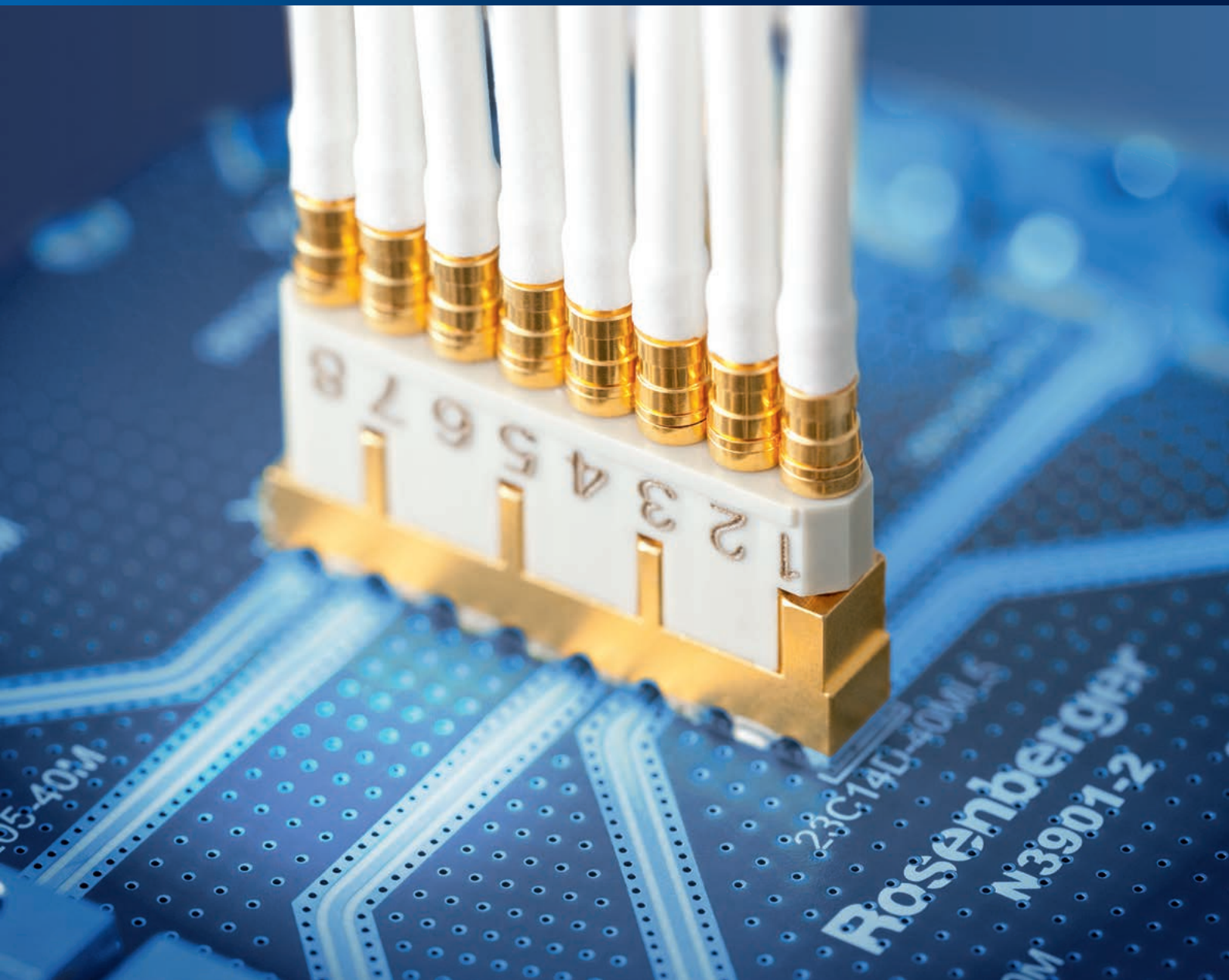
