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Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 10/14

Obsahuje: EN 62149-8:2014, IEC 62149-8:2014

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EUROPEAN STANDARD

EN 62149-8

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2014

ICS 33.180.20

English Version

**Fibre optic active components and devices - Performance standards - Part 8: Seeded reflective semiconductor optical amplifier devices
(IEC 62149-8:2014)**

Composants et dispositifs actifs à fibres optiques - Normes de performances - Partie 8: Dispositifs amplificateurs optiques à semiconducteurs réfléchissants répartis
(CEI 62149-8:2014)

Aktive Lichtwellenleiterbauelemente und -geräte - Betriebsverhalten - Teil 8: Injizierte reflektierende optische Halbleiterverstärker
(IEC 62149-8:2014)

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Foreword

The text of document 86C/1144/CDV, future edition 1 of IEC 62149-8, 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 62149-8:2014.

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) 2015-02-28
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IEC 60191 (all parts)	NOTE	Harmonized as EN 60191 (all parts).
IEC 60747-5-1	NOTE	Harmonized as EN 60747-5-1.
IEC 60749 (all parts)	NOTE	Harmonized as EN 60749 (all parts).
IEC 60825 (all parts)	NOTE	Harmonized as EN 60825 (all parts).
IEC 60874 (all parts)	NOTE	Harmonized as EN 60874 (all parts).
IEC 61290-1-3	NOTE	Harmonized as EN 61290-1-3.
IEC 62007-1	NOTE	Harmonized as EN 62007-1.
IEC 62007-2	NOTE	Harmonized as EN 62007-2.
IEC 62148-1	NOTE	Harmonized as EN 62148-1.
IEC 62149-1	NOTE	Harmonized as EN 62149-1.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60749-6	-	Semiconductor devices - Mechanical and climatic test methods -- Part 6: Storage at high temperature	EN 60749-6	-
IEC 60749-7	-	Semiconductor devices - Mechanical and climatic test methods -- Part 7: Internal moisture content measurement and the analysis of other residual gases	EN 60749-7	-
IEC 60749-10	-	Semiconductor devices - Mechanical and climatic test methods -- Part 10: Mechanical shock	EN 60749-10	-
IEC 60749-11	-	Semiconductor devices - Mechanical and climatic test methods -- Part 11: Rapid change of temperature - Two-fluid-bath method	EN 60749-11	-
IEC 60749-12	-	Semiconductor devices - Mechanical and climatic test methods -- Part 12: Vibration, variable frequency	EN 60749-12	-
IEC 60749-25	-	Semiconductor devices - Mechanical and climatic test methods -- Part 25: Temperature cycling	EN 60749-25	-
IEC 60749-26	-	Semiconductor devices - Mechanical and climatic test methods -- Part 26: Electrostatic discharge (ESD) sensitivity testing - Human body model (HBM)	EN 60749-26	-
IEC 60825-1	-	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	-
IEC 60950-1	-	Information technology equipment - Safety -- Part 1: General requirements	EN 60950-1	-
IEC 61300-2-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 2-4: Tests - Fibre/cable retention	EN 61300-2-4	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61300-2-19	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 2-19: Tests - Damp heat (steady state)	EN 61300-2-19	-
IEC 61300-2-48	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 2-48: Tests - Temperature-humidity cycling	EN 61300-2-48	-
IEC Guide 107	-	Electromagnetic compatibility - Guide to the drafting of electromagnetic compatibility publications	-	-



INTERNATIONAL STANDARD

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Part 8: Seeded reflective semiconductor optical amplifier devices**

**Composants et dispositifs actifs à fibres optiques – Normes de performances –
Partie 8: Dispositifs amplificateurs optiques à semiconducteurs réfléchissants
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INTERNATIONAL STANDARD

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**Fibre optic active components and devices – Performance standards –
Part 8: Seeded reflective semiconductor optical amplifier devices**

**Composants et dispositifs actifs à fibres optiques – Normes de performances –
Partie 8: Dispositifs amplificateurs optiques à semiconducteurs réfléchissants
répartis**

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**FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES –
PERFORMANCE STANDARDS –**
Part 8: Seeded reflective semiconductor optical amplifier devices

FOREWORD

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International Standard IEC 62149-8 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

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

CDV	Report on voting
86C/1144/CDV	86C/1221/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 62149 series, published under the general title *Fibre optic active components and devices – Performance standards*, can be found on the IEC website.

