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STN	**Optovláknové spájacie prvky a pasívne súčiastky Prevádzkové vlastnosti Časť 5: ATM-PON vysielače-prijímače s LD ovládačom a integrovanými obvodmi na obnovenie taktovacieho signálu a dát CDR IC**	**STN EN IEC 62149-5** 35 9255

Fibre optic active components and devices - Performance standards - Part 5: ATM-PON transceivers with LD driver and CDR ICs

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

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English Version

Fibre optic active components and devices - Performance standards - Part 5: ATM-PON transceivers with LD driver and CDR ICs (IEC 62149-5:2020)

Composants et dispositifs actifs fibroniques - Normes de performances - Partie 5: Emetteurs-récepteurs ATM-PON avec programme de gestion LD et CI CDR (IEC 62149-5:2020)

Aktive Lichtwellenleiterbauelemente und -geräte - Betriebsverhalten - Teil 5: ATM-PON Sende- und Empfangsmodule mit Laserdiodentreiberschaltungen und Takt- und Datenrückgewinnungs-ICs (IEC 62149-5:2020)

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European foreword

The text of document 86C/1667(F)/FDIS, future edition 3 of IEC 62149-5, 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 62149-5:2020.

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) 2021-06-22
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-09-22

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60793 series	NOTE Harmonized as EN IEC 60793 series
IEC 60794 series	NOTE Harmonized as EN 60794 series
IEC 60825 series	NOTE Harmonized as EN 60825 series
IEC 61076 series	NOTE Harmonized as EN IEC 61076 series
IEC 61280 series	NOTE Harmonized as EN 61280 series
IEC 61281-1	NOTE Harmonized as EN IEC 61281-1
IEC 61754 series	NOTE Harmonized as EN 61754 series
IEC 62007-1	NOTE Harmonized as EN 62007-1
IEC 62007-2	NOTE Harmonized as EN 62007-2
ISO 1101:2017	NOTE Harmonized as EN ISO 1101:2017 (not modified)

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 60068-2-6	-	Environmental testing - Part 2–6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-27	-	Environmental testing - Part 2–27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	-
IEC 60332-3-24	-	Tests on electric and optical fibre cables under fire conditions - Part 3–24: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C	EN IEC 60332-3-24	-
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 61000-6-3	-	Electromagnetic compatibility (EMC) - Part 6–3: Generic standards - Emission standard for equipment in residential environments		-
IEC 61280-1-1	-	Fibre optic communication subsystem basic test procedures - Part 1–1: Test procedures for general communication subsystems - Transmitter output optical power measurement for single-mode optical fibre cable	EN 61280-1-1	-
IEC 61280-1-3	-	Fibre optic communication subsystem test procedures - Part 1–3: General communication subsystems - Central wavelength and spectral width measurement	EN 61280-1-3	-
IEC 61280-2-2	-	Fibre optic communication subsystem test procedures - Part 2–2: Digital systems - Optical eye pattern, waveform and extinction ratio measurement	EN 61280-2-2	-

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IEC 61300-2-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2–4: Tests - Fibre or cable retention	EN IEC 61300-2-4	-
IEC 61300-2-17	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2–17: Tests - Cold	EN 61300-2-17	-
IEC 61300-2-18	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2–18: Tests - Dry heat - High temperature endurance	EN 61300-2-18	-
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 61300-2-22	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2–22: Tests - Change of temperature	EN 61300-2-22	-
IEC 61300-3-6	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3–6: Examinations and measurements - Return loss	EN 61300-3-6	-
IEC 61753-1	-	Fibre optic interconnecting devices and passive components - Performance standard - Part 1: General and guidance	EN IEC 61753-1	-
IEC 62148-1	-	Fibre optic active components and devices - Package and interface standards - Part 1: General and guidance	EN IEC 62148-1	-
IEC 62150-2	-	Fibre optic active components and devices - Test and measurement procedures - Part 2: ATM-PON transceivers	EN 62150-2	-
ITU-T Recommendation G.957	2006	Optical interfaces for equipments and systems relating to the synchronous digital hierarchy		-
ITU-T Recommendation G.983.1	2005	Broadband optical access systems based on Passive Optical Networks (PON)		-

IEC 62149-5

Edition 3.0 2020-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic active components and devices – Performance standards – Part 5: ATM-PON transceivers with LD driver and CDR ICs

Composants et dispositifs actifs fibroniques – Normes de performances – Partie 5: Émetteurs-récepteurs ATM-PON avec programme de gestion LD et CI CDR

IEC 62149-5:2020-08(en-fr)

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IEC 62149-5

Edition 3.0 2020-08

INTERNATIONAL STANDARD

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Fibre optic active components and devices – Performance standards – Part 5: ATM-PON transceivers with LD driver and CDR ICs

Composants et dispositifs actifs fibroniques – Normes de performances – Partie 5: Émetteurs-récepteurs ATM-PON avec programme de gestion LD et CI CDR

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FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PERFORMANCE STANDARDS –

Part 5: ATM-PON transceivers with LD driver and CDR ICs

FOREWORD

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International Standard IEC 62149-5 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 2009 and constitutes a technical revision.

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

a) description of types in Clause 4 has been removed;
b) titles of reference documents have been updated.

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

FDIS	Report on voting
86C/1667/FDIS	86C/1678/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 of 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 transceivers are used to convert electrical signals into optical signals and vice versa. The optical performance criteria are generally well specified for a number of internationally agreed applications areas such as ITU-T Recommendation G.983.1 and IEEE Std 802.3. This document aims to assure inter-changeability in performance between fibre optic transceivers for ATM-PON (ATM-based broadband passive optical network) systems supplied by different manufacturers but does not guarantee operation between fibre optic transceivers.

Manufacturers using this document 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 5: ATM-PON transceivers with LD driver and CDR ICs

1 Scope

This part of IEC 62149 specifies performance on the transceiver modules for asynchronous-transfer-mode passive optical network (ATM-PON) systems recommended by the International Telecommunication Union (ITU) in ITU-T Recommendation G.983.1.

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

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IEC 61280-2-2, *Fibre optic communication subsystem test procedures – Part 2-2: Digital systems – Optical eye pattern, waveform and extinction ratio measurement*

IEC 61300-2-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-4: Tests – Fibre or cable retention*

IEC 61300-2-17, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-17: Tests – Cold*

IEC 61300-2-18, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-18: Tests – Dry heat – High temperature endurance*

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 61300-2-22, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-22: Tests – Change of temperature*

IEC 61300-3-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-6: Examinations and measurements – Return loss*

IEC 61753-1, *Fibre optic interconnecting devices and passive components – Performance standard – Part 1: General and guidance*

IEC 62148-1, *Fibre optic active components and devices – Package and interface standards – Part 1: General and guidance*

IEC 62150-2, *Fibre optic active components and devices – Test and measurement procedures – Part 2: ATM-PON transceivers*

ITU-T Recommendation G.957:2006, *Optical interfaces for equipments and systems relating to the synchronous digital hierarchy*

ITU-T Recommendation G.983.1:2005, *Broadband optical access systems based on Passive Optical Networks (PON)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN