

Fibre optic interconnecting devices and passive components - Performance standard - Part 089-2: Non-connectorised single-mode bidirectional OTDR monitoring WDM devices for Category C - Controlled environment (IEC 61753-089-2:2013)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61753-089-2:2013 sisaldab Euroopa standardi EN 61753-089-2:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 61753-089-2:2013 consists of the English text of the European standard EN 61753-089-2:2013.
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**Fibre optic interconnecting devices and passive components -
Performance standard -
Part 089-2: Non-connectorized single-mode bidirectional OTDR
monitoring WDM devices for category C -
Controlled environment
(IEC 61753-089-2:2013)**

Dispositifs d'interconnexion et composants
passifs à fibres optiques -
Norme de performance -
Partie 089-2: Dispositifs WDM de
surveillance par OTDR, unimodaux non
connectorisés bidirectionnels pour la
catégorie C - Environnement contrôlé
(CEI 61753-089-2:2013)

Lichtwellenleiter -
Verbindungselemente und passive
Bauteile -
Betriebsverhalten -
Teil 089-2: Nicht mit Steckverbindern
versehene bidirektionale OTDR-
Überwachungs-WDM-Bauteile für die
Kategorie C -
kontrollierte Umgebung
(IEC 61753-089-2:2013)

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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 86B/3454/CDV, future edition 1 of IEC 61753-089-2, 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 approved by CENELEC as EN 61753-089-2:2013.

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) 2014-01-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-04-10

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Endorsement notice

The text of the International Standard IEC 61753-089-2:2013 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 61300-2-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-1: Tests - Vibration (sinusoidal)	EN 61300-2-1	-
IEC 61300-2-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre/cable retention	EN 61300-2-4	-
IEC 61300-2-9	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-9: Tests - Shock	EN 61300-2-9	-
IEC 61300-2-14	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-14: Tests - High optical power	EN 61300-2-14	-
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 61300-2-42	-	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	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61300-2-44	-	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	-
IEC 61300-3-2	-	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	-
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 61300-3-7	-	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	-
IEC 61300-3-20	-	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	-
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

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 089-2: Non-connectorized single-mode bidirectional OTDR monitoring 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 wide wavelength division multiplexing (WWDM) device for monitoring passive optical networks (PON) using an optical time-domain reflectometer (OTDR) satisfies in order to be categorized as meeting the requirements of category C (controlled environments), as defined in Annex A of IEC 61753-1:2007.

Annex B of this standard provides information concerning the principle and function of the OTDR monitoring WWDM.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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 – High optical power*

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 61300-2-42, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-42: Tests – Static side load for connectors*

IEC 61300-2-44, *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*

IEC 61300-3-2, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-2: Examination and measurements – Polarization dependent loss in a single-mode fibre optic device*

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

IEC 61300-3-7, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-7: Examination and measurements – Wavelength dependence of attenuation and return loss of single mode components*

IEC 61300-3-20, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-20: Examination and measurements – Directivity of fibre optic branching devices*

IEC 61753-1:2007, *Fibre optic interconnecting devices and passive components performance standard – Part 1: General and guidance for performance*

3 Terms and definitions

For the purposes of this document, the following terms and definitions, as well as those given in IEC 62074-1, apply.

3.1

OTDR monitoring WWDM device

WWDM device for monitoring PON using an OTDR that has three ports

Note 1 to entry: Signal wavelengths are transmitted between the common port and the optical line terminal (OLT) port. OTDR wavelengths are transmitted between the common port and the OTDR port

Note 2 to entry: Annex B of this standard provides information concerning the function of the OTDR monitoring WWDM device.

4 Test

Unless otherwise specified, all test methods are in accordance with the IEC 61300 series. Each test defines the number of samples to be evaluated. The samples used for each test are intended to be previously unstressed new samples but may also be selected from previously used samples if desired. The samples shall have pigtails of single-mode fibres as per IEC 60793-2-50, category B 1.1, B 1.3 or B 6 in either coated fibres (primary and secondary) or reinforced cable format. All measurements shall be carried out at standard atmosphere condition defined in IEC 61300-1, unless otherwise stated.

All tests shall be carried out over the signal wavelength ranges of 1 260 nm to 1 360 nm, 1 480 nm to 1 500 nm, 1 550 nm to 1 560 nm, and over the OTDR wavelength range, 1 620 nm to 1 630 nm or 1 645 nm to 1 655 nm, unless otherwise specified.

NOTE 1 310 nm, 1 490 nm and 1 550 nm are the nominal or centre wavelengths, stated for the ranges 1 260 nm to 1 360 nm, 1 480 nm to 1 500 nm and 1 550 nm to 1 560 nm as defined in ITU-T Recommendations G.983.3 [1]¹ and G.984.2 [2] and IEEE standard 802.3ah-2004 [3].

¹ References in square brackets refer to the Bibliography.