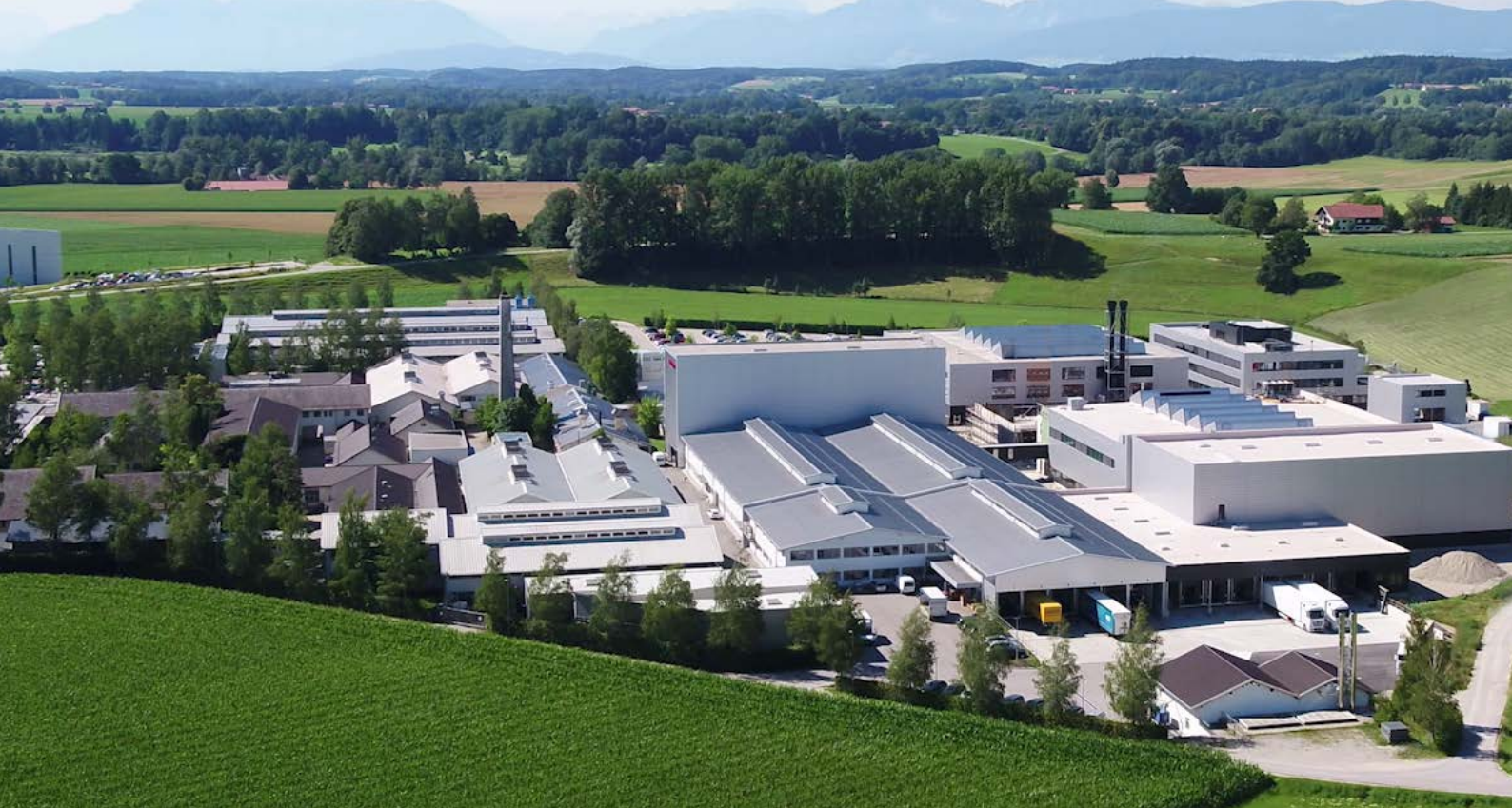


