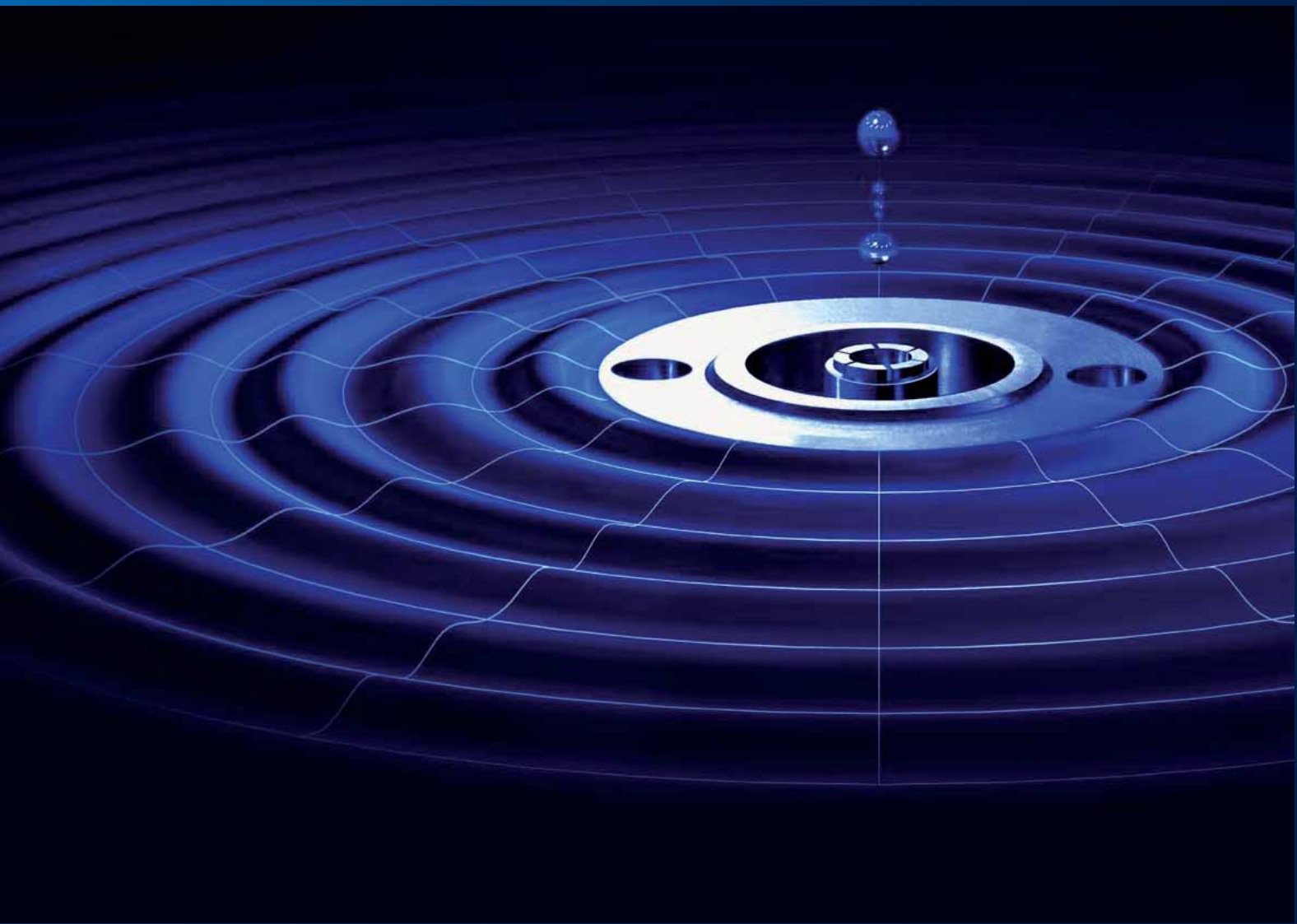


## Test, Measurement & Calibration



# Number Designation

## Number Designation

### Nummernschlüssel

03	S	1	21-	2	71	S3
						Plating code
						01-Z9 Cable Group
						00 Adaptors, Direct Mount
						0M Surface Mount Device
						0 Clamp Version, Accessories
						1 Crimp Version
						2 Solder Version, Solder Pot
						3 Solder Crimp Version
						4 Solder Pin, PCB Mounting
						5 Solid Center Contact, Coax Transition
						K Adaptors female (2nd end)
						S Adaptors male (2nd end)
						Successive Number
						1 Straight Connector
						2 Right Angle Connector
						3 T- or Y-Adapter
						4 Panel Connector with 4-hole Flange
						5 Panel Connector with Round Flange
						6 Panel Connector with Hexagonal Flange
						7 Panel Connector with 2-hole Flange
						A Attenuator
						B Bead
						CK Cal Kit
						DC DC Block
						GK Gauge Kit
						K Female Connector, Jack
						KR Female Ruggedized
						S Male Connector, Plug
						P Sexless
						W Tool
						Z Accessories
						Connector Series (code overview see next page)

## Standard Plating Code

### Standard-Oberflächenschlüssel

Outer Contact / Außenleiter

Code	Plating	Symbol	Layer thickness	Magnetic Properties
A	Nickel	Ni	3.00 µm	
B	Silver	Ag	3.00 µm	Non magnetic
E	Gold	Au	0.80 µm	
F	Gold	Au	0.10 µm	
H	Gold selective	Au	1.27 µm	
L	AuroDur®	Au	0.15 µm	Non magnetic
N	White bronze*			Non magnetic
S	Stainless Steel			
T	Tin/Lead	Sn	6.00- 8.00 µm	Non magnetic

\*White bronze (e.g.Optalloy®) Flash white bronze over silver (e.g. Optargen®)

Center Contact / Innenleiter

Code	Plating	Symbol	Layer thickness	Magnetic Properties
1	Silver	Ag	3.00 µm	Non magnetic
3	Gold	Au	1.27 µm	
4	Gold	Au	0.80 µm	
5	AuroDur®	Au	0.15 µm	Non magnetic

## Plating Code

The used platings of outer and center contacts of Rosenberger connectors can be identified by each part number.

Example: 03 S 121 - 271 S3

Plating outer contact: stainless steel (S)

Plating center contact: gold (3)

## Oberflächenschlüssel

Die verwendeten Oberflächen bei Innen- und Außenleiter der Rosenberger-Steckverbinder sind durch die beiden letzten Stellen der jeweiligen Artikel- Bestellnummer definiert.

Beispiel: 03 S 121 - 271 S3

Oberfläche Außenleiter: Stainless steel (S)

Oberfläche Innenleiter: Gold (3)

Connector Series Code

Seriencode Steckverbinder

Precision Connector Series

Code			
01	RPC-1.00	(W)	- 110GHz
02	RPC-2.92	(K)	- 40GHz
03	RPC-3.50		- 26.5GHz
04	RPC-SL 26.5		- 26.5GHz
05	RPC-N		- 18GHz
06	RPC-TNC		- 18GHz
07	RPC-7		- 18GHz
08	RPC-1.85		- 65GHz
09	RPC-2.4	(V)	- 50GHz
10	RPC-SP	(BMA)	- 22GHz
P4	RPC-SL 40		- 40GHz
P5	RPC-N 75Ω		- 4GHz

Classical Coaxial Connector Series

Code	
11	Tools
15	Micro-RF
16	FMC
17	Long Wipe SMP
18	Mini-SMP
19	SMP
20	MMCX
23	Insert Mini-coax. Mini High Power
24	Mini-UHF
25	Insert High Voltage DIN
26	FME
27	IEC Antenna
28	QMA
29	MCX
30	SSMA
31	Microdot
32	SMA
32R	SMA reverse
34	1.0-2.3 DIN 47297 50Ω
35	SSMB
38	SSMC
39	SMC
40	MCX 75Ω
41	MHV (High Voltage BNC)
42	HV 4-10 (High Voltage C)
43	HN (High Voltage N)
45	Insert 1.0-2.3 DIN 41626 50Ω
47	SSMG
48	1.6-5.6 (High Voltage)
49	SMG

Code	
50	Insert High power DIN7D-Sub
51	BNC 50Ω-4 GH
51R	BNC reverse
52	C 50Ω
53	N 50Ω
53Q	SnapN
54	UHF
55	D-Sub
56	TNC 50Ω
56R	TNC Reverse
57	SHV (Safe High Voltage)
59	1.8-5.6
60	7-16
65	4.1-9.5
71	BNC 75Ω
72	C 75Ω
73	N 75Ω
74	F
75	Insert 1.0-2.3 DIN 41626 75Ω (Compatible with 50Ω)
76	TNC 75Ω
78	1.6-5.6 II. Generation
81	Twinax
88	1.6-5.6 III. Generation
99	Specials, 99CI Controlled Impedance, 99P Pogo Pin
119	P-SMP
153Q	QN
727	IEC Antenna 75Ω
734	1.0-2.3 DIN 47297 75Ω
745	0.8-2.7 75Ω
759	SMB acc. to BT 43 75Ω

# Rosenberger Sales Worldwide

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

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Of.1002

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[Test & Measurement Kits](#)

[Test Cables & Interchangeable Port Connectors](#)

[Test Devices](#)

[RPC-N](#)

[RPC-TNC](#)

[RPC-7](#)

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## Microwave Cables

You can find semi rigid, hand-formable and high-performance flexible cables in catalog "Microwave & RF Cable", available from:

Rosenberger Micro-Coax  
2b Mercury House  
Calleva Park, Aldermaston  
GB - Berkshire RG7 8PN

[www.rmcoax.com](http://www.rmcoax.com)  
[sales@rmcoax.com](mailto:sales@rmcoax.com)

## Attention!

The drawings of articles in catalog are not full scaled.

## Definition of Plug and Jack

The Rosenberger plug/male and jack/female designations are defined by the connector's inner contact design.  
This definition may deviate from other manufacturers' definitions.

## Rosenberger Online

Please visit also our website [www.rosenberger.com](http://www.rosenberger.com), where you can find up to date product news and information.

## Mikrowellenkabel

*Semi-Rigid-, handformbare UTflex- und flexible Hochleistungskabel finden Sie im Katalog "Microwave & RF Cable", erhältlich bei:*

*Rosenberger Micro-Coax  
2b Mercury House  
Calleva Park, Aldermaston  
GB - Berkshire RG7 8PN*

*[www.rmcoax.com](http://www.rmcoax.com)  
[sales@rmcoax.com](mailto:sales@rmcoax.com)*

## Achtung!

*Die Abbildungen der Artikel im Katalog sind nicht maßstäblich.*

## Definition Stecker/Kuppler

*Rosenberger definiert die Stecker/male - Kuppler/female-Bezeichnung nach der Form des Innenleiters.  
Diese Definition kann von der Definition anderer Hersteller abweichen.*

## Rosenberger im Internet

*Bitte besuchen Sie auch unsere Website [www.rosenberger.com](http://www.rosenberger.com), auf der wir Produktneuheiten und Ergänzungen im Produktspektrum zeitnah veröffentlichen.*



## Company Profile

### Rosenberger – an Outstanding Story of Success

From its humble beginnings in the year 1958 in a locksmith shop Rosenberger has developed into a worldwide operating company with an international reputation. The unique business sense and entrepreneurship of Hans (d.2007) and Katharina (d.2004) Rosenberger and, in ensuing years, the vision, management style and leadership of their three sons Hans, Bernhard and Peter lead Rosenberger to today's prominence.

For many years, the name Rosenberger has stood for future-innovative high frequency technology. Today, Rosenberger is one of the worldwide leading manufacturers of standard and customer-specific connectivity solutions in high frequency and fiber optic technology.

## Products and Markets

The product range covers RF coaxial connectors, RF test & measurement products, RF automotive connectors as well as fiber optic products and cable assemblies. The Mobilecom Infrastructure Products business unit offers cable system solutions for radio base stations – from the antenna down to the base station. Renowned companies in high-tech industries, e.g. telecommunication, data systems, medical electronics, test & measurement, aerospace engineering or automotive electronics trust the precision and quality of Rosenberger products.

Rosenberger's custom machining center, the primary roots of the company, produces as a components system supplier (metal) components for the transmission, automotive and construction machine industries.

## The Rosenberger Group

The headquarters of Rosenberger is located in Fridolfing/Tittmoning (Oberbayern, Germany) where today approx. 800 people are employed. Worldwide, the Rosenberger group operates 14 manufacturing and assembly locations as well as the Rosenberger sales network in Europe, Asia and North and South America where – in total – more than 3000 employees develop, produce and sell our products.

## Unternehmensprofil

### Rosenberger - eine Erfolgsgeschichte

*Aus bescheidenen Anfängen im Jahre 1958 in einer kleinen Schlosserwerkstatt hat sich Rosenberger zu einem Unternehmen von Weltrang entwickelt. Aufbauend auf der einmaligen unternehmerischen Leistung von Hans (+ 2007) und Katharina Rosenberger (+ 2004), haben die Söhne Hans, Bernhard und Peter das Unternehmen durch Engagement, Umsicht und Weitblick zur heutigen Größe geführt.*

*Seit vielen Jahren werden mit dem Namen Rosenberger zukunftsweisende Hochfrequenz-Technologien verbunden. Heute ist Rosenberger ein weltweit führender Anbieter von standardisierten und kundenspezifischen Verbindungslösungen in Hochfrequenz- und Faseroptik-Technologie.*

## Produkte und Märkte

*Das Produktspektrum umfasst HF-Koaxialsteckverbinder, HF-Messtechnik-Produkte, HF-Steckverbinder für die Automobil-Elektronik sowie Faseroptik-Produkte und Kabel-Konfektionierung. Im Bereich Mobilfunk-Infrastruktur bietet Rosenberger Systemlösungen zur Komplettverkabelung von Mobilfunkstationen - von der Antenne bis zur Basisstation. Namhafte HighTech-Unternehmen in Mobil- und Telekommunikation, Datentechnik, Medizinelektronik, industrieller Messtechnik, Luft- und Raumfahrt oder der Automobil-Elektronik setzen auf Präzision und Qualität unserer Produkte.*

*Im Geschäftsbereich Maschinenbau, der Keimzelle des Unternehmens, bearbeitet Rosenberger als Komponenten-Systemlieferant Metallrohnteile für Getriebe-, Nutzfahrzeug- und Baumaschinenhersteller.*

## Die Rosenberger-Gruppe

*In unserem Stammwerk in Fridolfing/Tittmoning sind heute rund 800 Mitarbeiter beschäftigt. In der Rosenberger-Gruppe sorgen mehr als 3000 Mitarbeiter in unserem Stammwerk, an 14 Fertigungs- und Montage-Standorten sowie den Rosenberger-Vertriebsniederlassungen in Europa, Asien sowie Nord- und Südamerika für Entwicklung, Herstellung und Verkauf unserer Produkte.*



## Superior Quality

The quality of our products and services is an essential part of our corporate strategy. Rosenberger's quality philosophy is not just to optimize components and products, but to continuously improve and optimize all processes to ensure customer satisfaction: from product development, planning, purchasing, production, sales, logistics and service to environmental policy - all in all, to offer maximum benefit to our customers all over the world.

Furthermore, our quality responsibility includes being proactive in protecting our environment and natural resources. We endeavour to avoid or minimize environmental pollution - even beyond the requirements of legal regulations whenever possible.

Rosenberger is certified according to **ISO/TS 16949**, **ISO 9001** and **ISO 14001**.

## Ausgezeichnete Qualität

*Die hohe Qualität unserer Produkte und Serviceleistungen ist ein grundlegender Bestandteil unserer Unternehmensstrategie. Die Rosenberger- Qualitätsphilosophie beinhaltet nicht nur die Optimierung aller einzelnen Produkte, sondern auch die kontinuierliche und abteilungsübergreifende Verbesserung und Optimierung aller Unternehmensprozesse: von der Produktentwicklung über Planung, Einkauf, Produktion, Vertrieb, Logistik bis hin zur Umweltpolitik – mit dem Ziel, allen unseren Kunden weltweit größtmögliche Kundenzufriedenheit zu bieten.*

*Darüber hinaus umfasst unsere Verantwortung für Qualität auch stets umweltbewusstes Handeln und Schutz der natürlichen Ressourcen. Unser Ziel ist es, eine Verschmutzung der Umwelt zu vermeiden beziehungsweise auf ein Minimum zu beschränken – möglichst deutlich unterhalb der gesetzlich erlaubten Grenzwerte.*

Rosenberger ist zertifiziert nach **ISO/TS 16949** und **ISO 9001**. Viele weitere Zertifikate, z.B. das Umwelt-Zertifikat **ISO 14001**, zeugen von konsequent angewandtem Qualitätsmanagement.

## European Environmental Directives

Connectors and cable assemblies manufactured by Rosenberger correspond to the following European Directives:

- 2002/95/EG – Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (**RoHS**)
- 2002/96/EG – Waste Electrical and Electronic Equipment (**WEEE**)
- 2003/11/EG und 2000/53/EC – End of Life Vehicle (**ELV**)
- IEC 61760-1 - max. soldering temperature +260°C for 10 sec. for PCB connectors

The objective of the above mentioned European Directives is to avoid or to limit the use of the following hazardous substances:

- Lead
- Mercury
- Cadmium
- Chrome VI
- PBB (Polybrominated Biphenyls)
- PBDE (Polybrominated Diphenyl Ethers)

## EU-Umweltschutzrichtlinien

*Die von Rosenberger gelieferten Steckverbinder und Kabel-Assemblies sind mit folgenden EU-Richtlinien konform:*

- 2002/95/EG – Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (**RoHS**)
- 2002/96/EG – Waste Electrical and Electronic Equipment (**WEEE**)
- 2003/11/EG und 2000/53/EC – End of Life Vehicle (**ELV**)
- IEC 61760-1 - max. soldering temperature +260°C for 10 sec. for PCB connectors

*In den aufgeführten EU-Richtlinien ist die Vermeidung bzw. die Einhaltung der gesetzlichen Grenzwerte bei Einsatz folgender Stoffe geregelt:*

- Blei
- Quecksilber
- Cadmium
- Chrom VI
- PBB (Polybromierte Biphenyle)
- PBDE (Polybromierte Diphenylether)

## Vector Network Analyzer (VNA) Calibration Methods

All calibration methods are based on simple standards for which scattering parameters are well predictable. The number and type of standards, and the number of required reference procedures varies widely. The following paragraphs summarize some of the most common techniques.

### TMSO

The most basic and widely used one-port calibration technique is the MSO (Matched Load/Short/Open) calibration. The most common two-port calibration technique is the TMSO (Thru/Match/Short/Open) calibration. These techniques are fast and operationally simple, and are satisfactory for so-called "insertable devices" and cursory measurements of non-insertables. The reference plane after calibration is equal to the connector reference plane. Realizing ideal open circuit and load terminations, particularly over broadband, is problematic. For improved accuracy at higher frequencies, a sliding load can be used instead of the matched load. MSO is also called OSL (Open/Short/Load) and TMSO is also called SOLT (Short/Open/Load/Thru) in other papers.

### TSD

It is possible to circumvent the difficulty of constructing opens and loads. To the remaining Thru and Short standards, an unknown length of precision non-reflecting transmission line is added to create a Delay-Standard (TSD). An accurate error model is a key feature of the technique [1].

### TRL

Engen and Hoer [2] presented a technique replacing the need for a standard Short circuit termination with an unknown non-zero Reflecting termination. They also renamed the Delay standard to Line, thus the acronym, TRL. Although a nominal short circuit is the natural choice for the reflect standard, the actual magnitude of its reflection coefficient need not be known. As with the TSD technique, the length of the line standard need not be known. In addition, it does not have to be assumed lossless.

### LRL

If the Thru standard is replaced by a second Line standard of different electrical length than the first, the resulting calibration method is the so-called "LRL". The advantage of LRL calibration is that S-Parameters can be acquired accurately using any (repeatable) combination of connectors at the measurement ports due to the non-zero length of the lines. That means that not only male-female port configurations are possible but also male-male and female-female arrangements can be supported [3]. When the length of line 1 is zero, LRL becomes TRL.

### LRM

It is sometimes advantageous to substitute a Matched Load for the second Line. The match standard must be an excellent broadband termination, although the Reflection standard need only be repeatable. The LRM technique is chiefly used in conjunction with wafer probes for measuring semiconductor characteristics. When the length of the first line is zero, LRM becomes TRM.

### References

- [1] FRANZEN, N.R., SPECIALE, R.A., Accurate Scattering Parameter Measurements on Nonconnectable Microwave Networks, Proc. 6th European Microwave Conference, September 1976, pp. 210–214
- [2] ENGEN, G.F., HOER, C.A., Thru-Reflect-Line: An Improved Technique for Calibrating the Dual Six Port Automatic Network Analyzer, IEEE Trans. Microwave Theory Tech., MTT-27, Dec. 1979, pp. 987–993
- [3] HOER, C.A., ENGEN, G.F., Calibrating a Dual Six-Port or Four-Port for Measuring Two-Ports with Any Connectors, IEEE MTT-S, Symposium Digest 1986, pp. 665–668
- [4] AGILENT TECHNOLOGIES, Applying the 8510 TRL Calibration for Non-Coaxial Measurements, Product Note 8510–8A, May 2001
- [5] HEUERMANN, H., Save Network Analyzer Calibration Procedures for Coaxial and Planar Wave-Guides, Doctoral Thesis, University Bochum 12/1995
- [6] AGILENT TECHNOLOGIES, Applying Error Correction to Network Analyzer Measurements, Application Note 1287–3
- [7] AGILENT TECHNOLOGIES, Network Analyzer Basics, Seminar Paper
- [8] INGALLS, M., Vector Network Analyzer Measurements, Internet Page, 04.11.1998
- [9] HIEBEL, Michael. Grundlagen der vektoriellen Netzwerkanalyse. Rohde & Schwarz. 2. Auflage. 2007

## Vektorielle Netzwerkanalysatoren (VNA) – Kalibrierungsverfahren

*Je nach Anforderung sind unterschiedliche Kalibrierverfahren erarbeitet worden, die nach Art und Anzahl der Kalibrierstandards differieren. Die Streuparameter der Standards sollten sich möglichst gut beschreiben lassen. Einige Verfahren erlauben jedoch auch den Einsatz von teilweise unbekannten Standards. Es folgt eine Zusammenfassung der gängigsten Verfahren.*

### TMSO

*Das grundlegende, am häufigsten eingesetzte Eintor-Kalibrierverfahren heisst MSO (Match, Short, Open). Das gebräuchlichste Zweitor-Kalibrierverfahren nennt man TMSO (Thru, Match, Short, Open). Diese Verfahren sind schnell und vom Ablauf her einfach. Die Bezugsebene nach dem Kalibrieren ist gleich der Referenzebene der Steckverbindung. Die Herstellung breitbandiger, idealer Leerlauf- und Lastabschlüsse kann aber problematisch sein. Um erhöhte Genauigkeit bei höheren Frequenzen zu erzielen, kann eine Gleitlast anstelle eines Abschlusswiderstands verwendet werden. MSO nennt man übrigens auch OSL (Open, Short, Load), und TMSO bezeichnet man in einigen Veröffentlichungen als SOLT (Short, Open, Load, Thru).*

### TSD

*Die Schwierigkeiten bei der Herstellung von Leerläufen und Lastabschlüssen lassen sich umgehen. Zu den Thru- und Short-Standards fügt man eine reflexionsfreie Übertragungsleitung unbekannter Länge hinzu und schafft somit einen Delay-Standard. Ein Hauptmerkmal dieses Verfahrens ist das genaue Fehlermodell [1].*

### TRL

*Engen und Hoer [2] stellten ein Verfahren vor, das den sonst erforderlichen Short (Kurzschluss) durch eine unbekannte Reflexion mit einem Reflexionsfaktor abweichend von 0 ersetzt. Sie benannten zudem Delay (Verzögerung) in Line (Leitung) um, daher die Abkürzung TRL (Thru, Reflexion, Line). Obwohl ein Kurzschluss die natürliche Wahl für die Reflexionsnorm darstellt, ist es nicht erforderlich, den eigentlichen Betrag des Reflexionsfaktors zu kennen. Wie beim TSD-Verfahren braucht die Länge der Leitung nicht bekannt zu sein. Zudem muss sie nicht als verlustlos angenommen werden.*

### LRL

*Ersetzt man den Thru-Standard durch einen zweiten Line-Standard, dessen elektrische Länge anders als die der ersten Leitung ist, ergibt sich das Kalibrierverfahren LRL. Der Vorteil dieses Verfahrens besteht darin, dass sich Streuparameter wegen der Länge der Leitungen (ungleich 0) mit jeder (wiederholbaren) Kombination der Anschlüsse an den Messtoren genau erfassen lassen. Somit sind nicht nur Stecker-/Buchse- sondern auch Stecker/Stecker- und Buchse/Buchse-Konfigurationen möglich [3]. Ist die Länge der Leitung 1 gleich 0, wird LRL zu TRL.*

### LRM

*Manchmal ist es vorteilhaft, die zweite Leitung durch einen Abschlusswiderstand zu ersetzen. Der Match-Standard muss einen exzellenten breitbandigen Abschluss darstellen, obgleich der Reflexions-Standard nur wiederholbar zu sein hat. Das LRM-Verfahren wird hauptsächlich zur Messung von planaren Schaltungen zusammen mit Prüfspitzen eingesetzt. Ist die Länge der ersten Leitung gleich 0, wird LRM zu TRM.*

### Literatur

- [1] Franzen, N.R., Speciale, R.A.: Accurate Scattering Parameter Measurements on Nonconnectable Microwave Networks. Proc. 6th European Microwave Conference, 09/1976, S. 210–214
- [2] Engen, G.F., Hoer, C.A.: Thru-Reflect-Line – An Improved Technique for Calibrating the Dual Six Port Automatic Network Analyzer. IEEE Trans. Microwave Theory Tech., MTT-27, 12/1979, S. 987–993
- [3] Hoer, C.A., Engen, G.F.: Calibrating a Dual Six-Port or Four-Port for Measuring Two-Ports with Any Connectors. IEEE MTT-S, Symposium Digest 1986, S. 665–668
- [4] Agilent Technologies: Applying the 8510 TRL Calibration for Non-Coaxial Measurements. Produktblatt 8510–8A, 05/2001
- [5] Heuermann, H.: Save Network Analyzer Calibration Procedures for Coaxial and Planar Waveguides. Dissertation, Universität Bochum, 12/1995
- [6] Agilent Technologies: Applying Error Correction to Network Analyzer Measurements. Applikationsblatt 1287–3
- [7] Agilent Technologies: Network Analyzer Basics. Seminarunterlagen
- [8] Ingalls, M.: Vector Network Analyzer Measurements. Internetseite, 04.11/1998
- [9] Hiebel, Michael. Grundlagen der vektoriellen Netzwerkanalyse. Rohde & Schwarz. 2. Auflage. 2007

## Physical Formulae

Physical Constants | *Physikalische Konstanten*

$$\mu_0 = 4\pi \cdot 10^{-7} \text{ Vs/Am} = 12.566370614 \cdot 10^{-7} \text{ H/m}$$

$$\epsilon_0 = 8.854187817 \cdot 10^{-12} \text{ As/Vm}$$

$$c_0 = \frac{1}{\sqrt{\epsilon_0 \cdot \mu_0}} = 2.99792458 \cdot 10^8 \text{ m/s} \approx 3 \cdot 10^8 \text{ m/s}$$

$$Z_F = \sqrt{\frac{\mu_0}{\epsilon_0}} = 376.730313461 \Omega \approx 120 \pi \Omega$$

$$\pi = 3.141592653590\dots$$

$$e = 2.718281828459\dots$$

Microwave Equations | *Mikrowellen-Gleichungen*

$$Z_{\text{coax}} = \frac{1}{2\pi} \cdot \sqrt{\frac{\mu_0 \cdot \mu_r}{\epsilon_0 \cdot \epsilon_r}} \cdot \ln \frac{D}{d} \approx \frac{60}{\sqrt{\epsilon_r}} \cdot \ln \frac{D}{d}$$

$$\Gamma = \frac{Z_L - Z_0}{Z_L + Z_0}$$

$$T = \exp(-\gamma l)$$

$$RL = -20 \cdot \log_{10} |\Gamma|$$

$$IL = -20 \cdot \log_{10} |T|$$

$$ML = -10 \cdot \log_{10} (1 - |\Gamma|^2)$$

$$VSWR = \frac{1 + |\Gamma|}{1 - |\Gamma|}$$

## Legend

	Description   <i>Beschreibung</i>
$\mu_0$	Magnetic constant   <i>Magnetische Feldkonstante</i>
$\epsilon_0$	Electric constant   <i>Elektrische Feldkonstante</i>
$c_0$	Speed of light in vacuum   <i>Lichtgeschwindigkeit</i>
$Z_F$	Wave impedance in vacuum   <i>Feldwellenwiderstand</i>
$Z_0$	Characteristic line impedancet   <i>Wellenwiderstand der Leitung</i>
$Z_L$	Load impedancet   <i>Wellenwiderstand des Abschlusses</i>
$Z_{\text{coax}}$	Characteristic impedance coaxial linet   <i>Wellenwiderstand Koaxialleitung</i>
$D$	Outer conductor diametert   <i>Durchmesser Außenleiter</i>
$d$	Center conductor diametert   <i>Durchmesser Innenleiter</i>
$G$	Reflection coefficientt   <i>Reflexionskoeffizient</i>
$T$	Transmission coefficientt   <i>Transmissionskoeffizient</i>
$\gamma$	Propagation constantt   <i>Ausbreitungskonstante</i>
$RL$	Return losst   <i>Reflexionsdämpfung</i>
$IL$	Insertion losst   <i>Einfügedämpfung</i>
$ML$	Mismatch losst   <i>Dämpfung durch Fehlanpassung</i>
$VSWR$	Standing wave ratiot   <i>Stehwellenverhältnis</i>

