SLOVENSKI STANDARD
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Postopki preskušanja optičnega komunikacijskega podsistema - 1-3. del: Splošni komunikacijski podsistemi - Merjenje osrednje valovne dolžine in širine spektra (IEC 61280-1-3:2010)

Fibre optic communication subsystem test procedures - Part 1-3: General communication subsystems - Central wavelength and spectral width measurement (IEC 61280-1-3:2010)

Lichtwellenleiter- Kommunikationsuntersysteme; Grundlegende Prüfverfahren - Teil 1-3: Prüfverfahren für allgemeine Kommunikationsuntersysteme - Messung von Mittelwellenlänge und Spektralbreite (IEC 61280-1-3:2010)

Procédures d'essai des sous-systèmes de télécommunication à fibres optiques - Partie 1 -3: Sous-systèmes généraux de télécommunication - Mesure de la longueur d'onde centrale et de la largeur spectrale (CEI 61280-1-3:2010)

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Fibre optic communication subsystem test procedures - Part 1-3: General communication subsystems - Central wavelength and spectral width measurement

(IEC 61280-1-3:2010)

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CENELEC

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

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Foreword

The text of document 86C/887/CDV, future edition 2 of IEC 61280-1-3, prepared by SC 86C, Fibre optic systems and active devices, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61280-1-3 on 2010-05-01.

This European Standard supersedes EN 61280-1-3:1999.

This EN 61280-1-3:2010 constitutes a technical revision with changes reflecting new laser technology and includes a second method modified for state of the art instrumentation.

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

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)	2011-02-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2013-05-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61280-1-3:2010 was approved by CENELEC as a European Standard without any modification.

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	-	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	-
IEC 62129	-	Calibration of optical spectrum analyzers	EN 62129	-

IEC 61280-1-3

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INTERNATIONAL STANDARD

Fibre optic communication subsystem test procedures – Part 1-3: General communication subsystems – Central wavelength and spectral width measurement

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC COMMUNICATION SUBSYSTEM TEST PROCEDURES –

Part 1-3: General communication subsystems – Central wavelength and spectral width measurement

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 61280-1-3 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86.

This second edition cancels and replaces the first edition published in 1998. This edition constitutes a technical revision with changes reflecting new laser technology and includes a second method modified for state of the art instrumentation.

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

CDV	Report on voting
86C/ 887/CDV	86C/ 937/RVC

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.

A list of all parts of the IEC 61280 series can be found, under the general title *Fibre optic communication subsystem test procedures*, on the IEC website.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability 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.

A bilingual version of this publication may be issued at a later date.

FIBRE OPTIC COMMUNICATION SUBSYSTEM TEST PROCEDURES –

Part 1-3: General communication subsystems – Central wavelength and spectral width measurement

1 Scope

This part of IEC 61280 provides definitions and measure procedures for several wavelength and spectral width properties of an optical spectrum associated with a fibre optic communication subsystem, an optical transmitter, or other light sources used in the operation or test of communication subsystems.

The measurement is done for the purpose of system construction and/or maintenance. In the case of communication subsystem signals, the optical transmitter is typically under modulation.

NOTE Different properties may be appropriate to different spectral types, such as continuous spectra characteristic of light-emitting diodes (LEDs), and multilongitudinal-mode (MLM), multitransverse-mode (MTM) and single-longitudinal mode (SLM) spectra, characteristic of laser diodes (LDs).

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

IEC 62129, *Calibration of optical spectrum analyzers*

3 Terms and definitions

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

3.1 Wavelength

NOTE The following wavelength terms provide quantitative definitions for the describing the central wavelength of a spectrum. In this standard, “central wavelength” is a general category label for these terms.

3.1.1
centre wavelength
λ_0
also called “half-power mid-point”, the mean of the closest spaced half-power wavelengths in an optical spectrum, one above and one below the peak wavelength

3.1.2
half-power wavelength
λ_{3dB}
a wavelength corresponding to a half peak power value of the optical spectrum