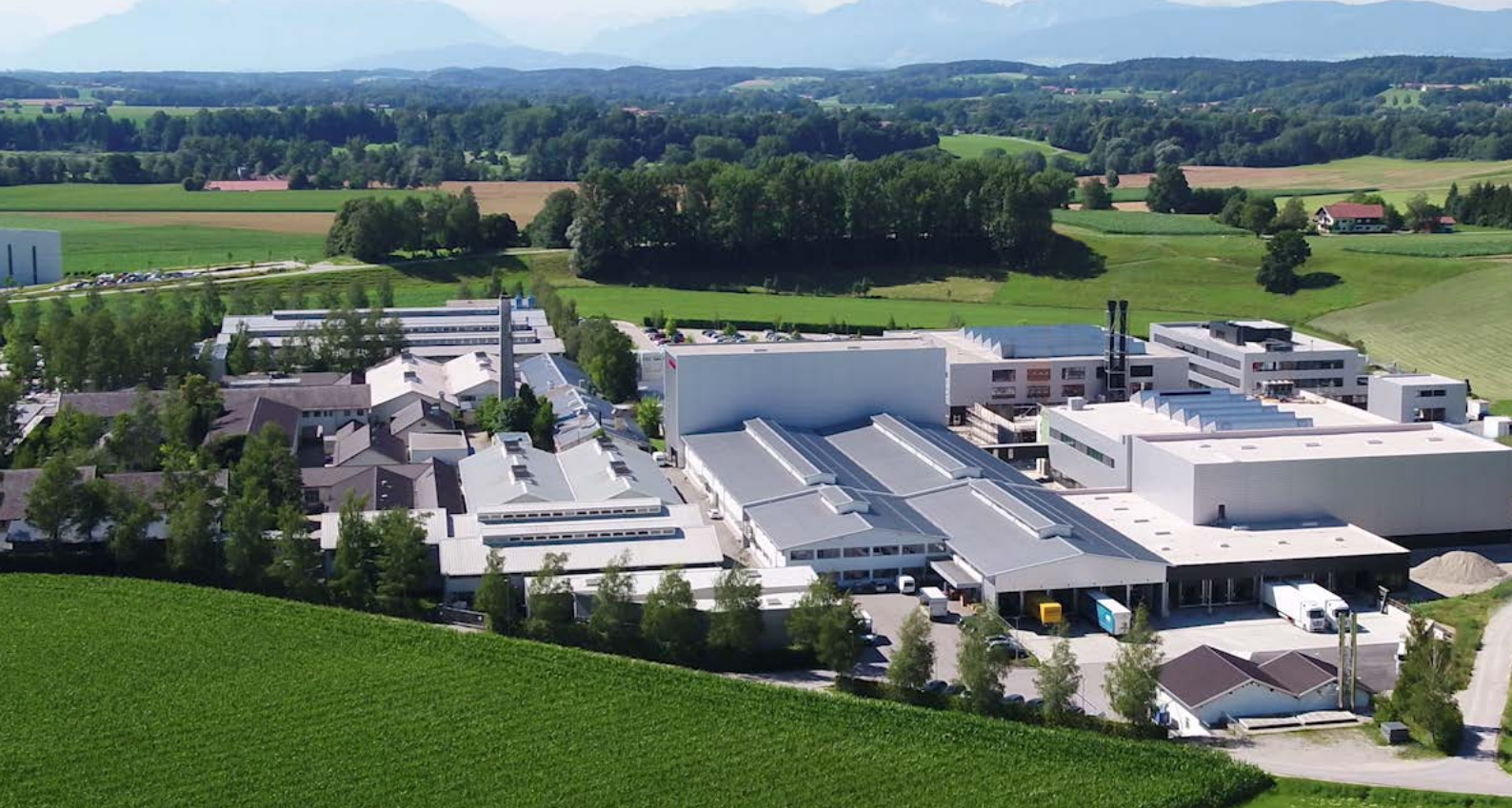


For Frequencies up to 110 GHz

## RPC-1.00 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 14,800 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.





