

SLOVENSKI STANDARD

SIST EN 61280-2-2:2013

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Nadomešča:
SIST EN 61280-2-2:2008

Postopki preskušanja optičnega komunikacijskega podsistema - 2-2. del: Digitalni sistemi - Merjenje po vzorcu optičnega očesa, valovne oblike in hitrosti ugašanja (IEC 61280-2-2:2012)

Fibre optic communication subsystem test procedures - Part 2-2: Digital systems - Optical eye pattern, waveform and extinction ratio measurement (IEC 61280-2-2:2012)

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Prüfverfahren für Lichtwellenleiter-Kommunikationsuntersysteme - Teil 2-2: Digitale Systeme - Messung des optischen Augendiagramms, der Wellenform und des Extinktionsverhältnisses (IEC 61280-2-2:2012)

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Procédures d'essai des sous-systèmes de télécommunications à fibres optiques - Partie 2-2: Systèmes numériques - Mesure du diagramme de l'oeil optique, de la forme d'onde et du taux d'extinction (CEI 61280-2-2:2012)

Ta slovenski standard je istoveten z: EN 61280-2-2:2012

ICS:

33.180.01	Sistemi z optičnimi vlakni na splošno	Fibre optic systems in general
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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 61280-2-2

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Supersedes EN 61280-2-2:2008

English version

**Fibre optic communication subsystem test procedures -
Part 2-2: Digital systems -
Optical eye pattern, waveform and extinction ratio measurement
(IEC 61280-2-2:2012)**

Procédures d'essai des sous-systèmes
de télécommunications à fibres optiques -
Partie 2-2: Systèmes numériques -
Mesure du diagramme de l'oeil optique,
de la forme d'onde et du taux d'extinction
(CEI 61280-2-2:2012)

Prüfverfahren für Lichtwellenleiter-
Kommunikationsunterssysteme -
Teil 2-2: Digitale Systeme -
Messung des optischen
Augendiagramms, der Wellenform
und des Extinktionsverhältnisses
(IEC 61280-2-2:2012)

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This European Standard was approved by CENELEC on 2012-11-29. 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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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 86C/1043/CDV, future edition 4 of IEC 61280-2-2, 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 approved by CENELEC as EN 61280-2-2:2012.

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) 2013-08-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-11-29

This document supersedes EN 61280-2-2:2008.

EN 61280-2-2:2012 includes the following significant technical changes with respect to EN 61280-2-2:2008:

- additional definitions;
- clarification of test procedures.

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.

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The text of the International Standard IEC 61280-2-2:2012 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 60825-1	NOTE	Harmonised as EN 60825-1.
IEC 61281-1	NOTE	Harmonised as EN 61281-1.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61280-2-3	-	Fibre optic communication subsystem test procedures - Part 2-3: Digital systems - Jitter and wander measurements	EN 61280-2-3	-

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INTERNATIONAL STANDARD



**Fibre optic communication subsystem test procedures –
Part 2-2: Digital systems – Optical eye pattern, waveform and extinction ratio
measurement**

SIST EN 61280-2-2:2013

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CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	6
4 Apparatus.....	7
4.1 General.....	7
4.2 Reference receiver definition.....	8
4.3 Time-domain optical detection system.....	8
4.3.1 Overview	8
4.3.2 Optical-to-electrical (O/E) converter.....	9
4.3.3 Linear-phase low-pass filter.....	9
4.3.4 Oscilloscope.....	10
4.4 Overall system response	11
4.5 Oscilloscope synchronization system.....	11
4.5.1 General	11
4.5.2 Triggering with a clean clock	12
4.5.3 Triggering using a recovered clock	12
4.5.4 Triggering directly on data	13
4.6 Pattern generator	14
4.7 Optical power meter	14
4.8 Optical attenuator.....	14
4.9 Test cord	14
5 Signal under test	14
6 Instrument set-up and device under test set-up	14
7 Measurement procedures	15
7.1 Overview	15
7.2 Extinction ratio measurement	15
7.2.1 Configure the test equipment.....	15
7.2.2 Measurement procedure.....	15
7.2.3 Extinction ratio calculation	16
7.3 Eye amplitude	17
7.4 Optical modulation amplitude (OMA) measurement using the square wave method.....	17
7.4.1 General	17
7.4.2 Oscilloscope triggering	17
7.4.3 Amplitude histogram, step 1	17
7.4.4 Amplitude histogram, step 2	18
7.4.5 Calculate OMA	18
7.5 Contrast ratio (for RZ signals)	18
7.6 Jitter measurements	18
7.7 Eye width	19
7.8 Duty cycle distortion (DCD)	19
7.9 Crossing percentage	20
7.10 Eye height.....	21