Board-to-Board Applications up to 20 GHz / 40 GHz

## Multiport Mini-Coax Connectors and Cable Assemblies

TEST & MEASUREMENT





## Company Profile

### About Rosenberger

Rosenberger, a family owned company, is one of the world's leading manufacturers of impedance-controlled connectivity solutions in high-frequency, high-voltage and fiberoptic technology. Renowned companies in high-tech industries trust the precision and quality of Rosenberger products, e.g. mobile communication networks, data centers, test & measurement industries, automotive electronics, industrial and medical electronics, or aerospace engineering.

Worldwide, the Rosenberger group operates a global network of R&D, manufacturing and assembly locations as well as Rosenberger sales offices in Europe, Asia and North and South America where more than 11,000 employees develop, produce and sell our products.

### Test & Measurement

Rosenberger is a dependable and renowned development partner in industrial measurement technology. The fact that we work with leading global companies from the electronic measurement technology field reflects the way that others trust our research and development, our high-quality manufacturing, and not least our customer-orientated "Made in Germany" service. Rosenberger provides customized solutions – cost-optimized and timely – from the initial idea right through to volume production.

Rosenberger develops and produces a comprehensive range of cost-effective, high-quality and high-precision test & measurement products and services – microwave measurements & VNA calibrations, lab and factory testing, semiconductor test applications, PCB connections or network testing.



