

STN	Optovláknové aktívne súčiastky a prvky. Norma na prevádzkové charakteristiky. Časť 3: Vysielače s laserovými diódami a integrovanými modulátormi pre optické prenosové systémy 2,5 Gbit/s až 40 Gbit/s.	STN EN 62149-3 35 9255
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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. 11/14

Obsahuje: EN 62149-3:2014, IEC 62149-3:2014

Oznámením tejto normy sa od 30.06.2017 ruší
STN EN 62149-3 (35 9254) z augusta 2004

119735

EUROPEAN STANDARD

EN 62149-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2014

ICS 33.180.20

Supersedes EN 62149-3:2004

English Version

Fibre optic active components and devices - Performance standards - Part 3: Modulator-integrated laser diode transmitters for 2,5-Gbit/s to 40-Gbit/s fibre optic transmission systems (IEC 62149-3:2014)

Composants et dispositifs actifs à fibres optiques - Normes de performances - Partie 3: Émetteurs à diodes laser à modulateur intégré pour des systèmes de transmission à fibres optiques de 2,5 Gbit/s à 40 Gbit/s
(CEI 62149-3:2014)

Aktive Lichtwellenleiterbauelemente und -geräte - Betriebsverhalten - Teil 3: Laserdiodensender mit integriertem Modulator für 2,5-Gbit/s- bis 40-Gbit/s-Lichtwellenleiter-Übertragungssysteme
(IEC 62149-3:2014)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 86C/1157/CDV, future edition 2 of IEC 62149-3, 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 62149-3:2014.

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) 2015-03-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-06-30

This document supersedes EN 62149-3:2004.

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The text of the International Standard IEC 62149-3:2014 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 60068 Series	NOTE	Harmonized as EN 60068 Series.
IEC 60793 Series	NOTE	Harmonized as EN 60793 Series.
IEC 60825 Series	NOTE	Harmonized as EN 60825 Series.
IEC 60874 Series	NOTE	Harmonized as EN 60874 Series.
IEC 62572-2	NOTE	Harmonized as EN 62572-2.
IEC 62572-3	NOTE	Harmonized as EN 62572-3.
IEC 61280 Series	NOTE	Harmonized as EN 61280 Series.
IEC 62007-2	NOTE	Harmonized as EN 62007-2.

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 60068-2-1	-	Environmental testing -- Part 2-1: Tests - Test A: Cold	EN 60068-2-1	-
IEC 60068-2-2	-	Environmental testing -- Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	-
IEC 60068-2-6	-	Environmental testing -- Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-14	-	Environmental testing -- Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
IEC 60068-2-27	-	Environmental testing -- Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	-
IEC 60068-2-78	-	Environmental testing -- Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
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 60749-26	-	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 62007-1	-	Semiconductor optoelectronic devices for fibre optic system applications - Part 1: Specification template for essential ratings and characteristics	EN 62007-1	-
ITU-T G.694-1	-	Spectral grids for WDM applications: DWDM frequency grid	-	-
MIL-STD-883	-	Test methods and procedures for microelectronics	-	-



INTERNATIONAL STANDARD

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Part 3: Modulator-integrated laser diode transmitters for 2,5-Gbit/s to 40-Gbit/s
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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Part 3: Modulator-integrated laser diode transmitters for 2,5-Gbit/s to 40-Gbit/s
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Partie 3: Emetteurs à diodes laser à modulateur intégré pour des systèmes de
transmission à fibres optiques de 2,5 Gbit/s à 40 Gbit/s**

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ICS 33.180.20

ISBN 978-2-8322-1585-2

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CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Terms, definitions and symbols	7
3.1 Terms and definitions.....	7
3.2 Symbols.....	7
4 Product parameters	7
4.1 Absolute limiting ratings	7
4.2 Operating environment.....	8
4.3 Functional specification	8
4.4 Diagrams	10
5 Testing	10
5.1 General.....	10
5.2 Characterization testing	10
5.3 Performance testing.....	11
6 Environmental specifications	13
6.1 General safety	13
6.2 Laser safety.....	13
Bibliography.....	14
Figure 1 – Schematic diagram	10
Table 1 – Absolute limiting ratings	8
Table 2 – Operating environment	8
Table 3 – Operating conditions for functional specification	8
Table 4 – Functional specification	9
Table 5 – Characterization tests	11
Table 6 – Performance test plan	12
Table 7 – Recommended performance test failure criteria.....	13

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES –
PERFORMANCE STANDARDS –****Part 3: Modulator-integrated laser diode transmitters
for 2,5-Gbit/s to 40-Gbit/s fibre optic transmission systems**

FOREWORD

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International Standard IEC 62149-3 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics

This second edition cancels and replaces the first edition published in 2004 and constitutes a technical revision.

The significant technical change with respect to the previous edition is as follows:

The performance standards covered by this standard are now extended to a 40 Gb/s-class system from their original 2,5 Gb/s.

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

CDV	Report on voting
86C/1157/CDV	86C/1230/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 62149 series, published under the general title *Fibre optic active components and devices – Performance standards*, can be found on the IEC website.

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.

INTRODUCTION

Fibre optic transmitters are used to convert electrical signals into optical signals. This part of IEC 62149 covers the performance standard for optical modulators monolithically integrated with laser diodes for 2,5 Gbit/s to 40 Gbit/s multi-channel optical telecommunication systems.

FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PERFORMANCE STANDARDS –

Part 3: Modulator-integrated laser diode transmitters for 2,5-Gbit/s to 40-Gbit/s fibre optic transmission systems

1 Scope

This part of IEC 62149 covers the performance specification for optical modulators monolithically integrated with laser diodes for 2,5 Gbit/s to 40 Gbit/s multi-channel fibre optic transmission systems. This 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 as an initial design verification to prove any product's ability to satisfy the performance standard's requirements. This standard is only applicable for on-off keying format.

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 program.

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 60068-2-1, *Environmental testing – Part 2: Tests – Tests A: Cold*

IEC 60068-2-2, *Basic environmental testing procedures – Part 2: Tests – Tests B: Dry heat*

IEC 60068-2-6, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-14, *Basic environmental testing procedures – Part 2: Tests – Test N: Change of temperature*

IEC 60068-2-27, *Basic environmental testing procedures – Part 2: Tests – Test Ea and guidance: Shock*

IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60749-7, *Semiconductor devices – Mechanical and climatic test methods – Part 7: Internal moisture content measurement and the analysis of other residual gases*

IEC 60749-26, *Semiconductor devices – Mechanical and climatic test methods – Part 26: Electrostatic discharge (ESD) sensitivity testing – Human body model (HBM)*

IEC 60825-1, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 60950-1, *Information technology equipment – Safety – Part 1: General requirements*

IEC 62007-1, *Semiconductor optoelectronic devices for fibre optic system applications – Part 1: Specification template for essential ratings and characteristics*

ITU-T Recommendation G.694.1: *Spectral grids for WDM applications: DWDM frequency grid*

MIL-STD-883, *U.S. Department of Defense – Test method standard – Microcircuits*

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