SLOVENSKI STANDARD
SIST EN IEC 60825-12:2019

01-september-2019

Nadomešča:
SIST EN 60825-12:2004

Varnost laserskih izdelkov - 12. del: Varnost optičnih komunikacijskih sistemov v prostem prostoru, ki se uporabljajo za prenos informacij (IEC 60825-12:2019)

Safety of laser products - Part 12: Safety of free space optical communication systems used for transmission of information (IEC 60825-12:2019)

Sicherheit von Lasereinrichtungen - Teil 12: Sicherheit von optischen Freiraumkommunikationssystemen für die Informationsübertragung

Sécurité des appareils à laser - Partie 12: Sécurité des systèmes de communications optiques en espace libre utilisés pour la transmission d'informations

Ta slovenski standard je istoveten z: **EN IEC 60825-12:2019**

ICS:

31.260	Optoelektronika, laserska oprema	Optoelectronics. Laser equipment
33.180.01	Sistemi z optičnimi vlakni na splošno	Fibre optic systems in general

SIST EN IEC 60825-12:2019 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60825-12

April 2019

ICS 31.260

Supersedes EN 60825-12:2004

English Version

Safety of laser products - Part 12: Safety of free space optical communication systems used for transmission of information (IEC 60825-12:2019)

Sécurité des appareils à laser - Partie 12: Sécurité des systèmes de communication optiques en espace libre utilisés pour la transmission d'informations (IEC 60825-12:2019)

Sicherheit von Lasereinrichtungen - Teil 12: Sicherheit von optischen Freiraumkommunikationssystemen für die Informationsübertragung (IEC 60825-12:2019)

This European Standard was approved by CENELEC on 2019-03-15. 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.

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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.

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CENELEC

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 60825-12:2019 E

European foreword

The text of document 76/616/FDIS, future edition 2 of IEC 60825-12, prepared by IEC/TC 76 "Optical radiation safety and laser equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60825-12:2019.

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)	2019-12-15
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2022-03-15

This document supersedes EN 60825-12:2004.

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 60825-12:2019 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 60079-0	NOTE	Harmonized as EN IEC 60079-0
IEC 60812	NOTE	Harmonized as EN IEC 60812
IEC 61508 (series)	NOTE	Harmonized as EN 61508 (series)
ISO 12100	NOTE	Harmonized as EN ISO 12100

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 Where 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.

Publication	Year	Title	EN/HD	Year
IEC 60825-1	-	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	2014
			AC	2017
IEC 60825-2	-	Safety of laser products - Part 2: Safety of optical fibre communication systems (OFCS)	EN 60825-2	2004
			+ A1	2007
			+ A2	2010

IEC 60825-12

Edition 2.0 2019-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Safety of laser products –
Part 12: Safety of free space optical communication systems used for transmission of information

Sécurité des appareils à laser –
Partie 12: Sécurité des systèmes de communication optiques en espace libre utilisés pour la transmission d'informations

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FOREWORD

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International Standard IEC 60825-12 has been prepared by IEC technical committee 76: Optical radiation safety and laser equipment.

This second edition cancels and replaces the first edition published in 2004. This edition constitutes a technical revision.

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

a) LEDs have been removed from the scope.
b) Normative references have been changed to refer the latest edition of the standards.
c) A description of the Condition 2 measurement and determination method for access level has been added.

The text of this standard is based on the following documents:

FDIS	Report on voting
76/616/FDIS	76/617/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.

The list of all parts of the IEC 60825 series, published under the general title *Safety of laser products*, 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 "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

SAFETY OF LASER PRODUCTS –

Part 12: Safety of free space optical communication systems used for transmission of information

1 Scope

This part of IEC 60825 provides requirements and specific guidance for the manufacture and safe use of laser products and systems used for point-to-point or point-to-multipoint free space optical data transmission in the wavelength range from 180 nm to 1 mm. This document only addresses the open beam portion of the system. If portions of the equipment or system incorporate optical fibre that extends from the confinements of the enclosure(s), the manufacturing and safety requirements in IEC 60825-2 apply to those portions only. This document does not apply to systems designed for the purposes of transmitting optical power for applications such as material processing or medical treatment. This document also does not apply to the use of systems in explosive atmospheres (see IEC 60079-0).

Light-emitting diodes (LEDs) employed by free space optical communication systems (FSOCSs), used for the purpose of free space optical data transmission, do not fall into the scope of this document. This document covers lasers employed by FSOCSs used for the purpose of free space optical data transmission.

This document:

- provides information to protect people from potentially hazardous optical radiation produced by FSOCSs by specifying engineering controls and requirements, administrative controls and work practices according to the degree of the hazard; and
- specifies requirements for manufacturing, installation, service and operating organizations in order to establish procedures and provide written information so that proper precautions can be adopted.

Because of the nature of FSOCSs, also known as optical wireless or free-air information transmission systems, care is taken in their manufacture as well as their installation, operation, maintenance and service to assure the safe deployment and use of these systems. This document places the responsibility for certain product safety requirements, as well as requirements for providing appropriate information on how to use these systems safely, on the manufacturer of the system and/or transmitters. It places the responsibility for the safe deployment and use of these systems on the installer and/or operating organization. It places the responsibility for adherence to safety instructions during installation and service operations on the installation and service organizations as appropriate, and during operation and maintenance functions on the operating organization. It is recognized that the user of this document may fall into one or more of the categories of manufacturer, installer, service organization and/or operating organization as mentioned above.

This document does not apply to a laser product if classification by the manufacturer according to IEC 60825-1 shows that the emission level does not exceed the accessible emission limit (AEL) of Class 1 under all conditions of operation, maintenance, service and reasonably foreseeable failure.

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.