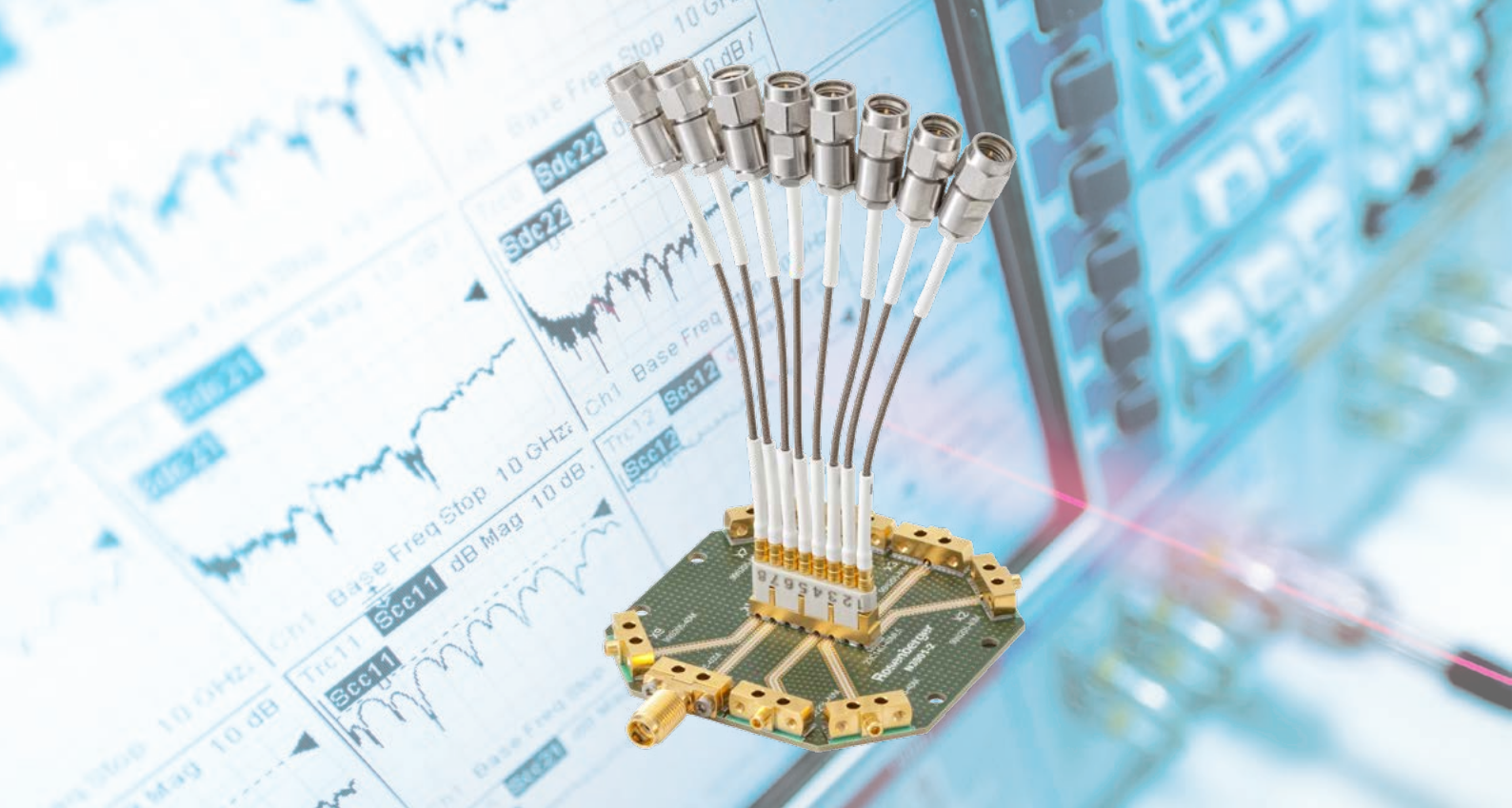
# Contents

Company Profile	2
Multiport Mini-Coax – for 20 GHz and 40 GHz	4
Interface and Outer Dimensions	5
Product Portfolio	6

The Rosenberger online catalog contains the current product range with specific details, including data sheets, assembly instructions and panel piercings.

[www.rosenberger.com/ok](http://www.rosenberger.com/ok)





## Multiport Mini-Coax – for 20 GHz and 40 GHz

Rosenberger provides a wide range of Multiport Mini-Coax connectors and cable assemblies. To meet the ever challenging technological requirements and increasing demands of the semiconductor test equipment industry, Rosenberger provides Multiport Mini-Coax products for 20 GHz as well as 40 GHz applications.

