

SLOVENSKI STANDARD

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Optični spojni elementi in pasivne komponente - Vmesniki optičnih konektorjev - 7-2. del: Konektorska družina, tip MPO - Vlakna dvoredno (IEC 61754-7-2:2017)

Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 7-2: Type MPO connector family - Two fibre rows (IEC 61754-7-2:2017)

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Povezovalne naprave za
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Fibre optic interconnecting
devices

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EUROPÄISCHE NORM

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English Version

**Fibre optic interconnecting devices and passive components -
Fibre optic connector interfaces - Part 7-2: Type MPO connector
family - Two fibre rows
(IEC 61754-7-2:2017)**

Dispositifs d'interconnexion et composants passifs
fibroniques - Interfaces de connecteurs fibroniques - Partie
7-2: Famille de connecteurs de type MPO - Deux rangées
de fibres
(IEC 61754-7-2:2017)

Steckgesichter von Lichtwellenleiter-Steckverbindern - Teil
7-2: Steckverbinderfamilie der Bauart MPO - Zwei
Faserreihen
(IEC 61754-7-2:2017)

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

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

EN IEC 61754-7-2:2018 (E)**European foreword**

The text of document (86B/4099/FDIS), future edition 1 of IEC 61754-7-2, prepared by IEC/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 61754-7-2:2018.

The following dates are fixed:

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publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2019-01-17
standards conflicting with the
document have to be withdrawn

This document partially supersedes EN 61754-7:2008.

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IEC 61754-7-2

Edition 1.0 2017-12

INTERNATIONAL STANDARD

**Fibre optic interconnecting devices and passive components – Fibre optic
connector interfaces –
Part 7-2: Type MPO connector family – Two fibre rows**

SIST EN IEC 61754-7-2:2018

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 7-2: Type MPO connector family – Two fibre rows

FOREWORD

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International Standard IEC 61754-7-2 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This first edition of IEC 61754-7-2, along with the first edition of IEC 61754-7-1, cancels and replaces the third edition of IEC 61754-7 published in 2008.

This first edition of IEC 61754-7-2 includes the two fibre row MPO variants including the addition of active device receptacles and up-angled plugs.

The first edition of IEC 61754-7-1 includes the one fibre row MPO variants and related active device receptacles and up-angled plugs.

Following the publication of both IEC 61754-7-1 and IEC 61754-7-2, IEC 61754-7 will be withdrawn.

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

FDIS	Report on voting
86B/4099/FDIS	86B/4110/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 the 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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A bilingual version of this publication may be issued at a later date.

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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 these patent rights.

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:

Intellectual Property Department,
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JP – Tokyo 163-19

Assistant Secretary
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Hickory, North Carolina, USA

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ISO (www.iso.org/patents) and IEC (<http://patents.iec.ch>) maintain on-line data bases of patents relevant to their standards. Users are encouraged to consult the data bases for the most up to date information concerning patents.

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

Part 7-2: Type MPO connector family – Two fibre rows

1 Scope

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

2 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.

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 the type MPO connector family is a multiway plug connector characterized by a rectangular ferrule normally 6,4 mm × 2,5 mm which utilizes two pins of 0,7 mm diameter as its alignment. The variant in this document provides a joint of 16 to 24 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

in 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.

Moreover, connector interfaces between the female plug and the male plug are configured by applying a backplane housing and a printed board housing instead of the adaptor.

Additionally, the female plug interface is intermateable with the active device receptacle.

5 Interfaces

This document contains the following standard interfaces:

- Interface IEC 61754-7-2-1: MPO female plug, down-angled interface for 16 to 24 fibres
- Interface IEC 61754-7-2-2: MPO male plug, down-angled interface for 16 to 24 fibres
- Interface IEC 61754-7-2-3: MPO adaptor interface – Opposed keyway configuration
- Interface IEC 61754-7-2-4: MPO female plug, flat interface for 16 to 24 fibres
- Interface IEC 61754-7-2-5: MPO male plug, flat interface for 16 to 24 fibres
- Interface IEC 61754-7-2-6: MPO backplane housing interface
- Interface IEC 61754-7-2-7: MPO printed board housing interface
- Interface IEC 61754-7-2-8: MPO adaptor interface – Aligned keyway configuration
- Interface IEC 61754-7-2-9: MPO active device receptacle, angled interface
- Interface IEC 61754-7-2-10: MPO active device receptacle, flat interface
- Interface IEC 61754-7-2-11: MPO female plug, up-angled interface for 16 to 24 fibres
- Interface IEC 61754-7-2-12: MPO male plug, up-angled interface for 16 to 24 fibres

