IEC 62386-305

Edition 1.0 2023-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Digital addressable lighting interface – Part 305: Particular requirements – Input devices – Colour sensor

Interface d'éclairage adressable numérique – Partie 305: Exigences particulières – Dispositifs d'entrée – Capteur de couleur



IEC 62386-305:2023-09(en-fr)



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

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DIGITAL ADDRESSABLE LIGHTING INTERFACE –

Part 305: Particular requirements – Input devices – Colour sensor

FOREWORD

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IEC 62386-305 has been prepared by IEC technical committee 34: Lighting. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
34/1065/FDIS	34/1080/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This document is intended to be used in conjunction with:

- IEC 62386-101, which contains general requirements for system components;
- IEC 62386-103, 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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

IMPORTANT – The "colour inside" logo on the cover page of this document 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

The IEC 62386 series specifies a bus system for control by digital signals of electronic lighting equipment and contains several parts, referred to as series. The IEC 62386-1xx series includes the basic specifications. IEC 62386-101 contains general requirements for system components, IEC 62386-102 extends this information with general requirements for control gear and IEC 62386-103 extends it further with general requirements for control devices. IEC 62386-104 and IEC 62386-105 can be applied to control gear or control devices. IEC 62386-104 gives requirements for wireless and alternative wired system components. IEC 62386-105 describes firmware transfer. IEC 62386-150 gives requirements for an auxiliary power supply which can be stand-alone, or built into control gear or control devices.

The IEC 62386-2xx series extends 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 IEC 62386-3xx series extends 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 62386-305 is intended to be used in conjunction with IEC 62386-101, and IEC 62386-103. The division 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.

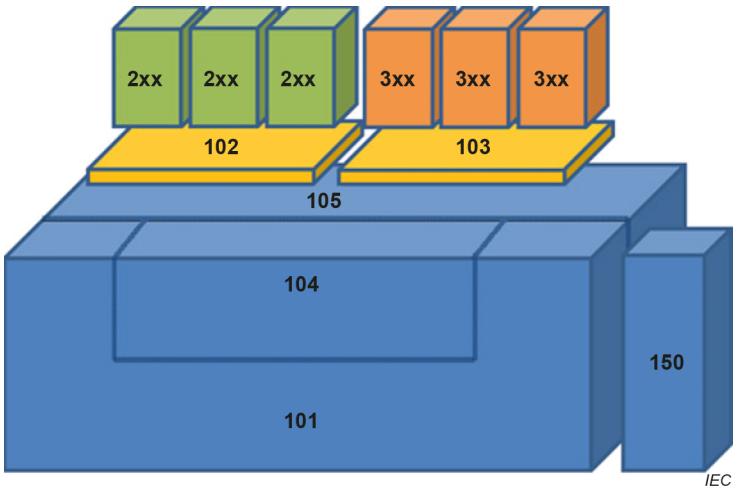


Figure 1 – IEC 62386 graphical overview

When this part of IEC 62386 refers to any of the clauses of the IEC 62386-1xx series, the extent to which such a clause is applicable is specified. The other parts also include additional requirements, as necessary.

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 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".

DIGITAL ADDRESSABLE LIGHTING INTERFACE –

Part 305: Particular requirements – Input devices – Colour sensor

1 Scope

This part of IEC 62386 is applicable to input devices that provide the lighting control system with colour information by colour sensing.

This document is only applicable to IEC 62386-103 input devices that deliver colour information to the lighting control system through colour sensing.

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 62386-101:2022, *Digital addressable lighting interface – Part 101: General requirements – System components*

IEC 62386-103:2022, *Digital addressable lighting interface – Part 103: General requirements – Control devices*

IEC 62386-333, *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 terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

3.1
instance
observed colour signal processing unit of an input device

[SOURCE: IEC 62386-101:2022, 3.29, modified – Addition of "observed colour".]

3.2
strictly monotonic
either entirely increasing or decreasing without repeating values

3.3
observed colour
colour as detected by physical sensor on input device

4 General

4.1 General requirements

The requirements of IEC 62386-103:2022, Clause 4 apply, with the restrictions, changes and additions identified below.

4.2 Version number

In IEC 62386-103:2022, 4.2, "103" shall be replaced by "305", "version number" shall be replaced by "extended version number" and *"versionNumber"* shall be replaced by *"extendedVersionNumber"*.

4.3 Insulation

According to IEC 61347-1 it can be required that the input device has at least supplementary insulation. This depends on the connected components. In this case special attention should be paid with respect to the sensor(s) being used.

NOTE IEC 62386-101:2022 requires the interface of system components to have at least basic insulation.

5 Electrical specification

The requirements of IEC 62386-103:2022, Clause 5 apply.

6 Bus power supply

The requirements of IEC 62386-103:2022, Clause 6 apply.

7 Transmission protocol structure

The requirements of IEC 62386-103:2022, Clause 7 apply.

NOTE Subclause 9.4 provides detailed event information applicable to instances.

8 Timing

The requirements of IEC 62386-103:2022, Clause 8 apply.

9 Method of operation

9.1 General

The requirements of IEC 62386-103:2022, Clause 9 apply, with the following restrictions and additions.

9.2 Instance type

The instance type (*"instanceType"*) shall be equal to 5, indicating a colour sensor.