The revised portfolio includes a variety of pre-assembled cable pairs, affording the customers flexibility when configuring cable assemblies.

The cost-effective, injection moulded housings, to be connected with the PCB connectors, are available with 2, 4, 6 and 8 channels and make possible to mix pre-assembled Mini-Coax cable pairs. Due to the extraction tool mating and demating on site is quick and easy. Customized cable assemblies can be realized according requirements on site.

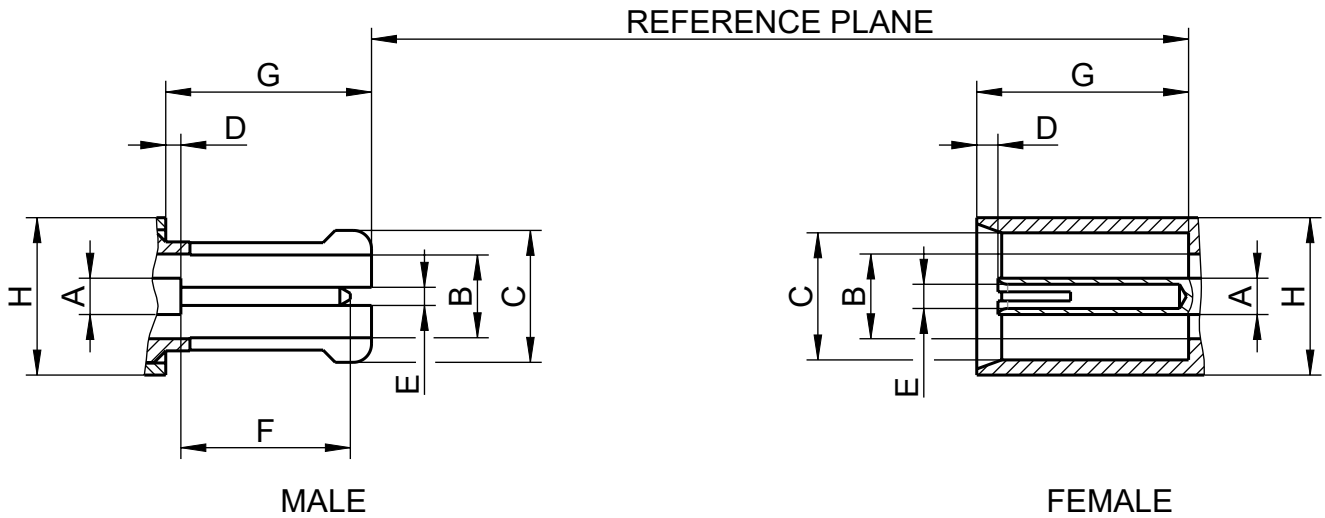
The pre-assembled cable pairs are available with different configurations and as non-matched pairs as well as pair-matched up to 2 ps maximum delay difference.

