



IEC 62386-201

Edition 2.0 2015-05
REDLINE VERSION

INTERNATIONAL STANDARD



**Digital addressable lighting interface –
Part 201: Particular requirements for control gear – Fluorescent lamps
(device type 0)**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.140.50, 29.140.99

ISBN 978-2-8322-2706-0

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD	3
INTRODUCTION	5
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 General	7
5 Electrical specification	8
6 Interface power supply	8
7 Transmission protocol structure	8
8 Timing	8
9 Method of operation	8
10 Declaration of variables	9
11 Definition of commands	9
12 Test procedures	11
Bibliography
Figure 1 — Test sequence "QUERY EXTENDED VERSION NUMBER"
Figure 2 — Test sequence "Unused application extended commands for device type 0"
Figure 1 – IEC 62386 graphical overview	5
Table 1 – Declaration of additional variables	9
Table 2 — Summary of the application extended command set

INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIGITAL ADDRESSABLE LIGHTING INTERFACE –**Part 201: Particular requirements for control gear –
Fluorescent lamps (device type 0)**

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.

This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 62386-201 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

This second edition cancels and replaces the first edition published in 2009 and constitutes a technical revision. The essential changes with respect to the first edition are:

- references to subclauses in IEC 62386-101 and IEC 62386-102 updated to the new structure of the standard;
- test sequence reworked and description of the test sequences in form of a pseudo code instead of flow charts.

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

CDV	Report on voting
34C/1082/CDV	34C/1103/RVC

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 Part 201 of IEC 62386 is intended to be used in conjunction with:

- IEC 62386-101, which contains general requirements for system components;
- IEC 62386-102, which contains general requirements for the control gear.

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

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

A bilingual version of this publication may be issued at a later date.

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.

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.

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

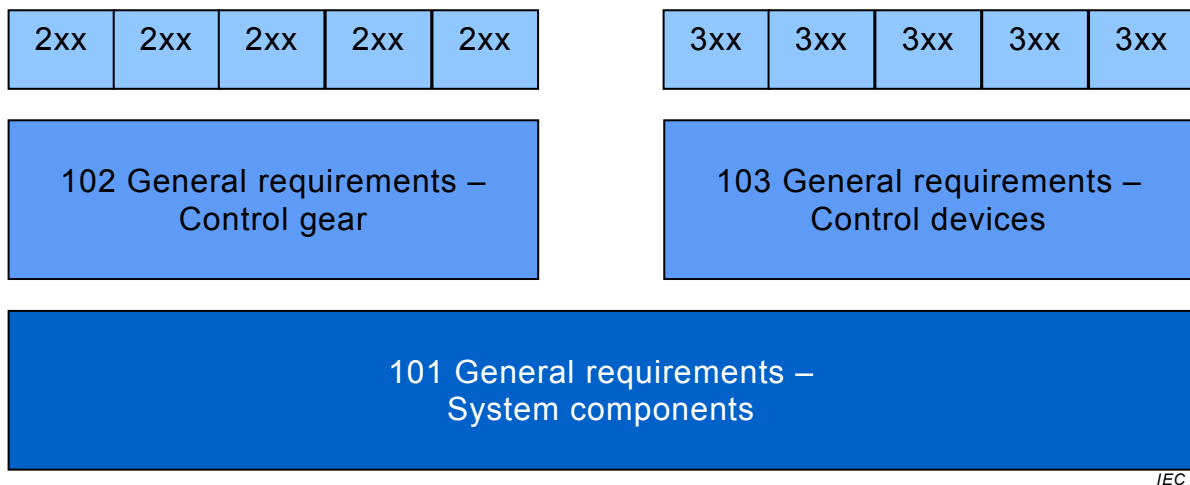


Figure 1 – IEC 62386 graphical overview

This second edition of IEC 62386-201 is published in conjunction with the second edition of IEC 62386-101 and the second edition of 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 the 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 sentence "The requirements of fluorescent lamp control gear (device type 0) shall conform to IEC 62386-1xx, Clause "n", 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 Part 201.

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".

DIGITAL ADDRESSABLE LIGHTING INTERFACE – Part 201: Particular requirements for control gear – Fluorescent lamps (device type 0)

1 Scope

This part of IEC 62386 specifies a ~~protocol and methods of test bus system~~ for control by digital signals of electronic ~~control gear for use on a.c. or d.c. supplies, associated with fluorescent lamps~~ lighting equipment. This electronic lighting equipment should be in line with the requirements of IEC 61347.

This document is applicable to control gear associated with fluorescent lamps.