## Measurement Chart

VSWR	Reflection Coefficient	Return Loss = Ref.	X Below Ref.	Ref. + X	Ref. - X	Peak to Peak Ripple	Maximum Phase Uncertainty $\pm$	Mismatch Loss
		in dB	in dB	in dB	in dB	in dB	in Degrees	in dB
17,3910	0,8913	1	1	-5,535	19,271	24,806	63,031	6,8683
8,7242	0,7943	2	2	-5,078	13,737	18,815	52,592	4,3292
5,8480	0,7079	3	3	-4,649	10,691	15,340	45,068	3,0206
4,4194	0,6310	4	4	-4,249	8,658	12,907	39,121	2,2048
3,5698	0,5623	5	5	-3,876	7,177	11,053	34,218	1,6509
3,0095	0,5012	6	6	-3,529	6,041	9,570	30,079	1,2563
2,6146	0,4467	7	7	-3,207	5,141	8,348	26,531	0,9665
2,3229	0,3981	8	8	-2,911	4,410	7,320	23,460	0,7494
2,0999	0,3548	9	9	-2,638	3,806	6,444	20,782	0,5844
1,9250	0,3162	10	10	-2,387	3,302	5,688	18,435	0,4576
1,7849	0,2818	11	11	-2,157	2,876	5,032	16,370	0,3594
1,6709	0,2512	12	12	-1,946	2,513	4,459	14,548	0,2830
1,5769	0,2239	13	13	-1,755	2,201	3,956	12,937	0,2233
1,4985	0,1995	14	14	-1,580	1,933	3,513	11,509	0,1764
1,4326	0,1778	15	15	-1,422	1,701	3,122	10,243	0,1396
1,3767	0,1585	16	16	-1,278	1,499	2,777	9,119	0,1105
1,3290	0,1413	17	17	-1,148	1,323	2,470	8,120	0,0875
1,2880	0,1259	18	18	-1,030	1,169	2,199	7,232	0,0694
1,2528	0,1122	19	19	-0,924	1,034	1,957	6,442	0,0550
1,2222	0,1000	20	20	-0,828	0,915	1,743	5,739	0,0436
1,1957	0,0891	21	21	-0,742	0,811	1,552	5,113	0,0346
1,1726	0,0794	22	22	-0,664	0,719	1,383	4,556	0,0275
1,1524	0,0708	23	23	-0,594	0,638	1,232	4,060	0,0218
1,1347	0,0631	24	24	-0,531	0,566	1,098	3,618	0,0173
1,1192	0,0562	25	25	-0,475	0,503	0,978	3,224	0,0138
1,1055	0,0501	26	26	-0,425	0,447	0,871	2,873	0,0109
1,0935	0,0447	27	27	-0,380	0,397	0,776	2,560	0,0087
1,0829	0,0398	28	28	-0,339	0,353	0,692	2,282	0,0069
1,0736	0,0355	29	29	-0,303	0,314	0,617	2,033	0,0055
1,0653	0,0316	30	30	-0,270	0,279	0,550	1,812	0,0043
1,0580	0,0282	31	31	-0,241	0,248	0,490	1,615	0,0035
1,0515	0,0251	32	32	-0,215	0,221	0,436	1,439	0,0027
1,0458	0,0224	33	33	-0,192	0,197	0,389	1,283	0,0022
1,0407	0,0200	34	34	-0,172	0,175	0,347	1,143	0,0017
1,0362	0,0178	35	35	-0,153	0,156	0,309	1,019	0,0014
1,0322	0,0158	36	36	-0,137	0,139	0,275	0,908	0,0011
1,0287	0,0141	37	37	-0,122	0,124	0,245	0,809	0,0009
1,0255	0,0126	38	38	-0,109	0,110	0,219	0,721	0,0007
1,0227	0,0112	39	39	-0,097	0,098	0,195	0,643	0,0005
1,0202	0,0100	40	40	-0,086	0,087	0,174	0,573	0,0004
1,0180	0,0089	41	41	-0,077	0,078	0,155	0,511	0,0003
1,0160	0,0079	42	42	-0,069	0,069	0,138	0,455	0,0003
1,0143	0,0071	43	43	-0,061	0,062	0,123	0,406	0,0002
1,0127	0,0063	44	44	-0,055	0,055	0,110	0,362	0,0002
1,0113	0,0056	45	45	-0,049	0,049	0,098	0,322	0,0001
1,0101	0,0050	46	46	-0,043	0,044	0,087	0,287	0,0001
1,0090	0,0045	47	47	-0,039	0,039	0,078	0,256	0,0001
1,0080	0,0040	48	48	-0,035	0,035	0,069	0,228	0,0001
1,0071	0,0035	49	49	-0,031	0,031	0,062	0,203	0,0001
1,0063	0,0032	50	50	-0,027	0,028	0,055	0,181	0,0000
1,0036	0,0018	55	55	-0,015	0,015	0,031	0,102	0,0000
1,0020	0,0010	60	60	-0,009	0,009	0,017	0,057	0,0000
1,0006	0,0003	70	70	-0,003	0,003	0,005	0,018	0,0000
1,0002	0,0001	80	80	-0,001	0,001	0,002	0,006	0,0000



Rosenberger offers a wide range of calibration kits for a variety of standard coaxial test interfaces. The following types are available: Full versions including adaptors and sliding loads for variable measurements, industrial kits for standard measurements as well as LRL and TRL calibration kits.

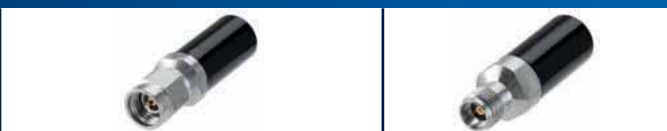
The product range includes also verification kits for RPC-N, RPC-7, RPC-3.50 and RPC-2.92 series, as well as gauge kits for various standard coaxial interfaces.

*Für eine Vielzahl von Standard-Koaxial-Interfaces bietet Rosenberger ein umfassendes Spektrum an Kalibrier-Kits. Folgende Versionen werden angeboten: „Full“-Versionen mit Adaptern und Gleitlasten für variable Messaufbauten, „Industrial“-Kits für Standardmessungen sowie LRL- und TRL-Kalibrier-Kits.*

*Das Produktspektrum wird ergänzt durch Verifizier-Kits für die Serien RPC-N, RPC-7, RPC-3.50 und RPC-2.92 sowie Messuhren-Kits (Gauge Kits) für verschiedene Koaxial-Steckverbinder-Serien.*



## Test & Measurement Kits



### Features

Calibration Kits

Verification Kits

Gauge Kits

## Vector Network Analyzer (VNA)

Network analyzers (NAs) are important tools in the development of microwave circuits and systems and gain increasing importance in industrial measurement applications. Vector network analyzers (VNAs) are of particular interest due to their capability of being calibrated.

Vector-error correction is the process of characterizing systematic errors of the measurement system by measuring known calibration standards, and then removing the effects of these errors from subsequent measurements. The quality of the calibration depends on operator experience and random effects such as system sensitivity limits, noise, connection repeatability, etc. The quality of the standards is the crucial factor with regard to the accuracy of the error correction.

For a number of coaxial standard test interfaces Rosenberg offers the following types of calibration kits:

- Full version with adaptors and sliding loads for variable measurements
- Industrial version for standard measurements
- LRL and TRL calibration kits

All Rosenberg Calibration Kits can be used from DC to their maximum frequency.

The following tables show the complete range of available Rosenberg calibration, verification and gauge kits.

## Vektorielle Netzwerkanalysatoren (VNA)

*Netzwerkanalysatoren (NA) stellen wichtige Hilfsmittel bei der Entwicklung von Mikrowellenschaltungen und -systemen dar, und werden auch zunehmend für industrielle Messungen in der Fertigung und Qualitätssicherung von Bedeutung. Vektorielle Netzwerkanalysatoren (VNA) sind wegen ihrer Kalibrierfähigkeit von besonderem Interesse.*

*Die vektorielle Fehlerkorrektur ist ein Verfahren, bei dem die Systemfehler der Messeinrichtung durch Kalibriermessungen mit bekannten Kalibrierstandards ermittelt werden. Sie können dann bei nachfolgenden Messungen korrigiert werden. Die Güte des Kalibrierens hängt von der Erfahrung der Bedienperson und stochastischen Einflüssen wie z.B. Drift über Temperatur und Zeit, Rauschen im Generator- und Empfängerteil und der Reproduzierbarkeit der verwendeten Steckverbindungen ab. Die Qualität der Kalibrierstandards ist entscheidend im Hinblick auf die Genauigkeit der Fehlerkorrektur.*

*Rosenberger bietet für eine Reihe von Koaxial-Steckverbinder-Serien folgende Kalibrier-Kits:*

- Full-Version mit Adaptern und Gleitlasten für sehr variable Messaufbauten
- Industrial-Version für Standard-Messungen
- LRL- und TRL-Kalibrier-Kits

*Sämtliche Kalibrier-Kits von Rosenberg sind ab DC einsetzbar.*

*Folgende Tabellen geben Ihnen einen Überblick über alle verfügbaren Kalibrier-, Verifizier- und Messuhren-Kits.*



## Coaxial Calibration Kits

Connector Series   Steckverbinder-Serie	Frequency Range   Frequenzbereich	Ordering Number Full	Ordering Number Industrial	Ordering Number LRL/TRL
RPC-N, 50 $\Omega$	DC-18.0 GHz	05 CK 100-150	05 CK 10A-150	05 CK 120-150
RPC-N, 75 $\Omega$	DC-4.0 GHz	P5 CK 100-170	P5 CK 10A-170	P5 CK 120-170 (TRL)
RPC-TNC	DC-18.0 GHz	06 CK 100-150	06 CK 10A-150	-
RPC-7	DC-18.0 GHz	07 CK 100-150	07 CK 10A-150	07 CK 120-150
RPC-SP (BMA)	DC-22.0 GHz	10 CK 100-150	-	10 CK 120-150 (TRL)
RPC-3.50	DC-26.5 GHz	03 CK 100-150	03 CK 10A-150	03 CK 120-150
RPC-2.92	DC-40.0 GHz	02 CK 100-150	02 CK 10A-150	02 CK 120-150
RPC-2.40	DC-50.0 GHz	09 CK 100-150	09 CK 10A-150	09 CK 120-150
RPC-1.85	DC-65.0 GHz	08 CK 100-150	08 CK 10A-150	08 CK 120-150
RPC-1.00	DC-110.0 GHz	-	-	01 CK 120-150
7-16	DC-8.0 GHz	60 CK 100-150	60 CK 10A-150	60 CK 120-170
BNC, 50 $\Omega$	DC-4.0 GHz	51 CK 100-150	51 CK 10A-150	-
F	DC-4.0 GHz	74 CK 100-170	74 CK 10A-170	74 CK 120-170 (TRL)
QMA	DC-18.0 GHz	28 CK 100-150	-	-
SMP	DC-18.0 GHz	-	19 CK 10A-150	-
SnapN	DC-11.0 GHz	-	53 CK 10A-150	-
FAKRA-RF	DC-6.0 GHz	59 CK 100-150	-	-

## Verification Kits

Connector Series   Steckverbinder-Serie	Frequency Range   Frequenzbereich	Ordering Number
RPC-N, 50 $\Omega$	DC-18.0 GHz	05 CK 200-150
RPC-7	DC-18.0 GHz	07 CK 200-150
RPC-3.50	DC-26.5 GHz	03 CK 200-150
RPC-2.92	DC-40.0 GHz	02 CK 200-150

## Gauge Kits

Connector Series   Steckverbinder-Serie	Ordering Number
RPC-N, 50 $\Omega$	05 GK 0KS-000
RPC-N, 75 $\Omega$	P5 GK 0KS-000
RPC-TNC	06 GK 0KS-000
RPC-7	07 GK 0KS-000
RPC-3.50 / RPC-2.92	03 GK 0KS-000
RPC-2.40 / RPC-1.85	08 GK 0KS-000
RPC-1.00	01 GK 0KS-000
RPC-7-16	60 GK 0KS-000

## RPC-N, 50 $\Omega$ Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	$\leq 0.10$ dB $\leq 0.20$ dB	DC to $\leq 4$ > 4 to $\leq 18$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 1.5^\circ$ $\leq 3.0^\circ$	DC to $\leq 4$ > 4 to $\leq 18$
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	$\leq 0.10$ dB $\leq 0.15$ dB	DC to $\leq 4$ > 4 to $\leq 18$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 1.2^\circ$ $\leq 2.5^\circ$	DC to $\leq 4$ > 4 to $\leq 18$
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 45$ dB $\geq 30$ dB	DC to $\leq 4$ > 4 to $\leq 18$
	Resistance   <i>Gleichstrom-Widerstand</i>	$50 \Omega \pm 0.25 \Omega$	DC
	Power Handling   <i>Nennleistung</i>	$\leq 0.5$ W (0° to 50° C)	DC to 18
Sliding loads <sup>2</sup>   <i>Gleitlast</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 35$ dB	$\geq 2$ to $\leq 18$
Precision air lines <sup>3</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 40$ dB $\geq 35$ dB	$\geq 0.3$ to $\leq 4$ > 4 to $\leq 18$
	Characteristic Impedance   <i>Wellenwiderstand</i>	$50 \Omega \pm 0.25 \Omega$	$\geq 0.3$ to $\leq 18$
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 36$ dB $\geq 30$ dB	DC to $\leq 4$ > 4 to $\leq 18$
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	$\pm 0.07$ mm ( $\pm 1.5^\circ$ at 18 GHz)	DC to 18

1. The specification for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The specification for the sliding load termination include the quality of the air line portions within the sliding load combined with the effective stability of the sliding element.

3. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to the skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

2. Die Spezifikationen für die Gleitlast-Abschlüsse beziehen sich auf die Güte des Luftleitungs-Abschnitts in Verbindung mit der Reproduzierbarkeit des verschiebbaren Gleitlast-Elements.

3. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusssdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des Skin-Effektes frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

**Calibration Kit RPC-N, 50  $\Omega$  , Full Version**

Calibration Kit

Full Version

Ordering Number	Remarks	
05 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
05 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
05 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
05 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
05 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
05 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		2
05 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		2
05 S 150-G300	Sliding loads (male)   <i>Gleitlast (Stecker)</i>		1
05 K 150-G300	Sliding loads (female)   <i>Gleitlast (Kuppler)</i>		1
05 S 121-S20 S3	Adaptor (RPC-N, 50 $\Omega$ male - male)   <i>Adapter (RPC-N, 50 <math>\Omega</math> Stecker - Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
05 K 121-K20 S3	Adaptor (RPC-N, 50 $\Omega$ female - female)   <i>Adapter (RPC-N, 50 <math>\Omega</math> Kuppler - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
53 W 009-000	Torque wrench   <i>Drehmomentschlüssel</i>	20 mm wrench size / 1.1-Nm-torque   <i>20-mm-Schlüssel / 1.1-Nm-Drehmoment</i>	1
05 W 00K-000	Gauge (female) incl. Gauge Block   <i>Messuhr (Kuppler) incl. Kalibrierblock</i>	to gauge female connectors   <i>für Vermessung von Steckverbindern (Kuppler)</i>	1
05 W 00S-000	Gauge (male) incl. Gauge Block   <i>Messuhr (Stecker) incl. Kalibrierblock</i>	to gauge male connectors   <i>für Vermessung von Steckverbindern (Stecker)</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-N, 50 $\Omega$ , Industrial Version

Calibration Kit

Industrial Version

Ordering Number	Remarks	
05 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
05 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
05 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
05 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
05 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
05 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
05 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
53 W 009-000	Torque wrench   <i>Drehmomentschlüssel</i>	20 mm wrench size / 1.1-Nm-torque   <i>20-mm-Schlüssel / 1.1-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

**Calibration Kit RPC-N, 50  $\Omega$  , LRL Version**

Calibration Kit

LRL Version

Ordering Number	Remarks	
05 CK 120-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

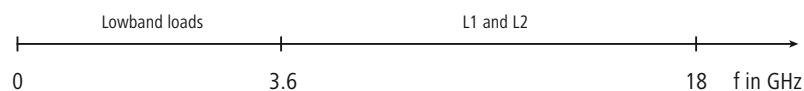
Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

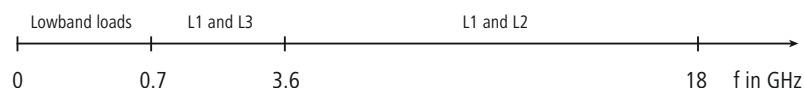
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
05 S 101-K026	26.4 mm Air line (male - female)   <i>26.4-mm-Luftleitung (Stecker - Kuppler)</i>	L1	1
05 S 101-K033	33.3 mm Air line (male - female)   <i>33.3-mm-Luftleitung (Stecker - Kuppler)</i>	L2	1
05 S 101-K061	61 mm Air line (male - female)   <i>61-mm-Luftleitung (Stecker - Kuppler)</i>	L3	1
05 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
05 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
53 W 009-000	Torque wrench   <i>Drehmomentschlüssel</i>	20 mm wrench size / 1.1-Nm-torque   <i>20-mm-Schlüssel / 1.1-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using LRL with lowband loads. Without lowband loads the lower band cannot be calibrated.

LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-) bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizier-Standard genutzt. Nebenstehende Grafik zeigt zwei mögliche LRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden.

## RPC-N, 75 $\Omega$ Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	$\leq 0.07$ dB $\leq 0.10$ dB	DC to $\leq 2$ > 2 to $\leq 4$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 1.0^\circ$ $\leq 1.6^\circ$	DC to $\leq 2$ > 2 to $\leq 4$
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	$\leq 0.07$ dB $\leq 0.10$ dB	DC to $\leq 2$ > 2 to $\leq 4$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 0.8^\circ$ $\leq 1.2^\circ$	DC to $\leq 2$ > 2 to $\leq 4$
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	$\geq 40$ dB $\geq 36$ dB	DC to $\leq 2$ > 2 to $\leq 4$
	Resistance   <i>Gleichstrom-Widerstand</i>	$75 \Omega \pm 0.75 \Omega$	DC
	Power Handling   <i>Nennleistung</i>	$\leq 0.5$ W (0° to 50° C)	DC to 4
Precision air lines <sup>3</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusdämpfung</i>	$\geq 42$ dB $\geq 40$ dB	$\geq 0.1$ to $\leq 2$ > 2 to $\leq 4$
	Characteristic Impedance   <i>Wellenwiderstand</i>	$75 \Omega \pm 0.55 \Omega$	$\geq 0.1$ to $\leq 4$
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusdämpfung</i>	$\geq 38$ dB $\geq 34$ dB	DC to $\leq 2$ > 2 to $\leq 4$
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	$\pm 0.07$ mm ( $\pm 0.4^\circ$ at 4 GHz)	DC to 4

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

2. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des "Skin-Effekts" frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

Calibration Kit RPC-N, 75  $\Omega$  , Full Version

Calibration Kit

Full Version

Ordering Number	Remarks	
P5 CK 100-170	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
P5 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
P5 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
P5 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
P5 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
P5 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		2
P5 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		2
P5 S 121-S20 S3	Adaptor (RPC-N, 75 $\Omega$ male - male)   <i>Adapter (RPC-N, 75 <math>\Omega</math> Stecker - Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
P5 K 121-K20 S3	Adaptor (RPC-N, 75 $\Omega$ female - female)   <i>Adapter (RPC-N, 75 <math>\Omega</math> Kuppler - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
53 W 009-000	Torque wrench   <i>Drehmomentschlüssel</i>	20 mm wrench size / 1.1-Nm-torque   <i>20-mm-Schlüssel / 1.1-Nm-Drehmoment</i>	1
05 W 00K-000	Gauge (female) incl. Gauge Block   <i>Messuhr (Kuppler) incl. Kalibrierblock</i>	to gauge female connectors   <i>für Vermessung von Steckverbindern (Kuppler)</i>	1
P5 W 00S-000	Gauge (male) incl. Gauge Block   <i>Messuhr (Stecker) incl. Kalibrierblock</i>	to gauge male connectors   <i>für Vermessung von Steckverbindern (Stecker)</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-N, 75 $\Omega$ , Industrial Version

Calibration Kit

Industrial Version

Ordering Number	Remarks	
P5 CK 10A-170	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit

Inhalt des Kalibrier-Kits


Ordering Number	Components	Remarks	Quantity
P5 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
P5 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
P5 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
P5 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
P5 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
P5 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
53 W 009-000	Torque wrench   <i>Drehmomentschlüssel</i>	20 mm wrench size / 1.1-Nm-torque   <i>20-mm-Schlüssel / 1.1-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1



**Calibration Kit RPC-N, 75  $\Omega$  , TRL Version**

Calibration Kit

TRL Version

Ordering Number	Remarks	
P5 CK 120-170	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

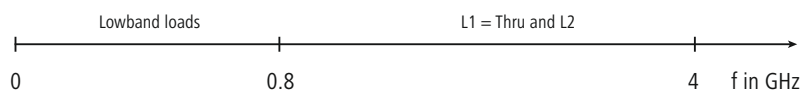
Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

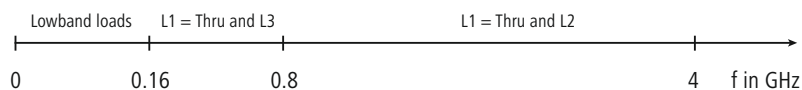
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
P5 S 101-K031	31.2 mm Air line (male - female)   <i>31.2-mm-Luftleitung (Stecker - Kuppler)</i>	L2	1
P5 S 101-K150	150 mm Air line (male - female)   <i>150-mm-Luftleitung (Stecker - Kuppler)</i>	L3	1
P5 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
P5 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
53 W 009-000	Torque wrench   <i>Drehmomentschlüssel</i>	20 mm wrench size / 1.1-Nm-torque   <i>20-mm-Schlüssel / 1.1-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



TRL/LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using TRL with lowband loads. Without lowband loads the lower band cannot be calibrated. In this calibration kit line 1 (L1) is the zero length thru connection.

TRL/LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-) bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizier-Standard genutzt. Nebenstehende Grafik zeigt zwei mögliche TRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden. In diesem Kalibrier-Kit ist die Leitung 1 (L1) eine Thru-Leitung mit Länge Null.

## RPC-TNC Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≤ 0.50 dB ≤ 1.00 dB	DC to ≤ 4 > 4 to ≤ 18
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 3.5° ≤ 8.0°	DC to ≤ 4 > 4 to ≤ 18
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≤ 0.50 dB ≤ 1.00 dB	DC to ≤ 4 > 4 to ≤ 18
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 1.0° ≤ 7.0°	DC to ≤ 4 > 4 to ≤ 18
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≥ 35 dB ≥ 25 dB	DC to ≤ 4 > 4 to ≤ 18
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.50 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 0.5 W (0° to 50° C)	DC to 18
Adaptors   <i>Adapter</i>	Return Loss   <i>Rückflusdämpfung</i>	≥ 30 dB ≥ 20 dB	DC to ≤ 4 > 4 to ≤ 18
Adaptors   <i>Adapter</i> (RPC-N/RPC-TNC)	Return Loss   <i>Rückflusdämpfung</i>	≥ 30 dB ≥ 20 dB	DC to ≤ 4 > 4 to ≤ 18

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit RPC-TNC, Full Version

Calibration Kit RPC-TNC

Full Version

Ordering Number	Remarks	
06 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
06 S 150-C10 S3	Termination (male)   <i>Abschlusswiderstand (Stecker)</i>		2
06 K 150-C10 S3	Termination (female)   <i>Abschlusswiderstand (Kuppler)</i>		2
06 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
06 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
06 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
06 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
06 S 121-S20 S3	Adaptor (RPC-TNC male - male)   <i>Adapter (RPC-TNC Stecker - Stecker)</i>		1
06 K 121-K20 S3	Adaptor (RPC-TNC female - female)   <i>Adapter (RPC-TNC Kuppler - Kuppler)</i>		1
05 S 106-S20 S3	Adaptor (RPC-N, 50 $\Omega$ male - RPC-TNC male)   <i>Adapter (RPC-N, 50 <math>\Omega</math> Stecker - RPC-TNC Stecker)</i>		1
05 K 106-K20 S3	Adaptor (RPC-N, 50 $\Omega$ female - RPC-TNC female)   <i>Adapter (RPC-N, 50 <math>\Omega</math> Kuppler - RPC-TNC Kuppler)</i>		1
06 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	15 mm wrench size / 55 Ncm torque   <i>15-mm-Schlüssel / 55 Ncm Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-TNC, Industrial Version

Calibration Kit RPC-TNC

Industrial Version

Ordering Number	Remarks	
06 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
06 S 150-C10 S3	Termination (male)   <i>Abschlusswiderstand (Stecker)</i>		1
06 K 150-C10 S3	Termination (female)   <i>Abschlusswiderstand (Kuppler)</i>		1
06 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
06 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
06 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
06 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
06 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	15 mm wrench size / 55 Ncm torque   <i>15-mm-Schlüssel / 55 Ncm Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1



## RPC-7 Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	$\leq 0.10$ dB $\leq 0.15$ dB	DC to $\leq 4$ > 4 to $\leq 18$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 1.2^\circ$ $\leq 2.5^\circ$	DC to $\leq 4$ > 4 to $\leq 18$
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	$\leq 0.07$ dB $\leq 0.12$ dB	DC to $\leq 4$ > 4 to $\leq 18$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 0.7^\circ$ $\leq 1.5^\circ$	DC to $\leq 4$ > 4 to $\leq 18$
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 45$ dB $\geq 32$ dB	DC to $\leq 4$ > 4 to $\leq 18$
	Resistance   <i>Gleichstrom-Widerstand</i>	$50 \Omega \pm 0.50 \Omega$	DC
	Power Handling   <i>Nennleistung</i>	$\leq 0.5$ W (0° to 50° C)	DC to 18
Sliding loads <sup>2</sup>   <i>Gleitlast</i>	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 40$ dB	$\geq 2$ to $\leq 18$
Precision air lines <sup>3</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 45$ dB $\geq 40$ dB	$\geq 0.3$ to $\leq 4$ > 4 to $\leq 18$
	Characteristic Impedance   <i>Wellenwiderstand</i>	$50 \Omega \pm 0.15 \Omega$	$\geq 0.3$ to $\leq 18$

1. The specification for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The specification for the sliding load termination include the quality of the air line portions within the sliding load combined with the effective stability of the sliding element.

3. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to the skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

2. Die Spezifikationen für die Gleitlast-Abschlüsse beziehen sich auf die Güte des Luftleitungs-Abschnitts in Verbindung mit der Reproduzierbarkeit des verschiebbaren Gleitlast-Elements.

3. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusssdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des Skin-Effektes frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den in jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit RPC-7, Full Version

Calibration Kit

Full Version

Ordering Number	Remarks	
07 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
07 P 12L-000 S3	Open circuit   <i>Leerlauf</i>		1
07 P 12S-000 S3	Open circuit   <i>Leerlauf</i>		1
07 P 150-C10 S3	Broadband load   <i>Breitband-Last</i>		2
07 P 150-G300	Sliding load   <i>Gleitlast</i>		1
07 W 031-000	Collet extractor   <i>Demontage-Werkzeug</i>	to remove center conductor collets   <i>zum Entfernen des Innenleiter-Kontaktes</i>	1
07 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	19 mm wrench size / 1.36 Nm torque   <i>19-mm-Schlüssel / 1.36-Nm-Drehmoment</i>	1
07 W 001-000	Gauge incl. Gauge Block   <i>Messuhr inkl. Kalibrierblock</i>	to gauge connectors   <i>für Vermessung von Steckverbindern</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-7, Industrial Version

Calibration Kit

Industrial Version

Ordering Number	Remarks	
07 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit

Inhalt des Kalibrier-Kits


Ordering Number	Components	Remarks	Quantity
07 P 12L-000 S3	Open circuit   <i>Leerlauf</i>		1
07 P 12S-000 S3	Short circuit   <i>Kurzschluss</i>		1
07 P 150-C10 S3	Broadband load   <i>Breitband-Last</i>		1
07 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	19 mm wrench size / 1.36 Nm torque   <i>19-mm-Schlüssel / 1.36-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1



## Calibration Kit RPC-7, LRL Version

Calibration Kit

LRL Version

Ordering Number	Remarks	
07 CK 120-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

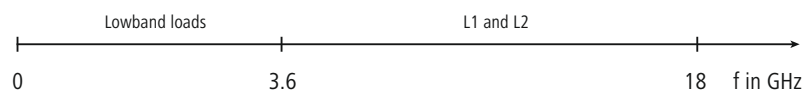
Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
07 P 101-P034	34 mm Air line   <i>34-mm-Luftleitung</i>	L1	1
07 P 101-P041	41 mm Air line   <i>41-mm-Luftleitung</i>	L2	1
07 P 101-P068	68 mm Air line   <i>68-mm-Luftleitung</i>	L3	1
07 P 12S-000 S3	Short circuit   <i>Kurzschluss</i>	Reflect standard   <i>Reflexions-Norm</i>	1
07 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	19 mm wrench size / 1.36 Nm torque   <i>19-mm-Schlüssel / 1.36-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using LRL with lowband loads. Without lowband loads the lower band cannot be calibrated.

LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-)bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizier-Standard genutzt. Nebenstehende Grafik zeigt zwei mögliche LRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden.

