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**Optični spojni elementi in pasivne komponente - Vmesniki optičnih konektorjev - 7-3. del: Skupina konektorjev vrste MPO - Dvoredni s po 16 vlaken (IEC 61754-7-3:2019)**

Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 7-3: Type MPO connector family - Two fibre rows 16 fibre wide (IEC 61754-7-3:2019)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Steckgesichter von Lichtwellenleiter-Steckverbindern - Teil 7-3: Steckverbinderfamilie der Bauart MPO - Zwei Faserreihen mit jeweils 16 Fasern (IEC 61754-7-3:2019)

Dispositifs d'interconnexion et composants passifs à fibres optiques - Interfaces de connecteurs à fibres optiques - Partie 7-3: Famille de connecteurs de type MPO - Deux rangées de 16 fibres (IEC 61754-7-3:2019)

**Ta slovenski standard je istoveten z: EN IEC 61754-7-3:2019**

**ICS:**

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EUROPEAN STANDARD

EN IEC 61754-7-3

NORME EUROPÉENNE

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May 2019

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English Version

Fibre optic interconnecting devices and passive components -  
Fibre optic connector interfaces - Part 7-3: Type MPO connector  
family - Two fibre rows 16 fibre wide  
(IEC 61754-7-3:2019)

Dispositifs d'interconnexion et composants passifs à fibres  
optiques - Interfaces de connecteurs à fibres optiques -  
Partie 7-3: Famille de connecteurs de type MPO - Deux  
rangées de 16 fibres  
(IEC 61754-7-3:2019)

Lichtwellenleiter - Verbindungselemente und passive  
Bauteile - Steckgesichter von Lichtwellenleiter-  
Steckverbindern - Teil 7-3: Steckverbinderfamilie der Bauart  
MPO - Zwei Faserreihen mit jeweils 16 Fasern  
(IEC 61754-7-3:2019)

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

**EN IEC 61754-7-3:2019 (E)****European foreword**

The text of document 86B/4176/FDIS, future edition 1 of IEC 61754-7-3, 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 approved by CENELEC as EN IEC 61754-7-3:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-02-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-05-10

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The text of the International Standard IEC 61754-7-3:2019 was approved by CENELEC as a European Standard without any modification.



# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 7-3: Type MPO connector family – Two fibre rows 16 fibre wide**

**Dispositifs d'interconnexion et composants passifs à fibres optiques – Interfaces de connecteurs à fibres optiques – Partie 7-3: Famille de connecteurs de type MPO – Deux rangées de 16 fibres**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 7-3: Type MPO connector family –  
Two fibre rows 16 fibre wide**

## FOREWORD

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International Standard IEC 61754-7-3 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86B/4176/FDIS	86B/4190/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

A list of all parts in the IEC 61754 series, published under the general title *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces*, can be found on the IEC website.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning MPO connectors.

The IEC takes no position concerning the evidence, validity and scope of this patent right.

The holders of these patent rights have assured the IEC that they are willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holders of these patent rights is registered with the IEC. Information may be obtained from:

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JP – Tokyo 163-19

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

## Part 7-3: Type MPO connector family – Two fibre rows 16 fibre wide

### 1 Scope

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

### 2 Normative references

There are no normative references in this document.

### 3 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>

### 4 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 diameter as its alignment. The variant in this document provides a joint of 32 fibres by arraying them between two pin-positioning holes in the ferrule in a two-layer (two-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 a female plug without pins, a male plug with pins fixed and an adaptor as shown in Figure 1. The female plug is intermateable with the male plug. There are two angled-interface plugs, one called down-angled and the other up-angled. They are defined for both male and female 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 slightly downward. For up-angled plugs, the angled surface faces slightly 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 female plug interface is intermateable with the active device receptacle.

## 5 Interfaces

This document contains the following standard interfaces:

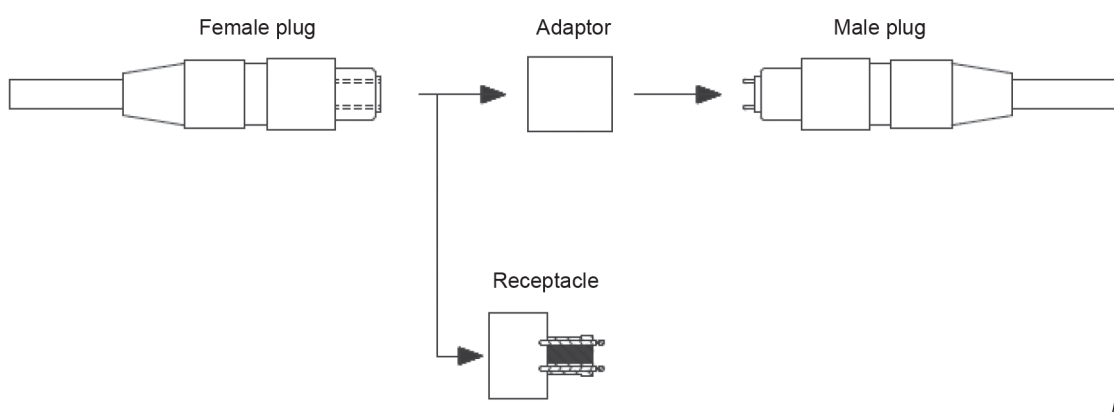
- Interface IEC 61754-7-3-1: MPO female plug, down-angled interface for 32 fibres
- Interface IEC 61754-7-3-2: MPO male plug, down-angled interface for 32 fibres
- Interface IEC 61754-7-3-3: MPO female plug, up-angled interface for 32 fibres
- Interface IEC 61754-7-3-4: MPO male plug, up-angled interface for 32 fibres
- Interface IEC 61754-7-3-5: MPO female plug, flat interface for 32 fibres
- Interface IEC 61754-7-3-6: MPO male plug, flat interface for 32 fibres
- Interface IEC 61754-7-3-7: MPO adaptor interface – Opposed keyway configuration
- Interface IEC 61754-7-3-8: MPO adaptor interface – Aligned keyway configuration
- Interface IEC 61754-7-3-9: MPO active device receptacle, angled interface for 32 fibres
- Interface IEC 61754-7-3-10: MPO active device receptacle, flat interface for 32 fibres

The interfaces are intermateable according to Table 1.

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

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

Figure 1 shows MPO connector configurations.

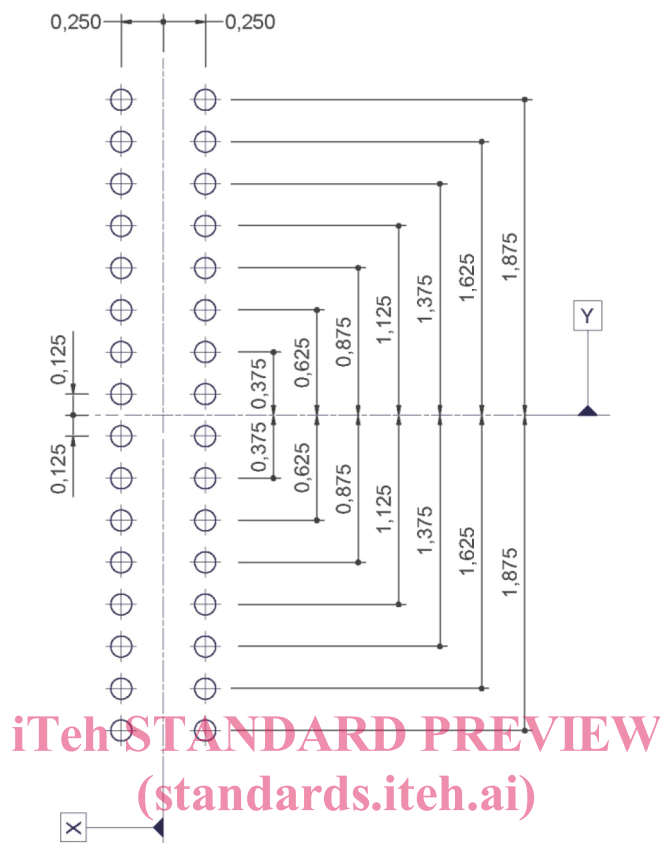


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**Figure 1 – MPO connector configurations**

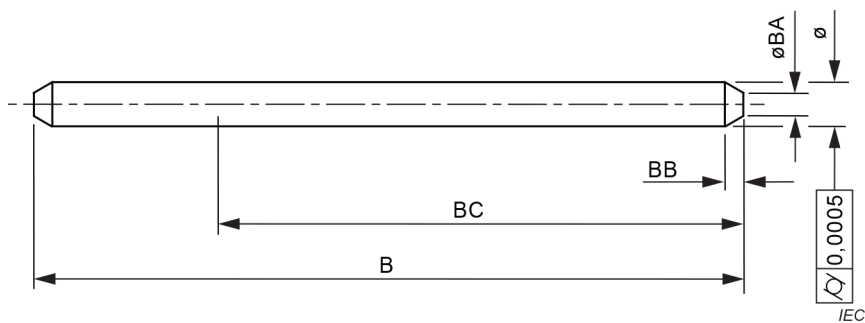
Figure 2 shows optical datum target location diagrams. Figure 3 shows the gauge pin and dimensions are given in Table 2.

Dimensions in millimetres



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**Figure 2 – Optical datum target location diagrams**



**Figure 3 – Gauge pin**

**Table 2 – Dimensions of the gauge pin**

Reference	Dimensions mm	
	Minimum	Maximum
A <sup>1</sup>	0,548 5	0,549 0
B	10,8	11,2
BA	0,2	0,4
BB	0,2	0,5
BC	6,0	-

<sup>1</sup> Surface roughness  $R_z = 0,1 \mu\text{m}$  for the length of dimension BC.