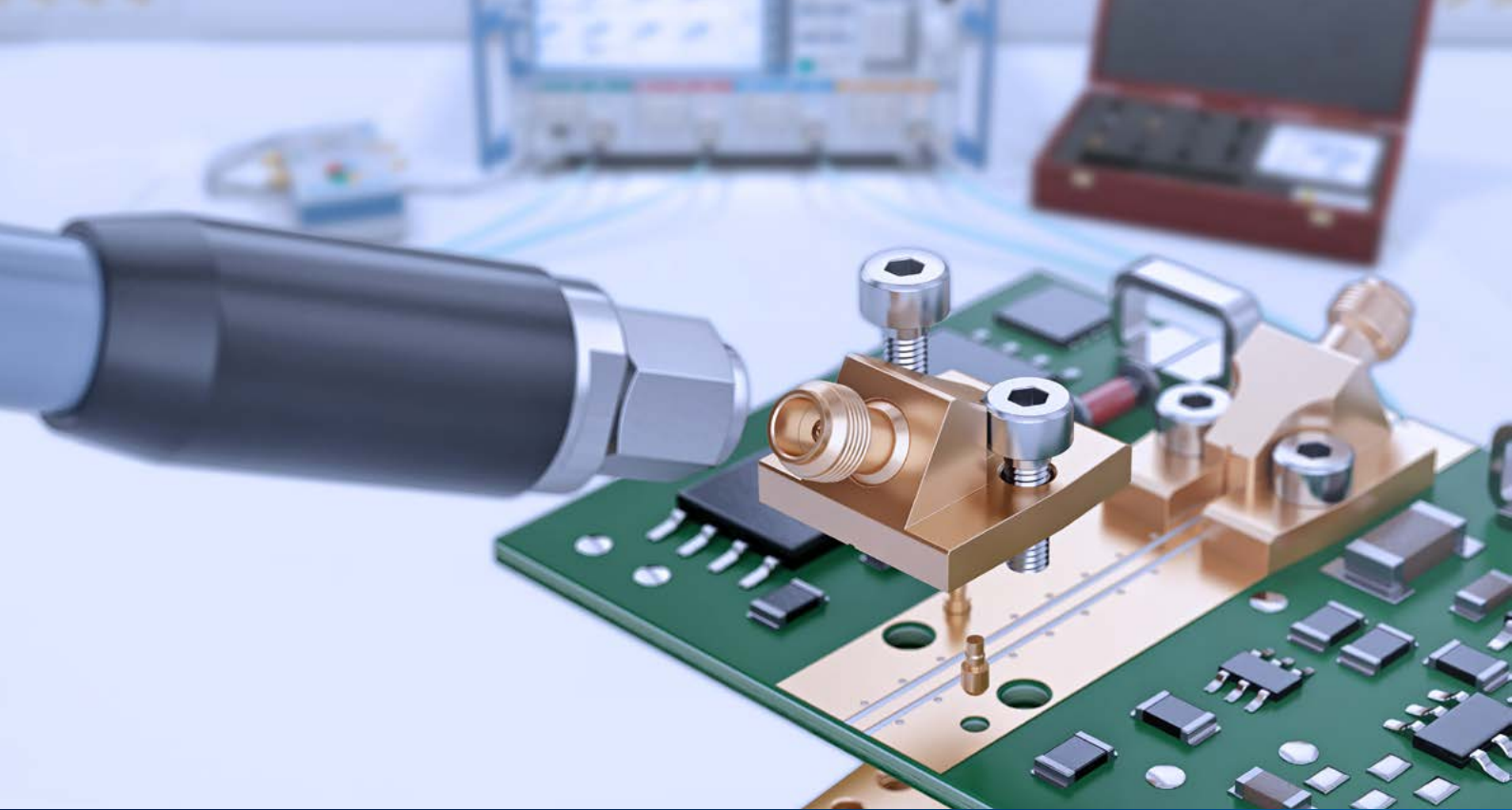
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The Rosenberger online catalog contains the current product range with specific details, including data sheets, assembly instructions and panel piercings.

