

# **SLOVENSKI STANDARD**

## **SIST EN IEC 61290-1-3:2021**

**01-junij-2021**

**Nadomešča:**

**SIST EN 61290-1-3:2015**

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**Optični ojačevalniki - Preskusne metode - 1-3. del: Parametri moči in ojačenja - Metoda z merilnikom optične moči (IEC 61290-1-3:2021)**

Optical amplifiers - Test methods - Part 1-3: Power and gain parameters - Optical power meter method (IEC 61290-1-3:2021)

Prüfverfahren für Lichtwellenleiter-Verstärker - Teil 1-3: Optische Leistungs- und Verstärkerparameter - Verfahren mit optischem Leistungsmessgerät (IEC 61290-1-3:2021)

Amplificateurs optiques - Méthodes d'essai - Partie 1-3: Paramètres de puissance et de gain - Méthode par appareil de mesure de la puissance optique (IEC 61290-1-3:2021)

**Ta slovenski standard je istoveten z: EN IEC 61290-1-3:2021**

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**ICS:**

33.180.30	Optični ojačevalniki	Optic amplifiers
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**SIST EN IEC 61290-1-3:2021**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN IEC 61290-1-3**

April 2021

ICS 33.180.30

Supersedes EN 61290-1-3:2015 and all of its  
amendments and corrigenda (if any)

English Version

**Optical amplifiers - Test methods - Part 1-3: Power and gain  
parameters - Optical power meter method  
(IEC 61290-1-3:2021)**

Amplificateurs optiques - Méthodes d'essai - Partie 1-3:  
Paramètres de puissance et de gain - Méthode par appareil  
de mesure de la puissance optique  
(IEC 61290-1-3:2021)

Prüfverfahren für Lichtwellenleiter-Verstärker - Teil 1-3:  
Leistungs- und Verstärkerparameter - Verfahren mit  
optischem Leistungsmessgerät  
(IEC 61290-1-3:2021)

This European Standard was approved by CENELEC on 2021-04-05. 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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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**

**EN IEC 61290-1-3:2021 (E)****European foreword**

The text of document 86C/1671/CDV, future edition 4 of IEC 61290-1-3, 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 approved by CENELEC as EN IEC 61290-1-3:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-01-05 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-04-05 document have to be withdrawn

This document supersedes EN 61290-1-3:2015 and all of its amendments and corrigenda (if any).

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 61290-1-3:2021 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:

<a href="https://standards.iteh.ai/catalog/standards/sist/7280846e-dc91-48d8-8715-720fa91e472/sist-en-iec-61290-1-3-2021">https://standards.iteh.ai/catalog/standards/sist/7280846e-dc91-48d8-8715-720fa91e472/sist-en-iec-61290-1-3-2021</a>		
IEC 60793-1-1	NOTE	Harmonized as EN 60793-1-1
IEC 60793-1-40	NOTE	Harmonized as EN IEC 60793-1-40
IEC 60825-1	NOTE	Harmonized as EN 60825-1
IEC 60825-2	NOTE	Harmonized as EN 60825-2
IEC 61290-1	NOTE	Harmonized as EN 61290-1
IEC 61290-1-1	NOTE	Harmonized as EN IEC 61290-1-1
IEC 61290-10 (series)	NOTE	Harmonized as EN IEC 61290-10 (series)

## 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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60793-2-50	-	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN IEC 60793-2-50	-
IEC 61291-1	-	Optical amplifiers - Part 1: Generic specification	EN IEC 61291-1	-

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IEC 61290-1-3

Edition 4.0 2021-03

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Optical amplifiers – Test methods –  
Part 1-3: Power and gain parameters – Optical power meter method**

**Amplificateurs optiques – Méthodes d'essai –  
Partie 1-3: Paramètres de puissance et de gain – Méthode par appareil de  
mesure de la puissance optique**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 33.180.30

ISBN 978-2-8322-9475-8

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## OPTICAL AMPLIFIERS – TEST METHODS –

## Part 1-3: Power and gain parameters – Optical power meter method

## 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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- 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.

IEC 61290-1-3 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2015. This edition constitutes a technical revision.

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

- a) harmonization with IEC 61290-1-1;
- b) use of the term "measurement uncertainty" instead of "measurement accuracy".

The text of this International Standard is based on the following documents:

Draft	Report on voting
86C/1671/CDV	86C/1698/RVC

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

A list of all parts in the IEC 61290 series, published under the general title *Optical amplifiers – Test methods*, 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.

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## OPTICAL AMPLIFIERS – TEST METHODS –

### Part 1-3: Power and gain parameters – Optical power meter method

#### 1 Scope

This part of IEC 61290 applies to all commercially available optical amplifiers (OA) and optically amplified subsystems. It applies to OA using optically pumped fibres (OPA based on either rare-earth doped fibres or on the Raman effect), semiconductors (SOA), and waveguides (POWA).

NOTE 1 The applicability of the test methods described in this document to distributed Raman amplifiers is for further study.

The object of this document is to establish uniform requirements for accurate and reliable measurements, by means of the optical power meter test method, of the following OA parameters, as defined in IEC 61291-1:

- a) nominal output signal power;
- b) gain;
- c) polarization-dependent gain;
- d) maximum output signal power;
- e) maximum total output power.

NOTE 2 All numerical values followed by ( $\pm$ ) are suggested values for which the measurement is assured. Other values can be acceptable upon verification.

This document applies to single-channel amplifiers. For multichannel amplifiers, IEC 61290-10 (all parts) applies.

#### 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.

IEC 60793-2-50, *Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres*

IEC 61291-1, *Optical amplifiers – Part 1: Generic specification*

#### 3 Terms, definitions and abbreviated terms

##### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61291-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>