

POF* Cable Connector 1/2.2 mm, simplex/duplex

1 General

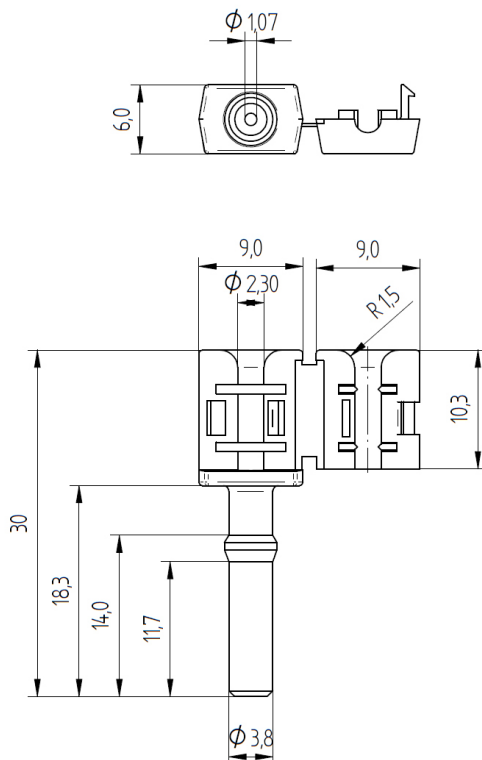
The FO-connector series R-453x is optimized in particular for applications using standard 1mm polymer optical fiber according IEC 60793-2-40, demanding a fast and easy cable assembly with high reliability, very good optical and mechanical characteristics. The R4531 connector can be reused and connected to the POF cable without special tools.

2 Applications

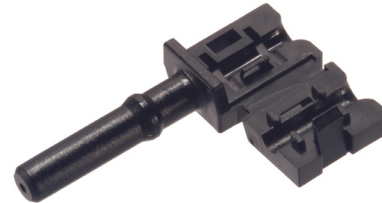
Due to the good optical features and the easy cable assembly, the R-453x connector is useable in several applications:

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

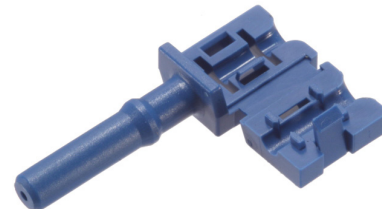
3 Drawing



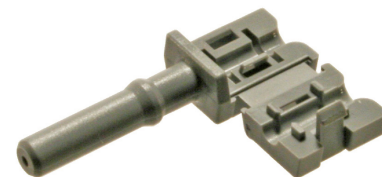
Pic. 1 Connector series R-453x



Pic. 2 Connector 902SS001R4531



Pic. 3 Connector 902SS001R4533



Pic. 4 Connector 902SS001R4535

4 Features

- single part full plastic connector
- compatible to AVAGO versatile link series
- useable with PA, PE, PVC jacketed POF-cable with 2.2mm outer diameter
- low insertion loss
- easy cable termination
- simplex / duplex functionality
- suitable for cable assemblies with Polymer Optical fiber cable acc. IEC 60793-2-4
- Protection class IP20

5 Ordering Information

Model	Order Number
Connector Black	902SS001R4531
Connector Blue	902SS001R4533
Connector Grey	902SS001R4535

* POF = polymer optical fiber / plastic optical fiber

POF Cabel Connector 1/2.2 mm, simplex/duplex

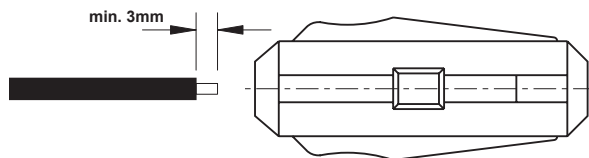
6. Cable connecting _____

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, simplex	910PSH4501001
Polishing disc, duplex	910PSH4593001
Polish paper, grid P1000	910PB00100001
Polish paper, grid P4000	910PB00140250

