Madalpingelised elektripaigaldised. Osa 5-559: Elektriseadmete valik ja paigaldamine. Valgustid ja valgustuspaigaldised (IEC 60364-5-55:2011, modified)

Low-voltage electrical installations - Part 5-559: Selection and erection of electrical equipment - Luminaires and lighting installations (IEC 60364-5-55:2011, modified)

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-HD 60364-5-559:2013 sisaldab Euroopa standardi HD 60364-5-559:2012 ingliskeelset teksti.	This Estonian standard EVS-HD 60364-5-559:2013 consists of the English text of the European standard HD 60364-5-559:2012.
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 11.05.2012.	Date of Availability of the European standard is 11.05.2012.
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 91.140

Võtmesõnad: building, electrical installation, lighting, luminaire, selection,

HARMONIZATION DOCUMENT

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

HD 60364-5-559

May 2012

ICS 91.140

Supersedes HD 60364-5-559:2005 + corr. Oct.2007

English version

Low-voltage electrical installations - Part 5-559: Selection and erection of electrical equipment - Luminaires and lighting installations

(IEC 60364-5-55:2011, modified)

Installations électriques à basse tension - Partie 5-559: Choix et mise en œuvre des matériels électriques - Luminaires et installations d'éclairage (CEI 60364-5-55:2011, modifiée)

Errichten von Niederspannungsanlagen - Teil 5-559: Auswahl und Errichtung elektrischer Betriebsmittel - Leuchten und Beleuchtungsanlagen (IEC 60364-5-55:2011, modifiziert)

This Harmonization Document was approved by CENELEC on 2012-03-14. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document at national level.

Up-to-date lists and bibliographical references concerning such national implementations may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This Harmonization Document exists in three official versions (English, French, German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, 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, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. HD 60364-5-559:2012 E

Foreword

The text of document (64/1805/FDIS (CLAUSE 559)), future edition 2 of IEC 60364-5-55, prepared by IEC TC 64, "Electrical installations and protection against electric shock", was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as HD 60364-5-559:2012.

A draft amendment, which covers common modifications to IEC 60364-5-55 (64/1805/FDIS (CLAUSE 559)), was prepared by CLC/TC 64 "Electrical installations and protection against electric shock" and approved by CENELEC.

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)	2013-03-14
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-03-14

This document supersedes HD 60364-5-559:2005 + corr. Oct.2007.

HD 60364-5-559:2012 includes the following significant technical changes with respect to HD 60364-5-559:2005 + corr. Oct.2007:

– additional requirements for connection of luminaires to the fixed wiring;
– modification of requirements regarding the fixing of luminaires;
– inclusion of alternative solutions for connecting devices used for through wiring and for connection of luminaires to the supply;
– withdrawal of Clause 556, as HD 60364-5-56 now covers this matter.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60364-5-55:2011 was approved by CENELEC as a European Standard with agreed common modifications.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60079 series	NOTE	Harmonized in EN 60079 series.
IEC 60155:1993	NOTE	Harmonized as EN 60155:1995 (not modified).
IEC 60309 series	NOTE	Harmonized as EN 60309 series.
IEC 60332-1-1:2004	NOTE	Harmonized as EN 60332-1-1:2004 (not modified).
IEC 60332-1-2:2004	NOTE	Harmonized as EN 60332-1-2:2004 (not modified).
IEC 60364-1:2005	NOTE	Harmonized as HD 60364-1:2008 (modified)
IEC 60364-5-52:2009	NOTE	Harmonized as HD 60364-5-52:2011 (modified)
IEC 60598-1:2008	NOTE	Harmonized as EN 60598-1:2008 (modified)
IEC 60598-2-14	NOTE	Harmonized as EN 60598-2-14.
IEC 61140	NOTE	Harmonized as EN 61140.
IEC 61241 series	NOTE	Harmonized in EN 61241 series.

IEC 61347-1:2007	NOTE	Harmonized as EN 61347-1:2008 (modified)
IEC 61557-12	NOTE	Harmonized as EN 61557-12.
IEC 61558-2-6:2009	NOTE	Harmonized as EN 61558-2-6:2009 (not modified).
IEC 61995 series	NOTE	Harmonized in EN 61995 series

COMMON MODIFICATIONS

559.3 General requirements for installations

Replace note 2 by:

NOTE 2 Concerning the correct selection of the protection and control devices, information about the currents (starting current, harmonics, leakage current, primary ignition current, etc.) generated by the lamps should be provided.

Add Annexes ZA and ZB as follows:

Annex ZA
(normative)
Normative references to international publications with their corresponding European publications

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.

