

Fibre optic active components and devices - Test and measurement procedures - Part 2: ATM-PON transceivers

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 62150-2:2011 sisaldab Euroopa standardi EN 62150-2:2011 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 28.02.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

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English version

**Fibre optic active components and devices -
Test and measurement procedures -
Part 2: ATM-PON transceivers
(IEC 62150-2:2010)**

Composants et dispositifs actifs à fibres
optiques -
Procédures d'essais et de mesures -
Partie 2: Emetteurs-récepteurs ATM-PON
(CEI 62150-2:2010)

Aktive Lichtwellenleiter-Bauteile
und -Bauelemente -
Prüf- und Messverfahren -
Teil 2: ATM-PON-Sende- und
Empfangsmodule
(IEC 62150-2:2010)

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CENELEC

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

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Foreword

The text of document 86C/974/FDIS, future edition 2 of IEC 62150-2, 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 was approved by CENELEC as EN 62150-2 on 2011-01-13.

This European Standard supersedes EN 62150-2:2004.

The significant technical change to EN 62150-2:2004 is:

The power meter requires higher saturation power than $2 \times P_{\text{mean}}$ for P_{ave} measurement in 7.3.3.

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The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2011-10-13
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2014-01-13

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62150-2:2010 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 60617 series	NOTE	Harmonized in EN 60617 series (not modified).
IEC 60793 series	NOTE	Harmonized in EN 60793 series (not modified).
IEC 60794 series	NOTE	Harmonized in EN 60794 series (not modified).
IEC 60874 series	NOTE	Harmonized in EN 60874 series (not modified).
IEC 61280 series	NOTE	Harmonized in EN 61280 series (not modified).
IEC 61300 series	NOTE	Harmonized in EN 61300 series (not modified).
IEC 61315:1995	NOTE	Harmonized as EN 61315:1997 (not modified).
IEC 62148-6	NOTE	Harmonized as EN 62148-6.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61280-1-3	1998	Fibre optic communication subsystem basic test procedures - Part 1-3: Test procedures for general communication subsystems - Central wavelength and spectral width measurement	EN 61280-1-3 ¹⁾	1999
IEC 61280-2-2	2008	Fibre optic communication subsystem test procedures Part 2-2: Digital systems - Optical eye pattern, waveform and extinction ratio measurement	EN 61280-2-2	2008
IEC 62149-5	2009	Fibre optic active components and devices - Performance standards - Part 5: ATM-PON transceivers with LD driver and CDR ICs	EN 62149-5	201X ²⁾
ITU-T G.983.1	-	Broadband optical access systems based on Passive Optical Networks (PON)	-	-

¹⁾ EN 61280-1-3 is superseded by EN 61280-1-3:2010, which is based on IEC 61280-1-3:2010.

²⁾ To be published.

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INTRODUCTION

This International Standard specifies testing and measuring procedures for optoelectronic properties of asynchronous-transfer-mode passive optical network (ATM-PON) transceivers. The package interface dimensions and optoelectronic performance of the transceivers are defined in IEC 62148-6 and IEC 62149-5, respectively.

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FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – TEST AND MEASUREMENT PROCEDURES –

Part 2: ATM-PON transceivers

1 Scope

This part of IEC 62150 specifies testing and measuring procedures for fibre optic transceivers for asynchronous-transfer-mode passive optical network (ATM-PON) systems recommended by ITU-T G.983.1. These testing procedures correspond to methods of examining whether the transceivers satisfy the performance specifications defined in IEC 62149-5. On the other hand, the measuring procedures correspond to methods of precise measurement for such transceivers. The receiver sections of these transceivers can handle burst signals. Therefore, some procedures described in this standard correspond to the burst signal transmission.

2 Normative references

The following referenced documents are indispensable for the application 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 61280-1-3:1998, *Fibre optic communication subsystem basic test procedures – Part 1-3: Test procedures for general communication subsystems – Central wavelength and spectral width measurement*

IEC 61280-2-2:2008, *Fibre optic communication subsystem test procedures – Part 2-2: Digital systems – Optical eye pattern, waveform and extinction ratio measurement*

IEC 62149-5:2009, *Fibre optic active components and devices – Performance standards – Part 5: ATM-PON transceivers with LD driver and CDR ICs*

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

3 Abbreviations and symbols

For the purposes of this document, the following abbreviations and symbols are applicable.

3.1 Abbreviations

BER	bit error ratio characteristic
MLM-L	multi-longitudinal mode laser diode
NRZ	non-return to zero
O/E	optical/electrical
PON	passive optical network
PRBS	pseudo random binary sequence
Rx	receiver and /or receiver section of ATM-PON transceivers
SLM-LD	single longitudinal mode laser diode
Tx	transmitter and /or transmitter section of ATM-PON transceivers
WDM	wavelength division multiplexing