7.11	Q-factor/signal-to-noise ratio (SNR).....	21
7.12	Rise time.....	21
7.13	Fall time.....	22
8	Eye-diagram analysis using a mask.....	23
8.1	Eye mask testing using the 'no hits' technique.....	23
8.2	Eye mask testing using the 'hit-ratio' technique.....	24
9	Test result.....	26
9.1	Required information.....	26
9.2	Available information.....	26
9.3	Specification information.....	26
	Bibliography.....	27
	Figure 1 – Optical eye pattern, waveform and extinction ratio measurement configuration.....	8
	Figure 2 – Oscilloscope bandwidths commonly used in eye pattern measurements.....	10
	Figure 3 – PLL jitter transfer function and resulting observed jitter transfer function.....	13
	Figure 4 – Histograms centred in the central 20 % of the eye used to determine the mean logic one and 0 levels, b_1 and b_0	16
	Figure 5 – OMA measurement using the square wave method.....	18
	Figure 6 – Construction of the duty cycle distortion measurement.....	20
	Figure 7 – Construction of the crossing percentage measurement.....	21
	Figure 8 – Construction of the risetime measurement with no reference receiver filtering.....	22
	Figure 9 – Illustrations of several RZ eye-diagram parameters.....	23
	Figure 10 – Basic eye mask and coordinate system.....	24
	Figure 11 – Mask margins at different sample population sizes.....	26
	Table 1 – Frequency response characteristics.....	11

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC COMMUNICATION SUBSYSTEM
TEST PROCEDURES –****Part 2-2: Digital systems – Optical eye pattern,
waveform and extinction ratio measurement**

FOREWORD

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International Standard IEC 61280-2-2 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

This fourth edition cancels and replaces the third edition published in 2008 and constitutes a technical revision.

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

- a) additional definitions;
- b) clarification of test procedures.

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

CDV	Report on voting
86C/1043/CDV	86C/1074/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 in the IEC 61280 series, published under the general title *Fibre optic communication subsystem test procedures*, can be found on the IEC website.

The committee has decided that the contents of this 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.

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FIBRE OPTIC COMMUNICATION SUBSYSTEM TEST PROCEDURES –

Part 2-2: Digital systems – Optical eye pattern, waveform and extinction ratio measurement

1 Scope

The purpose of this part of IEC 61280 is to describe a test procedure to verify compliance with a predetermined waveform mask and to measure the eye pattern and waveform parameters such as rise time, fall time, modulation amplitude and extinction ratio.

2 Normative references

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.

IEC 61280-2-3, *Fibre optic communication subsystem test procedures – Part 2-3: Digital systems – Jitter and wander measurements*

3 Terms and definitions

SIST EN 61280-2-2:2013

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

3.1

amplitude histogram

graphical means to display the power or voltage population distribution of a waveform

3.2

contrast ratio

ratio of the nominal peak amplitude to the nominal minimum amplitude of two adjacent logical '1's when using return-to-zero transmission

3.3

duty cycle distortion

DCD

measure of the balance of the time width of a logical 1 bit to the width of a logical 0 bit, indicated by the time between the eye diagram nominal rising edge at the average or 50 % level and the eye diagram nominal falling edge at the average or 50 % level

3.4

extinction ratio

ratio of the nominal 1 level to the nominal 0 level of the eye diagram

3.5

eye diagram

type of waveform display that exhibits the overall performance of a digital signal by superimposing all the acquired samples on a common time axis one unit interval in width