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

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 62150-2:2011 sisaldab Euroopa standardi EN 62150-2:2011 ingliskeelset teksti.	This Estonian standard EVS-EN 62150-2:2011 consists of the English text of the European standard EN 62150-2:2011.
Standard on kinnitatud Eesti Standardikeskuse 28.02.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 14.01.2011.	Date of Availability of the European standard text 14.01.2011.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 33.180.20

EUROPEAN STANDARD

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EN 62150-2

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Supersedes EN 62150-2:2004

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)

This European Standard was approved by CENELEC on 2011-01-13. 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.

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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 × P_{mean} for P_{ave} measurement in 7.3.3.

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

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.

Publication	Year	Title	EN/HD	Year
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.

CONTENTS

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.

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