



SLOVENSKI STANDARD
SIST EN 61280-2-2:2008

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Fibre optic communication subsystem test procedures - Part 2-2: Digital systems - Optical eye pattern, waveform and extinction ratio measurement (IEC 61280-2-2:2008)

iTeh STANDARD PREVIEW

Prüfverfahren für Lichtwellenleiter-Kommunikationsuntersysteme - Teil 2-2: Digitale Systeme - Messung des optischen Augendiagramms, der Wellenform und des Extinktionsverhältnisses (IEC 61280-2-2:2008)

[SIST EN 61280-2-2:2008](#)

[https://standards.iteh.ai/catalog/standards/sist/f25e0a39-9a08-412a-a3c8-](https://standards.iteh.ai/catalog/standards/sist/f25e0a39-9a08-412a-a3c8-331b9645d53d/iec-61280-2-2-2008)

Procédures d'essai des sous-systèmes de télécommunications a fibres optiques - Partie 2-2: Systemes numériques - Mesure du diagramme de l'oeil optique, de la forme d'onde et du taux d'extinction (CEI 61280-2-2:2008)

Ta slovenski standard je istoveten z: EN 61280-2-2:2008

ICS:

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SIST EN 61280-2-2:2008 **en,fr**

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English version

**Fibre optic communication subsystem test procedures -
Part 2-2: Digital systems -
Optical eye pattern, waveform and extinction ratio measurement
(IEC 61280-2-2:2008)**

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 61280-2-2:2008)

Prüfverfahren für Lichtwellenleiter-
Kommunikationsunterssysteme -
Teil 2-2: Digitale Systeme -
Messung des optischen
Augendiagramms, der Wellenform
und des Extinktionsverhältnisses
(IEC 61280-2-2:2008)

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SIST EN 61280-2-2:2008
This European Standard was approved by CENELEC on 2008-06-01. 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.

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 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 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

Foreword

The text of document 86C/768/CDV, future edition 3 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 was approved by CENELEC as EN 61280-2-2 on 2008-06-01.

This European Standard supersedes EN 61280-2-2:2005.

EN 61280-2-2:2008 includes the following significant technical changes with respect to EN 61280-2-2:2005:

- the necessity of DC coupling for extinction ratio measurement is clarified;
- the definition of extinction ratio has been revised to better harmonize with ITU-T;
- the definition of OMA has been clarified.

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) 2009-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-06-01

Annex ZA has been added by CENELEC.

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Endorsement notice

<https://standards.iteh.ai/catalog/standards/sist/f25e0a39-9a08-412a-a3c8-1a994c329f-2008-2-2>

The text of the International Standard IEC 61280-2-2:2008 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 Harmonized as EN 60825-1:2007 (not modified). |
| IEC 61281-1 | NOTE Harmonized as EN 61281-1:1999 (not modified). |

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ITU-T Recommendation G.957	- ¹⁾	Optical interfaces for equipments and systems- relating to the synchronous digital hierarchy		-

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¹⁾ Undated reference.

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

**Procédures d'essai des sous-systèmes de télécommunications à fibres
optiques –
Partie 2-2: Systèmes numériques – Mesure du diagramme de l'œil optique,
de la forme d'onde et du taux d'extinction**

INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC COMMUNICATION SUBSYSTEM TEST PROCEDURES –

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

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the 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. The 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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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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 third edition cancels and replaces the second edition published in 2005 and constitutes a technical revision. This edition includes the following significant technical changes with respect to the previous edition:

- a) The necessity of DC coupling for extinction ratio measurement is clarified.
- b) The definition of extinction ratio has been revised to better harmonize with ITU-T.
- c) The definition of OMA has been clarified.

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

CDV	Report on voting
86C/768/CDV	86C/801/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, 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 maintenance result 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.

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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 and object

The purpose of this part of IEC 61280 is to describe a test procedure to measure the eye pattern and waveform parameters such as rise time, fall time, overshoot, and extinction ratio. Alternatively, the waveform may be tested for compliance with a predetermined waveform mask.

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.

ITU-T Recommendation G.957, *Optical interfaces for equipments and systems relating to the synchronous digital hierarchy*

[SIST EN 61280-2-2:2008](https://standards.iteh.ai/catalog/standards/sist/f25e0a39-9a08-412a-a3c8-231b9645d53d/sist-en-61280-2-2-2008)

3 Apparatus <https://standards.iteh.ai/catalog/standards/sist/f25e0a39-9a08-412a-a3c8-231b9645d53d/sist-en-61280-2-2-2008>

The primary components of the measurement system are a photodetector, a low-pass filter, an oscilloscope, and an optical power meter, as shown in Figure 1.

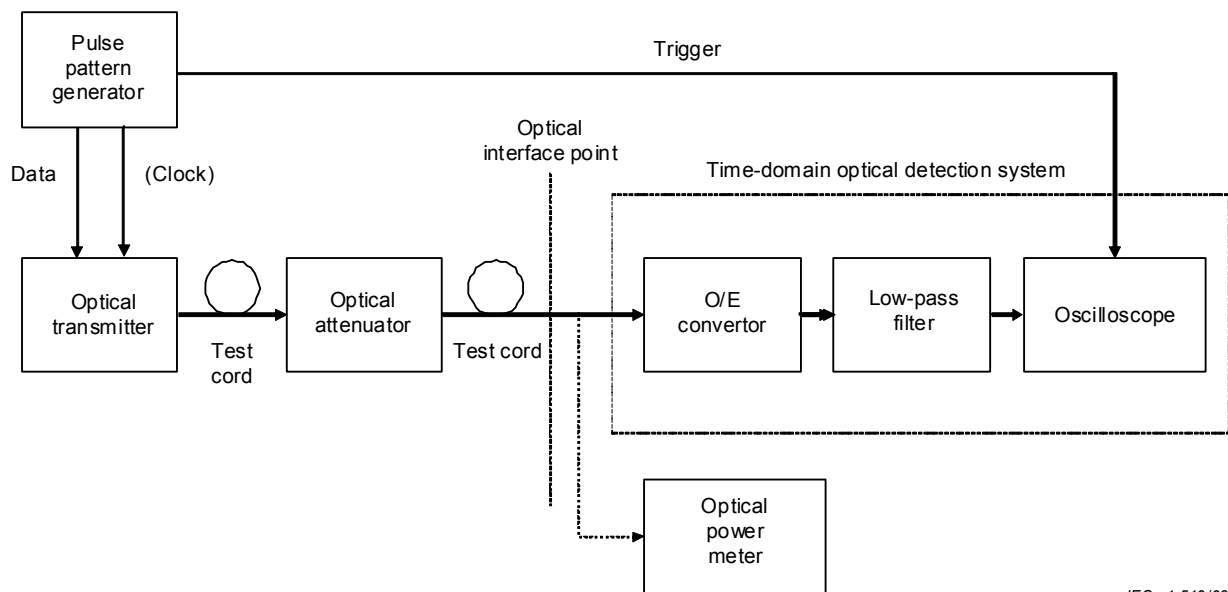


Figure 1 – Optical eye pattern, waveform, and extinction ratio measurement configuration