



# SLOVENSKI STANDARD SIST EN 61754-7:2008

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Fibre optic connector interfaces - Part 7: Type MPO connector family (IEC 61754-7:2008)

**iTeh STANDARD PREVIEW**

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Lichtwellenleiter - Verbindungselemente und passive Bauteile - Steckgesichter von Lichtwellenleiter-Steckverbindern - Teil 7: Steckverbinderfamilie der Bauart MPO (IEC 61754-7:2008)

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Dispositifs d'interconnexion et composants passifs à fibres optiques - Interfaces de connecteurs pour fibres optiques - Partie 7: Famille de connecteurs de type MPO (CEI 61754-7:2008)

**Ta slovenski standard je istoveten z: EN 61754-7:2008**

**ICS:**

33.180.20 Ú[ ç^: [ çæ) ^Á æ |æ^Á æ Fibre optic interconnecting devices  
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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61754-7**

June 2008

ICS 33.180.20

Supersedes EN 61754-7:2005

English version

**Fibre optic interconnecting devices and passive components -  
Fibre optic connector interfaces -  
Part 7: Type MPO connector family  
(IEC 61754-7:2008)**

Dispositifs d'interconnexion  
et composants passifs à fibres optiques -  
Interfaces de connecteurs  
pour fibres optiques -  
Partie 7: Famille de connecteurs  
de type MPO  
(CEI 61754-7:2008)

Lichtwellenleiter -  
Verbindungselemente  
und passive Bauteile -  
Steckgesichter von  
Lichtwellenleiter-Steckverbindern -  
Teil 7: Steckverbinderfamilie  
der Bauart MPO  
(IEC 61754-7:2008)

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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/2581/CDV, future edition 3 of IEC 61754-7, 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 61754-7 on 2008-04-01.

This European Standard supersedes EN 61754-7:2005.

Specific technical changes involve the addition of an aligned key adaptor interface definition to address all existing MPO applications

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) 2009-01-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-04-01

The International Electrotechnical Commission (IEC) and CENELEC draw attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning MPO connectors.

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

The holder of this patent right has assured the IEC that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with the IEC. Information may be obtained from:

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## Endorsement notice

The text of the International Standard IEC 61754-7:2008 was approved by CENELEC as a European Standard without any modification.

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IEC 61754-7

Edition 3.0 2008-03

# INTERNATIONAL STANDARD

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**Fibre optic interconnecting devices and passive components – Fibre optic  
connector interfaces –  
Part 7: Type MPO connector family**

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INTERNATIONAL  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 7: Type MPO connector family**

**FOREWORD**

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

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

The holder of this patent right has assured the IEC that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with the IEC. Information may be obtained from:

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

This third edition cancels and replaces the second edition published in 2004. This third edition constitutes a technical revision.

Specific technical changes involve the addition of an aligned key adaptor interface definition to address all existing MPO applications.

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

CDV	Report on voting
86/2581/CDV	86/2672/RVC

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.

A list of all the parts in the IEC 61754 series, under the general title *Fibre optic interconnecting devices and passive components – fibre optic connector interfaces*, can be found on the IEC website.<sup>1</sup>

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 [SIST EN 61754-7:2008](#)
- amended. <https://standards.iteh.ai/catalog/standards/sist/23beeb58-3dda-4575-a7f6-1f397a419847/sist-en-61754-7-2008>

A bilingual version of this publication may be issued at a later date.

<sup>1</sup> This new extended title will be applied to other parts of IEC 61754 as and when they are re-issued.



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

## Part 7: Type MPO connector family

### 1 Scope

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

### 2 Description

The parent connector for 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. It is applicable to a joint of multiple fibres up to 12 fibres by arraying them between two pin-positioning holes in the ferrule. Furthermore, it is capable of joining up to 24 fibres by arraying them with a two layer 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.

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.

### 3 Interfaces

This standard contains the following standard interfaces:

