SLOVENSKI STANDARD
SIST EN 60825-4:2008/A1:2008

01-december-2008

Varnost laserskih izdelkov - 4. del: Zaģ ļ itna oprema za laserje (IEC 60825-4:2006/A1:2008)

Safety of laser products - Part 4: Laser guards (IEC 60825-4:2006/A1:2008)

Sicherheit von Lasereinrichtungen - Teil 4: Laserschutzwände (IEC 60825-4:2006/A1:2008)

Sécurité des appareils à laser - Partie 4: Protecteurs pour lasers ((CEI 60825-4:2006/A1:2008))

Ta slovenski standard je istoveten z: EN 60825-4:2006/A1:2008

ICS:

31.260	Optoelektronika, laserska oprema	Optoelectronics. Laser equipment

SIST EN 60825-4:2008/A1:2008 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60825-4/A1

October 2008

ICS 31.260

English version

Safety of laser products -
Part 4: Laser guards
(IEC 60825-4:2006/A1:2008)

Sécurité des appareils à laser -
Partie 4: Protecteurs pour lasers
(CEI 60825-4:2006/A1:2008)

Sicherheit von Lasereinrichtungen -
Teil 4: Laserschutzwände
(IEC 60825-4:2006/A1:2008)

This amendment A1 modifies the European Standard EN 60825-4:2006; it was approved by CENELEC on 2008-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 60825-4:2006/A1:2008 E

Foreword

The text of document 76/383/FDIS, future amendment 1 to IEC 60825-4:2006, prepared by IEC TC 76, Optical radiation safety and laser equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60825-4:2006 on 2008-09-01.

The following dates were fixed:

– latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2009-06-01
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2011-09-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of amendment 1:2008 to the International Standard IEC 60825-4:2006 was approved by CENELEC as an amendment to the European Standard without any modification.

Replace *Annex ZA of EN 60825-4:2006 by:*

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 60825-1	2007	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	2007
ISO 11553-1	2005	Safety of machinery - Laser processing machines - Part 1: General safety requirements	EN ISO 11553-1	2005
ISO 12100-1	2003	Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology	EN ISO 12100-1	2003
ISO 12100-2	2003	Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles	EN ISO 12100-2	2003
ISO 13849-1	2006	Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design	EN ISO 13849-1	2008
ISO 14121-1	2007	Safety of machinery - Risk assessment - Part 1: Principles	EN ISO 14121-1	2007

IEC 60825-4

Edition 2.0 2008-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

Safety of laser products – Part 4: Laser guards

Sécurité des appareils à laser – Partie 4: Protecteurs pour lasers

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX

M

ICS 31.260

ISBN 2-8318-9825-0

FOREWORD

This amendment has been prepared by IEC technical committee 76: Optical radiation safety and laser equipment.

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

FDIS	Report on voting
76/383/FDIS	76/385/RVD

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

The committee has decided that the contents of this amendment and the base 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.

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

Page 3

CONTENTS

Add the title of Annex G as follows:

Annex G (normative) Beam delivery systems

Page 15

2 Normative references

Replace the reference to IEC 60825-1 by the following new reference:

IEC 60825-1:2007, *Safety of laser products – Part 1: Equipment classification and requirements*

Add the following two new references:

ISO 14121-1:2007, *Safety of machinery – Risk assessment – Part 1: Principles*

ISO 13849-1:2006, *Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design*

Page 131

Add, after Annex F, the new Annex G as follows:

Annex G
(normative)

Beam delivery systems

G.1 General

This normative annex addresses the arrangement, installation and use of guided beam delivery systems. Laser beams can be propagated through air, gas or vacuum, whether enclosed or not (free space), and through fibre optic cables in laser processing machine applications.

This annex applies to the protective measures implemented to protect personnel against laser radiation hazards for guided beam delivery systems after the output coupler and/or the protective housing of the laser product (the requirements of which are specified in IEC 60825-1).This annex is intended to compliment the requirements applicable to the laser process enclosure (which are specified in this document and in ISO 11553-1). This annex also provides methods for assessing the risks (including reasonably foreseeable use, abuse and misuse) and provides examples of control measures to meet the normative requirements of IEC 60825-1 and this document.

This annex does not apply to beam delivery systems inside the protective housing of the laser.

This annex does not apply to beam delivery systems used in medical or communications applications.

G.2 Terms and definitions

For the purposes of this annex, the following definitions apply. They are in addition to those given in IEC 60825-1 or other parts of IEC 60825.

G.2.1
access panel
any panel which when removed or displaced gives human access to laser radiation. Sheathing around a fibre, tubing used as an enclosure component or any device serving the function of a removable or displaceable panel, can also be an "access panel" within the terms of this definition

G.2.2
beam delivery system
system comprised of all those components, including all optical beam components and potential beam paths and their enclosures, which when combined, transfer laser radiation emitted from the laser radiation generator (the laser) to the workpiece. These components may include all elements for guiding, shaping and switching the laser beam as well as the enclosure of and support for the beam path components

G.2.3
beam path components
those optical components which lie on a defined beam path (see 3.16 of IEC 60825-1)

NOTE Examples of a beam path component include a beam steering mirror, a focus lens or a fibre optic cable connector.