Fibre optic interconnecting devices and passive components - Performance standard - Part 081-02: Non-connectorized single-mode fibre optic middle-scale 1 x N DWDM devices for category C - Controlled environments

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61753-081-02:2023 sisaldab Euroopa standardi EN IEC 61753-081-02:2023 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61753-081-02:2023 consists of the English text of the European standard EN IEC 61753-081-02:2023.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 22.12.2023.	Date of Availability of the European standard is 22.12.2023.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61753-081-02

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English Version

Fibre optic interconnecting devices and passive components - Performance standard - Part 081-02: Non-connectorized single-mode fibre optic middle-scale 1 x N DWDM devices for category C - Controlled environments (IEC 61753-081-02:2023)

Dispositifs d'interconnexion et composants passifs fibroniques - Norme de performance - Partie 081-02 : Dispositifs DWDM 1 × N de milieu d'échelle fibroniques unimodaux, non connecteurisés, pour catégorie C - Environnements contrôlés (IEC 61753-081-02:2023)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Betriebsverhalten - Teil 081-02: Nicht mit Steckverbinder versehene mittelgroße Einmoden-Lichtwellenleiter-1-x-N-DWDM-Bauteile für die Kategorie C - Kontrollierte Umgebung (IEC 61753-081-02:2023)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 61753-081-02:2023 E

European foreword

The text of document 86B/4802/FDIS, future edition 1 of IEC 61753-081-02, 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 IEC 61753-081-02:2023.

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) 2024-09-21
•	latest date by which the national standards conflicting with the document have to be withdrawn	(dow) 2024-12-21

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In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 61300-3-28 NOTE Approved as EN 61300-3-28

IEC 61753-081-03 NOTE Approved as EN IEC 61753-081-03

IEC 61753-081-06 NOTE Approved as EN IEC 61753-081-06

IEC 61753-081-02

Edition 1.0 2023-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic interconnecting devices and passive components – Performance standard –
Part 081-02: Non-connectorized single-mode fibre optic middle-scale 1 × N DWDM devices for category C – Controlled environments

Dispositifs d'interconnexion et composants passifs fibroniques – Norme de performance –
Partie 081-02 : Dispositifs DWDM 1 × N de milieu d'échelle fibroniques unimodaux, non connectorisés, pour catégorie C – Environnements contrôlés

IEC 61753-081-02:2023-11(en-fr)

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic interconnecting devices and passive components – Performance standard – Part 081-02: Non-connectorized single-mode fibre optic middle-scale 1 × N DWDM devices for category C – Controlled environments

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Part 081-02: Non-connectorized single-mode fibre optic middle-scale 1 × *N* DWDM devices for category C – Controlled environments

FOREWORD

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IEC 61753-081-02 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics. It is an International Standard.

This first edition cancels and replaces IEC 61753-081-2 published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 61753-081-2:2014:

a) change of test conditions harmonizing with IEC 61753-1:2018;
b) harmonization of the measurement uncertainties in Table 2 to Table 4 with IEC 61753-081-03 and IEC 61753-081-06.

The text of this International Standard is based on the following documents:

Draft	Report on voting
86B/4802/FDIS	86B/4823/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts of IEC 61753 series, published under the general title *Fibre optic interconnecting devices and passive components – Performance standard*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 081-02: Non-connectorized single-mode fibre optic middle-scale 1 × N DWDM devices for category C – Controlled environments

1 Scope

This part of IEC 61753 contains the minimum initial test and measurement requirements and severities which a fibre optic middle-scale 1 × N (16 ≤ N ≤ 64) DWDM (dense wavelength division multiplexing) arrayed waveguide grating device with channel spacing of 50 GHz, 100 GHz or 200 GHz satisfies in order to be categorized as meeting the requirements of category C (controlled environment). The requirements are given for the DWDM devices with Gaussian passband profile and flat-top passband profile. The requirements exclude the devices with dynamic electrical temperature control.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60794-2-50, *Optical fibre cables – Part 2-50: Indoor cables – Family specification for simplex and duplex cables for use in terminated cable assemblies*

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

IEC 61300-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General and guidance*

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 or cable retention*

IEC 61300-2-5, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-5: Tests – Torsion*

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*

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 61300-2-44, *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: Examinations 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: Examinations and measurements – Return loss*

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*

IEC 61300-3-29, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-29: Examinations and measurements – Spectral transfer characteristics of DWDM devices*

IEC 61300-3-32, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-32: Examinations and measurements – Polarization mode dispersion measurement for passive optical components*

IEC 61300-3-38, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-38: Examinations and measurements – Group delay, chromatic dispersion and phase ripple*

IEC 61753-1:2018, *Fibre optic interconnecting devices and passive components – Performance standard – Part 1: General and guidance*

IEC 62074-1, *Fibre optic interconnecting devices and passive components – Fibre optic WDM devices – Part 1: Generic specification*

IEC TS 62627-09, *Fibre optic interconnecting devices and passive components – Vocabulary for passive optical devices*