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 60050-195	-	International Electrotechnical Vocabulary (IEV) - Chapter 195: Earthing and protection against electric shock	-	-
IEC 60050-826	-	International Electrotechnical Vocabulary - Part 826: Electrical installations	-	-
IEC 60079	Series	Explosive atmospheres	EN 60079	Series
IEC 60245-3	-	Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 3: Heat resistant silicone insulated cables	-	-
IEC 60331-11	-	Tests for electric cables under fire conditions - Circuit integrity - Part 11: Apparatus - Fire alone at a flame temperature of at least 750 °C	-	-
IEC 60331-21	-	Tests for electric cables under fire conditions - Circuit integrity - Part 21: Procedures and requirements - Cables of rated voltage up to an dincluding 0,6/1,0 kV	-	-
IEC 60364-1 (mod) + corr. August	2005 2009	Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions	HD 60364-1	2008
IEC 60364-4-41 (mod)	2005	Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41 + corr. July	2007 2007
IEC 60364-4-42	-	Low voltage electrical installations - Part 4-42: Protection for safety - Protection against thermal effects	HD 60364-4-42	-
IEC 60364-4-43	-	Low voltage electrical installations - Part 4-43: Protection for safety - Protection against overcurrent	HD 60364-4-43	-
IEC 60364-5-53	2001	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control	-	-
IEC 60364-7-712	-	Electrical installations of buildings - Part 7-712: Requirements for special installations or locations - Solar photovoltaic (PV) power supply systems	HD 60364-7-712	-
IEC 60364-7-717	-	Low-voltage electrical installations - Part 7-717: Requirements for special installations or locations - Mobile or transportable units	HD 60364-7-717	-
IEC 60570	-	Electrical supply track systems for luminaires	EN 60570	-

Publication	Year	Title	EN/HD	Year
IEC 60598	Series	Luminaires	EN 60598	Series
IEC 60598-2-13	2006	Luminaires - Part 2-13: Particular requirements - Ground recessed luminaires	EN 60598-2-13 + corr. December	2006 2006
IEC 60598-2-22 (mod)	1997	Luminaires - Part 2-22: Particular requirements - Luminaires for emergency lighting	EN 60598-2-22 + corr. October	1998 2007
IEC 60670	Series	Boxes and enclosures for electrical accessories for household and similar fixed electrical installations	EN 60670	Series
IEC 60670-21	-	Boxes and enclosures for electrical accessories for household and similar fixed electrical installations - Part 21: Particular requirements for boxes and enclosures with provision for suspension means	EN 60670-21	-
IEC 60702-1	-	Mineral insulated cables and their terminations with a rated voltage not exceeding 750 V - Part 1: Cables	EN 60702-1	-
IEC 60702-2	-	Mineral insulated cables and their terminations with a rated voltage not exceeding 750 V - Part 2: Terminations	EN 60702-2	-
IEC 60998	Series	Connecting devices for low-voltage circuits for household and similar purposes	EN 60998	Series
IEC 61048	2006	Auxiliaries for lamps - Capacitors for use in tubular fluorescent and other discharge lamp circuits - General and safety requirements	EN 61048	2006
IEC 61535	-	Installation couplers intended for permanent connection in fixed installation	EN 61535	-
IEC 61995	Series	Devices for the connection of luminaires for household and similar purposes	EN 61995	Series
IEC 60417	Data base	Graphical symbols for use on equipment	-	-
ISO 8528-12	-	Reciprocating internal combustion engine driven alternating current generating sets - Part 12: Emergency power supply to safety services	-	-

Annex ZB
(normative)

Special national conditions

Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions.

NOTE If it affects harmonization, it forms part of the Harmonization Document.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

Clause Special national condition

559.5.1 **United Kingdom**

In the UK one of the following is also acceptable.

a) A ceiling rose to BS67
b) A luminaire supporting coupler to BS6972 or BS7001
c) A batten lamp holder or a pendant set to BS EN 60598
d) A luminaire to BS EN 60598
e) A suitable socket-outlet to BS 1363-2, BS546 or BS EN 60309-2
f) A plug-in lighting distribution unit to BS5733
g) A connection unit to BS 1363-4
h) Appropriate terminals enclosed in a box complying with BS 4662

559.5.1 **Denmark**

In Denmark, a luminaire supporting plug and socket-outlet system in accordance with Information sheet, Electrical equipment no. 16/09 (Meddelelse el-materiel nr. 16/09) is used.

559.5.2 **Denmark**

In Denmark the luminaire supporting means and its fixation to the structure of the building shall ensure the minimal suspension of a load of 25 kg.

