

SLOVENSKI STANDARD
SIST EN 61755-3-5:2007

01-september-2007

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Fibre optic connector optical interfaces -- Part 3-5: Optical Interface - 2,5 mm and 1,25 mm diameter cylindrical PC composite ferrule using Cu-Ni-alloy as fibre surrounding material, single mode fibre (IEC 61755-3-5:2006)

STANDARD PREVIEW

Optische Schnittstellen von Lichtwellenleiter-Steckverbindern -- Teil 3-5: Optische Schnittstelle - Zylindrische PC-Composite-Ferrulen mit 2,5 mm und 1,25 mm Durchmesser für Einmodenfaser, mit Cu-Ni-Legierung als Material für die Faserfassung (IEC 61755-3-5:2006)

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Interfaces optiques de connecteurs pour fibres optiques -- Partie 3-5: Interfaces optiques - Ferrules PC composites cylindriques de diametre 2,5 mm et 1,25 mm, utilisant un alliage Cu-Ni comme matériau entourant la fibre, fibres unimodales (IEC 61755-3-5:2006)

Ta slovenski standard je istoveten z: EN 61755-3-5:2006

ICS:

33.180.20 Ú[ç^: [çæ] ^Á æ |æç^Áæ Fibre optic interconnecting devices
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SIST EN 61755-3-5:2007 en,fr,de

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English version

Fibre optic connector optical interfaces
Part 3-5: Optical interface -
2,5 mm and 1,25 mm diameter cylindrical PC composite ferrule
using Cu-Ni-alloy as fibre surrounding material, single mode fibre
(IEC 61755-3-5:2006)

Interfaces optiques de connecteurs
pour fibres optiques
Partie 3-5: Interfaces optiques -
Férules PC composites cylindriques
de diamètre 2,5 mm et 1,25 mm,
utilisant un alliage Cu-Ni comme matériau
entourant la fibre, fibres unimodales
(CEI 61755-3-5:2006)

Optische Schnittstellen
von Lichtwellenleiter-Steckverbindern
Teil 3-5: Optische Schnittstelle -
Zylindrische PC-Composite-Ferrulen
mit 2,5 mm und 1,25 mm Durchmesser
für Einmodenfaser, mit Cu-Ni-Legierung
als Material für die Faserfassung
(IEC 61755-3-5:2006)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 86B/2258/CDV, future edition 1 of IEC 61755-3-5, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC Parallel Unique Acceptance Procedure and was approved by CENELEC as EN 61755-3-5 on 2006-12-01.

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) 2007-09-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2009-12-01

Endorsement notice

The text of the International Standard IEC 61755-3-5:2006 was approved by CENELEC as a European Standard without any modification.

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

IEC 61753-1	NOTE	Harmonized as EN 61753-1:2001 (not modified).
IEC 61755-3	NOTE	Harmonized in EN 61755-3 series (not modified).

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**NORME
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INTERNATIONAL
STANDARD**

**CEI
IEC**

61755-3-5

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First edition
2006-11

**Interfaces optiques de connecteurs
pour fibres optiques –**

**Partie 3-5:
Interfaces optiques –
Férules PC composites cylindriques
de diamètre 2,5 mm et 1,25 mm, utilisant
un alliage Cu-Ni comme matériau entourant
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Fibre optic connector optical interfaces –

**Part 3-5:
Optical interface –
2,5 mm and 1,25 mm diameter cylindrical PC
composite ferrule using Cu-Ni-alloy as fibre
surrounding material, single mode fibre**

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC CONNECTOR OPTICAL INTERFACES –

**Part 3-5: Optical interface –
2,5 mm and 1,25 mm diameter cylindrical PC composite ferrule using
Cu-Ni-alloy as fibre surrounding material, single mode fibre**

FOREWORD

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International Standard IEC 61755-3-5 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:

CDV	Report on Voting
86B/2258/CDV	86B/2338/RVC

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 the IEC 61755 series, published under the general title *Fibre optic connector optical interfaces*, 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.

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FIBRE OPTIC CONNECTOR OPTICAL INTERFACES –

Part 3-5: Optical interface – 2,5 mm and 1,25 mm diameter cylindrical PC composite ferrule using Cu-Ni-alloy as fibre surrounding material, single mode fibre

1 Scope

This part of IEC 61755 defines dimensional limits and material properties of a 2,5 mm and a 1,25 mm diameter cylindrical composite ferrule optical interface to meet specific requirements for PC fibre-to-fibre interconnection. The composite ferrule uses different materials in the end face contact zone and in the ferrule to sleeve contact zone. The specified materials for each zone are Zirconia (ZrO_2) for the ferrule to sleeve contact zone and Cu-Ni-alloy for the end face contact zone. Ferrules made from the material specified in this document are suitable for use in categories C, U and O as defined in IEC 61753-1.

NOTE If mated within the same family (cylindrical PC ferrule) the ferrules specified in this document are intended to have the same optical attenuation performance grade for connections with all ferrules described in IEC 61755-3 documents.

2 Description

The performance of a cylindrical ferrule optical interface is determined by the accuracy with which the optical datum targets of two mating ferrules are aligned with each other. There are three conditions affecting the alignment of two optical datum targets, lateral offset, angular offset and longitudinal offset.

Parameters influencing the lateral and angular offset of the optical fibre axes include

- ferrule outside diameter;
- fibre hole concentricity relative to the ferrule outside diameter;
- fibre hole angle relative to outside diameter axis;
- fibre cladding diameter to fibre hole clearance;
- alignment sleeve inside diameter;
- fibre core concentricity relative to the cladding diameter;
- fibre core orientation relative to keying feature.

Parameters influencing the longitudinal offset of the optical fibre axes include

- end face spherical radius;
- end face spherical radius apex offset;
- fibre undercut;
- axial force on ferrule end face;
- ferrule and fibre material physical constants;
- alignment sleeve frictional force;
- keying accuracy.