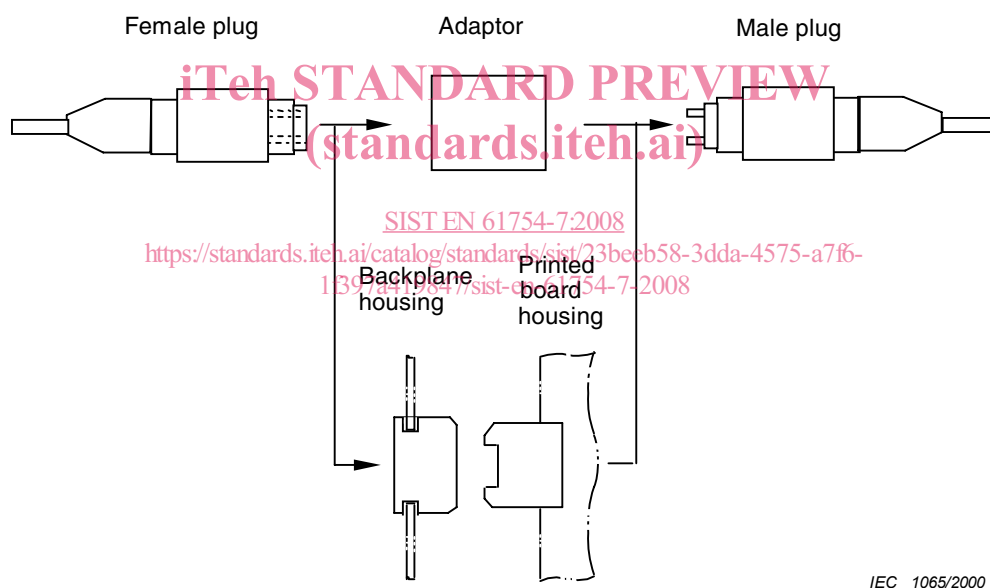
- Interface 7-1: MPO female plug connector angled interface – Push/pull consisting of:
  - Interface 7-1-1 for 2 to 12 fibres
  - Interface 7-1-2 for 16 to 24 fibres
- Interface 7-2: MPO male plug connector angled interface – Push/pull consisting of:
  - Interface 7-2-1 for 2 to 12 fibres
  - Interface 7-2-2 for 16 to 24 fibres
- Interface 7-3: MPO adaptor interface – Push/pull
- Interface 7-4: MPO female plug connector flat interface – Push/pull consisting of:
  - Interface 7-4-1 for 2 to 12 fibres
  - Interface 7-4-2 for 16 to 24 fibres
- Interface 7-5: MPO male plug connector flat interface – Push/pull consisting of:
  - Interface 7-5-1 for 2 to 12 fibres
  - Interface 7-5-2 for 16 to 24 fibres
- Interface 7-6: MPO backplane housing interface – Self-retaining
- Interface 7-7: MPO printed board housing interface – Self-retaining

Interface 7-8: MPO adaptor interface – Push/pull, aligned key configuration

The following standards are intermateable:

Female plugs	Adaptors/housings	Male plugs
7-1-1	7-3	7-2-1
7-1-2	7-3	7-2-2
7-4-1	7-3 and 7-8	7-5-1
7-4-2	7-3 and 7-8	7-5-2
7-1-1	7-6 and 7-7	7-2-1
7-1-2	7-6 and 7-7	7-2-2
7-4-1	7-6 and 7-7	7-5-1
7-4-2	7-6 and 7-7	7-5-2

NOTE Connector interfaces among 2 to 12 fibres will intermate and will correctly align the lower defined numbers of optical datum targets. Also connector interfaces among 16 to 24 fibres will intermate and will correctly align the lower defined numbers of optical datum targets.



