

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 62386-303:2017 sisaldab Euroopa standardi EN 62386-303:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 62386-303:2017 consists of the English text of the European standard EN 62386-303:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.09.2017.	Date of Availability of the European standard is 15.09.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 29.140.50, 29.140.99

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

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

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.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62386-101	2014	Digital addressable lighting interface -	EN 62386-101	2014
+ A1	— ¹⁾	Part 101: General requirements - System components	-	-
IEC 62386-103	2014	Digital addressable lighting interface -	EN 62386-103	2014
+ A1	— ²⁾	Part 103: General requirements - Control devices	-	-
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.

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 (<i>device/instance, event</i>).....	19
11.3.2 POWER NOTIFICATION (<i>device</i>)	19

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 (<i>DTR0</i>)	20
11.8.3	SET HOLD TIMER (<i>DTR0</i>)	20
11.8.4	SET REPORT TIMER (<i>DTR0</i>).....	20
11.8.5	SET DEADTIME TIMER (<i>DTR0</i>)	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 “ <i>inputValue</i> ”	10
	Table 2 – Occupancy and vacancy events	13
	Table 3 – Event filter.....	14
	Table 4 – Event timer setting	15
	Table 5 – “ <i>manualCapabilityInstance3xx</i> ” values	16
	Table 6 – “ <i>instanceErrorByte</i> ” 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

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.

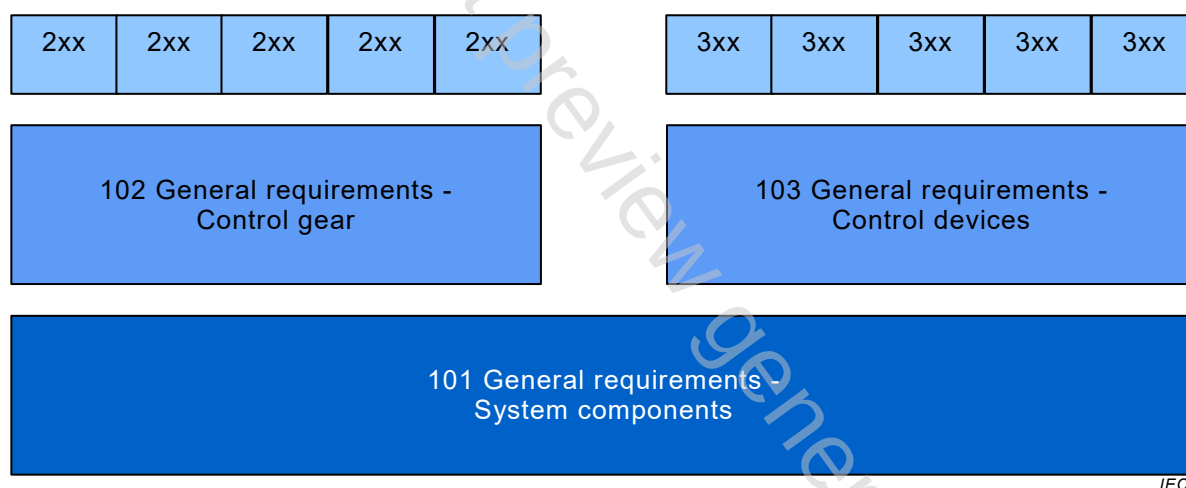


Figure 1 – IEC 62386 graphical overview

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

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”