559.5.3 **Denmark**

In Denmark if no information is given in the luminaire manufacturer's information sheet regarding the current carrying value of the through wiring in the luminaire depending of the installation method, the biggest fuse allowed up-stream in the installation is 10A, which on the safe side corresponds to the current carrying capacity for a 1,5 mm^2 Cu conductor

559.5.3 In Denmark the third paragraph is replaced by the following requirement:

Cables for through wiring in luminaires prepared for through wiring but not delivered by the manufacturer, shall be selected in accordance with the manufacturer's instruction sheet.

NOTE In accordance to EN 60598-1 if special cables or sleeves, e.g. due to high temperatures, are necessary, the through wiring shall always be factory assembled.

559.5.5 **Germany**

In Germany, groups of luminaires divided between the three line conductors of a three-phase circuit with only one common neutral conductor shall be provided with at least one device isolating simultaneously all line conductors.

559.10 **Austria and Germany**

In Austria and Germany, Table A.1 of EN 60598-2-13:2006 is included for information.

Intended usage	Temperature *T* °C a	Height *H* mm b	Static load kN c
1) In normally non-accessible areas (according to Wiring Rules)	X	X	X
2) In restricted accessible areas (e.g. pedestrians and pedal cycles only)	100	0 d	5
3) In all other accessible areas (e.g. carriageways, parkings, etc.)	65 or 80 e	75	20
4) As above, but in areas for snow-ploughs and / or de-icing agents	65 or 80 e	0 d	20
5) In particular areas (where working temperatures may cause injuries, e.g. nurseries, swimming pools, etc.)	40	0 d	5

NOTE Care should be taken regarding the compatibility between particular environments and luminaire construction, e.g. for the presence of de-icing agents, salt atmosphere, etc.

a Maximum value, see 13.3.2 and 13.12.

b Maximum value, see Fig.1. From 0 to 75 mm, the top side protruding over the ground should have a slope of α_{max} = 35°, with vertex at 3 mm out of the edge (for a suitable chamfering).

c Minimum value, see 13.6.1.

d Up to 5 mm in these areas and up to 25 mm when installed in no-walking places, e.g. close to walls, buildings, etc.

e 65°C for unprotected metal and 80°C for glass. Depending on the specific type of installation (in particular for the risk assessment).

Annex B **Austria and Germany**

In Austria and Germany, Table B.1 apply.

Table B.1 – Selection of luminaires and lamp controlgear according to the location and surface of installation [for Annex B; Germany; Clause 559.4 ; There is a use of the following selection]

Location and surface of installation			Luminaires according to EN 60598	Lamp controlgear
Non-combustible			F, F, D, M, M, M, ~~F~~ And luminaires without such marking	
Combustible [a]			F, F, D, M, M, M	110, 130
Special locations	Covered with thermal insulation		F	F [b]
	Equipment (Furniture)		M [c], M, M	130 [c], 110
	Locations with fire risk - Clause 482		M, M, D	110
		Accumulation of dust and/or fibres	F, F, D [d]	D [b]

a Building materials normally or heavily inflammable (according to DIN 4102).

b This combination of symbols is not standardised; the safety criteria of the lamp controlgear corresponds to that of the luminaire.

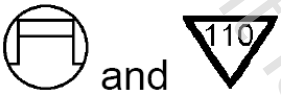
c Permitted only if the material is at least normally inflammable.

d Permitted only if the luminaires including the lamps comply to IP5X.

Annex B **Austria and Germany**

In Austria and Germany, Table B.2 applies.

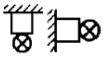
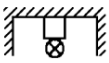
Table B.2 – Explanation of additional symbols used for luminaires and controlgear for lamps

	Luminaires with fluorescent lamps suitable for installation in and on equipment, e.g. furniture, as specified in DIN VDE 0710-14 "Luminaires for furniture". Provided one of the types of mounting stated by the manufacturer is applied (see Table B.3) such luminaires may be fixed on equipment consisting of materials comparable to non-combustible materials, heavily or normally inflammable building materials even such materials are coated, painted or veneered.
	Luminaires with limited surface temperature, suitable for installation in or on equipment, e.g. furniture, as specified in DIN VDE 0710-14 "Luminaires for furniture". Provided one of the types of mounting stated by the manufacturer is applied (see Table B.3) such luminaires may be fixed on equipment consisting of materials the fire resisting capability of which is not known and on surfaces which are coated, painted or veneered.
	Independent lamp controlgear, which may be fixed directly on non combustible, heavily or normally inflammable building materials. Such lamp controlgear may not reach a surface temperature exceeding 130 °C.
	Independent lamp controlgear which may be fixed also in and on equipment (furniture). The materials of the equipment may be coated, painted or veneered and their fire resistant capability must not be known. Such lamp controlgear may not reach a surface temperature exceeding 110 °C.
 Typ B	Type tested luminaires suitable for locations with explosion risk.

