related to any emergency light level.

NOTE 3 Figure 1 illustrates the relationship of the various light level definitions.



iTeh STANDARD PREVIEW
(standards.iteh.ai)

Figure 1 – Example of light level definitions

9.5 Fade time and fade rate

IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d502ac5e454/iec-62386-202-2009

If the control gear supports arc power commands and the corresponding configuration commands, then the requirements of Subclause 9.5 of IEC 62386-102:2009 shall apply.

9.6 Reaction to commands during error state

If the control gear supports arc power commands and the corresponding configuration commands, then the requirements of Subclause 9.6 of IEC 62386-102:2009 shall apply when the control gear is in normal mode.

9.7 Behaviour during lamp preheating and lamp ignition time

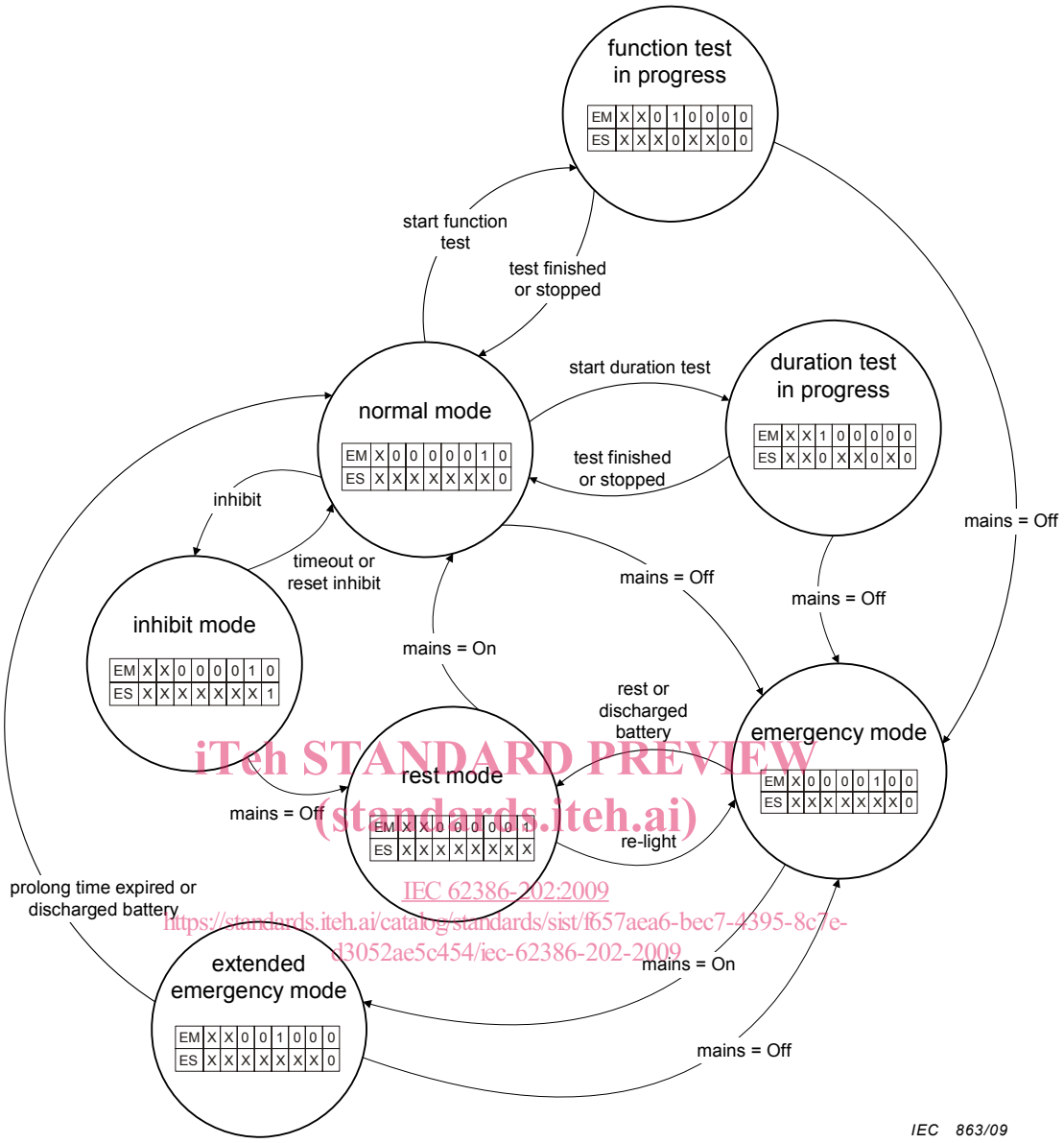
If the control gear supports arc power commands and the corresponding configuration commands, then the requirements of Subclause 9.7of IEC 62386-102:2009 shall apply when the control gear is in normal mode.

9.8 Memory access and memory map

The requirements of Subclause 9.8 of IEC 62386-102:2009 shall apply.

9.9 Modes of operation

The state transition diagram in Figure 2 shows the different modes of operation and the conditions for mode transitions. In addition the value of the EMERGENCY MODE byte (EM) and the value of the EMERGENCY STATUS byte (ES) in the different modes are shown.



iTeh STANDARD PREVIEW
(standards.iteh.ai)
IEC 62386-202:2009
https://standards.iteh.ai/catalog/standards/sist/f657aea6-bec7-4395-8c7e-d3052ae5c454/iec-62386-202-2009

Figure 2 – Modes of operation

9.10 Function and duration test

The control gear shall be able to perform two kinds of tests, a function test and a duration test. The emergency status byte, failure status byte and duration test result byte shall give an indication of the progress and results of these tests.

Automatic testing is an optional feature, the presence of which shall be indicated in bit 3 of the FEATURES byte.

NOTE The ability to perform duration tests and function tests is not an optional feature, the commands to start and stop tests being supported by all self-contained emergency control gear. It is the automatic scheduling of such tests which is optional.

If automatic testing is supported, the gear shall be capable of starting function tests and duration tests according to a schedule defined by the functionality required for commands 234 to 237, and illustrated in annexes A.5 and A.6.