SLOVENSKI STANDARD
SIST EN IEC 62149-4:2023

01-april-2023

Aktivne komponente in naprave optičnih vlaken - Izvedbeni standardi - 4. del: 1300 nm oddajnikov in sprejemnikov optičnih vlaken za Gigabit Ethernet uporabo (IEC 62149-4:2022)

Fibre optic active components and devices - Performance standards - Part 4: 1 300 nm fibre optic transceivers for Gigabit Ethernet application (IEC 62149-4:2022)

Aktive Lichtwellenleiterbauelemente und -geräte - Betriebsverhalten - Teil 4: 1 300-nm-Lichtwellenleiter-Sende- und Empfangsmodule für Gigabit-Ethernet-Anwendungen (IEC 62149-4:2022)

Composants et dispositifs actifs fibroniques - Normes de performance - Partie 4: Emetteurs-récepteurs fibroniques de 1 300 nm pour application Gigabit Ethernet (IEC 62149-4:2022)

Ta slovenski standard je istoveten z: **EN IEC 62149-4:2023**

ICS:

33.180.20	Povezovalne naprave za optična vlakna	Fibre optic interconnecting devices

SIST EN IEC 62149-4:2023 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62149-4

February 2023

ICS 33.180.20

Supersedes EN 62149-4:2010

English Version

Fibre optic active components and devices - Performance standards - Part 4: 1 300 nm fibre optic transceivers for Gigabit Ethernet application (IEC 62149-4:2022)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

European foreword

The text of document 86C/1800/CDV, future edition 3 of IEC 62149-4, 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 62149-4:2023.

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)	2023-10-20
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2026-01-20

This document supersedes EN 62149-4:2010 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.

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Endorsement notice

The text of the International Standard IEC 62149-4:2022 was approved by CENELEC as a European Standard without any modification.

Annex A
(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 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-20	-	Environmental testing - Part 2-20: Tests - Test Ta and Tb: Test methods for solderability and resistance to soldering heat of devices with leads	EN IEC 60068-2-20	-
IEC 60068-2-27	-	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	-
IEC 60068-2-38	-	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test	EN IEC 60068-2-38	-
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
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 IEC 60749-26	-
IEC 60825-1	-	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	-
IEC 60938-1	-	Fixed inductors for electromagnetic interference suppression - Part 1: Generic specification	EN IEC 60938-1	-
IEC 60950-1	-	Information technology equipment - Safety - Part 1: General requirements	-	-
IEC 61300-2-47	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-47: Tests - Thermal shocks	EN 61300-2-47	-

ISO/IEC/IEEE 8802-3 2021	Telecommunications and exchange between information technology systems - Requirements for local and metropolitan area networks - Part 3: Standard for Ethernet	-	-

IEC 62149-4

Edition 3.0 2022-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 33.180.20

ISBN 978-2-8322-6226-9

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PERFORMANCE STANDARDS –

Part 4: 1 300 nm fibre optic transceivers for Gigabit Ethernet application

FOREWORD

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IEC 62149-4 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics. It is an International Standard.

This third edition cancels and replaces the second edition published in 2010. This edition constitutes a technical revision.

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

a) the normative references are updated;
b) the condition "for short periods" in 4.1 is removed;
c) the absolute limiting rating for soldering temperature in Table 1 is modified;
d) the maximal optical output power (multimode fibre) in Table 4 is increased from −3,5 dBm to −3 dBm, to align value with the referenced document;

e) a note is added to Table 7 to clarify that out-of-specification products are not allowed to pass the performance tests.

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

Draft	Report on voting
86C/1800/CDV	86C/1826/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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 document will remain unchanged until the stability date indicated on the IEC website under 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 transceivers are used to convert electrical signals into optical signals and vice versa. This document specifies performance standards for 1 300 nm fibre optic transceivers for Gigabit Ethernet application. The ISO/IEC/IEEE 8802-3 Gigabit Ethernet standard is used as the basis for determining the optical characteristics of the transceiver, which operates at a line rate of 1,25 Gbit/s.