Complete cable assemblies including housing, also with phase matching over all channels, are still available on request.

The product range consists of PCB connectors, adaptors, terminations, cable assemblies and tools. The interface dimensions are based on Rosenberger standard Mini-Coax connectors. Board-to-board connections can be applied in very limited spaces with the advantages of coaxial shielding.

### Product Features

- High packing density, small dimensions (3 mm pitch), mating cycles  $\geq 500$
- Pre-assembled cable pairs with pair-matching up to 2 ps
- Common and differential mode possible
- High electrical and mechanical stability, very flexible cables
- Tilt protection – shape of housings ensures high mechanical stability
- 20 GHz and 40 GHz Multiport Mini-Coax connectors are mechanical compatible to each other



Interface Dimensions Mini-Coax

Code 23

## Interface and Outer Dimensions

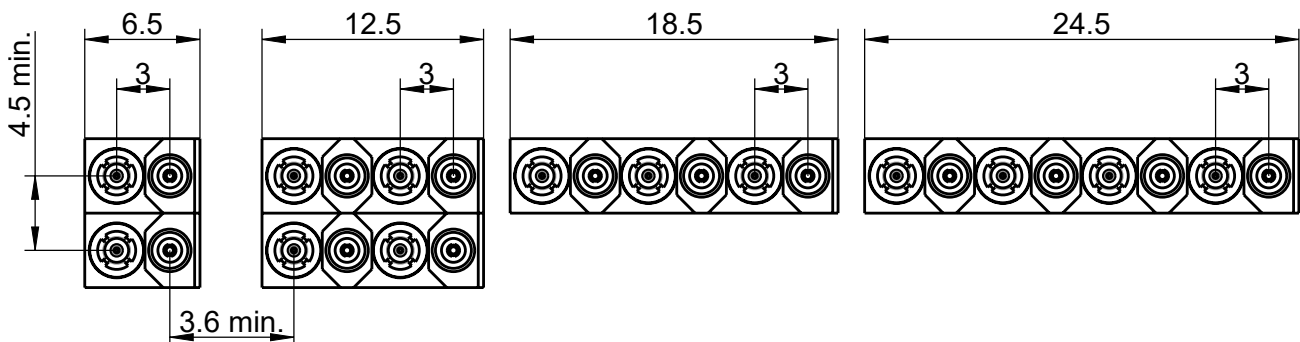
### Mini-Coax

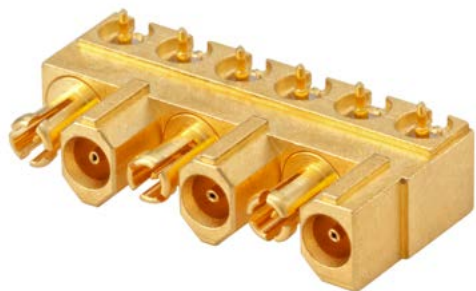
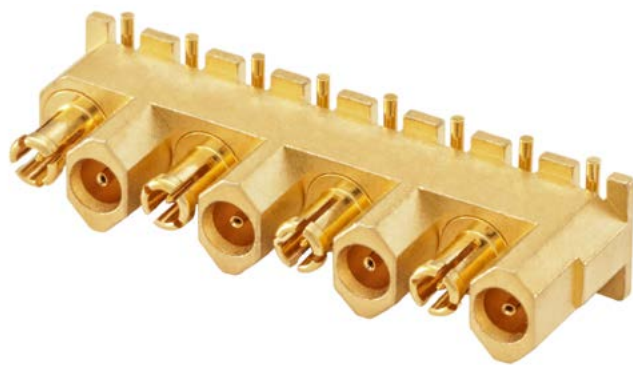
Dimensions (mm)	Male		Female	
	Minimum	Maximum	Minimum	Maximum
A	0.60 nom.		0.60 nom.	
B	1.40 nom.		1.40 nom.	
C	1)		2.10	2.125
D	-	0.30	0.30	-
E	0.30	0.33	2)	
F	-	3.10	-	-
G	-	3.50	3.50	-
H	2.60 nom.		2.60 nom.	

1) Resilient for contact with jack dimensions C

2) Resilient, dimensions to meet electrical and mechanical requirements

### Outer Dimensions Multiport Mini-Coax





## Product Portfolio

### Multiport Mini-Coax PCB Connectors up to 20 GHz

#### Straight Connectors, Feedthrough or SMD

Rosenberger No.	Channels	Return Loss	
23C11F-40ML5	2	For feedthrough ≥ 20 dB, DC to 3 GHz ≥ 16 dB, 3 GHz to 8 GHz	For SMD ≥ 25 dB, DC to 3 GHz ≥ 20 dB, 3 GHz to 6 GHz ≥ 16 dB, 6 GHz to 20 GHz
23C11E-40ML5	4		
23C11G-40ML5	6		
23C11D-40ML5	8		



#### Straight Connectors, Solder Pin

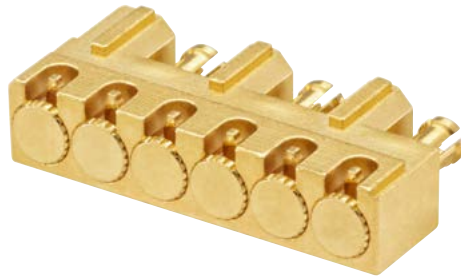
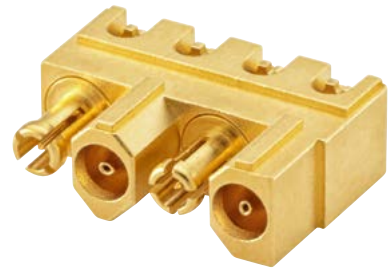
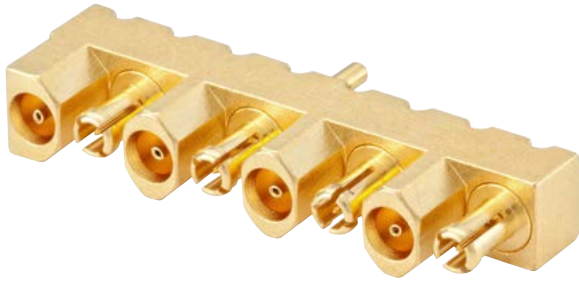
Rosenberger No.	Channels	Return Loss
23C12F-40ML5	2	≥ 25 dB, DC to 3 GHz ≥ 20 dB, 3 GHz to 6 GHz ≥ 16 dB, 6 GHz to 20 GHz
23C12E-40ML5	4	
23C12G-40ML5	6	
23C12D-40ML5	8	



#### Right Angle Connectors, Solder Pin

Rosenberger No.	Channels	Return Loss
23C21F-40ML5	2	≥ 25 dB, DC to 3 GHz ≥ 20 dB, 3 GHz to 6 GHz ≥ 16 dB, 6 GHz to 20 GHz
23C21E-40ML5	4	
23C21G-40ML5	6	
23C21D-40ML5	8	