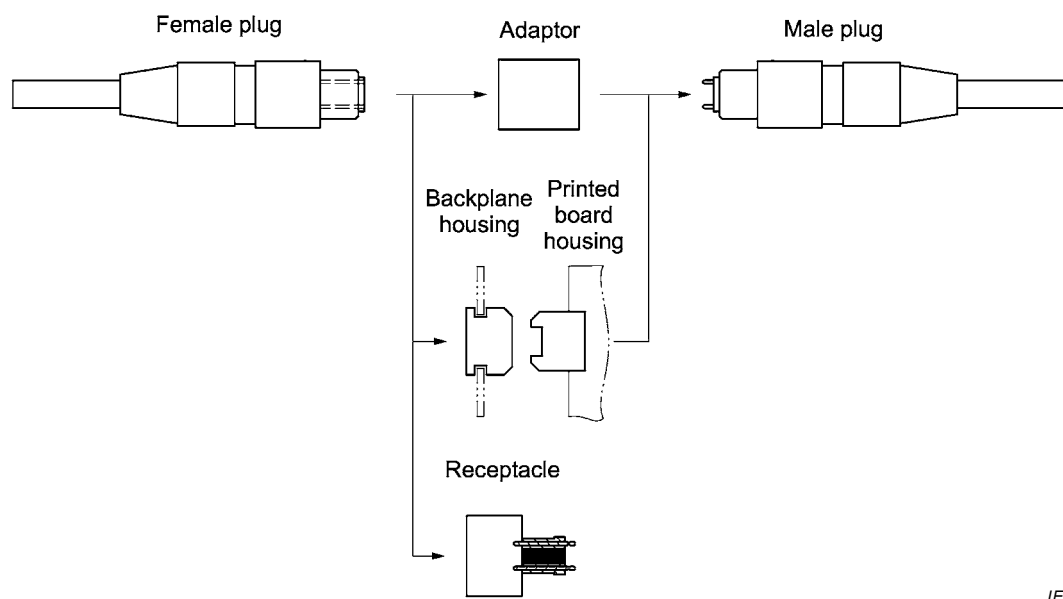
The interfaces showed in Table 1 are intermateable.

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

Female plugs	Adaptors/housings/receptacles	Male plugs
61754-7-2-1	61754-7-2-3	61754-7-2-2
61754-7-2-1	61754-7-2-8	61754-7-2-12
61754-7-2-11	61754-7-2-8	61754-7-2-2
61754-7-2-4	61754-7-2-3 and 61754-7-2-8	61754-7-2-5
61754-7-2-1 or 61754-7-2-11	61754-7-2-6 and 61754-7-2-7	61754-7-2-2 or 61754-7-2-12
61754-7-2-4	61754-7-2-6 and 61754-7-2-7	61754-7-2-5
61754-7-2-1	61754-7-2-9	N/A
61754-7-2-4	61754-7-2-10	N/A

NOTE Connector interfaces with 16 to 24 fibres will intermate and will correctly align the lower defined numbers of optical datum targets (see Figure 4).

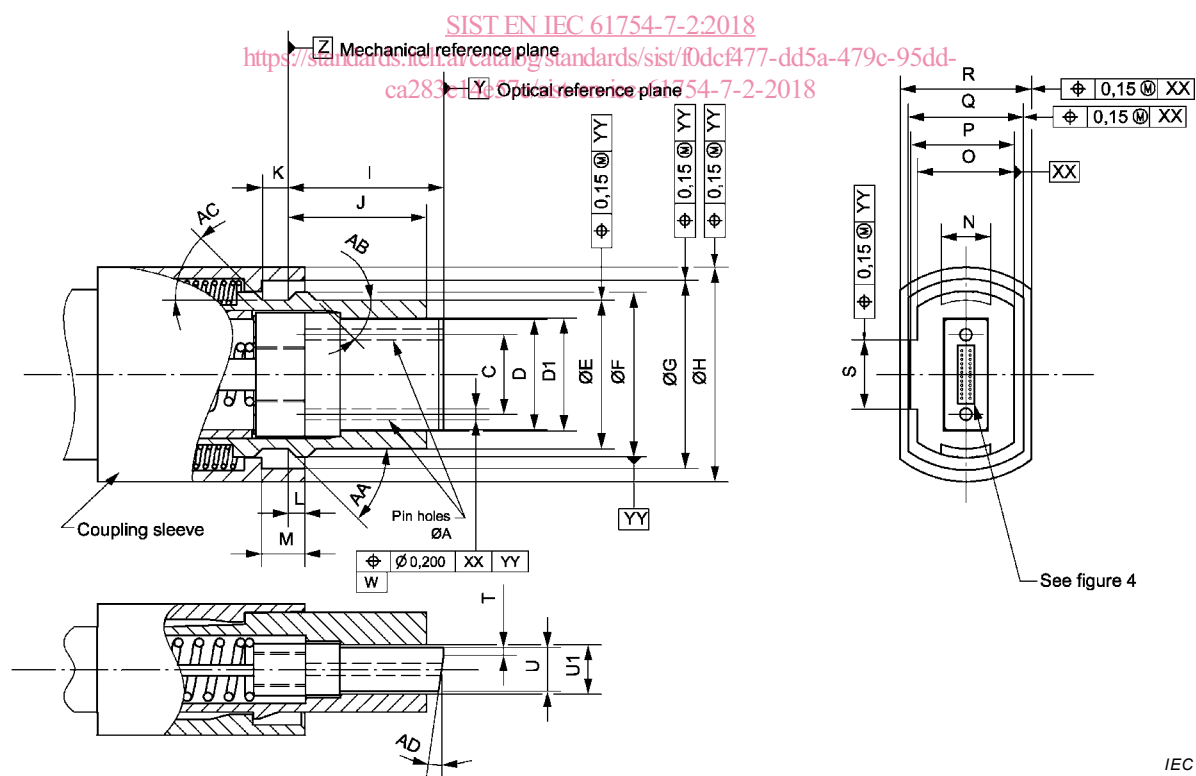
Figure 1 shows MPO connector configurations.



