

Optical amplifiers - Test methods - Part 1-1: Power and gain parameters - Optical spectrum analyzer method

EESTI STANDARDI EESSÕNA

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English Version

**Optical amplifiers - Test methods - Part 1-1: Power and gain
parameters - Optical spectrum analyzer method
(IEC 61290-1-1:2015)**

Amplificateurs optiques - Méthodes d'essai -
Partie 1-1: Paramètres de puissance et de gain - Méthode
de l'analyseur de spectre optique
(IEC 61290-1-1:2015)

Prüfverfahren für Lichtwellenleiter-Verstärker -
Teil 1-1: Optische Leistungs- und Verstärkungsparameter -
Verfahren mit optischem Spektralanalysator
(IEC 61290-1-1:2015)

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

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European foreword

The text of document 86C/1309/FDIS, future edition 3 of IEC 61290-1-1, 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 61290-1-1:2015.

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) 2016-03-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-06-11

This document supersedes EN 61290-1-1:2006 and constitutes a technical revision.

EN 61290-1-1:2015 includes the following significant technical changes with respect to the previous edition:

- a) updates on the characteristics of measurement apparatus;
- b) revised list of addressed optical amplifier parameters.

EN 61290-1-1:2015 shall be used in conjunction with EN 61290-1 and EN 61291-1.

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.

Endorsement notice

The text of the International Standard IEC 61290-1-1:2015 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 61290-10	NOTE	Harmonized in EN 61290-10 series (not modified).
IEC 60793-2-50	NOTE	Harmonized as EN 60793-2-50.

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 1 When 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61290-1	-	Optical amplifiers - Test methods - Part 1: Power and gain parameters	EN 61290-1	-
IEC 61291-1	-	Optical amplifiers - Part 1: Generic specification	EN 61291-1	-

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OPTICAL AMPLIFIERS – TEST METHODS –

Part 1-1: Power and gain parameters – Optical spectrum analyzer method

1 Scope

This part of IEC 61290 applies to all commercially available optical amplifiers (OAs) and optically amplified modules. It applies to OAs using optically pumped fibres (OFAs based on either rare-earth doped fibres or on the Raman effect), semiconductor OAs (SOAs) and planar optical waveguide amplifiers (POWAs).

The object of this standard is to establish uniform requirements for accurate and reliable measurements, by means of the optical spectrum analyzer 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 All numerical values followed by (±) are suggested values for which the measurement is assured.

The object of this standard is specifically directed to single-channel amplifiers. For multichannel amplifiers, one should refer to the IEC 61290-10 series [1]².

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 61290-1, *Optical amplifiers - Test methods - Part 1: Power and gain parameters*

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

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.2 Abbreviations

ASE	amplified spontaneous emission
DBR	distributed Bragg reflector (laser diode)
DFB	distributed feed-back (laser diode)

² Numbers in square brackets refer to the Bibliography