SLOVENSKI STANDARD
SIST EN 62386-207:2010

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Digitalni naslovljivi vmesnik za razsvetljavo - 207. del: Posebne zahteve za krmilja; moduli LED (naprava tipa 6) (IEC 62386-207:2009)

Digital addressable lighting interface - Part 207: Particular requirements for control gears; led modules (device type 6) (IEC 62386-207:2009)

Digital adressierbare Schnittstelle für die Beleuchtung - Teil 207: Besondere Anforderungen an Betriebsgeräte - LED-Module (Gerätetyp 6) (IEC 62386-207:2009)

Interface d'éclairage adressable numérique - Partie 207: Exigences particulières pour les appareillages; modules de del (dispositifs de type 6) (CEI 62386-207:2009)

Ta slovenski standard je istoveten z: **EN 62386-207:2009**

ICS:

29.140.50	Instalacijski sistemi za razsvetljavo	Lighting installation systems
35.200	Vmesniška in povezovalna oprema	Interface and interconnection equipment

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EUROPEAN STANDARD

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English version

Digital addressable lighting interface - Part 207: Particular requirements for control gear - LED modules (device type 6)

(IEC 62386-207:2009)

Interface d'éclairage adressable numérique - Partie 207: Exigences particulières pour les appareillages de commande - Modules de DEL (dispositifs de type 6) (CEI 62386-207:2009)

Digital adressierbare Schnittstelle für die Beleuchtung - Teil 207: Besondere Anforderungen an Betriebsgeräte - LED-Module (Gerätetyp 6) (IEC 62386-207:2009)

This European Standard was approved by CENELEC on 2009-09-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 62386-207:2009 E

Foreword

The text of document 34C/888/FDIS, future edition 1 of IEC 62386-207, prepared by SC 34C, Auxiliaries for lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62386-207 on 2009-09-01.

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

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2010-06-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-09-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62386-207:2009 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 60598-1	NOTE	Harmonized as EN 60598-1:2008 (modified).
IEC 60669-2-1	NOTE	Harmonized as EN 60669-2-1:2004 (modified).
IEC 60921	NOTE	Harmonized as EN 60921:2004 (not modified).
IEC 60923	NOTE	Harmonized as EN 60923:2005 (not modified).
IEC 60925	NOTE	Harmonized as EN 60925:1991 (not modified).
IEC 60929	NOTE	Harmonized as EN 60929:2006 (not modified).
IEC 61347-1	NOTE	Harmonized as EN 61347-1:2008 (modified).
IEC 61347-2-3	NOTE	Harmonized as EN 61347-2-3:2001 (not modified).
IEC 61547	NOTE	Harmonized as EN 61547:1995 (not modified).
IEC 62034	NOTE	Harmonized as EN 62034:2006 (not modified).
CISPR 15	NOTE	Harmonized as EN 55015:2006 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

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

Publication	Year	Title	EN/HD	Year
IEC 62386-101	2009	Digital addressable lighting interface - Part 101: General requirements - System	EN 62386-101	2009
IEC 62386-102	2009	Digital addressable lighting interface - Part 102: General requirements - Control gear	EN 62386-102	2009

IEC 62386-207

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Digital addressable lighting interface –
Part 207: Particular requirements for control gear – LED modules (device type 6)**

**Interface d'éclairage adressable numérique –
Partie 207: Exigences particulières pour les appareillages de commande – Modules de DEL (dispositifs de type 6)**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIGITAL ADDRESSABLE LIGHTING INTERFACE –

Part 207: Particular requirements for control gear – LED modules (device type 6)

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.
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International Standard IEC 62386-207 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/888/FDIS	34C/892/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 207 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.

INTRODUCTION

This first edition of IEC 62386-207 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 recognised.

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 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 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 Part 207.

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 207: Particular requirements for control gear – LED modules (device type 6)

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 LED modules.

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.

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

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

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 shall apply, with the following additional definitions.

3.1
reference measurement
process during which control gear determines the actual LED load with internal procedures and measurements

NOTE The details of this process are a matter of detailed design of control gear and are outside the scope of this standard.

3.2
detection of load decrease
recognition that the actual LED load is significantly below the load measured during a successful “reference measurement”

NOTE The criteria for regarding a load increase or decrease as significant can only be decided by the manufacturer and these criteria should be described in the manual.

3.3
detection of load increase
recognition that the actual LED load is significantly above the load measured during a successful “reference measurement”

NOTE The criteria for regarding a load increase or decrease as significant can only be decided by the manufacturer and these criteria should be described in the manual.

3.4
current protector
protective device switching off the output if the actual LED load differs by more than ΔP from the load detected during the “reference measurement”

NOTE The value ΔP can only be specified by the manufacturer of the control gear and this value should be stated in the manual.

3.5
thermal overload
scenario where the maximum permissible control gear temperature is exceeded

3.6
thermal shut down
scenario where control gear switches off the LED because of a persistent thermal overload

3.7
light level reduction due to thermal overload
reduction of light level with the objective of decreasing control gear temperature

4 General

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

5 Electrical specification

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

6 Interface power supply

The requirements of Clause 6 of IEC 62386-101:2009 and Clause 6 of IEC 62386-102:2009 apply, if a power supply is integrated with the control gear.

7 Transmission protocol structure

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

8 Timing

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

9 Method of operation

The requirements of Clause 9 of IEC 62386-101:2009 and Clause 9 of IEC 62386-102:2009 apply, except as follows:

Addition to Clause 9 of IEC 62386-102:2009:

9.9 Detection of load decrease

If the actual LED load is significantly below the load measured during a successful “reference measurement”, the gear may switch off the lamp if this is necessary for its safe operation. The flag bit ‘load decrease’ is to be set.

9.10 Detection of load increase

If the actual LED load is significantly above the load measured during a successful “reference measurement”, the gear may switch off if this is necessary for its safe operation. The flag bit ‘load increase’ is to be set.

9.11 Current protector

If the actual LED load of the control gear differs by more than a defined amount ΔP from the load detected during the reference measurement, the current protector becomes active and switches off the LED.

The current protector shall not become active until there has been a successful reference measurement.

There are two possible situations in which the current protector becomes active:

– Overload: The actual LED load is higher than the load detected during the reference measurement by at least ΔP.

– Underload: The actual LED load is lower than the load detected during the reference measurement by at least ΔP.

The current protector shall become inactive either on mains voltage interruption or on receipt of a command which causes the arc power level to be 0. If after switching on again, the situation causing the current protector to become active still remains, the current protector shall become active again.

The current protector can be enabled and disabled by the commands 225 “ENABLE CURRENT PROTECTOR” and 226 “DISABLE CURRENT PROTECTOR”.

An active current protector shall become inactive upon reception of command 226 “DISABLE CURRENT PROTECTOR”.

If the current protector is active, command 224 “REFERENCE SYSTEM POWER” shall be ignored.

9.12 LED replacement on gear with load increase/decrease or current protector feature

If a LED is replaced with one of a different wattage without a new “REFERENCE SYSTEM POWER” measurement being performed, the control gear shall detect a load increase or load decrease as appropriate.

NOTE If a LED is replaced with one of the same wattage, the user should initiate a new ‘REFERENCE SYSTEM POWER’ measurement only if this is recommended by the manufacturer.

9.13 Fast Fade Time

The Fast Fade Time is used instead of the Fade Time if the Fade Time is equal to 0. The Fast Fade Time can be set to zero or to any value in the range “Min Fast Fade Time” to 27 as defined in Table 1.

Programming the Fast Fade Time to 0 means “no fade” (change of light output as quickly as possible).