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





## RPC-1.00 Connectors – for Applications up to 110 GHz

RPC-1.00 connectors from Rosenberger – with 50  $\Omega$  impedance and 1.00 mm outer conductor – can be used for challenging test & measurement applications up to 110 GHz.

The standard portfolio covers flexible and semi-rigid cable assemblies, in-series and inter-series adaptors and PCB connectors. Test-port and waveguide-to-coaxial adaptors as well as gauge kits are also available.

Customer-specific cable assembly solutions are available on request.

RPC-1.00 connectors are characterized by excellent technical data over the full frequency range and meet the highest levels of reliability and repeatability of performance.

### Product Features

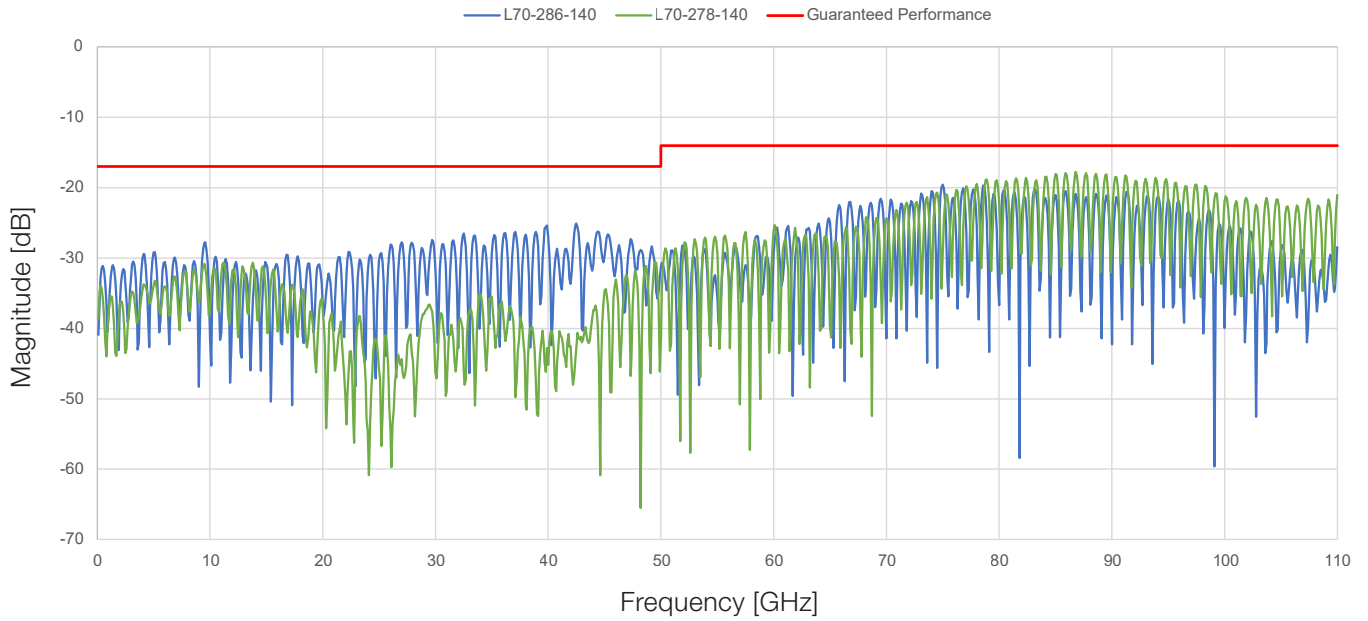
- Interface intermateable with 1.00 mm connectors according to IEC 61169-31
- Frequency range DC to 110 GHz
- Excellent return-loss values
- Mating cycles  $\geq 500$
- Impedance 50  $\Omega$
- Threaded coupling mechanism
- Damage-free connection

