SLOVENSKI STANDARD
SIST EN 61300-3-24:2007

01-september-2007

Nadomeġļ a:
SIST EN 61300-3-24:2002

Optiļ ni spojni elementi in pasivne komponente ï Osnovni preskuġalni in merilni postopki ï 3-24. del: Preiskovanje in meritve ï Toļ nost ujemanja optiļ nih konektorjev za vlakno, ki ohranja polarizacijo (IEC 61300-3-24:2006)

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 3-24: Examinations and measurements - Keying accuracy of optical connectors for polarization maintaining fibre (IEC 61300-3-24:2006)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Messverfahren - Teil 3-24: Untersuchungen und Messungen - Genauigkeit der Außenzentrierung von optischen Steckverbindern für polarisationserhaltende Fasern (IEC 61300-3-24:2006)

Dispositifs d'interconnexion et composants passifs a fibres optiques - Méthodes fondamentales d'essais et de mesures -- Partie 3-24 : Examens et mesures - Précision de détrompage des connecteurs optiques pour fibres de maintien de la polarisation (IEC 61300-3-24:2006)

Ta slovenski standard je istoveten z: **EN 61300-3-24:2007**

ICS:

33.180.20	Povezovalne naprave za optiļ na vlakna	Fibre optic interconnecting devices

SIST EN 61300-3-24:2007 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61300-3-24

February 2007

ICS 33.180.20

Supersedes EN 61300-3-24:2000

English version

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-24: Examinations and measurements - Keying accuracy of optical connectors for polarization maintaining fibre

(IEC 61300-3-24:2006)

Dispositifs d'interconnexion et composants passifs à fibres optiques - Méthodes fondamentales d'essais et de mesures - Partie 3-24 : Examens et mesures - Précision de détrompage des connecteurs optiques pour fibres de maintien de la polarisation

(CEI 61300-3-24:2006)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Messverfahren - Teil 3-24: Untersuchungen und Messungen - Genauigkeit der Außenzentrierung von optischen Steckverbindern für polarisationserhaltende Fasern

(IEC 61300-3-24:2006)

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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/2374/FDIS, future edition 2 of IEC 61300-3-24, 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 was approved by CENELEC as EN 61300-3-24 on 2006-11-01.

This European Standard supersedes EN 61300-3-24:2000.

Specific technical changes from EN 61300-3-24:2000 include the addition of specifications for the apparatus dynamic range, detector linearity and polarizer/analyzer extinction ratio, an alternative expression of total extinction ratio, and revision of Annex A.

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)	2007-08-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-11-01

Endorsement notice

The text of the International Standard IEC 61300-3-24:2006 was approved by CENELEC as a European Standard without any modification.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
61300-3-24

Deuxième édition
Second edition
2006-10

Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures –

Partie 3-24: Examens et mesures – Précision du détrompage des connecteurs optiques pour fibres de maintien de la polarisation

Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –

Part 3-24: Examinations and measurements – Keying accuracy of optical connectors for polarization maintaining fibre

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Commission Electrotechnique Internationale
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Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 3-24: Examinations and measurements – Keying accuracy of optical connectors for polarization maintaining fibre

FOREWORD

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International Standard IEC 61300-3-24 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 1999. It constitutes a technical revision. Specific technical changes since the first edition include the addition of specifications for the apparatus dynamic range, detector linearity and polarizer/analyzer extinction ratio, an alternative expression of total extinction ratio, and revision of Annex A.

The text of this standard is based on the following documents:

FDIS	Report on voting
86B/2374/FDIS	86B/2417/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.

The IEC 61300 series consists of the following parts, under the general title *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures:*

Part 1: General and guidance

Part 2: Tests

Part 3: Examinations and measurements

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.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 3-24: Examinations and measurements – Keying accuracy of optical connectors for polarization maintaining fibre

1 Scope

This part of IEC 61300 provides a method to measure the keying accuracy of a polarization maintaining fibre connector.

2 General description

Optical fibre connectors for polarization maintaining fibre (PMF) shall align the birefringence axes of the two mating fibres. The keying accuracy of PM connector plugs should be specified to realize PMF connection with high extinction ratio propagation (see annex A). The extinction ratio of PMF itself is generally over 40 dB for fibres several metres in length.

The extinction ratio achieved with the PMF connectors is lower than that due to the PM fibre alone because of the following reasons:

a) in the termination: after the PM fibre has been terminated into the ferrule, some residual stress causes the extinction ratio to decrease;

b) angular misalignment of the axes of birefringence: the angular misalignment of the polarization axes at the connection point affects the extinction ratio.

To evaluate the influence of the second factor of the misalignment angle of the polarization axes at the connection point, measurement of the keying accuracy and the extinction ratio is very important (see annex B).

3 Apparatus

The apparatus and arrangement necessary to make this measurement is shown in Figure 1. The material needed consists of the following:

a) an optical source S with known characteristics (wavelength, spectral width, etc.) and a compatible detector D. A Fabry-Perot laser or low-coherence source (for example SLD) is suitable for this measurement;

b) an in-line polarization assembly including a polarizer P1,a quarter-wave retardation plate and a polarizer P2 in an expanded beam system formed by two lenses L1 and L2. The quarter-wave plate converts the state of polarization SOP from linear to circular and the polarizer converts the SOP from circular to linear. With this combination of elements, linearly polarized light with the same optical power will be produced regardless of the plane of polarization.

NOTE In the case of an unpolarized light source such as an LED, P1 and the quarter wave retardation plate are not necessary.