Ratioplast
Electronics | OptoElectronics

Data Sheet **FO-Connector Style RP-02**

FO connector RP-02 for POF 1/2.2 mm, duplex

1 General

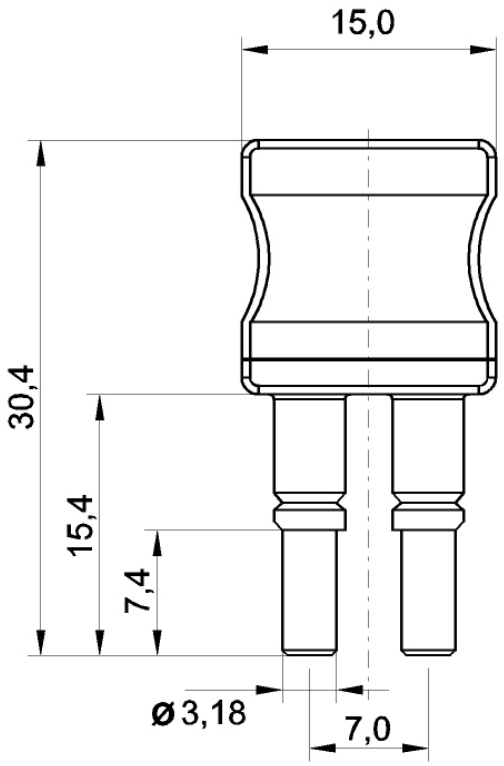
The FO-connector series RP-02 is optimized in particular for applications using standard 1mm polymer optical fiber demanding a fast and easy cable assembly with high reliability, very good optical and mechanical characteristics.

2 Applications

Due to the good optical features and the easy cable assembly, the RP-02 connector is useable in several applications:

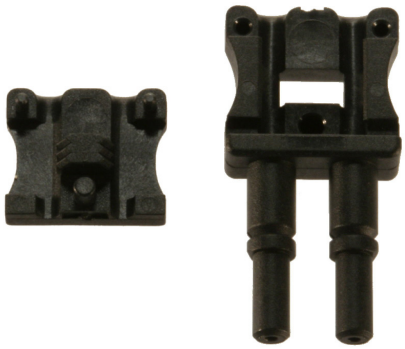
- optical networking
- industrial electronics
- power electronics
- consumer electronics

3 Drawing



Pic. 1 Connector *RP-02*

Pic. 2 assembled Connector *902SD001R2001*



Pic. 3 top and bottom part connector *902SD001R2001*

4 Features

- two parts full plastic connector
- coded insertion direction into RP-02 receptacle
- useable with PA, PE, PVC jacketed POF-cable with 2.2mm outer diameter
- low insertion loss
- easy cable termination
- duplex functionality

5 Ordering Information

Specification	Part Number
Connector black	902SD001R2001

**** POF = polymer optical fiber / plastic optical fiber***

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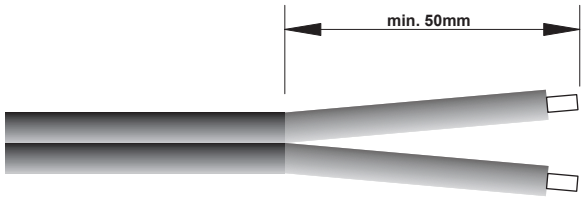
6. Cable connectoring

The following tools and materials are recommended for easy and reliable 1/2.2 mm POF-cable termination.

Model	*Order number*
Wire stripper	910AB00100001
Polishing disc, duplex	910PS0R200001
Polish paper, grid P1000	910PB00100001
Polish paper, grid P4000	910PB00140250

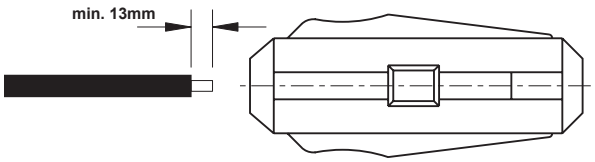
6.1 Fiber stripping

Separate the duplex zip-cord cable to min. 50mm before stripping.