### Applications

- Precision measurements in very high microwave applications up to 110 GHz
- For W-band applications

For specific details refer to the technical datasheets in our online catalog

Typical Reflection of high performance assembly  
RPC 1.00 male / RPC 1.00 male, 140 mm length



## Product Portfolio

### Semi-Rigid Cable Assemblies

Rosenberger No. <sup>1)</sup>	Connector 1	Connector 2	Return Loss
L70-278-XXX	RPC-1.00 male	RPC-1.00 male	≥ 17 dB, DC to 50 GHz ≥ 14 dB, 50 GHz to 110 GHz
L70-279-XXX	RPC-1.00 male	RPC-1.00 female	
L70-280-XXX	RPC-1.00 female	RPC-1.00 female	
L70-364-XXX	RPC-1.00 male	RPC-1.35 male	≥ 17 dB, DC to 50 GHz ≥ 14 dB, 50 GHz to 90 GHz
L70-374-XXX	RPC-1.00 male	RPC-1.35 female	
L70-375-XXX	RPC-1.00 female	RPC-1.35 male	
L70-376-XXX	RPC-1.00 female	RPC-1.35 female	≥ 17 dB, DC to 50 GHz ≥ 14 dB, 50 GHz to 70 GHz
L70-304-XXX	RPC-1.00 male	RPC-1.85 female	
L70-314-XXX	RPC-1.00 male	RPC-1.85 male	
L70-315-XXX	RPC-1.00 female	RPC-1.85 male	
L70-316-XXX	RPC-1.00 female	RPC-1.85 female	



### Semi-Rigid Cable Assemblies, Economical

Rosenberger No. <sup>1)</sup>	Connector 1	Connector 2	Return Loss
L70-365-XXX	RPC-1.00 male	RPC-1.00 male	≥ 12 dB, DC to 50 GHz ≥ 10 dB, 50 GHz to 110 GHz
L70-372-XXX	RPC-1.00 male	RPC-1.00 female	
L70-373-XXX	RPC-1.00 female	RPC-1.00 female	



<sup>1)</sup> XXX: Please fill in the requested length. Standard = 140 mm  
Further cable assemblies available on request

Typical phase stability of L70-286-140  
 RPC-1.00 male – flexible cable – RPC-1.00 male, 140 mm length



