

Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 7-1: Type MPO connector family - One fibre row

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61754-7-1:2014 sisaldab Euroopa standardi EN 61754-7-1:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 61754-7-1:2014 consists of the English text of the European standard EN 61754-7-1:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.10.2014.	Date of Availability of the European standard is 24.10.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 33.180.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 61754-7-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2014

ICS 33.180.20

Supersedes EN 61754-7:2008 (partially)

English Version

**Fibre optic interconnecting devices and passive components -
Fibre optic connector interfaces - Part 7-1: Type MPO connector
family - One fibre row
(IEC 61754-7-1:2014)**

Dispositifs d'interconnexion et composants passifs à fibres optiques - Interfaces de connecteurs pour fibres optiques -
Partie 7-1: Famille de connecteurs de type MPO - Une rangée de fibres
(CEI 61754-7-1:2014)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Steckgesichter von Lichtwellenleiter-Steckverbindern - Teil 7-1: Steckverbinderfamilie der Bauart MPO - Eine Faserreihe
(IEC 61754-7-1:2014)

This European Standard was approved by CENELEC on 2014-10-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 86B/3794A/FDIS, future edition 1 of IEC 61754-7-1, 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 61754-7-1:2014.

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) 2015-07-08
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-10-08

This document supersedes EN 61754-7:2008 (Partially).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61754-7-1:2014 was approved by CENELEC as a European Standard without any modification.

preview generated by EVS

CONTENTS

FOREWORD	3
1 Scope	5
2 Description	5
3 Interfaces	5
Figure 1 – MPO connector configurations	6
Figure 2 – MPO female plug, down-angled interface	7
Figure 3 – MPO female plug, up-angled interface	7
Figure 4 – Optical datum target location diagrams	9
Figure 5 – Gauge pin	10
Figure 6 – Gauge for plug	10
Figure 7 – MPO male plug, down-angled interface	11
Figure 8 – MPO male plug, up-angled interface	12
Figure 9 – MPO adaptor interface, opposed keyway configuration	14
Figure 10 – MPO female plug, flat interface	16
Figure 11 – MPO male plug, flat interface	18
Figure 12 – MPO backplane housing interface (1 of 2)	20
Figure 13 – MPO printed board housing interface (1 of 2)	23
Figure 14 – MPO adaptor interface, aligned keyway configuration	26
Figure 15 – MPO active device receptacle, angled interface	28
Figure 16 – MPO active device receptacle, flat interface	30
Table 1 – Dimensions of the MPO female plug, down- or up-angled interfaces	8
Table 2 – Dimensions of the gauge pin	10
Table 3 – Dimensions of the gauge for plug	11
Table 4 – Dimensions of the MPO male plug, down- or up-angled interfaces	13
Table 5 – Dimensions of the MPO adaptor interface, opposed keyway configuration	15
Table 6 – Dimensions of the MPO female plug, flat interface	17
Table 7 – Dimensions of the MPO male plug, flat interface	19
Table 8 – Dimensions of the MPO backplane housing	22
Table 9 – Grade	23
Table 10 – Dimensions of the MPO printed board housing interface	25
Table 11 – Dimensions of the MPO adaptor interface, aligned keyway configuration	27
Table 12 – Dimensions of the MPO active device receptacle, angled interface	29
Table 13 – Dimensions of the MPO active device receptacle, flat interface	31

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

Part 7-1: Type MPO connector family – One fibre row

1 Scope

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

2 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 0,7 mm diameter as its alignment. The variant in this standard provides a joint of 2 to 12 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 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 are connected. For aligned keyway adaptors with angled interfaces, one down-angled plug and one up-angled plug are 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.

3 Interfaces

This standard contains the following standard interfaces:

- Interface IEC 61754-7-1-1: MPO female plug, down-angled interface for 2 to 12 fibres
- Interface IEC 61754-7-1-2: MPO male plug, down-angled interface for 2 to 12 fibres
- Interface IEC 61754-7-1-3: MPO adaptor interface – Opposed keyway configuration
- Interface IEC 61754-7-1-4: MPO female plug, flat interface for 2 to 12 fibres