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BSI Standards Publication

Fibre optic interconnecting devices and passive components — Fibre optic connector interfaces

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

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National foreword

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• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-10-08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

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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