

STN	Optovláknové aktívne súčiastky a prvky Norma na prevádzkové charakteristiky Časť 3: Vysielače s laserovými diódami a integrovanými modulátormi pre optické prenosové systémy 40 Gbit/s	STN EN IEC 62149-3 35 9255
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Fibre optic active components and devices - Performance standards - Part 3: Modulator-integrated laser diode transmitters for 40-Gbit/s fibre optic transmission systems

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. 12/20

Obsahuje: EN IEC 62149-3:2020, IEC 62149-3:2020

Oznámením tejto normy sa od 11.08.2023 ruší
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EUROPEAN STANDARD

EN IEC 62149-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2020

ICS 33.180.20

Supersedes EN 62149-3:2014 and all of its amendments
and corrigenda (if any)

English Version

**Fibre optic active components and devices - Performance
standards - Part 3: Modulator-integrated laser diode transmitters
for 40-Gbit/s fibre optic transmission systems
(IEC 62149-3:2020)**

Composants et dispositifs actifs fibroniques - Normes de
performances - Partie 3: Émetteurs à diodes laser à
modulateur intégré pour systèmes de transmission
fibroniques 40 Gbit/s
(IEC 62149-3:2020)

Aktive Lichtwellenleiterbauelemente und -geräte -
Betriebsverhalten - Teil 3: Sender mit modulatorintegrierten
Laserdioden für 40 Gbit/s-Lichtwellenleiter-
Übertragungssysteme
(IEC 62149-3:2020)

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Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 62149-3:2020 (E)**European foreword**

The text of document 86C/1666/FDIS, future edition 3 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 IEC 62149-3:2020.

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) 2021-05-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-08-11

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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 IEC 60793 (series)
IEC 60825 (series)	NOTE	Harmonized as EN 60825 (series)
IEC 60874 (series)	NOTE	Harmonized as EN 60874 (series)
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 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.

<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 IEC 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	-

EN IEC 62149-3:2020 (E)

IEC 62007-1	-	Semiconductor optoelectronic devices for fibre optic system applications - Part 1: Specification template for essential ratings and characteristics	EN 62007-1	-
IEC 62572-3	-	Fibre optic active components and devices - Reliability standards - Part 3: Laser modules used for telecommunication	EN 62572-3	-
ITU-T G.694-1	-	Spectral grids for WDM applications: DWDM frequency grid	-	-
ITU-T G.957	-	Optical interfaces for equipments and systems relating to the synchronous digital hierarchy	-	-
MIL-STD-883-1	-	U.S. Department of Defense - Test method standard - Environmental test methods for microcircuits, Part 1: Test methods 1000-1999	-	-



IEC 62149-3

Edition 3.0 2020-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Fibre optic active components and devices – Performance standards –
Part 3: Modulator-integrated laser diode transmitters for 40-Gbit/s fibre optic
transmission systems**

**Composants et dispositifs actifs fibroniques – Normes de performances –
Partie 3: Émetteurs à diodes laser à modulateur intégré pour systèmes de
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Edition 3.0 2020-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Part 3: Modulator-integrated laser diode transmitters for 40-Gbit/s fibre optic
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Partie 3: Émetteurs à diodes laser à modulateur intégré pour systèmes de
transmission fibroniques 40 Gbit/s**

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CONTENTS

FOREWORD	3
INTRODUCTION	5
1 Scope	6
2 Normative references	6
3 Terms, definitions and abbreviated terms	7
3.1 Terms and definitions	7
3.2 Abbreviated terms	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	12
6 Environmental specifications	13
6.1 General safety	13
6.2 Laser safety	14
Bibliography	15
Figure 1 – Schematic diagram	10
Table 1 – Absolute limiting ratings	8
Table 2 – Operating environment	8
Table 3 – Operating conditions for functional specification	9
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 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 third edition cancels and replaces the second edition published in 2014 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition: updates of the title, scope, normative references and performance test tables.

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

FDIS	Report on voting
86C/1666/FDIS	86C/1676/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document 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.

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.

INTRODUCTION

Fibre optic transmitters are used to convert electrical signals into optical signals. This document covers the performance standard for optical modulators monolithically integrated with laser diodes for 40 Gbit/s optical telecommunication systems. This document is applicable for on-off keying format.

FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PERFORMANCE STANDARDS –

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

1 Scope

This part of IEC 62149 covers the performance specification for electroabsorption (EA) type optical modulators monolithically integrated with laser diodes for 40 Gbit/s fibre optic transmission systems. This document 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 this document's requirements. This document is 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 compliant with the performance standard but will then be controlled by a quality assurance program.

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

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

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

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– 7 –

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ITU-T Recommendation G.957, *Optical interfaces for equipments and systems relating to the synchronous digital hierarchy*

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