## Product Portfolio

### Flexible Cable Assemblies

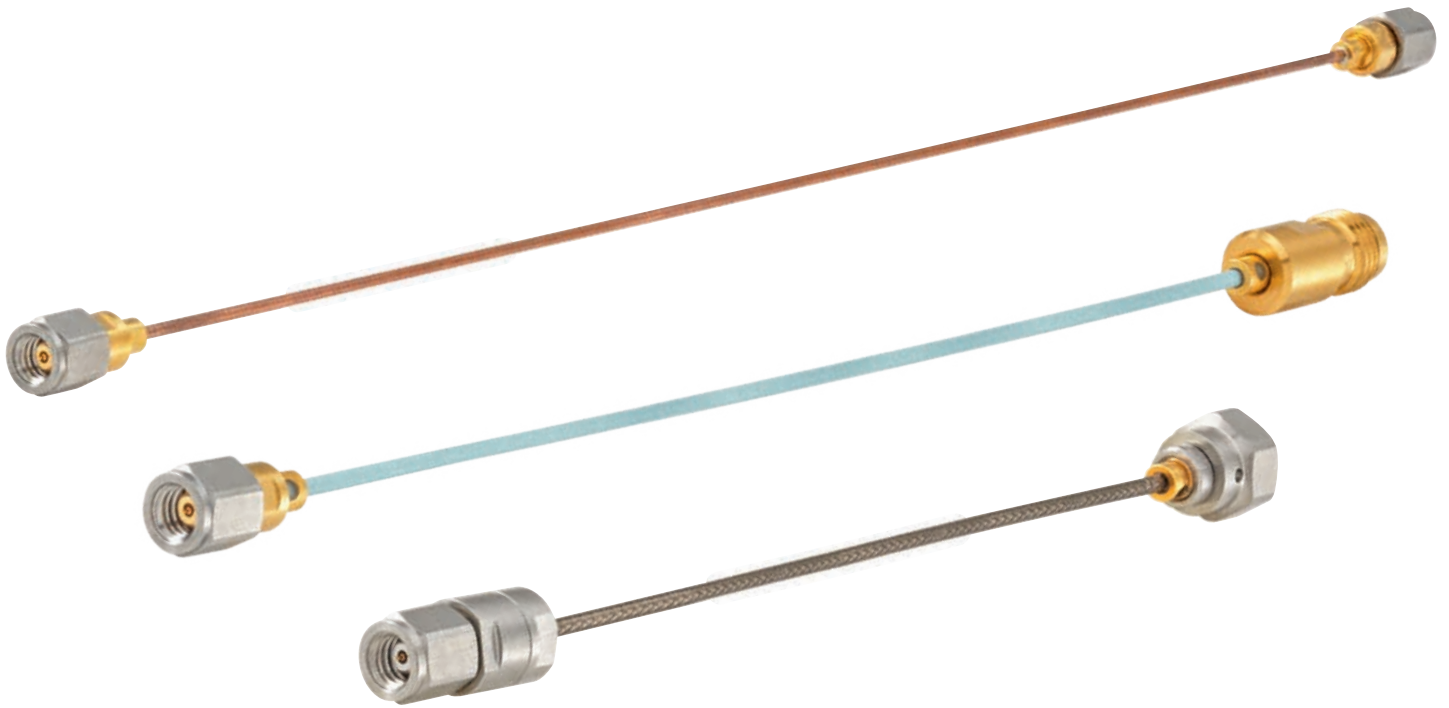
Rosenberger No. <sup>1)</sup>	Connector 1	Connector 2	Return Loss
L70-286-XXX	RPC-1.00 male	RPC-1.00 male	≥ 17 dB, DC to 50 GHz ≥ 14 dB, 50 GHz to 110 GHz
L70-287-XXX	RPC-1.00 male	RPC-1.00 female	
L70-288-XXX	RPC-1.00 female	RPC-1.00 female	
L70-347-XXX	RPC-1.00 male	RPC-1.35 male	≥ 17 dB, DC to 50 GHz ≥ 14 dB, 50 GHz to 90 GHz
L70-390-XXX	RPC-1.00 male	RPC-1.35 female	
L70-391-XXX	RPC-1.00 female	RPC-1.35 male	
L70-392-XXX	RPC-1.00 female	RPC-1.35 female	≥ 17 dB, DC to 50 GHz ≥ 14 dB, 50 GHz to 70 GHz
L70-344-XXX	RPC-1.00 male	RPC-1.85 male	
L70-384-XXX	RPC-1.00 male	RPC-1.85 female	
L70-385-XXX	RPC-1.00 female	RPC-1.85 male	
L70-386-XXX	RPC-1.00 female	RPC-1.85 female	≥ 15 dB, DC to 18 GHz ≥ 10 dB, 18 GHz to 50 GHz ≥ 8 dB, 50 GHz to 70 GHz ≥ 7 dB, 70 GHz to 100 GHz
L70-323-XXX <sup>2)</sup>	RPC-1.00 male	WSMP female	
L70-336-XXX <sup>2)</sup>	RPC-1.00 female	WSMP female	



