IEC 62031

Edition 2.0 2018-03

INTERNATIONAL STANDARD

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LED modules for general lighting – Safety specifications

Modules à LED pour éclairage général – Spécifications de sécurité

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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CONTENTS

FOREWORD 4
1 Scope 6
2 Normative references 6
3 Terms and definitions 6
4 General requirements 8
5 General test requirements 8
6 Marking 9
6.1 Overview 9
6.2 Contents of marking for built-in and for independent LED modules 11
6.3 Location of marking for built-in LED modules 12
6.4 Location of marking for independent LED modules 12
6.5 Marking of integral LED modules 12
6.6 Durability and legibility of marking 12
7 Terminals 12
7.1 Integral terminals 12
7.2 Terminals other than integral terminals 13
8 Earthing 13
9 Protection against accidental contact with live parts 13
10 Moisture resistance and insulation 13
11 Electric strength 13
12 Fault conditions 13
12.1 General 13
12.2 Overpower condition 13
13 Conformity testing during manufacture 14
14 Construction 14
15 Creepage distances and clearances 14
16 Screws, current-carrying parts and connections 14
17 Resistance to heat, fire and tracking 14
18 Resistance to corrosion 14
19 Information for luminaire design 14
20 Heat management 15
20.1 General 15
20.2 Thermal interface material 15
20.3 Heat protection 15
21 Photobiological safety 15
21.1 UV radiation 15
21.2 Blue light hazard 15
21.3 Infrared radiation 15
Annex A (normative) Test conditions 16
Annex B (informative) Conformity testing during manufacture 17
Annex C (informative) Information for luminaire design 18
C.1 Heat management 18
C.1.1 General 18

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C.1.2 Design freedom 18
C.1.3 Testing in the luminaire 20
C.2 Water contact 20
C.3 Blue light hazard assessment 20
C.3.1 LED modules of RG0 unlimited and RG1 unlimited 20
C.3.2 LED modules with a threshold illuminance E_{thr} 20
C.4 Working voltage 20
Annex D (normative) Abnormal temperature test 21
D.1 Test procedure 21
D.2 Test setup 21
Bibliography 23

Figure 1 – Symbol for built-in LED modules 11
Figure C.1 – Diagrammatic cross section of an LED module fixed by means of a lampholder to a luminaire 19
Figure D.1 – Abnormal temperature test setup 22

Table 1 – Overview on marking provisions 9

urrently in preview, click buy full versi

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LED MODULES FOR GENERAL LIGHTING – SAFETY SPECIFICATIONS

FOREWORD

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International Standard IEC 62031 has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

This second edition cancels and replaces the first edition published in 2008, Amendment 1:2012 and Amendment 2:2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) the scope was clarified as well as the wording in several other clauses;

b) the normative references were updated;

c) the definitions for "replaceable LED module", "non-replaceable LED module" and "non-user replaceable LED module" were introduced while other definitions covered by IEC 62504 have been removed;

d) the marking clause was restructured and a table added to provide an informative overview;

e) the marking requirements for built-in LED modules were changed;

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f) the entry for the marking with the working voltage was revised;

g) the provisions for terminals and heat management were revised;

h) Annex B was deleted;

i) information for luminaire design with regard to working voltage and water contact was introduced;

j) an abnormal temperature test was introduced.

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

FDIS	Report on voting
34A/2052/FDIS	34A/2061/RVD

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

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

NOTE In this standard, the following print types are used:

– Requirements proper: in roman type.

– *Test specifications: in italic type*.

– Explanatory matter: in smaller roman type.

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LED MODULES FOR GENERAL LIGHTING – SAFETY SPECIFICATIONS

1 Scope

This document specifies general and safety requirements for light-emitting diode (LED) modules:

- non-integrated LED modules (LEDni modules) and semi-integrated LED modules (LEDsi modules) for operation under constant voltage, constant current or constant power;
- Integrated LED modules (LEDi modules) for use on DC supplies up to 250 V or AC supplies up to 1 000 V at 50 Hz or 60 Hz.

LED modules within the scope of this document can be integral, built-in or independent.

This document is not applicable for LED lamps.

NOTE The performance requirements for LED modules are specified in IEC 62717.

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 60598-1:2014, *Luminaires – Part 1: General requirements and tests*
IEC 60598-1:2014/AMD1:2017

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 61347-1:2015, *Lamp controlgear – Part 1: General and safety requirements*
IEC 61347-1:2015/AMD1:2017

IEC 62471:2006, *Photobiological safety of lamps and lamp systems*

IEC 62504, *General lighting – Light emitting diode (LED) products and related equipment – Terms and definitions*

IEC TR 62778:2014, *Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires*

ISO 4046-4:2016, *Paper, board, pulp and related terms – Vocabulary – Part 4: Paper and board grades and converted products*

ISO 7089:2000, *Plain washers – Normal series – Product grade A*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62504 and the following apply.

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