## RPC-SP, Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.15 dB ≤ 0.20 dB	DC to ≤ 4 > 4 to ≤ 22
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 2.5° ≤ 5.0°	DC to ≤ 4 > 4 to ≤ 22
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.10 dB ≤ 0.15 dB	DC to ≤ 4 > 4 to ≤ 22
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 2.0° ≤ 4.5°	DC to ≤ 4 > 4 to ≤ 22
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 34 dB ≥ 26 dB ≥ 23 dB	DC to ≤ 4 > 4 to ≤ 18 > 18 to ≤ 22
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.50 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 0.5 W (0° to 50° C)	DC to 22
Precision air lines <sup>2</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 36 dB ≥ 32 dB	≥ 0.2 to ≤ 4 > 4 to ≤ 22
	Characteristic Impedance   <i>Wellenwiderstand</i>	50 Ω ± 0.70 Ω	≥ 0.2 to ≤ 22
Adaptors   <i>Adapter</i> (RPC-3.50/RPC-SP)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 34 dB ≥ 26 dB	DC to ≤ 4 > 4 to ≤ 22
Adaptors   <i>Adapter</i> (RPC-7/RPC-SP)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 34 dB ≥ 26 dB	DC to ≤ 4 > 4 to ≤ 18
Adaptors   <i>Adapter</i> (RPC-3.50/RPC-7)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 36 dB ≥ 28 dB	DC to ≤ 4 > 4 to ≤ 18

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

2. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusssdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des "Skin-Effekts" frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit RPC-SP, Full Version

Calibration Kit RPC-SP

Full Version

Ordering Number	Remarks	
10 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
10 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
10 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
10 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
10 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
10 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
10 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
07 P 110-S20 S3	Adaptor (RPC-7 - RPC-SP male)   <i>Adapter (RPC-7 - RPC-SP Stecker)</i>		1
07 P 110-K20 S3	Adaptor (RPC-7 - RPC-SP female)   <i>Adapter (RPC-7 - RPC-SP Kuppler)</i>		1
03 K 110-S21 S3	Adaptor (RPC-3.50 female - RPC-SP male)   <i>Adapter (RPC-3.50 Kuppler - RPC-SP Stecker)</i>		1
03 K 110-K21 S3	Adaptor (RPC-3.50 female - RPC-SP female)   <i>Adapter (RPC-3.50 Kuppler - RPC-SP Kuppler)</i>		1
03 S 110-S21 S3	Adaptor (RPC-3.50 male - RPC-SP male)   <i>Adapter (RPC-3.50 Stecker - RPC-SP Stecker)</i>		1
03 S 110-K21 S3	Adaptor (RPC-3.50 male - RPC-SP female)   <i>Adapter (RPC-3.50 Stecker - RPC-SP Kuppler)</i>		1
03 S 107-P20 S3	Adaptor (RPC-3.50 male - RPC-7)   <i>Adapter (RPC-3.50 Stecker - RPC-7)</i>		1
03 K 107-P20 S3	Adaptor (RPC-3.50 female - RPC-7)   <i>Adapter (RPC-3.50 Kuppler - RPC-7)</i>		1
07 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	19 mm wrench size / 1.36 Nm torque   <i>19-mm-Schlüssel / 1.36 Nm Drehmoment</i>	1
10 Z 001-S00 S	Coupling Nut with male thread   <i>Überwurfmutter mit Steckergewinde</i>	11/16-24 UNEF-2A thread   <i>11/16-24 UNEF-2A Gewinde</i>	2
10 Z 001-K00 S	Coupling Nut with female thread   <i>Überwurfmutter mit Kupplergewinde</i>	11/16-24 UNEF-2B thread   <i>11/16-24 UNEF-2B Gewinde</i>	2
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-SP, TRL Version

Calibration Kit RPC-SP

TRL Version

Ordering Number	Remarks	
10 CK 120-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

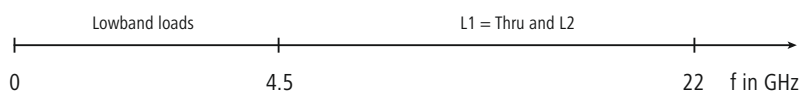
Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

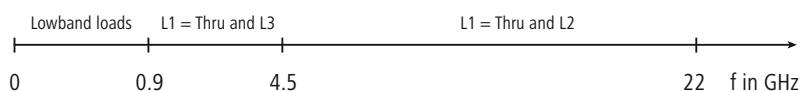
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
10 S 101-K005	5.6 mm Air line (male - female)   <i>5.6-mm-Luftleitung (Stecker - Kuppler)</i>	L2	1
10 S 101-K027	27.7 mm Air line (male - female)   <i>27.7-mm-Luftleitung (Stecker - Kuppler)</i>	L3	1
10 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
10 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
10 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>	may be used as lowband load   <i>auch als Niedrigfrequenz-Lastabschluss einsetzbar</i>	1
10 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>	may be used as lowband load   <i>auch als Niedrigfrequenz-Lastabschluss einsetzbar</i>	1
03 K 110-S21 S3	Adaptor (RPC-3.50 female - RPC-SP male)   <i>Adapter (RPC-3.50 Kuppler - RPC-SP Stecker)</i>		1
03 K 110-K21 S3	Adaptor (RPC-3.50 female - RPC-SP female)   <i>Adapter (RPC-3.50 Kuppler - RPC-SP Kuppler)</i>		1
03 S 110-S21 S3	Adaptor (RPC-3.50 male - RPC-SP male)   <i>Adapter (RPC-3.50 Stecker - RPC-SP Stecker)</i>		1
03 S 110-K21 S3	Adaptor (RPC-3.50 male - RPC-SP female)   <i>Adapter (RPC-3.50 Stecker - RPC-SP Kuppler)</i>		1
07 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	19 mm wrench size / 1.36 Nm torque   <i>19-mm-Schlüssel / 1.36 Nm Drehmoment</i>	1
10 Z 001-S00 S	Coupling Nut with male thread   <i>Überwurfmutter mit Steckergewinde</i>	11/16-24 UNEF-2A thread   <i>11/16-24 UNEF-2A Gewinde</i>	2
10 Z 001-K00 S	Coupling Nut with female thread   <i>Überwurfmutter mit Kupplergewinde</i>	11/16-24 UNEF-2B thread   <i>11/16-24 UNEF-2B Gewinde</i>	2
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C, R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



TRL/LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using TRL with lowband loads. Without lowband loads the lower band cannot be calibrated. In this calibration kit line 1 (L1) is the zero length thru connection.

*TRL/LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-) bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizier-Standard genutzt. Nebestehende Grafik zeigt zwei mögliche TRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden.*

## RPC-3.50, Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≤ 0.10 dB ≤ 0.20 dB	DC to ≤ 4 > 4 to ≤ 26.5
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 1.0° ≤ 2.0°	DC to ≤ 4 > 4 to ≤ 26.5
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≤ 0.10 dB ≤ 0.15 dB	DC to ≤ 4 > 4 to ≤ 26.5
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 1.2° ≤ 2.0°	DC to ≤ 4 > 4 to ≤ 26.5
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≥ 40 dB ≥ 30 dB	DC to ≤ 4 > 4 to ≤ 26.5
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.25 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 0.5 W (0° to 50° C)	DC to 26.5
Sliding loads <sup>2</sup>   <i>Gleitlast</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≥ 26.4 dB ≥ 32 dB	≥ 2 to ≤ 4 > 4 to ≤ 26.5
Precision air lines <sup>3</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusdämpfung</i>	≥ 40 dB ≥ 35 dB	≥ 0.3 to ≤ 4 > 4 to ≤ 26.5
	Characteristic Impedance   <i>Wellenwiderstand</i>	50 Ω ± 0.35 Ω	≥ 0.3 to ≤ 26.5
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusdämpfung</i>	≥ 34 dB ≥ 30 dB	DC to ≤ 4 > 4 to ≤ 26.5
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	±0.12 mm (±3.8° at 26.5 GHz)	DC to 26.5

1. The specification for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The specification for the sliding load termination include the quality of the air line portions within the sliding load combined with the effective stability of the sliding element.

3. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to the skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

2. Die Spezifikationen für die Gleitlast-Abschlüsse beziehen sich auf die Güte des Luftleitungs-Abschnitts in Verbindung mit der Reproduzierbarkeit des verschiebbaren Gleitlast-Elements.


3. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des Skin-Effektes frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

**Calibration Kit RPC-3.50, Full Version**

Calibration Kit RPC-3.50

Full Version

Ordering Number	Remarks	
03 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
03 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
03 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
03 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
03 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
03 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		2
03 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		2
03 S 150-G300	Sliding load (male)   <i>Gleitlast (Stecker)</i>		1
03 K 150-G300	Sliding load (female)   <i>Gleitlast (Kuppler)</i>		1
03 S 121-S20 S3	Adaptor (RPC-3.50 male - male)   <i>Adapter (RPC-3.50 Stecker - Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
03 K 121-K20 S3	Adaptor (RPC-3.50 female - female)   <i>Adapter (RPC-3.50 Kuppler - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
03 W 00K-000	Gauge (female) incl. Gauge Block   <i>Messuhr (Kuppler) incl. Kalibrierblock</i>	to gauge female connectors   <i>für Vermessung von Steckverbindern (Kuppler)</i>	1
03 W 00S-000	Gauge (male) incl. Gauge Block   <i>Messuhr (Stecker) incl. Kalibrierblock</i>	to gauge male connectors   <i>für Vermessung von Steckverbindern (Stecker)</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-3.50, Industrial Version

Calibration Kit RPC-3.50

Industrial Version

Ordering Number	Remarks	
03 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit

Inhalt des Kalibrier-Kits


Ordering Number	Components	Remarks	Quantity
03 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
03 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
03 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
03 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
03 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
03 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1



**Calibration Kit RPC-3.50, LRL Version**

Calibration Kit RPC-3.50

LRL Version

Ordering Number	Remarks	
03 CK 120-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

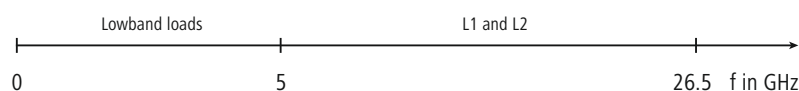
*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit

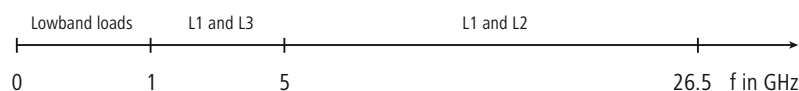
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
03 S 101-K015	15 mm Air line (male - female)   <i>15-mm-Luftleitung (Stecker - Kuppler)</i>	L1	1
03 S 101-K020	20 mm Air line (male - female)   <i>20-mm-Luftleitung (Stecker - Kuppler)</i>	L2	1
03 S 101-K038	38.5 mm Air line (male - female)   <i>38.5-mm-Luftleitung (Stecker - Kuppler)</i>	L3	1
03 S 12S-001 D3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
03 K 12S-001 D3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Disk verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C, R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using LRL with lowband loads. Without lowband loads the lower band cannot be calibrated.

*LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-) bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizier-Standard genutzt. Nebenstehende Grafik zeigt zwei mögliche LRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden.*

## RPC-2.92, Calibration Standards

## Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≤ 0.10 dB ≤ 0.20 dB	DC to ≤ 4 > 4 to ≤ 40
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 1.0° ≤ 2.0°	DC to ≤ 4 > 4 to ≤ 40
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≤ 0.10 dB ≤ 0.20 dB	DC to ≤ 4 > 4 to ≤ 40
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 1.0° ≤ 2.0°	DC to ≤ 4 > 4 to ≤ 40
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≥ 42 dB ≥ 30 dB	DC to ≤ 4 > 4 to ≤ 40
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.25 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 0.5 W (0° to 50° C)	DC to 40
Sliding loads <sup>2</sup>   <i>Gleitlast</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	≥ 28 dB ≥ 32 dB	≥ 4 to ≤ 8 ≥ 8 to ≤ 40
	Return Loss   <i>Rückflusdämpfung</i>	≥ 38 dB ≥ 30 dB	≥ 0.3 to ≤ 4 > 4 to ≤ 40
Precision air lines <sup>3</sup>   <i>Präzisions-Luftleitungen</i>	Characteristic Impedance   <i>Wellenwiederstand</i>	50 Ω ± 0.40 Ω	≥ 0.3 to ≤ 40
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusdämpfung</i>	≥ 32 dB ≥ 25 dB	DC to ≤ 4 > 4 to ≤ 40
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	±0.12 mm (±5.8° at 40 GHz)	DC to 40

1. The specification for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The specification for the sliding load termination include the quality of the air line portions within the sliding load combined with the effective stability of the sliding element.

3. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to the skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

2. Die Spezifikationen für die Gleitlast-Abschlüsse beziehen sich auf die Güte des Luftleitungs-Abschnitts in Verbindung mit der Reproduzierbarkeit des verschiebbaren Gleitlast-Elements.


3. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des Skin-Effektes frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

**Calibration Kit RPC-2.92, Full Version**

Calibration Kit RPC-2.92

Full Version

Ordering Number	Remarks	
02 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
02 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
02 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
02 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
02 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
02 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		2
02 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		2
02 S 150-G300	Sliding loads (male)   <i>Gleitlast (Stecker)</i>		1
02 K 150-G300	Sliding loads (female)   <i>Gleitlast (Kuppler)</i>		1
02 S 121-S20 S3	Adaptor (RPC-2.92 male - male)   <i>Adapter (RPC-2.92 Stecker - Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
02 K 121-K20 S3	Adaptor (RPC-2.92 female - female)   <i>Adapter (RPC-2.92 Kuppler - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
03 W 00K-000	Gauge (female) incl. Gauge Block   <i>Messuhr (Kuppler) incl. Kalibrierblock</i>	to gauge female connectors   <i>für Vermessung von Steckverbindern (Kuppler)</i>	1
03 W 00S-000	Gauge (male) incl. Gauge Block   <i>Messuhr (Stecker) incl. Kalibrierblock</i>	to gauge male connectors   <i>für Vermessung von Steckverbindern (Stecker)</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-2.92, Industrial Version

Calibration Kit RPC-2.92

Industrial Version

Ordering Number	Remarks	
02 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
02 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
02 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
02 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
02 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
02 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
02 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-2.92, LRL Version

Calibration Kit RPC-2.92

LRL Version

Ordering Number	Remarks	
02 CK 120-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

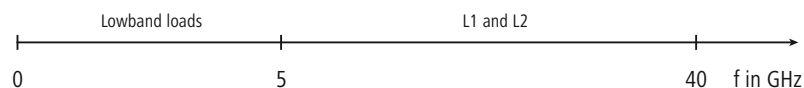
Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

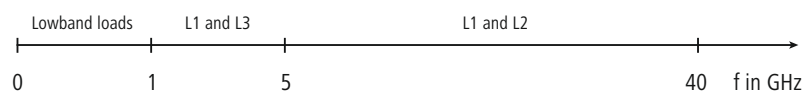
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
02 S 101-K015	15 mm Air line (male - female)   <i>15-mm-Luftleitung (Stecker - Kuppler)</i>	L1	1
02 S 101-K018	18.3 mm Air line (male - female)   <i>18.3-mm-Luftleitung (Stecker - Kuppler)</i>	L2	1
02 S 101-K040	40 mm Air line (male - female)   <i>40-mm-Luftleitung (Stecker - Kuppler)</i>	L3	1
02 S 12S-001 D3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
02 K 12S-001 D3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C, R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using LRL with lowband loads. Without lowband loads the lower band cannot be calibrated.

LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-) bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizierungs-Standard genutzt. Nebenstehende Grafik zeigt zwei mögliche LRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden.

## RPC-2.40, Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.15 dB ≤ 0.30 dB	DC to ≤ 4 > 4 to ≤ 50
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 2.0° ≤ 6.0°	DC to ≤ 4 > 4 to ≤ 50
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.15 dB ≤ 0.25 dB	DC to ≤ 4 > 4 to ≤ 50
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 1.5° ≤ 4.5°	DC to ≤ 4 > 4 to ≤ 50
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 36 dB ≥ 30 dB ≥ 26 dB ≥ 22 dB	DC to ≤ 4 >4 to ≤ 20 >20 to ≤ 26.5 >26.5 to ≤ 50
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.25 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 0.5 W (0° to 50° C)	DC to 50
Precision air lines <sup>2</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 36 dB ≥ 26 dB	≥ 0.4 to ≤ 4 > 4 to ≤ 50
	Characteristic Impedance   <i>Wellenwiderstand</i>	50 Ω ± 0.95 Ω	≥ 0.4 to ≤ 50
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 30 dB ≥ 17 dB	DC to ≤ 4 > 4 to ≤ 50
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	±0.15 mm (±9° at 50 GHz)	DC to 50

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).


2. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusssdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des "Skin-Effekts" frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit RPC-2.40, Full Version

Calibration Kit RPC-2.40

Full Version

Ordering Number	Remarks	
09 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
09 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
09 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
09 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
09 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
09 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		2
09 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		2
09 S 121-S20 S3	Adaptor (RPC-2.40 male - male)   <i>Adapter (RPC-2.40 Stecker - Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
09 K 121-K20 S3	Adaptor (RPC-2.40 female - female)   <i>Adapter (RPC-2.40 Kuppler - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
08 W 00K-000	Gauge (female) incl. Gauge Block   <i>Messuhr (Kuppler) incl. Kalibrierblock</i>	to gauge female connectors   <i>für Vermessung von Steckverbindern (Kuppler)</i>	1
08 W 00S-000	Gauge (male) incl. Gauge Block   <i>Messuhr (Stecker) incl. Kalibrierblock</i>	to gauge male connectors   <i>für Vermessung von Steckverbindern (Stecker)</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-2.40, Industrial Version

Calibration Kit RPC-2.40

Industrial Version

Ordering Number	Remarks	
09 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit

Inhalt des Kalibrier-Kits


Ordering Number	Components	Remarks	Quantity
09 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
09 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
09 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
09 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
09 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
09 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1



**Calibration Kit RPC-2.40, LRL Version**

Calibration Kit RPC-2.40

LRL Version

Ordering Number	Remarks	
09 CK 120-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

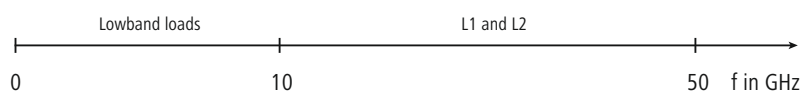
Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

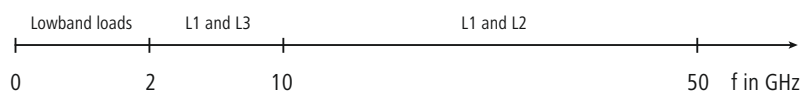
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
09 S 101-K013	13 mm Air line (male - female)   <i>13-mm-Luftleitung (Stecker - Kuppler)</i>	L1	1
09 S 101-K015	15.5 mm Air line (male - female)   <i>15.5-mm-Luftleitung (Stecker - Kuppler)</i>	L2	1
09 S 101-K025	25.5 mm Air line (male - female)   <i>25.5-mm-Luftleitung (Stecker - Kuppler)</i>	L3	1
09 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
09 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C, R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using LRL with lowband loads. Without lowband loads the lower band cannot be calibrated.

LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-) bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizier-Standard genutzt. Nebenstehende Grafik zeigt zwei mögliche LRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden.

## RPC-1.85, Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.15 dB ≤ 0.40 dB	DC to ≤ 4 > 4 to ≤ 65
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 2.5° ≤ 9.0°	DC to ≤ 4 > 4 to ≤ 65
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.15 dB ≤ 0.30 dB	DC to ≤ 4 > 4 to ≤ 65
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 2.0° ≤ 6.0°	DC to ≤ 4 > 4 to ≤ 65
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 34 dB ≥ 25 dB ≥ 22 dB ≥ 20 dB	DC to ≤ 4 >4 to ≤ 26.5 >26.5 to ≤ 50 >50 to ≤ 65
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.25 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 0.5 W (0° to 50° C)	DC to 65
Precision air lines <sup>2</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 34 dB ≥ 24 dB	≥ 0.5 to ≤ 4 > 4 to ≤ 65
	Characteristic Impedance   <i>Wellenwiderstand</i>	50 Ω ± 1.00 Ω	≥ 0.5 to ≤ 65
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 28 dB ≥ 17 dB	DC to ≤ 4 > 4 to ≤ 65
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	±0.15 mm (±11.7° at 65 GHz)	DC to 65

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).


2. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusssdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des "Skin-Effekts" frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit RPC-1.85, Full Version

Calibration Kit RPC-1.85

Full Version

Ordering Number	Remarks	
08 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
08 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
08 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
08 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
08 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
08 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		2
08 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		2
08 S 121-S20 S3	Adaptor (RPC-1.85 male - male)   <i>Adapter (RPC-1.85 Stecker - Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
08 K 121-K20 S3	Adaptor (RPC-1.85 female - female)   <i>Adapter (RPC-1.85 Kuppler - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
08 W 00K-000	Gauge (female) incl. Gauge Block   <i>Messuhr (Kuppler) incl. Kalibrierblock</i>	to gauge female connectors   <i>für Vermessung von Steckverbindern (Kuppler)</i>	1
08 W 00S-000	Gauge (male) incl. Gauge Block   <i>Messuhr (Stecker) incl. Kalibrierblock</i>	to gauge male connectors   <i>für Vermessung von Steckverbindern (Stecker)</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit RPC-1.85, Industrial Version

Calibration Kit RPC-1.85

Industrial Version

Ordering Number	Remarks	
08 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
08 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
08 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
08 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
08 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
08 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
08 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

**Calibration Kit RPC-1.85, LRL Version**

Calibration Kit RPC-1.85

LRL Version

Ordering Number	Remarks	
08 CK 120-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

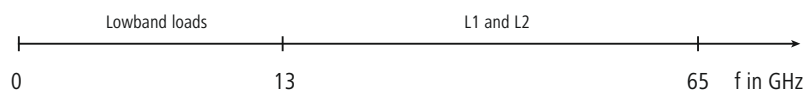
*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit

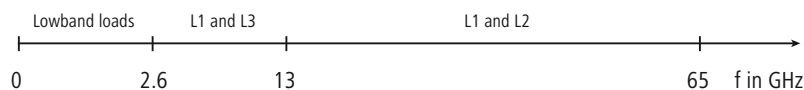
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
08 S 101-K013	13 mm Air line (male - female)   <i>13-mm-Luftleitung (Stecker - Kuppler)</i>	L1	1
08 S 101-K014	14.9 mm Air line (male - female)   <i>14.9-mm-Luftleitung (Stecker - Kuppler)</i>	L2	1
08 S 101-K022	22.6 mm Air line (male - female)   <i>22.6-mm-Luftleitung (Stecker - Kuppler)</i>	L3	1
08 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
08 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9-Nm-torque   <i>8-mm-Schlüssel / 0.9-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C, R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using LRL with lowband loads. Without lowband loads the lower band cannot be calibrated.

*LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-) bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizier-Standard genutzt. Nebstehende Grafik zeigt zwei mögliche LRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden.*

## RPC-1.00, Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	$\leq 0.20$ dB $\leq 0.50$ dB $\leq 0.75$ dB $\leq 1.00$ dB	DC to $\leq 20$ > 20 to $\leq 50$ > 50 to $\leq 75$ > 75 to $\leq 110$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 4.0^\circ$ $\leq 6.0^\circ$ $\leq 8.0^\circ$ $\leq 11.0^\circ$	DC to $\leq 20$ > 20 to $\leq 50$ > 50 to $\leq 75$ > 75 to $\leq 110$
Lowband loads   <i>Niedrigfrequenz-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 36$ dB $\geq 30$ dB $\geq 28$ dB	DC to $\leq 4$ > 4 to $\leq 18$ > 18 to $\leq 22$
	Resistance   <i>Gleichstrom-Widerstand</i>	$50 \Omega \pm 0.60 \Omega$	DC
	Power Handling   <i>Nennleistung</i>	$\leq 0.5$ W (0° to 50° C)	DC to 22
Precision air lines <sup>2</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 24$ dB $\geq 20$ dB $\geq 18$ dB $\geq 14$ dB	DC to $\leq 20$ > 20 to $\leq 50$ > 50 to $\leq 75$ > 75 to $\leq 110$
	Characteristic Impedance   <i>Wellenwiderstand</i>	$50 \Omega \pm 1.15 \Omega$	$\geq 0.8$ to $\leq 110$
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 20$ dB $\geq 17$ dB $\geq 15$ dB $\geq 12$ dB	DC to $\leq 20$ > 20 to $\leq 50$ > 50 to $\leq 75$ > 75 to $\leq 110$
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	$\pm 0.12$ mm ( $\pm 15.8^\circ$ at 110 GHz)	DC to 110

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

3. Operating Temperature: +20°C to 26°C  
Storage Temperature: -40°C to +85°C

Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

2. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusssdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des "Skin-Effekts" frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.


3. Betriebstemperatur: +20°C bis 26°C  
Lagertemperatur: -40°C bis +85°C

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit RPC-1.00, LRL Version

Calibration Kit RPC-1.00

LRL Version

Ordering Number	Remarks	
01 CK 120-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

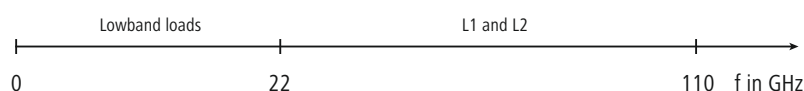
Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

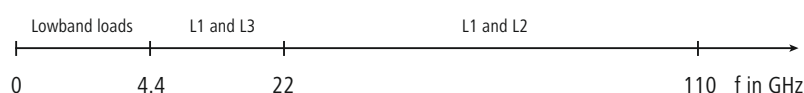
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
01 S 101-K011	11 mm Air line (male - female)   <i>11-mm-Luftleitung (Stecker - Kuppler)</i>	L1 with retractable male coupling nut   <i>L1 mit Stecker-Überwurfmutter</i>	1
01 S 101-K012	12.14 mm Air line (male - female)   <i>12.14-mm-Luftleitung (Stecker - Kuppler)</i>	L2 with retractable male coupling nut   <i>L2 mit Stecker-Überwurfmutter</i>	1
01 S 101-K016	16.68 mm Air line (male - female)   <i>16.68-mm-Luftleitung (Stecker - Kuppler)</i>	L3 with retractable male coupling nut   <i>L3 mit Stecker-Überwurfmutter</i>	1
01 S 12S-000 D3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
01 K 12S-000 D3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
01 S 150-C10 D3	Lowband load (male)   <i>Niedrigfrequenz-Last (Stecker)</i>	DC to 22 GHz	1
01 K 150-C10 D3	Lowband load (female)   <i>Niedrigfrequenz-Last (Kuppler)</i>	DC to 22 GHz	1
01 S 101-K01 D3	Adaptor (RPC-1.00 male - female)   <i>Adapter (RPC-1.00 Stecker - Kuppler)</i>	with retractable male coupling nut   <i>mit Stecker-Überwurfmutter</i>	2
01 S 101-K02 D3	Adaptor (RPC-1.00 male - female)   <i>Adapter (RPC-1.00 Stecker - Kuppler)</i>	with retractable female coupling nut   <i>mit Kuppler-Überwurfmutter</i>	2
01 S 101-S20 D3	Adaptor (RPC-1.00 male - male)   <i>Adapter (RPC-1.00 Stecker - Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
01 K 101-K20 D3	Adaptor (RPC-1.00 female - female)   <i>Adapter (RPC-1.00 Kuppler - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
01 S 101-K20 D3	Adaptor (RPC-1.00 male - female)   <i>Adapter (RPC-1.00 Stecker - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
01 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	6 mm wrench size / 0.35 Nm torque   <i>6-mm-Schlüssel / 0.35-Nm-Drehmoment</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C, R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using LRL with lowband loads. Without lowband loads the lower band cannot be calibrated.

*LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-) bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizierungs-Standard genutzt. Nebenstehende Grafik zeigt zwei mögliche LRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden.*





## 7-16, Calibration Standards

## Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.10 dB ≤ 0.15 dB	DC to ≤ 4 > 4 to ≤ 8
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 1.2° ≤ 2.0°	DC to ≤ 4 > 4 to ≤ 8
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.07 dB ≤ 0.12 dB	DC to ≤ 4 > 4 to ≤ 8
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 0.8° ≤ 1.5°	DC to ≤ 4 > 4 to ≤ 8
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 40 dB ≥ 36 dB	DC to ≤ 4 > 4 to ≤ 8
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.50 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 1.0 W (0° to 50° C)	DC to 8
Precision air lines <sup>2</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 45 dB ≥ 40 dB	≥ 0.2 to ≤ 4 > 4 to ≤ 8
	Characteristic Impedance   <i>Wellenwiderstand</i>	50 Ω ± 0.10 Ω	≥ 0.2 to ≤ 8
Adaptors   <i>Adapter</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 36 dB	DC to ≤ 4
		≥ 26 dB	> 4 to ≤ 8

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).


2. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusssdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des "Skin-Effekts" frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit 7-16, Full Version

Calibration Kit 7-16

Full Version

Ordering Number	Remarks	
60 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
60 S 12L-12S D3	Open circuit/short circuit (male)   <i>Leerlauf/Kurzschluss (Stecker)</i>	one-piece open and short   <i>Leerlauf-Kurzschluss-Komponente</i>	1
60 K 12L-12S D3	Open circuit/short circuit (female)   <i>Leerlauf/Kurzschluss (Kuppler)</i>	one-piece open and short   <i>Leerlauf-Kurzschluss-Komponente</i>	1
60 S 17R-C01 D3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
60 K 17R-C01 D3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
60 S 101-S50 N1	Adaptor (7-16 male - male)   <i>Adapter (7-16 Stecker - Stecker)</i>		1
60 K 101-K50 N1	Adaptor (7-16 female - female)   <i>Adapter (7-16 Kuppler - Kuppler)</i>		1
05 S 160-S50 D3	Adaptor (RPC-N, 50 $\Omega$ male - 7-16 male)   <i>Adapter (RPC-N, 50 <math>\Omega</math> Stecker - 7-16 Stecker)</i>		1
05 K 160-K50 D3	Adaptor (RPC-N, 50 $\Omega$ female - 7-16 female)   <i>Adapter (RPC-N, 50 <math>\Omega</math> Kuppler - 7-16 Kuppler)</i>		1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit 7-16, Industrial Version

Calibration Kit 7-16

Industrial Version

Ordering Number	Remarks	
60 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
60 S 12L-12S D3	Open circuit/short circuit (male)   <i>Leerlauf/Kurzschluss (Stecker)</i>	one-piece open and short   <i>Leerlauf-Kurzschluss-Komponente</i>	1
60 K 12L-12S D3	Open circuit/short circuit (female)   <i>Leerlauf/Kurzschluss (Kuppler)</i>	one-piece open and short   <i>Leerlauf-Kurzschluss-Komponente</i>	1
60 S 17R-C01 D3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
60 K 17R-C01 D3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit 7-16, LRL Version

Calibration Kit 7-16

LRL Version

Ordering Number	Remarks	
60 CK 120-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

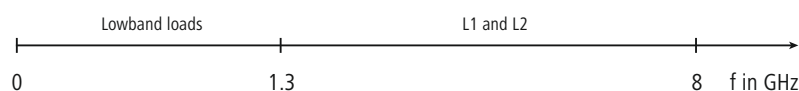
Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

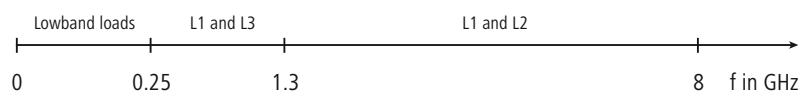
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
60 S 101-K050	50 mm Air line (male - female)   <i>50-mm-Luftleitung (Stecker - Kuppler)</i>	L1	1
60 S 101-K066	66 mm Air line (male - female)   <i>66-mm-Luftleitung (Stecker - Kuppler)</i>	L2	1
60 S 101-K150	150 mm Air line (male - female)   <i>150-mm-Luftleitung (Stecker - Kuppler)</i>	L3	1
60 S 101-K300	300 mm Air line (male - female)   <i>300-mm-Luftleitung (Stecker - Kuppler)</i>	L4 verification standard   <i>L4 Verifikations-Norm</i>	1
60 S 12S-000 D3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
60 K 12S-000 D3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C, R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using LRL with lowband loads. Without lowband loads the lower band cannot be calibrated.

LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-)bandlimitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizier-Standard genutzt. Nebenstehende Grafik zeigt zwei mögliche LRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden.

## BNC, 50 $\Omega$ Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	$\leq 0.20$ dB $\leq 0.50$ dB	DC to $\leq 2$ > 2 to $\leq 4$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 3.0^\circ$ $\leq 5.0^\circ$	DC to $\leq 2$ > 2 to $\leq 4$
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	$\leq 0.20$ dB $\leq 0.50$ dB	DC to $\leq 2$ > 2 to $\leq 4$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 2.5^\circ$ $\leq 4.0^\circ$	DC to $\leq 2$ > 2 to $\leq 4$
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	$\geq 34$ dB $\geq 30$ dB	DC to $\leq 2$ > 2 to $\leq 4$
	Resistance   <i>Gleichstrom-Widerstand</i>	$50 \Omega \pm 0.50 \Omega$	DC
	Power Handling   <i>Nennleistung</i>	$\leq 1.0$ W (0° to 50° C)	DC to 4
Adaptors   <i>Adapter</i>	Return Loss   <i>Rückflusdämpfung</i>	$\geq 34$ dB $\geq 30$ dB	DC to $\leq 2$ > 2 to $\leq 4$
Adaptors   <i>Adapter</i> (N, 50 $\Omega$ /BNC, 50 $\Omega$ )	Return Loss   <i>Rückflusdämpfung</i>	$\geq 36$ dB $\geq 30$ dB	DC to $\leq 2$ > 2 to $\leq 4$

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

**Calibration Kit BNC, 50  $\Omega$  , Full Version**Calibration Kit BNC, 50  $\Omega$ 

Full Version

Ordering Number	Remarks	
51 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
51 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
51 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
51 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
51 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
51 S 170-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		2
51 K 170-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		2
51 S 121-S20 S3	Adaptor (BNC 50 $\Omega$ male - male)   <i>Adapter (BNC 50 <math>\Omega</math> Stecker - Stecker)</i>		1
51 K 121-K20 S3	Adaptor (BNC 50 $\Omega$ female - female)   <i>Adapter (BNC 50 <math>\Omega</math> Kuppler - Kuppler)</i>		1
05 S 151-S20 S3	Adaptor (RPC-N 50 $\Omega$ male - BNC 50 $\Omega$ male)   <i>Adapter (RPC-N 50 <math>\Omega</math> Stecker - BNC 50 <math>\Omega</math> Stecker)</i>		1
05 K 151-K20 S3	Adaptor (RPC-N 50 $\Omega$ female-BNC 50 $\Omega$ female)   <i>Adapter (RPC-N 50 <math>\Omega</math> Kuppler-BNC 50 <math>\Omega</math> Kuppler)</i>		1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit BNC, 50 $\Omega$ , Industrial Version

Calibration Kit BNC, 50  $\Omega$

Industrial Version

Ordering Number	Remarks	
51 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
51 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
51 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
51 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
51 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
51 S 170-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
51 K 170-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1





F-Connectors, 75  $\Omega$  Calibration Standards

## Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male)	Return Loss   <i>Rückflusssdämpfung</i>	$\leq 0.17$ dB $\leq 0.20$ dB	DC to $\leq 3$ > 3 to $\leq 4$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 1.3^\circ$ $\leq 2.0^\circ$	DC to $\leq 3$ > 3 to $\leq 4$
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male)	Return Loss   <i>Rückflusssdämpfung</i>	$\leq 0.17$ dB $\leq 0.20$ dB	DC to $\leq 3$ > 3 to $\leq 4$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 1.0^\circ$ $\leq 1.5^\circ$	DC to $\leq 3$ > 3 to $\leq 4$
Broadband loads   <i>Breitband-Last</i> (male)	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 34$ dB $\geq 30$ dB	DC to $\leq 3$ > 3 to $\leq 4$
	Resistance   <i>Gleichstrom-Widerstand</i>	$75 \Omega \pm 0.75 \Omega$	DC
	Power Handling   <i>Nennleistung</i>	$\leq 0.5$ W (0° to 50° C)	DC to 4
Precision air lines <sup>2</sup>   <i>Präzisions-Luftleitungen</i>	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 40$ dB $\geq 35$ dB	$\geq 0.1$ to $\leq 3$ > 3 to $\leq 4$
	Characteristic Impedance   <i>Wellenwiderstand</i>	$75 \Omega \pm 0.60 \Omega$	$\geq 0.1$ to $\leq 4$
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 32$ dB $\geq 28$ dB	DC to $\leq 3$ > 3 to $\leq 4$
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	$\pm 0.20$ mm ( $\pm 1.0$ at 4 GHz)	DC to $\leq 4$
Adaptors   <i>Adapter</i> (N, 75 $\Omega$ /F)	Return Loss   <i>Rückflusssdämpfung</i>	$\geq 32$ dB $\geq 28$ dB	DC to $\leq 3$ > 3 to $\leq 4$

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

2. The characteristic impedance for the air lines is based on mechanical measurements. The return loss specification includes the connector interfaces. The minimum frequency of the air lines is based on calculations of the impedance change due to skin depth. Refer to the test report included in the kit for the exact dimensions of your precision air lines.

Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).


2. Der angegebene Wellenwiderstand für Luftleitungen basiert auf mechanischen Messungen, die Rückflusssdämpfung schließt das Steckverbinder-Interface mit ein. Die angegebene minimale Frequenz resultiert aus Berechnungen des aufgrund des "Skin-Effekts" frequenzabhängigen Wellenwiderstandes. Bitte beachten Sie den jedem Kalibrier-Kit beigelegten Testreport.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit for F-Connectors, Full Version

Calibration Kit F-Connectors

Full Version

Ordering Number	Remarks	
74 CK 100-170	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit


Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
74 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
74 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
74 S 150-C10 CS	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		2
74 S 121-S20 S3	Adaptor (F male - male)   <i>Adapter (F Stecker - Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
74 K 121-K20 S3	Adaptor (F female - female)   <i>Adapter (F Kuppler - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
P5 S 174-S20 CS	Adaptor (RPC-N 75 $\Omega$ male - F male)   <i>Adapter (RPC-N 75 <math>\Omega</math> Stecker - F Stecker)</i>		1
P5 K 174-K20 CS	Adaptor (RPC-N 75 $\Omega$ female - F female)   <i>Adapter (RPC-N 75 <math>\Omega</math> Kuppler - F Kuppler)</i>		1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit for F-Connectors, Industrial Version

Calibration Kit F-Connectors

Industrial Version

Ordering Number	Remarks	
74 CK 10A-170	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

*Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.*

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
74 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
74 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
74 S 150-C10 CS	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

**Calibration Kit for F-Connectors, TRL Version**

Calibration Kit F-Connectors

TRL Version

Ordering Number	Remarks	
74 CK 120-170	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

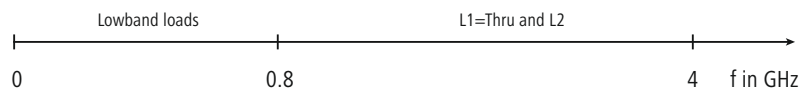
Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

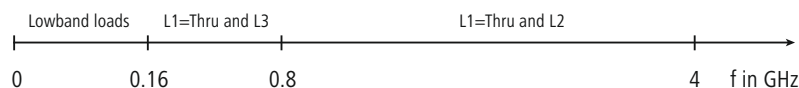
Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
74 S 101-K031	31.2 mm Air line (male - female)   <i>31.2-mm-Luftleitung (Stecker - Kuppler)</i>	L2	1
74 S 101-K150	150 mm Air line (male - female)   <i>150-mm-Luftleitung (Stecker - Kuppler)</i>	L3	1
74 S 101-K100	100 mm Air line (male - female)   <i>100-mm-Luftleitung (Stecker - Kuppler)</i>	L4 verification standard   <i>L4 Verifikations-Norm</i>	1
74 S 12S-001 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
74 K 12S-001 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	Reflect standard   <i>Reflexions-Norm</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C, R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

Frequency Range (2 Bands)



Frequency Range (3 Bands)



TRL/LRL calibrations without lowband loads are band limited. There are many different possibilities to calibrate a VNA depending from the line length and the number of lines used during the calibration procedure. If two lines are used the third line can be used as verification standard. The graph besides shows two possibilities using TRL with lowband loads. Without lowband loads the lower band cannot be calibrated. In this calibration kit line 1 (L1) is the zero length thru connection.

TRL/LRL-Kalibrierungen ohne Niederfrequenz-Lastabschlüsse sind (frequenz-) band-limitiert. Abhängig von der Länge und der Anzahl der bei der Kalibrierung eingesetzten Leitungen gibt es eine Reihe von Möglichkeiten, vektorielle Netzwerk-Analysatoren zu kalibrieren. Bei Verwendung von zwei Leitungen wird die dritte Leitung als Verifizier-Standard genutzt. Nebenstehende Grafik zeigt zwei mögliche TRL-Kalibrierungen mit Niederband-Lastabschlüssen. Ohne diese Abschlüsse kann der untere Frequenzbereich nicht kalibriert werden. In diesem Kalibrier-Kit ist die Leitung 1 (L1) eine Thru-Leitung mit Länge Null.

## QMA Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.15 dB ≤ 0.25 dB	DC to ≤ 4 > 4 to ≤ 18
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 2.5° ≤ 4.5°	DC to ≤ 4 > 4 to ≤ 18
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.15 dB ≤ 0.20 dB	DC to ≤ 4 > 4 to ≤ 18
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 2.2° ≤ 4.0°	DC to ≤ 4 > 4 to ≤ 18
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 36 dB ≥ 26 dB	DC to ≤ 4 > 4 to ≤ 18
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.50 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 0.5 W (0° to 50° C)	DC to 18
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 32 dB ≥ 24 dB	DC to ≤ 4 > 4 to ≤ 18
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	±0.25 mm (±5.4° at 18 GHz)	DC to 18
Adaptors, phase matched   <i>Adapter, phasenangepasst</i> (RPC-3.50/QMA)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 32 dB ≥ 24 dB	DC to ≤ 4 > 4 to ≤ 18
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	±0.25 mm (±5.4° at 18 GHz)	DC to 18

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).


Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit QMA, Full Version

Calibration Kit

Full Version

Ordering Number	Remarks	
28 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Test & Measurement  
Kits

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
28 S 12L-000 N3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
28 K 12L-000 N3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
28 S 12S-000 N3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
28 K 12S-000 N3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
28 S 150-C10 N3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		2
28 K 150-C10 N3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		2
03 S 128-S20 N3	Adaptor (RPC-3.50 male - QMA male)   <i>Adapter (RPC-3.50 Stecker - QMA Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
03 S 128-K20 N3	Adaptor (RPC-3.50 male - QMA female)   <i>Adapter (RPC-3.50 Stecker - QMA Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
03 K 128-S20 N3	Adaptor (RPC-3.50 female - QMA male)   <i>Adapter (RPC-3.50 Kuppler - QMA Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
03 K 128-K20 N3	Adaptor (RPC-3.50 female - QMA female)   <i>Adapter (RPC-3.50 Kuppler - QMA Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
28 S 121-S20 N3	Adaptor (QMA male-male)   <i>Adapter (QMA Stecker-Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
28 S 121-K20 N3	Adaptor (QMA male-female)   <i>Adapter (QMA Stecker-Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
28 K 121-K20 N3	Adaptor (QMA female-female)   <i>Adapter (QMA Kuppler-Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## SMP Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.25 dB ≤ 0.40 dB	DC to ≤ 4 > 4 to ≤ 18
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 3.0° ≤ 5.0°	DC to ≤ 4 > 4 to ≤ 18
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.20 dB ≤ 0.30 dB	DC to ≤ 4 > 4 to ≤ 18
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 2.5° ≤ 4.0°	DC to ≤ 4 > 4 to ≤ 18
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 26 dB ≥ 23 dB	DC to ≤ 4 > 4 to ≤ 18
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.50 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 0.5 W (0° to 50° C)	DC to 18
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 26 dB ≥ 20 dB	DC to ≤ 4 > 4 to ≤ 18
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	±0.20 mm (±4.3° at 18 GHz)	DC to 18
Adaptors RPC-2.92 / SMP   <i>Adapter RPC-2.92 / SMP</i>	Return Loss   <i>Rückflusssdämpfung</i>	≥ 32 dB	DC to ≤ 12
		≥ 26 dB	> 12 to ≤ 26.5
		≥ 21 dB	> 26.5 to ≤ 40

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

Rosenberger connectors fulfill in principle the indicated data of the Technical Characteristics. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.



## Calibration Kit SMP, Industrial Version

Calibration Kit

Industrial Version

Ordering Number	Remarks	
19 CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
19 S 10L-000 D3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
19 K 10L-000 D3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
19 S 10S-000 D3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
19 K 10S-000 D3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
19 S 150-C10 D3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
19 K 150-C10 D3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
19 S 101-S20 D3	Adaptor (SMP male - male)   <i>Adapter (SMP Stecker - Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
19 K 101-K20 D3	Adaptor (SMP female - female)   <i>Adapter (SMP Kuppler - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
19 S 101-K20 D3	Adaptor (SMP male - female)   <i>Adapter (SMP Stecker - Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
02 S 119-S00 E3	Adaptor (RPC-2.92 male - SMP male)   <i>Adapter (RPC-2.92 Stecker - SMP Stecker)</i>		1
02 K 119-K00 E3	Adaptor (RPC-2.92 female - SMP female)   <i>Adapter (RPC-2.92 Kuppler - SMP Kuppler)</i>		1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## SnapN Calibration Standards

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.10 dB ≤ 0.20 dB	DC to ≤ 4 > 4 to ≤ 11
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 1.5° ≤ 3.0°	DC to ≤ 4 > 4 to ≤ 11
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≤ 0.10 dB ≤ 0.15 dB	DC to ≤ 4 > 4 to ≤ 11
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	≤ 1.2° ≤ 2.5°	DC to ≤ 4 > 4 to ≤ 11
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 40 dB ≥ 30 dB	DC to ≤ 4 > 4 to ≤ 11
	Resistance   <i>Gleichstrom-Widerstand</i>	50 Ω ± 0.50 Ω	DC
	Power Handling   <i>Nennleistung</i>	≤ 0.5 W (0° to 50° C)	DC to 11
Adaptors, phase matched   <i>Adapter, phasenangepasst</i> (SnapN/RPC-N 50 Ω)	Return Loss   <i>Rückflusssdämpfung</i>	≥ 36 dB ≥ 27 dB	DC to ≤ 4 > 4 to ≤ 11
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	± 0.2 mm (± 2.7° at 11 GHz)	DC to 11

1. The specifications for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.


1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit SnapN, Industrial Version