### Flexible Cable Assemblies, Economical

Rosenberger No. <sup>1)</sup>	Connector 1	Connector 2	Return Loss
L70-334-XXX	RPC-1.00 male	RPC-1.00 male	≥ 12 dB, DC to 50 GHz ≥ 10 dB, 50 GHz to 110 GHz
L70-377-XXX	RPC-1.00 male	RPC-1.00 female	
L70-378-XXX	RPC-1.00 female	RPC-1.00 female	





### Semi-Rigid Cable Assemblies, with Armouring <sup>3)</sup>

Rosenberger No. <sup>1)</sup>	Connector 1	Connector 2	Return Loss
L70-281-XXX	RPC-1.00 male	RPC-1.00 male	$\geq 17$ dB, DC to 50 GHz $\geq 14$ dB, 50 GHz to 110 GHz
L70-282-XXX	RPC-1.00 male	RPC-1.00 female	
L70-283-XXX	RPC-1.00 female	RPC-1.00 female	



### Flexible Cable Assemblies, with Armouring <sup>3)</sup>

Rosenberger No. <sup>1)</sup>	Connector 1	Connector 2	Return Loss
L70-310-XXX	RPC-1.00 male	RPC-1.00 male	$\geq 17$ dB, DC to 50 GHz $\geq 14$ dB, 50 GHz to 110 GHz
L70-311-XXX	RPC-1.00 male	RPC-1.00 female	
L70-312-XXX	RPC-1.00 female	RPC-1.00 female	

1) XXX: Please fill in the requested length. Standard = 140 mm

2) XXX: Please fill in the requested length. Standard = 102 mm

3) Armouring: silicone rubber jacket over glass fiber braid / stainless steel spiral. Armouring and bending protection gives high mechanical stability during flexes  
 Further cable assemblies available on request





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## Product Portfolio

### PCB Connectors

Rosenberger No.	Version	Remarks	Return Loss
01K80A-40ML5	30° Angle	Solderless PCB connector, female  Can be screwed anywhere on the board without soldering	$\geq 21$ dB, DC to 26.5 GHz $\geq 19$ dB, 26.5 GHz to 40 GHz $\geq 17$ dB, 40 GHz to 70 GHz $\geq 12$ dB, 70 GHz to 100 GHz $\geq 10$ dB, 100 GHz to 110 GHz
01K241-40ML5	Right Angle	Soldered PCB connector, female Edge mount	$\geq 19$ dB, DC to 26.5 GHz $\geq 17$ dB, 26.5 GHz to 40 GHz $\geq 14$ dB, 40 GHz to 70 GHz $\geq 12$ dB, 70 GHz to 90 GHz $\geq 10$ dB, 90 GHz to 110 GHz



### Test PCBs

Rosenberger No.	Connector	Return Loss
PCB-K2702A-SB	2x 01K80A-40ML5	$\geq 12$ dB, DC to 70 GHz $\geq 7$ dB, 70 GHz to 110 GHz
PCB-S4701-SB	2x 01K241-40ML5	$\geq 12$ dB, DC to 70 GHz $\geq 10$ dB, 70 GHz to 90 GHz $\geq 5$ dB, 90 GHz to 110 GHz







### Launcher Jack for Glass-Bead

Rosenberger No.	Version	Remarks	Return Loss
01K521-800D3	Bulkhead jack	For glass-bead of 0.127 mm pin diameter	$\leq 19$ dB, DC to 26.5 GHz $\leq 17$ dB, 26.5 GHz to 40 GHz $\leq 14$ dB, 40 GHz to 70 GHz $\leq 12$ dB, 70 GHz to 90 GHz $\leq 10$ dB, 90 GHz to 110 GHz
01Z103-000D3	Glass-bead	Pin diameter 0.127 mm	$\geq 17$ dB, DC to 70 GHz $\geq 12$ dB, 70 GHz to 90 GHz $\geq 10$ dB, 90 GHz to 110 GHz