Annex B **Austria and Germany**

In Austria and Germany, Table B.3 applies.

Table B.3 – Explanation of additional symbols used for the mounting of luminaires marked with the symbols  or 

Description	Identification	
Only for …/ not for …	Only for …	Not for …
1 mounted on the ceiling		
2 mounted on the wall		
3 horizontally mounted on the wall		
4 vertically mounted on the wall		
5 mounted on the ceiling and horizontally mounted on the wall		
6 mounted on the ceiling and vertically mounted on the wall		
7 mounted in a rectangular corner with the lamp at one side		
8 mounted in a rectangular corner with the lamp below		
9 mounted in a rectangular corner with lamps at one side and below		
10 mounted in an U-profile		
11 suspended mounting		

CONTENTS

ELECTRICAL INSTALLATIONS OF BUILDINGS –

Part 5-55: Selection and erection of electrical equipment – Other equipment

550 Introduction

550.1 Scope

This part of IEC 60364 covers requirements for the selection and erection of low-voltage generating sets and for the selection and erection of luminaires and lighting installations intended to be part of the fixed installation.

550.2 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 60050-195, *International Electrotechnical Vocabulary – Part 195: Earthing and protection against electric shock*

IEC 60050-826, *International Electrotechnical Vocabulary – Part 826: Electrical installations*

IEC 60079 (all parts), *Explosive atmospheres*

IEC 60245-3, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 3: Heat resistant silicone insulated cables*

IEC 60331-11, *Tests for electric cables under fire conditions – Circuit integrity – Part 11: Apparatus – Fire alone at a flame temperature of at least 750 °C*

IEC 60331-21, *Tests for electric cables under fire conditions – Circuit integrity – Part 21: Procedures and requirements – Cables of rated voltage up to and including 0,6/1,0 kV*

IEC 60364-1:2005, *Low-voltage electrical installations – Part 1: Fundamental principles, assessment of general characteristics, definitions*

IEC 60364-4-41:2005, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60364-4-42, *Low-voltage electrical installations – Part 4-42: Protection for safety – Protection against thermal effects*

IEC 60364-4-43, *Low-voltage electrical installations – Part 4-43: Protection for safety – Protection against overcurrent*

IEC 60364-5-53:2001, *Electrical installations of buildings – Part 5-53: Selection and erection of electrical equipment – Isolation, switching and control*

IEC 60364-7-712, *Electrical installations of buildings – Part 7-712: Requirements for special installations or locations – Solar photovoltaic (PV) power supply systems*

IEC 60364-7-717, *Low-voltage electrical installations – Part 7-717: Requirements for special installations or locations – Mobile or transportable units*

IEC 60417 (all parts), *Graphical symbols for use on equipment*

IEC 60570, *Electrical supply track systems for luminaires*

IEC 60598 (all parts), *Luminaires*

IEC 60598-2-13:2006, *Luminaires – Part 2-13: Particular requirements – Ground recessed luminaires*

IEC 60598-2-22:1997, *Luminaires – Part 2-22: Particular requirements – Luminaires for emergency lighting*

IEC 60670 (all parts), *Boxes and enclosures for electrical accessories for household and similar fixed electrical installations*

IEC 60670-21, *Boxes and enclosures for electrical accessories for household and similar fixed electrical installations – Part 21: Particular requirements for boxes and enclosures with provision for suspension means*

IEC 60702-1, *Mineral insulated cables and their terminations with a rated voltage not exceeding 750 V – Part 1: Cables*

IEC 60702-2, *Mineral insulated cables and their terminations with a rated voltage not exceeding 750 V – Part 2: TÈerminations*

IEC 60998 (all parts), *Connecting devices for low-voltage circuits for household and similar purposes – Part 1: General requirements*

IEC 61048:2006, *Auxiliaries for lamps – Capacitors for use in tubular fluorescent and other discharge lamp circuits – General and safety requirements*

IEC 61535, *Installation couplers intended for permanent connection in fixed installations*

IEC 61995 (all parts), *Devices for the connection of luminaires for household and similar purposes*

ISO 8528-12, *Reciprocating internal combustion engine driven alternating current generating sets – Part 12: Emergency power supply to safety services*

550.3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

550.3.1
self-contained battery unit
unit comprising a battery and a charging and testing unit

550.3.2
non-maintained mode
operating mode of electrical equipment, essential for safety services, operating only when the normal supply fails

550.3.3
maintained mode
operating mode of electrical equipment, essential for safety services, operating at all times

550.3.4
safety services
those services in a building which are essential