Pic. 4 Duplex cable separation

Strip off approx. 13mm of the outer jacket from the 2.2mm POF-cable

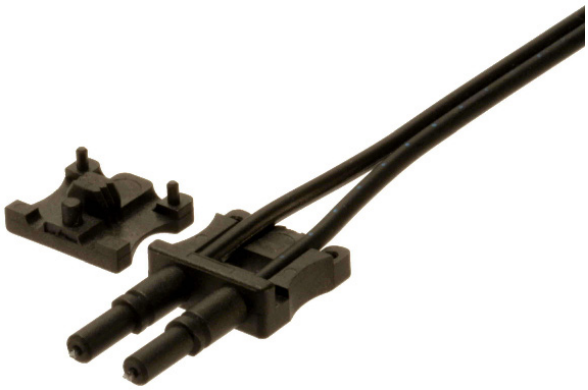


Pic. 5 Fiber strip length

Pic. 6 dismantled fiber

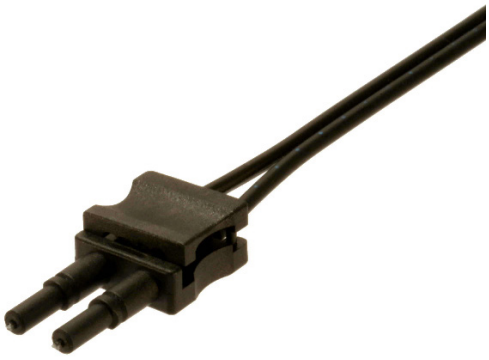
6.2 Connector termination

Insert stripped POF-cable from backside into connector until mechnical stop reached. 1mm Polymer fiber should protrude the connector top by approx. 1.5mm.



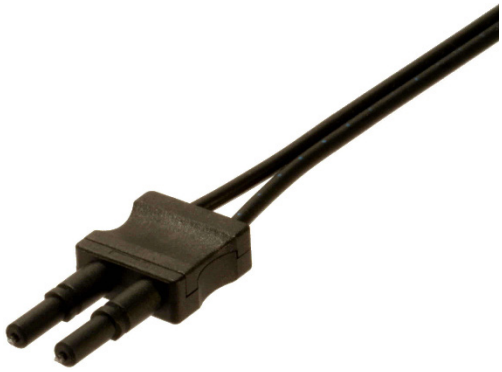
Pic. 7 duplex termination step 1

Orientate top-part over bottom-part



Pic. 8 termination step 2

Manually press connectors together in the center of the arrangement until mechnical stop reached.



Pic. 9 termination step 3

▶

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6.3 Polishing

Insert the connector fully into the appropriate polish disc. Press the tool on the polish paper (grid P1000) and polish the fiber until the fiber is flush with the connector. Use a hard and plain support plate (e.g. glass plate). Wipe the connector with a clean tissue. Best attenuation values are achieved applying wet polishing. Repolishing on polish paper with grid P4000 may improve attenuation about 1dB. Best attenuation values are achieved applying wet polishing, too.

7. Technical Data

Parameter	Condition	Value	Unit
Material	—	PA46	—
Flammability	UL	V0	—
Storage temperature	—	-40 to +85	°C
Operating temperature	—	-40 to +85	°C
Installation temperature	—	0 to +70	°C
Insertion loss (wet polishing P4000)	PA-jacket PE-jacket PVC-jacket	0.6 0.5 0.7	dB
Tensile force connector / cable	PA-jacket PE-jacket PVC-jacket	> 100 > 50 > 30	N
Receptacle insertion force	RP-02 series	12	N
Receptacle retention force	RP-02 series	10	N
Press force connector termination	PA-jacket PE-jacket PVC-jacket	< 140 < 100 < 90	N

Company address:
Jockweg 64
D 32312 Lübbecke

Phone +49 (0) 5741 23 66 5-0
Fax +49 (0) 5741 23 66 5-44

Internet: http://www.ratioplast.de
E-Mail: opto@ratioplast.de

VAT Reg. No.: DE 164 216 351
Local Court Bad Oeynhausen HRB 2382