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I.S. EN 61753-086-2:2009

Fibre optic interconnecting devices and passive components performance standard -- Part 086-2: Non-connectorised single-mode bidirectional 1490 / 1550 nm downstream 1310 nm upstream WWDM devices for category C - Controlled environment (IEC 61753-086-2:2009 (EQV))

I.S. EN 61753-086-2:2009

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61753-086-2

November 2009

ICS 33.180.10

English version

**Fibre optic interconnecting devices
and passive components performance standard -
Part 086-2: Non-connectorised single-mode bidirectional 1490 / 1550 nm
downstream 1310 nm upstream WWDM devices for category C -
Controlled environment
(IEC 61753-086-2:2009)**

Norme de qualité de fonctionnement
des dispositifs d'interconnexion et
composants passifs à fibres optiques -
Partie 086-2: Dispositifs WWDM
unimodaux non connectorisés
bidirectionnels 1490 / 1550 nm
en voie descendante et 1310 nm
en voie montante fonctionnant
en catégorie C -
Environnement contrôlé
(CEI 61753-086-2:2009)

Lichtwellenleiter - Verbindungselemente
und passive Bauteile -
Betriebsverhalten -
Teil 086-2: Nicht mit Steckverbindern
versehene bidirektionale
1 490/1 550-nm-downstream-
1 310-nm-upstream-Einmoden-WWDM-
Bauteile für die Kategorie C -
Kontrollierte Umgebung
(IEC 61753-086-2:2009)

This European Standard was approved by CENELEC on 2009-11-01. 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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

I.S. EN 61753-086-2:2009

EN 61753-086-02:2009

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Foreword

The text of document 86B/2892/FDIS, future edition 1 of IEC 61753-086-2, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61753-086-2 on 2009-11-01.

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) 2010-08-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2012-11-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61753-086-2:2009 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62074-1 NOTE Harmonized as EN 62074-1:2009 (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 60793-2-50	- ¹⁾	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN 60793-2-50	2008 ²⁾
IEC 61300	Series	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures	EN 61300	Series
IEC 61300-2-1	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-1: Tests - Vibration (sinusoidal)	EN 61300-2-1	2009 ²⁾
IEC 61300-2-4	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre/cable retention	EN 61300-2-4	1997 ²⁾
IEC 61300-2-9	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-9: Tests - Shock	EN 61300-2-9	1997 ²⁾
IEC 61300-2-14	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-14: Tests - Optical power handling and damage threshold characterization	EN 61300-2-14 + corr. November	2006 ²⁾ 2006
IEC 61300-2-17	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-17: Tests - Cold	EN 61300-2-17	2003 ²⁾
IEC 61300-2-18	- ¹⁾	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 ²⁾
IEC 61300-2-19	- ¹⁾	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 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61300-2-22	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-22: Tests - Change of temperature	EN 61300-2-22	2007 ²⁾
IEC 61300-2-42	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-42: Tests - Static side load for connectors	EN 61300-2-42	2005 ²⁾
IEC 61300-2-44	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-44: Tests - Flexing of the strain relief of fibre optic devices	EN 61300-2-44	2008 ²⁾
IEC 61300-3-2	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-2: Examinations and measurements - Polarization dependent loss in a single-mode fibre optic device	EN 61300-3-2	2009 ²⁾
IEC 61300-3-6	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-6: Examinations and measurements - Return loss	EN 61300-3-6	2009 ²⁾
IEC 61300-3-7	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-7: Examinations and measurements - Wavelength dependence of attenuation and return loss of single mode components	EN 61300-3-7	2001 ²⁾
IEC 61300-3-20	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-20: Examinations and measurements - Directivity of fibre optic branching devices	EN 61300-3-20 + corr. March	2001 ²⁾ 2002
IEC 61300-3-29	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-29: Examinations and measurements - Measurement techniques for characterising the amplitude of the spectral transfer function of DWDM components	EN 61300-3-29 + corr. November	2006 ²⁾ 2006
IEC 61753-1	- ¹⁾	Fibre optic interconnecting devices and passive components performance standard - Part 1: General and guidance for performance standards	EN 61753-1	2007 ²⁾

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES AND
PASSIVE COMPONENTS PERFORMANCE STANDARD –****Part 086-2: Non-connectorized single-mode
bidirectional 1 490 / 1 550 nm downstream and 1 310 nm
upstream WWDM devices for category C –
Controlled environment**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61753-086-2 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86B/2892/FDIS	86B/2922/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 61753 series, under the general title *Fibre optic interconnecting devices and passive components 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.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The “colour inside” logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS PERFORMANCE STANDARD –

Part 086-2: Non-connectorized single-mode bidirectional 1 490 / 1 550 nm downstream and 1 310 nm upstream WWDM devices for category C – Controlled environment

1 Scope

This part of IEC 61753 contains the minimum initial performance, test and measurement requirements and severities which a fibre optic pigtailed 1 490 / 1 550 nm downstream and 1 310 nm upstream wide wavelength division multiplexing (WWDM) passive optical network (PON) device must satisfy in order to be categorized as meeting the requirements of category C (controlled environments), as defined in Annex A of IEC 61753-1.

Annex B of this standard provides information concerning the function of the 1 490 / 1 550 nm downstream and 1 310 nm upstream WWDM.

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 60793-2-50, *Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres*

IEC 61300 (all parts), *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures*

IEC 61300-2-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-1: Tests – Vibration (sinusoidal)*

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

IEC 61300-2-9, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-9: Tests – Shock*

IEC 61300-2-14, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-14: Tests – Optical power handling and damage threshold characterization*

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)*

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