### Tools

Rosenberger No.	Remarks
01W021-000	Torque Wrench with 6 mm across flats, 0.35 Nm
03W008-000	Combi wrench with 5 mm, 6 mm, 7 mm and 8 mm across flats
01W002-000	Soldering fixture for 01Z103-000
01W003-000	Mounting wrench for 01K521-800D3





## Product Portfolio

### In-Series Adaptors

Rosenberger No.	Version	Interface	Return Loss
01S101-K20D3	Straight	RPC-1.00 male – RPC-1.00 female	$\geq 20$ dB, DC to 20 GHz
01S101-S20D3	Straight	RPC-1.00 male – RPC-1.00 male	$\geq 17$ dB, 20 GHz to 50 GHz
01K101-K20D3	Straight	RPC-1.00 female – RPC-1.00 female	$\geq 15$ dB, 50 GHz to 75 GHz $\geq 12$ dB, 75 GHz to 110 GHz



### Inter-Series Adaptors

Rosenberger No.	Version	Interface	Return Loss
01S108-S00D3	Straight	RPC-1.00 male – RPC-1.85 male	$\geq 19$ dB, DC to 20 GHz
01S108-K00D3	Straight	RPC-1.00 male – RPC-1.85 female	$\geq 17$ dB, 20 GHz to 50 GHz
01K108-K00D3	Straight	RPC-1.00 female – RPC-1.85 female	$\geq 14$ dB, 50 GHz to 70 GHz
01K108-S00D3	Straight	RPC-1.00 female – RPC-1.85 male	
P9S101-S00D3	Straight	RPC-1.00 male – RPC-1.35 male	$\geq 28$ dB, DC to 20 GHz
P9K101-S00D3	Straight	RPC-1.00 male – RPC-1.35 female	$\geq 20$ dB, 20 GHz to 40 GHz
P9K101-K00D3	Straight	RPC-1.00 female – RPC-1.35 female	$\geq 17$ dB, 40 GHz to 90 GHz
P9K101-S00D3	Straight	RPC-1.00 female – RPC-1.35 male	
W1K101-K00D3	Straight	RPC-1.00 female – WSMP female	$\geq 17$ dB, DC to 20 GHz
W1S101-S00D3	Straight	RPC-1.00 male – WSMP male	$\geq 15$ dB, 20 GHz to 50 GHz
W1S101-K00D3	Straight	RPC-1.00 female – WSMP male	$\geq 12$ dB, 50 GHz to 75 GHz $\geq 8$ dB, 75 GHz to 110 GHz





### Test-Port Adaptor

Rosenberger No.	Version	Interface	Return Loss
01KR1P9-K0AS3	Straight	RPC-1.00 female, ruggedized – RPC-1.35 female	$\geq 28$ dB, DC to 20 GHz $\geq 19$ dB, 20 GHz to 40 GHz $\geq 17$ dB, 40 GHz to 90 GHz



### Waveguide-to-Coaxial Adaptors

Rosenberger No.	Version	Interface	Frequency Range	Return Loss
01S900-387	Straight	RPC-1.00 male – WR-10	75 GHz to 110 GHz	$\geq 16$ dB
01K900-387	Straight	RPC-1.00 female – WR-10		
01S740-387	Straight	RPC-1.00 male – WR-12	60 GHz to 90 GHz	
01K740-387	Straight	RPC-1.00 female – WR-12		



### Gauge Kit

The mechanical gauging of connectors is essential to ensure correct fit and to achieve the best performance. This means that all coaxial connectors fitted on all equipment, cables and terminations etc. should be gauged on a regular basis in order to detect any out of tolerance conditions that may impair the electrical performance. Inner conductor protrusion can damage the equipment and recession can influence the electrical measurement.

For details please see the operating manual.

Rosenberger No.	Remarks
01GK0KS-010	Rosenberger Gauge kits are delivered in a stable wooden box with gauge male/female incl. gauge block male/female.







## 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)

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