SLOVENSKI STANDARD
SIST EN IEC 62149-3:2020

01-december-2020

Nadomešča:
SIST EN 62149-3:2015

Aktivne komponente in naprave optičnih vlaken - Izvedbeni standardi - 3. del: Laserski diodni oddajniki z integriranim modulatorjem za optične prenosne sisteme 40-Gbit/s (IEC 62149-3:2020)

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)

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

Ta slovenski standard je istoveten z: **EN IEC 62149-3:2020**

ICS:

33.180.20	Povezovalne naprave za optična vlakna	Fibre optic interconnecting devices

SIST EN IEC 62149-3:2020 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 62149-3

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)

This European Standard was approved by CENELEC on 2020-08-11. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

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

Ref. No. 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

This document supersedes EN 62149-3:2014 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62149-3:2020 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 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.

Publication	Year	Title	EN/HD	Year
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	-

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 transmission fibroniques 40 Gbit/s

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 33.180.20

ISBN 978-2-8322-8591-6

CONTENTS

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

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.

3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.

4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.

5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.

6) All users should ensure that they have the latest edition of this publication.

7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.

8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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.