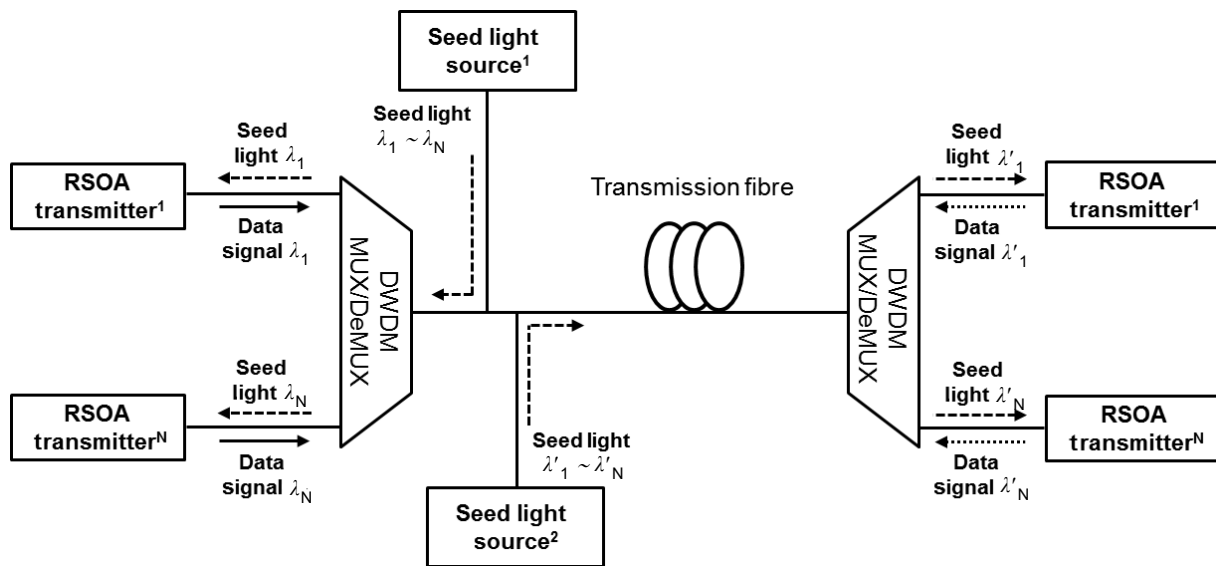
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INTRODUCTION

Fibre optic laser devices are used to convert electrical signals into optical signals. This part of IEC 62149 covers the performance specification for seeded reflective semiconductor optical amplifier (RSOA) devices in fibre optic telecommunication and optical data transmission applications. The optical performance criteria are generally well specified for a number of internationally agreed applications areas such as ITU-T Recommendation G.698.3. This standard aims to provide optical interface specifications towards the realization of transversely compatible seeded dense wavelength division multiplexing (DWDM) systems.

In the seeded DWDM system, seed light sources are used to generate broadband seed lights in C-band or L-band. After passing through DWDM DeMUXs in the link, the broadband seed lights are spectrum sliced according to the transmission characteristics of DWDM DeMUXs. Each spectrum sliced seed light is injected into a RSOA transmitter based on a RSOA device. Consequently, an output signal wavelength of a RSOA transmitter can be determined by a wavelength of an injected seed light.



IEC 1194/14

Figure 1 – Seeded DWDM transmission based on RSOA devices

Seeded RSOA devices for seeded DWDM systems are supplied by different manufacturers, but do not guarantee operation of seeded RSOA devices. Manufacturers using the standards are responsible for meeting the required performance and/or reliability and quality assurance under a recognized scheme.

FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PERFORMANCE STANDARDS –

Part 8: Seeded reflective semiconductor optical amplifier devices

1 Scope

This part of IEC 62149 covers the performance specification for seeded reflective semiconductor optical amplifier (RSOA) devices used for fibre optic telecommunication and optical data transmission applications. The performance standard contains a definition of the product performance requirements together with a series of sets of tests and measurements with clearly defined conditions, severities, and pass/fail criteria. The tests are intended to be run on a “once-off” basis to prove any product’s ability to satisfy the performance standard’s requirements.

A product that has been shown to meet all the requirements of a performance standard can be declared as complying with the performance standard, but should then be controlled by a quality assurance/quality conformance program.

2 Normative references

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IEC 60749-10, *Semiconductor devices – Mechanical and climatic test methods – Part 10: Mechanical shock*

IEC 60749-11, *Semiconductor devices – Mechanical and climatic test methods – Part 11: Rapid change of temperature – Two-fluid-bath method*

IEC 60749-12, *Semiconductor devices – Mechanical and climatic test methods – Part 12: Vibration, variable frequency*

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IEC 61300-2-19, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-19: Tests – Damp heat (steady state)*

IEC 61300-2-48, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-48: Tests – Temperature-humidity cycling*

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