## Multiport Mini-Coax PCB Connectors up to 40 GHz

### Straight Connectors, SMD

Rosenberger No.	Channels	Return Loss
23C14F-40ML5	2	$\geq 25$ dB, DC to 3 GHz $\geq 20$ dB, 3 GHz to 6 GHz $\geq 16$ dB, 6 GHz to 20 GHz $\geq 12$ dB, 20 GHz to 40 GHz
23C14E-40ML5	4	
23C14G-40ML5	6	
23C14D-40ML5	8	



### Right Angle Connectors, SMD

Rosenberger No.	Channels	Return Loss
23C25F-40ML5	2	$\geq 25$ dB, DC to 3 GHz $\geq 20$ dB, 3 GHz to 6 GHz $\geq 16$ dB, 6 GHz to 20 GHz $\geq 12$ dB, 20 GHz to 40 GHz
23C25E-40ML5	4	
23C25G-40ML5	6	
23C25D-40ML5	8	



For specific details refer to the technical data sheets in our online catalog.  
[www.rosenberger.com/ok](http://www.rosenberger.com/ok)



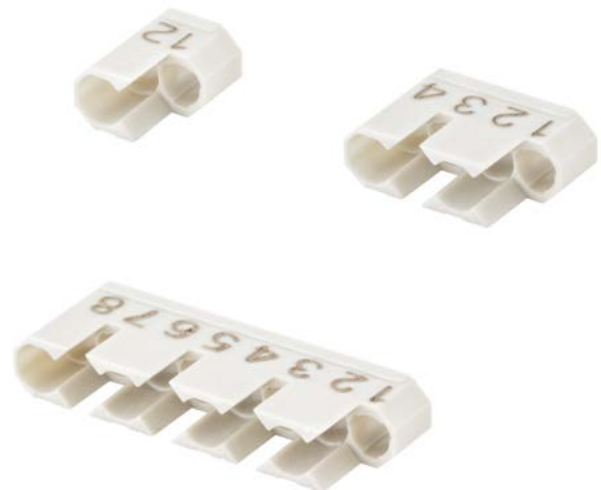
## Product Portfolio

### Tools

Rosenberger No.	Remarks
23W100-000	Extraction tool for Multiport Mini-Coax cable lines and terminations
23W100-001	Replacement sleeve for 23W100-000
23W101-000	Extraction tool for Multiport Mini-Coax housings

### Housings

Rosenberger No.	Channels
23Z121-008	2
23Z121-007	4
23Z121-004	6
23Z121-005	8







## Adaptors

Rosenberger No.	Interface <sup>1)</sup>	Return Loss
02S123-S00S3	RPC-2.92 male – Mini-Coax male 40 GHz	≥ 26 dB, DC to 18 GHz ≥ 21 dB, 18 GHz to 26.5 GHz ≥ 15 dB, 26.5 GHz to 40 GHz
02S123-K00S3	RPC-2.92 male – Mini-Coax female 40 GHz	
02K123-K00S3	RPC-2.92 female – Mini-Coax female 40 GHz	
02K123-S00S3	RPC-2.92 female – Mini-Coax male 40 GHz	

1) 40 GHz Mini-Coax is mateable with 20 GHz Mini-Coax

## Terminations<sup>2)</sup>

Rosenberger No.	Interface		Return Loss
23S15A-010E4	Mini-Coax male	0.25 W up to 10 GHz	≥ 26 dB, DC to 4 GHz ≥ 18 dB, 4 GHz to 10 GHz
23K15A-010E4	Mini-Coax female		

2) Terminations could be assembled in Multiport Housings



## Product Portfolio

### Pre-Assembled Cable Pairs

The Rosenberger Multiport Mini-Coax connector system enables cable assembly configurations for customer-specific test applications. The cable set can be configured by the customer according to his requirements.

