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Date: 10 April 2024

Origin: International

Latest date for receipt of comments: 1 May 2024

Project No. 2016/02902

Responsible committee: GEL/86/2 Fibre optic interconnecting devices and passive components

Interested committees:

Title: BS EN IEC 61300-3-27 Fibre optic interconnecting devices and passive components - Basic test and measurement procedures

Part 3-27: Examinations and measurements - Guide-hole and fibre hole/core position of rectangular ferrules

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



86B/4908/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:

IEC 61300-3-27 ED2

DATE OF CIRCULATION:

2024-04-05

CLOSING DATE FOR COMMENTS:

2024-05-31

SUPERSEDES DOCUMENTS:

86B/4906/RR

IEC SC 86B : FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS

SECRETARIAT:

Japan

SECRETARY:

Mr Shigeru Tomita

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:

☐

Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☐ SAFETY

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TITLE:

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-27: Examinations and measurements - Guide-hole and fibre hole/core position of rectangular ferrules

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES AND
PASSIVE COMPONENTS –
BASIC TEST AND MEASUREMENT PROCEDURES –****Part 3-27: Examinations and measurements –Guide-hole and fibre
hole/core position of rectangular ferrules**

FOREWORD

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International Standard IEC 61300-3-27 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 1997. This edition constitutes a technical revision.

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

- a) Change the third title of this document from "Measurement method for the hole location of a multiway connector plug" to "Guide-hole and fibre hole/core position of rectangular ferrules";
- b) Addition of the measurement for fibre-core locations as well as fibre-hole locations;

55 c) Change the close structure wholly;

56 d) Addition of Annex A and Annex B.

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

FDIS	Report on voting
86B/XX/FDIS	86B/XX/RVD

58
59 Full information on the voting for the approval of this standard can be found in the report on
60 voting indicated in the above table.

61 This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

62 The committee has decided that the contents of this publication will remain unchanged until the
63 stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to
64 the specific publication. At this date, the publication will be

- 65 • reconfirmed,
- 66 • withdrawn,
- 67 • replaced by a revised edition, or
- 68 • amended.

69

70 The National Committees are requested to note that for this publication the stability date
71 is 20XX.

72 THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED
73 AT THE PUBLICATION STAGE.

74

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

Part 3-27: Examinations and measurements –Guide-hole and fibre hole/core position of rectangular ferrules

Scope

This part of IEC 61300 specifies the methods of measurement for the following:

- the location of the two guide-pin holes for positioning the two alignment pins, and the location of multiple fibre-holes for arraying fibres and;
- the fibre-core locations of a rectangular connector plug with optical fibres installed.

The following dimensions on the endface of the plug are measured to satisfy the specified mechanical and optical performance of the connector:

- the distance between the two guide-pin hole centres, L ;
- the positional deviation of each fibre-hole or fibre-core centre, P_i , from its designed position

Normative references

There are no normative references in this document.

Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

General description

4.1 General

The axis of each guide hole is defined as the centre line of the best-fit cylinder applied over the region of interest of each guide hole. The distance L is thus defined as the distance between the points representing the intersection of each guide hole axis and the best fit plane representing the ferrule end-face. There are two calculation methods, “the least-squares method” and “the maximum inscribed circle method” as fibre hole’s circle approximation method. Each fibre-hole location should be defined as the geometrical centre position of the maximum inscribed circle or best-fit circle calculated using least-squares method representing the intersection of each guide hole axis and the best fit plane representing the ferrule end-face. The fibre-core location is defined as the geometrical centre position of the best-fit circle representing the illuminated fibre-core. The positional error or deviation is the distance between the fibre-hole or fibre-core location and the theoretical position of each fibre-hole or fibre-core relative to the coordinate datum system established by the guide holes, ferrule end face, and for angle-polished ferrules, the Y-offset.