



NSAI
Standards

Irish Standard
I.S. EN 62149-5:2011

Fibre optic active components and devices - Performance standards -- Part 5: ATM-PON transceivers with LD driver and CDR ICs (IEC 62149-5:2009 (EQV))

I.S. EN 62149-5:2011

Incorporating amendments/corrigenda issued since publication:

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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EN 62149-5

January 2011

ICS 33.180.20

Supersedes EN 62149-5:2003

English version

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

Composants et dispositifs actifs à fibres
optiques -
Normes de fonctionnement -
Partie 5: Émetteurs-récepteurs ATM-PON
avec programme de gestion LD et ICs
CDR
(CEI 62149-5:2009)

Aktive Lichtwellenleiterbauelemente und -
geräte -
Betriebsverhalten -
Teil 5: ATM-PON Sende- und
Empfangsmodule mit
Laserdiodentreiberschaltungen und Takt-
und Datenrückgewinnungs-ICs
(IEC 62149-5:2009)

This European Standard was approved by CENELEC on 2011-01-02. 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 Central Secretariat or to any CENELEC member.

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 86C/891/FDIS, future edition 2 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 was approved by CENELEC as EN 62149-5 on 2011-01-02.

This European Standard supersedes EN 62149-5:2003.

The main changes with respect to EN 62149-5:2003 are listed below:

- Normative references have been updated;
- Incorrect “Letter symbols” have been corrected;
- Some “Notes” in tables have been revised in order to harmonize with EN 62150-2:2004.

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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) | 2011-10-02 |
| – latest date by which the national standards conflicting
with the EN have to be withdrawn | (dow) | 2014-01-02 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62149-5:2009 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 (partially modified).
IEC 60794 series	NOTE	Harmonized in EN 60794 series (not modified).
IEC 60825 series	NOTE	Harmonized in EN 60825 series (not modified).
IEC 60874 series	NOTE	Harmonized in EN 60874 series (not modified).
IEC 61076 series	NOTE	Harmonized in EN 61076 series (not modified).
IEC 61280 series	NOTE	Harmonized in EN 61280 series (not modified).
IEC 61281-1:1999	NOTE	Harmonized as EN 61281-1:1999 (not modified).
IEC 61754 series	NOTE	Harmonized in EN 61754 series (partially modified).
IEC 62007-1:1999	NOTE	Harmonized as EN 62007-1:2000 (not modified).
IEC 62007-2:1999	NOTE	Harmonized as EN 62007-2:2000 (not modified).
IEC 62148-1:2002	NOTE	Harmonized as EN 62148-1:2002 (not modified).

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 60068-2-6	2007	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008
IEC 60068-2-27	2008	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	2009
IEC 60825-1	2007	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	2007
IEC 60950-1 (mod)	2005	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1 + A11	2006 2009
IEC 61000-6-3	-	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light- industrial environments	EN 61000-6-3	-
IEC 61280-1-1	1998	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	1998
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 61300-2-4	1995	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre/cable retention	EN 61300-2-4	1997

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

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61300-2-17	2003	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-17: Tests - Cold	EN 61300-2-17	2003
IEC 61300-2-18	2005	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	2005
IEC 61300-2-19	2005	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-19: Tests - Damp heat (steady state)	EN 61300-2-19	2005
IEC 61300-2-22	2007	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-22: Tests - Change of temperature	EN 61300-2-22	2007
IEC 61300-3-6	2003	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-6: Examinations and measurements - Return loss	EN 61300-3-6 ²⁾	2003
IEC 61753-1	2007	Fibre optic interconnecting devices and passive components performance standard - Part 1: General and guidance for performance standards	EN 61753-1	2007
IEC/TR 61931	-	Fibre optic - Terminology	-	-
IEC 62150-2	2004	Fibre optic active components and devices - Test and measurement procedures - Part 2: ATM-PON transceivers	EN 62150-2 ³⁾	2004
ITU-T Recommendation G.983.1	-	Broadband optical access systems based on Passive Optical Networks (PON)	-	-

²⁾ EN 61300-3-6 is superseded by EN 61300-3-6:2009, which is based on IEC 61300-3-6:2008.

³⁾ EN 62150-2 is superseded by EN 62150-2:2011, which is based on IEC 62150-2:2010.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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 second edition cancels and replaces the first edition published in 2003, and constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

- Normative references have been updated
- Incorrect "Letter symbols" have been corrected
- Some "Notes" in tables have been revised in order to harmonize with IEC 62150-2 (2004).

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The text of this standard is based on the following documents:

FDIS	Report on voting
86C/891/FDIS	86C/916/RVD

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

This publication 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 publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication 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 802.3. This standard aims to assure inter-changeability in performance between fibre optic transceivers for ATM-PON systems supplied by different manufacturers, but does not guarantee operation between fibre optic transceivers.

Manufacturers using the standards are responsible for meeting the required performance and/or reliability and quality assurance under a recognized scheme.

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