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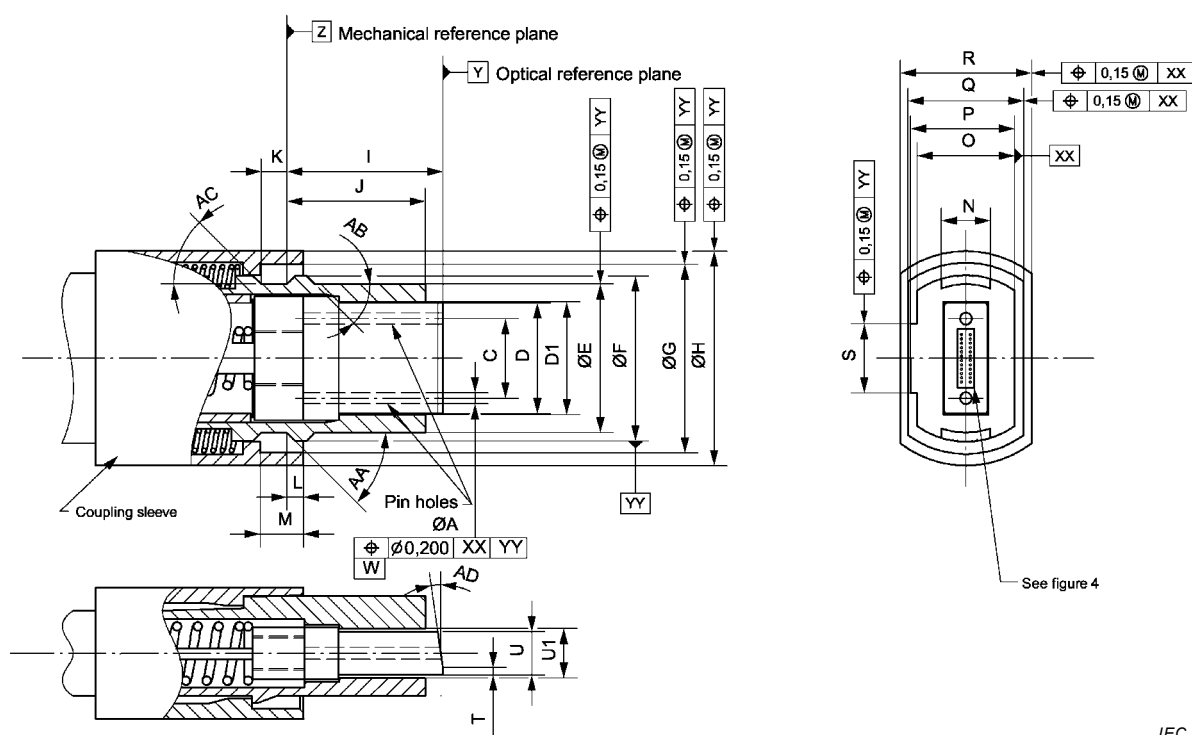
Figure 1 – MPO connector configurations

Figures 2 and 3 show the down-angled and up-angled interface of the MPO female plug. Table 2 gives the dimensions of the down- or up-angled interfaces of the MPO female plug.



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Figure 2 – MPO female plug, down-angled interface



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Figure 3 – MPO female plug, up-angled interface
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