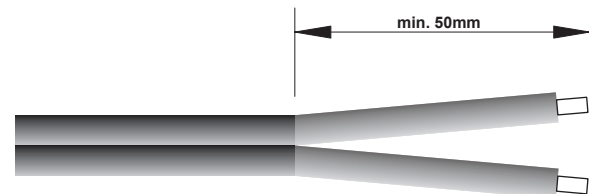
6.1 Fiber stripping _____

Strip off approx. 3mm of the outer jacket from the 2.2mm POF-cable



Pic. 5 Fiber strip length

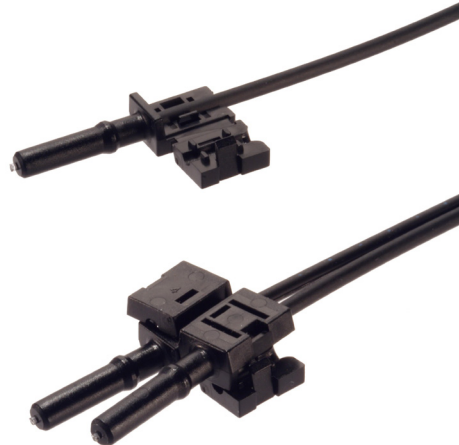
Separate the duplex zip-cord cable to min. 50mm before stripping.



Pic. 6 Duplex cable separation

6.2 Connector termination _____

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



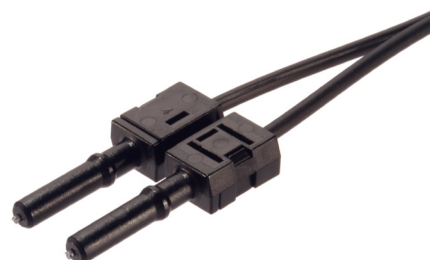
Pic. 7 Simplex / duplex termination step 1

For simplex connectors flip the top half over and snap it into the bottom half with manually pressure. When the top half latches inside the body of the bottom half, proper connector-to-cable attachment is achieved.



Pic. 8 Simplex termination step 2

For duplex connector installation place one connector on top of the other, so that the top half of each connector is over the bottom half of the opposite connector. Manually press connectors together in the center of the arrangement. Then latch by pressing on the sides of each connector. As with the simplex version, connectors are secured when top halves latch into the bottom halves.



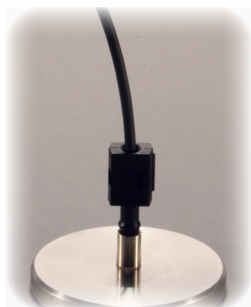
Pic. 9 Duplex termination step 2



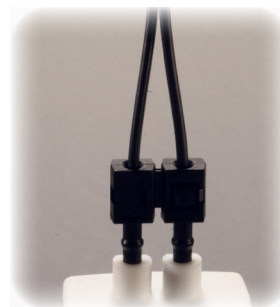
POF Cabel Connector 1/2.2 mm, simplex/duplex

6.3 Polishing

Insert the connector fully into the appropriate polish disc (simplex / duplex see Pic. 10-11). 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.



Pic. 10 Simplex polish disc



Pic. 11 Duplex polish disc

7. Technical Data

Parameter	Condition	Value	Unit
Material	—	Polycarbonate	—
Protection class	IP20		
Flameability	UL	V2	—
Temperature range	Storage and operation	-40 to +85	°C
	Installation	0 to +70	
Insertion loss (wet polishing P4000)	PA-jacket	0.6	dB
	PE-jacket	0.5	
	PVC-jacket	0.7	
Tensile force connector / cable	PA-jacket (Ratioplast reference 93FIPA010000201SW-AI)	> 50	N
	PE-jacket (Ratioplast reference 93FIPE010000201SW-AA)	> 30	
	PVC-jacket (Ratioplast reference 93FIPVN10000201GR-AN)	> 25	
Receptacle insertion force	HFBR-0508 series	12	N
Receptacle retention force	HFBR-0508 series	10	N
Press force connector termination (simplex)	PA-jacket	< 70	N
	PE-jacket	< 50	
	PVC-jacket	< 45	

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