Each pre-assembled cable pair is available non-matched or pair matched up to 2 ps.

The necessary housing has to be ordered separately.

Customer-specific solutions and complete cable assemblies are available on request.

For example:

If a pre-assembled cable pair with Mini-Coax straight, RPC-2.92 male, 300 mm length and 2 ps pair matching is needed, the part number will be L99-A0483-300-2ps.



Rosenberger No. <sup>1)</sup>	Connectors Side 1	Connectors Side 2	Return Loss
L99-A0479-XXX-Y	Mini-Coax male Mini-Coax female	Mini-Coax male Mini-Coax female	≥ 16 dB, DC to 20 GHz ≥ 10 dB, 20 GHz to 40 GHz
L99-A0480-XXX-Y	Mini-Coax male Mini-Coax female	Mini-Coax female Mini-Coax male	≥ 16 dB, DC to 20 GHz ≥ 10 dB, 20 GHz to 40 GHz
L99-A0481-XXX-Y	Mini-Coax male Mini-Coax female	SMA male	≥ 16 dB, DC to 20 GHz
L99-A0482-XXX-Y	Mini-Coax male Mini-Coax female	SMA female	≥ 14 dB, DC to 20 GHz
L99-A0483-XXX-Y	Mini-Coax male Mini-Coax female	RPC-2.92 male	≥ 16 dB, DC to 20 GHz ≥ 10 dB, 20 GHz to 40 GHz
L99-A0484-XXX-Y	Mini-Coax male Mini-Coax female	RPC-2.92 female	≥ 16 dB, DC to 20 GHz ≥ 10 dB, 20 GHz to 40 GHz
L99-A0485-XXX-Y	Mini-Coax male Mini-Coax female	SMP female	≥ 16 dB, DC to 20 GHz ≥ 10 dB, 20 GHz to 40 GHz
L99-A0486-XXX-Y	Mini-Coax male Mini-Coax female	SMP female, right angle	≥ 16 dB, DC to 20 GHz ≥ 10 dB, 20 GHz to 26.5 GHz
L99-A0487-XXX-Y	Mini-Coax male Mini-Coax female	Mini-SMP female	≥ 14 dB, DC to 20 GHz ≥ 10 dB, 20 GHz to 40 GHz
L99-A0488-XXX-Y	Mini-Coax male, right angle Mini-Coax female, right angle	Mini-Coax male, right angle Mini-Coax female, right angle	≥ 11 dB, DC to 12 GHz
L99-A0489-XXX-Y	Mini-Coax male, right angle Mini-Coax female, right angle	Mini-Coax female, right angle Mini-Coax male, right angle	≥ 11 dB, DC to 12 GHz
L99-A0490-XXX-Y	Mini-Coax male, right angle Mini-Coax female, right angle	SMA male	≥ 14 dB, DC to 12 GHz
L99-A0491-XXX-Y	Mini-Coax male, right angle Mini-Coax female, right angle	SMP female	≥ 12 dB, DC to 12 GHz

1) XXX: Please fill in the requested length. Standard = 300 mm

Y: Please fill in the requested phase matching (non or 2ps). Standard = non



## Website

For more information refer to our website:  
[www.rosenberger.com/t&m](http://www.rosenberger.com/t&m)

## Rosenberger

Rosenberger Hochfrequenztechnik GmbH & Co. KG

Hauptstraße 1 | 83413 Fridolfing

P.O. Box 1260 | 84526 Tittmoning

Germany

Phone +49 8684 18-0

[info@rosenberger.com](mailto:info@rosenberger.com)

[www.rosenberger.com](http://www.rosenberger.com)

Certified by IATF 16949 · DIN EN 9100 · ISO 9001 · ISO 14001

Order No.

pA 195923 · Info310MultiFlyEN

2000/2020

Rosenberger® is a registered trademark of Rosenberger Hochfrequenztechnik GmbH & Co. KG.  
All rights reserved.

© Rosenberger 2020