



INTERNATIONAL STANDARD



**Fibre optic interconnecting devices and passive components – Connector optical interfaces –
Part 2-4: Connection parameters of non-dispersion shifted single-mode physically contacting fibres – Non-angled for reference connection applications**

INTERNATIONAL
ELECTROTECHNICAL
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International Standard IEC 61755-2-4 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/3845/FDIS	86B/3866/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 in the IEC 61755 series, published under the general title *Fibre optic interconnecting devices and passive components –Connector optical interfaces*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

The committee has decided that the contents of this publication will remain unchanged until the stability 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- withdrawn,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.

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Part 2-4: Connection parameters of non-dispersion shifted single-mode physically contacting fibres – Non-angled for reference connection applications

1 Scope

This part of IEC 61755 defines a set of prescribed conditions that should be maintained in order to satisfy the requirements of non-angled polished reference connections.

The prescribed conditions include dimensional limits and optical fibre requirements of the optical interface to meet specific requirements for reference connection (plugs and adaptors) used for attenuation measurements.

Two different grades for reference connections are defined in this standard. The use of each of these grades depends on the application and on the targeted attenuation measurement uncertainty. The model uses a Gaussian distribution of light intensity over the specified restricted mode field diameter (MFD) range.

This standard is intended to be used for shipping and acceptance inspections.

The reference connector plug is specified for B1.1, B1.3 and B6 fibres as specified in IEC 60793-2-50.

The use of the reference connector plug would not be recommended where classification of fibre is difficult, for example construction and maintenance of cable plant.

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

IEC 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

IEC 61300-3-42, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-42: Examinations and measurements – Attenuation of single mode alignment sleeves and or adaptors with resilient alignment sleeves*

IEC 61755-2-1, *Fibre optic interconnecting devices and passive components – Connector optical interfaces – Part 2-1: Connection parameters of non-dispersion shifted single-mode physically contacting fibres – Non-angled*

IEC 61755-2-2, *Fibre optic interconnecting devices and passive components – Connector optical interfaces – Part 2-2: Connection parameters of non-dispersion shifted single-mode physically contacting fibres – Angled*

IEC 61755-3 (all parts), *Fibre optic interconnecting devices and passive components – Connector optical interfaces – Part 3-x: Connector parameters of non-dispersion shifted single-mode physically contacting fibres*

IEC TR 62627-04, *Fibre optic interconnecting devices and passive components – Technical report – Part 04: Example of uncertainty calculation: Measurement of the attenuation of an optical connector*