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

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61347 (all parts), *Lamp controlgear*

IEC 62386-101:~~2009~~ 2014, *Digital addressable lighting interface – Part 101: General requirements – System components*

IEC 62386-102:~~2009~~ 2014, *Digital addressable lighting interface – Part 102: General requirements – Control gear*

INTERNATIONAL STANDARD



**Digital addressable lighting interface –
Part 201: Particular requirements for control gear – Fluorescent lamps
(device type 0)**



CONTENTS

FOREWORD	3
INTRODUCTION.....	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 General	6
5 Electrical specification	7
6 Interface power supply	7
7 Transmission protocol structure	7
8 Timing	7
9 Method of operation.....	7
10 Declaration of variables	7
11 Definition of commands	8
12 Test procedures	8
Figure 1 – IEC 62386 graphical overview	5
Table 1 – Declaration of additional variables.....	8

INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIGITAL ADDRESSABLE LIGHTING INTERFACE –**Part 201: Particular requirements for control gear –
Fluorescent lamps (device type 0)**

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 62386-201 has been prepared by subcommittee 34C: Auxiliaries for lamps, of IEC technical committee 34: Lamps and related equipment.

This second edition cancels and replaces the first edition published in 2009 and constitutes a technical revision. The essential changes with respect to the first edition are:

- references to subclauses in IEC 62386-101 and IEC 62386-102 updated to the new structure of the standard;
- test sequence reworked and description of the test sequences in form of a pseudo code instead of flow charts.

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

CDV	Report on voting
34C/1082/CDV	34C/1103/RVC

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 Part 201 of IEC 62386 is intended to be used in conjunction with:

- IEC 62386-101, which contains general requirements for system components;
- IEC 62386-102, which contains general requirements for the control gear.

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

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

A bilingual version of this publication may be issued at a later date.

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.

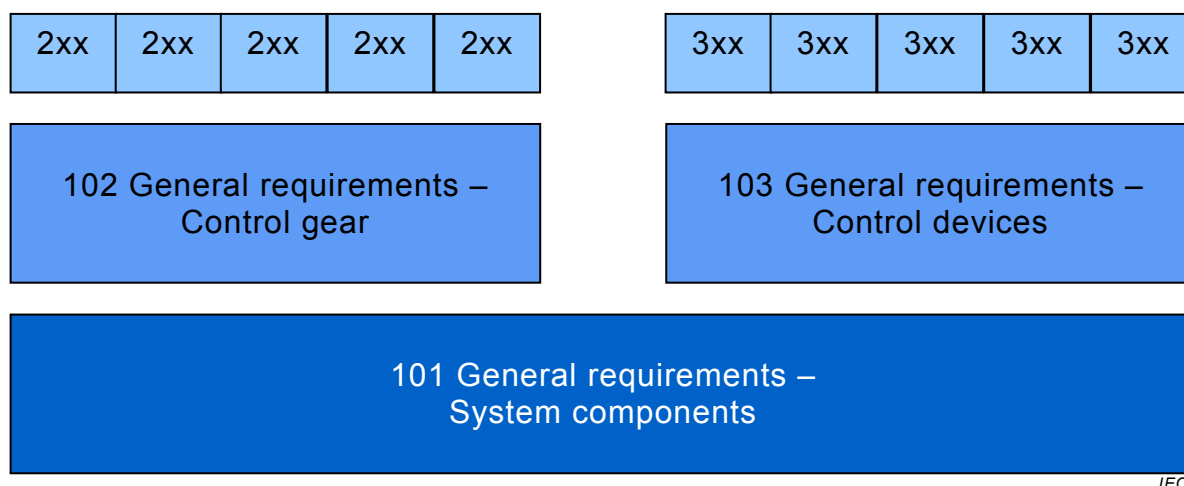
INTRODUCTION

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.

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



IEC

Figure 1 – IEC 62386 graphical overview

This second edition of IEC 62386-201 is published in conjunction with the second edition of IEC 62386-101 and the second edition of 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 the 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.

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 sentence "The requirements of fluorescent lamp control gear (device type 0) shall conform to IEC 62386-1xx, Clause "n", 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 Part 201.

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".

DIGITAL ADDRESSABLE LIGHTING INTERFACE –
Part 201: Particular requirements for control gear –
Fluorescent lamps (device type 0)

1 Scope

This part of IEC 62386 specifies a bus system for control by digital signals of electronic lighting equipment. This electronic lighting equipment should be in line with the requirements of IEC 61347.

This document is applicable to control gear associated with fluorescent lamps.

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

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61347 (all parts), *Lamp controlgear*

IEC 62386-101:2014, *Digital addressable lighting interface – Part 101: General requirements – System components*

IEC 62386-102:2014, *Digital addressable lighting interface – Part 102: General requirements – Control gear*