IEC 1065/2000

Figure 1 – MPO connector configurations

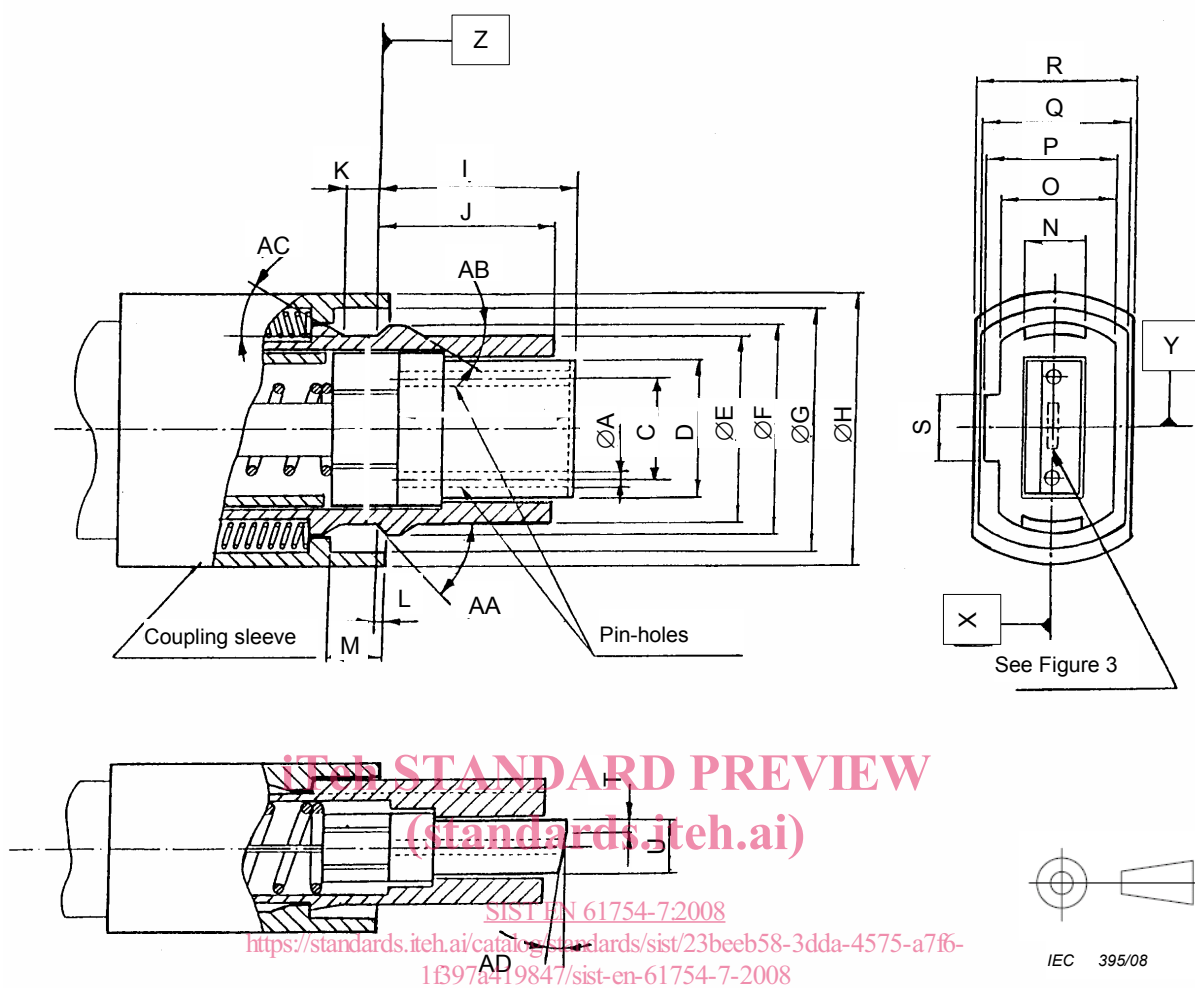


Figure 2 – MPO female plug connector angled interface

**Table 1 – Dimensions of the MPO female plug connector angled interface**

Reference	Dimensions		Notes
	Minimum	Maximum	
A	0,699 mm	0,701 mm	1
C	4,597 mm	4,603 mm	2
D	6,3 mm	6,5 mm	
E	8,34 mm	8,54 mm	
F	9,49 mm	9,59 mm	
G	10,85 mm	11,05 mm	
H	12,19 mm	12,59 mm	
I	8,8 mm	9,2 mm	3
J	7,9 mm	8,1 mm	
K	1,4 mm	–	
L	0,2 mm	0,8 mm	4 and 5
M	2,4 mm	2,6 mm	
N	2,8 mm	3,0 mm	
O	4,89 mm	4,99 mm	
P	5,59 mm	5,69 mm	
Q	5,7 mm	–	
R	–	7,7 mm	
S	2,9 mm	3,1 mm	
T	–	0,8 mm	
U	2,4 mm	2,5 mm	
AA	–	45°	
AB	–	45°	
AC	–	45°	
AD	7,5°	8,5°	

NOTE 1 Each pin-hole must accept a gauge pin as shown in Figure 4 to a depth of 5,5 mm with a maximum force of 1,7 N. In addition, two pin-holes of a plug must accept a gauge as shown in Figure 5 to a depth of 5,5 mm with a maximum force of 3,4 N.

NOTE 2 Dimension C is defined as the distance between two pin-hole centres.

NOTE 3 Dimension I is given for a fibre endface centre of a plug end when not mated. It is noticed that a ferrule is movable by a certain axial compression force, and therefore dimension I is variable. Ferrule compression force must be 7,8 N to 11,8 N when a position of the fibre endface from the datum Z is in the range of 8,2 mm to 8,4 mm.

NOTE 4 Coupling sleeve must be movable by a certain axial compression force. Dimension L is given for a coupling sleeve end when not mated. Coupling sleeve compression force must be 2,9 N to 6,9 N when a position of the coupling sleeve endface from datum Z is in the range of 0 mm to 0,1 mm to the right or to the left of datum Z.

NOTE 5 An adaptor coupling part must be unlocked by a left-direction movement of a coupling sleeve, when it is separate from an adaptor. When the coupling sleeve is moved for unlocking, a position of the coupling sleeve endface must be larger than 2,0 mm in the left direction from the datum Z.