IEC 61755-3-2

Edition 2.0 2024-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Fibre optic interconnecting devices and passive components – Connector optical interfaces – Part 3-2: Connector parameters of dispersion unshifted single-mode physically contacting fibres – Angled 2,5 mm and 1,25 mm diameter cylindrical full zirconia ferrules

Dispositifs d'interconnexion et composants passifs fibroniques – Interfaces optiques de connecteurs – Partie 3-2: Paramètres des connecteurs pour fibres unimodales à dispersion non décalée en contact physique – Ferrules cylindriques avec angle en zircone pleine de 2,5 mm et 1,25 mm de diamètre

IEC 61755-3-2:2024-04 (en-fr)

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FOREWORD

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IEC 61755-3-2 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 second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) normative references have been added;

b) The introduction of an additional optical interface with a different fibre core eccentricity profile. The previous revision of optical interface standard is named "Variant 1: with fibre core axis oriented towards the connector guide key". The additional optical interface is named "Variant 2: with fibre core axis not oriented towards the connector guide key";

c) statements added related to interoperability, where both variants remain intermateable within a given performance grade and are fully backwards compatible to IEC 61755-3-2:2006;

d) The addition of Grade B and Grade C interface requirements for both variants;

e) The addition of a descriptive statistic for the mean fibre core eccentricity (mean value) to describe the distribution of fibre core eccentricity to ensure interoperability;

f) A new informative Annex B to give guidance on the expected attenuation when mated to a reference connector plug;

g) A new informative Annex C to give guidance related to the simulation of optical interface attenuation;

h) A new informative Annex D to give guidance related to estimation of mean fibre eccentricity limits for finite production batch sizes.

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

Draft	Report on voting
86B/4864/FDIS	86B/4900/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 the IEC 61755 series, under the general title *Fibre optic interconnecting devices and passive components – Connector optical interfaces for single-mode fibres*, can be found on the IEC website.

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

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.

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – CONNECTOR OPTICAL INTERFACES –

Part 3-2: Connector parameters of dispersion unshifted single-mode physically contacting fibres – Angled 2,5 mm and 1,25 mm diameter cylindrical full zirconia ferrules

1 Scope

This part of IEC 61755 defines the dimensional limits of the optical interface that are necessary for single-mode fibre optic connectors with 2,5 mm or 1,25 mm diameter cylindrical zirconia (ZrO_2) ferrules polished at an 8° angle to meet the specific requirements for fibre-to-fibre interconnection, as defined in IEC 61755-2-2.

Ferrules made from the material specified in this standard are suitable for use in all the operating service environments defined in IEC 61753-1.

Ferrule dimensions and features are contained in the IEC 61755 series of fibre optic connector interface standards.

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 61755-1, *Fibre optic interconnecting devices and passive components – Connector optical interfaces for single-mode fibres – Part 1: Optical interfaces for dispersion unshifted fibres – General and guidance*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61755-1 apply.

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