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I.S. EN 61290-1-3:2015

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

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61290-1-3

June 2015

ICS 33.180.30

Supersedes EN 61290-1-3:2005

English Version

Optical amplifiers - Test methods - Part 1-3: Power and gain parameters - Optical power meter method (IEC 61290-1-3:2015)

Amplificateurs optiques - Méthodes d'essai - Partie 1-3: Paramètres de puissance et de gain - Méthode par appareil de mesure de la puissance optique (IEC 61290-1-3:2015)

Prüfverfahren für Lichtwellenleiter-Verstärker - Teil 1-3: Optische Leistungs- und Verstärkerparameter - Verfahren mit optischem Leistungsmessgerät (IEC 61290-1-3:2015)

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Foreword

The text of document 86C/1255/CDV, future edition 3 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 61290-1-3:2015.

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)	2015-12-31
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-03-31

This document supersedes EN 61290-1-3:2005, with respect to which it constitutes a technical revision including the following significant technical changes:

a) Detail description of most parameters has been provided in EN 61290-1 and removed from this part;
b) Description of maximum output signal power and maximum total output power is added.

This document is to be used in conjunction with EN 61290-1.

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IEC 60793-1-1	NOTE	Harmonized as EN 60793-1-1.
IEC 60793-2-50	NOTE	Harmonized as EN 60793-2-50.
IEC 60825-1	NOTE	Harmonized as EN 60825-1.
IEC 60825-2	NOTE	Harmonized as EN 60825-2.
IEC 60874-1	NOTE	Harmonized as EN 60874-1.
IEC 61290-1-1	NOTE	Harmonized as EN 61290-1-1.
IEC 61290-10 (Series)	NOTE	Harmonized as EN 61290-10 (Series).

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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.

Publication	Year	Title	EN/HD	Year
IEC 60793-1-40	-	Optical fibres -- Part 1-40: Measurement methods and test procedures - Attenuation	EN 60793-1-40	-
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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IEC 61290-1-3

Edition 3.0 2015-02

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

IEC 61290-1-3:2015-02(en-fr)

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IEC 61290-1-3

Edition 3.0 2015-02

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL AMPLIFIERS – TEST METHODS –

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

FOREWORD

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International Standard IEC 61290-1-3 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. This edition constitutes a technical revision.

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

a) Detail description of most parameters has been described in IEC 61290-1 and removed from this part;
b) Description of maximum output signal power and maximum total output power are added.

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

CDV	Report on voting
86C/1255/CDV	86C/1292/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 61290 series, published under the general title *Optical amplifiers – Test methods*[1)] can be found on the IEC website.

This International Standard is to be used in conjunction with IEC-61290-1.

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.

1) The first editions of some of these parts were published under the general title *Optical fibre amplifiers – Basic specification* or *Optical amplifier test methods*.

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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 61290-1 applies to all commercially available optical amplifiers (OA) and optically amplified subsystems. It applies to OA using optically pumped fibres (OFA based on either rare-earth doped fibres or on the Raman effect), semiconductors (SOA), and waveguides (POWA).

NOTE The applicability of the test methods described in the present standard to distributed Raman amplifiers is for further study.

The object of this part of IEC 61290-1 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.

All numerical values followed by (‡) are suggested values for which the measurement is assured. Other values may be acceptable but should be verified.

This part of IEC 61290-1 applies to single-channel amplifiers. For multichannel amplifiers, the IEC 61290-10 series applies.

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 60793-1-40, *Optical fibres – Part 1-40: Measurement methods and test procedures – Attenuation*

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.

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