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Interested committees:

Title: Draft BS EN IEC 61754-7-4 Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces. Part 7-4: Type MPO connector family - One fibre row 16 fibres wide.

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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 Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.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

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- 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	Comment (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/5089/CD

COMMITTEE DRAFT (CD)

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CLOSING DATE FOR COMMENTS:

2025-08-22

SUPERSEDES DOCUMENTS:

86B/4894/CD, 86B/4927A/CC

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

SECRETARIAT:

Japan

SECRETARY:

Mr Ryo Koyama

OF INTEREST TO THE FOLLOWING COMMITTEES:

HORIZONTAL FUNCTION(S):

ASPECTS CONCERNED:

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TITLE:

Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 7-4: Type MPO connector family - One fibre row 16 fibres wide

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 7-4: Type MPO connector family – One fibre row 16 fibres wide

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International Standard IEC 61754-7-4 has been prepared by subcommittee SC86B: Fibre optic interconnecting devices and passive components, of IEC technical committee TC86: Fibre optics

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

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

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

- 84 • reconfirmed,
85 • withdrawn,
86 • replaced by a revised edition, or
87 • amended.

88

89 The National Committees are requested to note that for this publication the stability date is

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

- 92
- 93 INTRODUCTION
- 94 The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed
- 95 that compliance with this document may involve the use of patents concerning MPO connectors.
- 96 The IEC takes no position concerning the evidence, validity and scope of this patent right.
- 97 The holders of these patent rights have assured the IEC that they are willing to negotiate licences
- 98 under reasonable and non-discriminatory terms and conditions with applicants throughout the
- 99 world. In this respect, the statement of the holders of these patent rights is registered with the IEC.
- 100 Information may be obtained from:
- 101 a) Assistant Secretary
- 102 Laura Thomas
- 103 CommScope, Inc. of North Carolina
- Hickory, North Carolina, USA

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

Part 7-4: Type MPO connector family – One fibre row 16 fibres wide

Scope

This part of IEC 61754 defines the standard interface dimensions for type MPO family of connectors with one row of 16 fibres.

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 61754-1, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 1: General and guidance*

Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61754-1 apply.

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>

Description

The parent connector for type MPO connector family is a multiway plug characterized by a rectangular ferrule normally 6,4 mm × 2,5 mm which utilizes two pins of 0,55 mm or 0,7 mm diameter as its alignment. This document, as well as IEC 61754-7-3, uses 0,55 mm diameter pins. The variant in this standard provides a joint of 16 fibres by arraying them between two pin-positioning holes in the ferrule in a one-layer, (one-row) arrangement. The connector includes a push-pull coupling mechanism and a ferrule spring loaded in the direction of the optical axis. The connector has a single male key which may be used to orient and limit the relative position between the connector and the component to which it is mated.

Connector interfaces are configured using an unpinned plug, a pinned plug and an adaptor as shown in Figure 1. The unpinned plug is intermateable with the pinned plug. There are two angled-interface plugs, one named down-angled and the other up-angled, and one non-angled interface plug. They are defined for both pinned and unpinned plugs.

The up and down descriptors refer to the tilt direction of the ferrule's angled end-face relative to the fibre axis when looking toward the end-face with the plug's key feature on the top. For down-angled plugs, the angled surface faces downward. For up-angled plugs, the angled surface faces upward. These different angles affect intermateability for the two adaptor types. An opposed keyway adaptor mates two plugs with

the keys in opposite orientations, for example one side keyway-up and the other keyway-down. In contrast, an aligned keyway adaptor mates two plugs with the keys at the same orientation. When using an opposed keyway adaptor with angled interfaces, two down-angled plugs or two up-angled plugs shall be connected. For aligned keyway adaptors with angled interfaces, one down-angled plug and one up-angled plug shall be connected. Additionally, the unpinned plug, non-angled interface is intermateable with the non-angled active device receptacle, but only the unpinned plug, down-angled interface is intermateable with the angled active device receptacle.

Non-angled interface plugs have no angled surface and may use either adaptor configuration depending on the polarity management method being employed.

Interfaces

This standard contains the following standard interfaces:

- Interface IEC 61754-7-4-1: MPO unpinned plug, down-angled interface for 16 fibres
- Interface IEC 61754-7-4-2: MPO pinned plug, down-angled interface for 16 fibres
- Interface IEC 61754-7-4-3: MPO unpinned plug, up-angled interface for 16 fibres
- Interface IEC 61754-7-4-4: MPO pinned plug, up-angled interface for 16 fibres
- Interface IEC 61754-7-4-5: MPO unpinned plug, non-angled interface for 16 fibres
- Interface IEC 61754-7-4-6: MPO pinned plug, non-angled interface for 16 fibres
- Interface IEC 61754-7-4-7: MPO adaptor interface – Opposed keyway configuration
- Interface IEC 61754-7-4-8: MPO adaptor interface – Aligned keyway configuration
- Interface IEC 61754-7-4-9: MPO active device receptacle, angled interface for 16 fibres
- Interface IEC 61754-7-4-10: MPO active device receptacle, non-angled interface for 16 fibres

The interfaces are intermateable according to Table 1.

Table 1 – Intermateability between plugs and adaptors/housings/receptacles

Unpinned plugs	Adaptors/housings/receptacles	Pinned plugs
IEC 61754-7-4-1	IEC 61754-7-4-7	IEC 61754-7-4-2
IEC 61754-7-4-1	IEC 61754-7-4-8	IEC 61754-7-4-4
IEC 61754-7-4-3	IEC 61754-7-4-8	IEC 61754-7-4-2
IEC 61754-7-4-3	IEC 61754-7-4-7	IEC 61754-7-4-4
IEC 61754-7-4-5	IEC 61754-7-4-7 or 61754-7-4-8	IEC 61754-7-4-6
IEC 61754-7-4-1	IEC 61754-7-4-9	N/A
IEC 61754-7-4-5	IEC 61754-7-4-10	N/A

Figure 1 shows MPO connector configurations.