Calibration Kit SnapN

Industrial Version

Ordering Number	Remarks	
53Q CK 10A-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
53 QS 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>		1
53 QK 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>		1
53 QS 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>		1
53 QK 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>		1
53 QS 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>		1
53 QK 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>		1
53 QS 105-K20 S3	Adaptor (SnapN male - RPC-N 50 $\Omega$ female)   <i>Adapter (SnapN Stecker - RPC-N 50<math>\Omega</math> Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
53 QK 105-S20 S3	Adaptor (SnapN female - RPC-N 50 $\Omega$ male)   <i>Adapter (SnapN Kuppler - RPC-N 50<math>\Omega</math> Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1

## Calibration Kit FAKRA-RF

### Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
Open circuits <sup>1</sup>   <i>Leerlauf</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	$\leq 0.05$ dB $\leq 0.10$ dB $\leq 0.12$ dB	DC to $\leq 1$ $> 1$ to $\leq 3$ $> 3$ to $\leq 6$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 0.5^\circ$ $\leq 1.5^\circ$ $\leq 2.2^\circ$	DC to $\leq 1$ $> 1$ to $\leq 3$ $> 3$ to $\leq 6$
Short circuits <sup>1</sup>   <i>Kurzschluss</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	$\leq 0.05$ dB $\leq 0.10$ dB $\leq 0.12$ dB	DC to $\leq 1$ $> 1$ to $\leq 3$ $> 3$ to $\leq 6$
	Deviation from Nominal Phase   <i>Nominale Phasenabweichung</i>	$\leq 0.5^\circ$ $\leq 1.2^\circ$ $\leq 1.8^\circ$	DC to $\leq 1$ $> 1$ to $\leq 3$ $> 3$ to $\leq 6$
Broadband loads   <i>Breitband-Last</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i>	$\geq 42$ dB $\geq 40$ dB $\geq 36$ dB	DC to $\leq 1$ $> 1$ to $\leq 3$ $> 3$ to $\leq 6$
	Resistance   <i>Gleichstrom-Widerstand</i>	$50\ \Omega \pm 0.50\ \Omega$	DC
	Power Handling   <i>Nennleistung</i>	$\leq 0.5$ W ( $0^\circ$ to $50^\circ$ C)	DC to 6
Adaptors, phase matched   <i>Adapter, phasenangepasst</i>	Return Loss   <i>Rückflusdämpfung</i>	$\geq 38$ dB $\geq 26$ dB $\geq 21$ dB	DC to $\leq 1$ $> 1$ to $\leq 3$ $> 3$ to $\leq 6$
	Accuracy of Electrical Length   <i>Toleranz elektrische Länge</i>	$\pm 0.4$ mm ( $\pm 2.9^\circ$ at 6 GHz)	DC to 6

1. The specification for the opens and shorts are given as allowed deviation from the nominal model as defined in the test report included in the kit.

Rosenberger connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.


1. Die Spezifikationen für Leerlauf und Kurzschluss beziehen sich auf die nominale Phasenabweichung wie im Testreport angegeben (im Kalibrier-Kit enthalten).

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Calibration Kit FAKRA-RF, Full Version

Calibration Kit

Full Version

Ordering Number	Remarks	
59 CK 100-150	Rosenberger calibration kits are delivered in stable wooden boxes including test reports.   <i>Lieferung von Kalibrier-Kits erfolgt in stabiler Holzbox einschließlich Testreport.</i>	

Please use the following part numbers for ordering single components.

Bitte folgende Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.

Contents of Calibration Kit

Inhalt des Kalibrier-Kits

Ordering Number	Components	Remarks	Quantity
03 S 12L-000 S3	Open circuit (male)   <i>Leerlauf (Stecker)</i>	RPC-3.50 Interface	1
03 K 12L-000 S3	Open circuit (female)   <i>Leerlauf (Kuppler)</i>	RPC-3.50 Interface	1
03 S 12S-000 S3	Short circuit (male)   <i>Kurzschluss (Stecker)</i>	RPC-3.50 Interface	1
03 K 12S-000 S3	Short circuit (female)   <i>Kurzschluss (Kuppler)</i>	RPC-3.50 Interface	1
03 S 150-C10 S3	Broadband load (male)   <i>Breitband-Last (Stecker)</i>	RPC-3.50 Interface	1
03 K 150-C10 S3	Broadband load (female)   <i>Breitband-Last (Kuppler)</i>	RPC-3.50 Interface	1
03 K 159-S20 S3	Adaptor (RPC-3.50 female - FAKRA RF male)   <i>Adapter (RPC-3.50 Kuppler - FAKRA HF Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
03 K 159-K20 S3	Adaptor (RPC-3.50 female - FAKRA RF female)   <i>Adapter (RPC-3.50 Kuppler - FAKRA HF Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
03 S 159-S20 S3	Adaptor (RPC-3.50 male - FAKRA RF male)   <i>Adapter (RPC-3.50 Stecker - FAKRA HF Stecker)</i>	phase matched   <i>phasenangepasst</i>	1
03 S 159-K20 S3	Adaptor (RPC-3.50 male - FAKRA RF female)   <i>Adapter (RPC-3.50 Stecker - FAKRA HF Kuppler)</i>	phase matched   <i>phasenangepasst</i>	1
03 W 021-000	Torque wrench   <i>Drehmomentschlüssel</i>	8 mm wrench size / 0.9 Nm torque   <i>8-mm-Schlüssel / 0.9 Nm Drehmoment</i>	1
59 Z 014-000 Z	Plastic housing male   <i>Kunststoff-Gehäuse Stecker</i>	Spare Housing   <i>Ersatzgehäuse</i>	10
59 Z 013-000 Z	Plastic housing female   <i>Kunststoff-Gehäuse Kuppler</i>	Spare Housing   <i>Ersatzgehäuse</i>	10
-	3 1/2" disk on request   <i>3 1/2"-Diskette auf Anfrage</i>	Disk available for the following network analyzers:   <i>Diskette verfügbar für folgende Netzwerk-Analysatoren:</i> A1: HP 8510C A2: HP 8752D/8753D W2: Anritsu 37XXXA/B R1: R&S ZVA/ZVB/ZVK/ZVM/ZVR/ZVT	1


## Verification Kit RPC-N, 50 $\Omega$

Each verification device is electrically characterized on a network analyzer measurement system. These measurements are traceable to the Physikalisch-Technische Bundesanstalt Braunschweig (PTB) through mechanical and electrical paths.

Alle Verifizier-Komponenten werden mit einem Netzwerk-Analysator elektrisch geprüft und charakterisiert. Die Messungen sind rückführbar auf Normale der Physikalisch-Technischen Bundesanstalt Braunschweig (PTB).

Verification Kit

RPC-N, 50  $\Omega$

Ordering Number	Remarks	
05 CK 200-150	Rosenberger verification kits are delivered in stable wooden boxes including test reports and network analyzer measurements.   <i>Lieferung von Verifizier-Kits erfolgt in stabiler Holzbox einschließlich Testreport und Messprotokoll.</i>	

Contents of Verification Kit

Inhalt des Verifizier-Kits

Ordering Number	Components	Quantity	Remarks
05 AS 122-K20 S3	20 dB Attenuator   <i>Dämpfungsglied</i>	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
05 AS 122-K40 S3	40 dB Attenuator   <i>Dämpfungsglied</i>	1	
05 S 101-K100	50 $\Omega$ Air line   <i>Luftleitung</i>	1	
05 S 102-K100	25 $\Omega$ Mismatch air line   <i>Fehlabschluss-Luftleitung</i>	1	

## Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
20 dB Attenuator   <i>20-dB-Dämpfungsglied</i> (male and female)	Return Loss   <i>Rückflussdämpfung</i> Return Loss   <i>Rückflussdämpfung</i> Insertion Loss   <i>Dämpfung</i> Insertion Loss   <i>Dämpfung</i>	$\geq 32$ dB $\geq 26$ dB 20 dB $\pm$ 0.30 dB 20 dB $\pm$ 0.50 dB	DC to $\leq 4$ > 4 to $\leq 18$ DC to $\leq 4$ > 4 to $\leq 18$
40 dB Attenuator   <i>40-dB-Dämpfungsglied</i> (male and female)	Return Loss   <i>Rückflussdämpfung</i> Return Loss   <i>Rückflussdämpfung</i> Insertion Loss   <i>Dämpfung</i> Insertion Loss   <i>Dämpfung</i>	$\geq 32$ dB $\geq 23$ dB 40 dB $\pm$ 0.50 dB 40 dB $\pm$ 1.00 dB	DC to $\leq 4$ > 4 to $\leq 18$ DC to $\leq 4$ > 4 to $\leq 18$
50 $\Omega$ Air line   <i>50-<math>\Omega</math>-Luftleitung</i> (male and female)	Return Loss   <i>Rückflussdämpfung</i> Return Loss   <i>Rückflussdämpfung</i> Insertion Loss   <i>Dämpfung</i> Insertion Loss   <i>Dämpfung</i>	$\geq 40$ dB $\geq 35$ dB $\leq 0.08$ dB $\leq 0.15$ dB	0.3 to $\leq 4$ > 4 to $\leq 18$ 0.04 to $\leq 4$ > 4 to $\leq 18$
	<b>50 <math>\Omega</math> Air line</b> Outer Conductor   <i>Außenleiter:</i> Diameter   <i>Durchmesser</i> Length   <i>Länge</i> Inner Conductor   <i>Innenleiter:</i> Diameter   <i>Durchmesser</i> Length   <i>Länge</i>	7.000 mm $\pm$ 0.005 mm 100.00 mm $\pm$ 0.02 mm 3.040 mm $\pm$ 0.010 mm 100.00 mm $\pm$ 0.02 mm	
25 $\Omega$ Mismatch air line   <i>25-<math>\Omega</math>-Fehlabschluss-Luftleitung</i> (male and female)	<b>25 <math>\Omega</math> Mismatch air line</b> Outer Conductor   <i>Außenleiter:</i> Diameter   <i>Durchmesser</i> Length   <i>Länge</i> Inner Conductor   <i>Innenleiter:</i> Diameter   <i>Durchmesser</i> -50 $\Omega$ Section   <i>Abschnitt</i> -25 $\Omega$ Section   <i>Abschnitt</i> Length   <i>Länge</i> -Total -25 $\Omega$ Section   <i>Abschnitt</i>	7.000 mm $\pm$ 0.005 mm 100.00 mm $\pm$ 0.02 mm 3.040 mm $\pm$ 0.010 mm 4.615 mm $\pm$ 0.010 mm 100.00 mm $\pm$ 0.02 mm 75.00 mm $\pm$ 0.05 mm	

## Verification Kit RPC-7

Each verification device is electrically characterized on a network analyzer measurement system. These measurements are traceable to the Physikalisch-Technische Bundesanstalt Braunschweig (PTB) through mechanical and electrical paths.

Alle Verifizier-Komponenten werden mit einem Netzwerk-Analysator elektrisch geprüft und charakterisiert. Die Messungen sind rückführbar auf Normale der Physikalisch-Technischen Bundesanstalt Braunschweig (PTB).

Verification Kit

RPC-7

Ordering Number	Remarks
07 CK 200-150	Rosenberger verification kits are delivered in stable wooden boxes including test reports and network analyzer measurements.   <i>Lieferung von Verifizier-Kits erfolgt in stabiler Holzbox einschließlich Testreport und Messprotokoll.</i>

Contents of Verification Kit

Inhalt des Verifizier-Kits

Ordering Number	Components	Quantity	Remarks
07 AP 122-P20 S3	20 dB Attenuator   <i>Dämpfungsglied</i>	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
07 AP 122-P40 S3	40 dB Attenuator   <i>Dämpfungsglied</i>	1	
07 P 101-P100	50 $\Omega$ Air line   <i>Luftleitung</i>	1	
07 P 102-P100	25 $\Omega$ Mismatch air line   <i>Fehlabschluss-Luftleitung</i>	1	

## Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
20 dB Attenuator   20-dB-Dämpfungsglied (male and female)	Return Loss   <i>Rückflusddämpfung</i> Return Loss   <i>Rückflusddämpfung</i> Insertion Loss   <i>Dämpfung</i> Insertion Loss   <i>Dämpfung</i>	$\geq 26$ dB $\geq 23$ dB $20 \text{ dB} \pm 0.30 \text{ dB}$ $20 \text{ dB} \pm 0.80 \text{ dB}$	DC to $\leq 4$ > 4 to $\leq 18$ DC to $\leq 4$ > 4 to $\leq 18$
40 dB Attenuator   40-dB-Dämpfungsglied (male and female)	Return Loss   <i>Rückflusddämpfung</i> Return Loss   <i>Rückflusddämpfung</i> Insertion Loss   <i>Dämpfung</i> Insertion Loss   <i>Dämpfung</i>	$\geq 26$ dB $\geq 20$ dB $40 \text{ dB} \pm 0.80 \text{ dB}$ $40 \text{ dB} \pm 1.50 \text{ dB}$	DC to $\leq 4$ > 4 to $\leq 18$ DC to $\leq 4$ > 4 to $\leq 18$
50 $\Omega$ Air line   50- $\Omega$ -Luftleitung (male and female)	Return Loss   <i>Rückflusddämpfung</i> Return Loss   <i>Rückflusddämpfung</i> Insertion Loss   <i>Dämpfung</i> Insertion Loss   <i>Dämpfung</i>	$\geq 45$ dB $\geq 40$ dB $\leq 0.08 \text{ dB}$ $\leq 0.15 \text{ dB}$	0.3 to $\leq 4$ > 4 to $\leq 18$ 0.04 to $\leq 4$ > 4 to $\leq 18$
	<b>50 <math>\Omega</math> Air line</b> Outer Conductor   <i>Außenleiter:</i> Diameter   <i>Durchmesser</i> Length   <i>Länge</i> Inner Conductor   <i>Innenleiter:</i> Diameter   <i>Durchmesser</i> Length   <i>Länge</i>	 $7.000 \text{ mm} \pm 0.005 \text{ mm}$ $100.00 \text{ mm} \pm 0.02 \text{ mm}$  $3.040 \text{ mm} \pm 0.005 \text{ mm}$ $100.00 \text{ mm} \pm 0.02 \text{ mm}$	
25 $\Omega$ Mismatch air line   25- $\Omega$ -Fehlabschluss-Luftleitung (male and female)	<b>25 <math>\Omega</math> Mismatch air line</b> Outer Conductor   <i>Außenleiter:</i> Diameter   <i>Durchmesser</i> Length   <i>Länge</i> Inner Conductor   <i>Innenleiter:</i> Diameter   <i>Durchmesser</i> -50 $\Omega$ Section   <i>Abschnitt</i> -25 $\Omega$ Section   <i>Abschnitt</i> Length   <i>Länge</i> -Total -25 $\Omega$ Section   <i>Abschnitt</i>	 $7.000 \text{ mm} \pm 0.005 \text{ mm}$ $100.00 \text{ mm} \pm 0.02 \text{ mm}$  $3.040 \text{ mm} \pm 0.005 \text{ mm}$ $4.615 \text{ mm} \pm 0.005 \text{ mm}$ $100.00 \text{ mm} \pm 0.02 \text{ mm}$ $75.00 \text{ mm} \pm 0.02 \text{ mm}$	

## Verification Kit RPC-3.50

Each verification device is electrically characterized on a network analyzer measurement system. These measurements are traceable to the Physikalisch-Technische Bundesanstalt Braunschweig (PTB) through mechanical and electrical paths.

Alle Verifizier-Komponenten werden mit einem Netzwerk-Analysator elektrisch geprüft und charakterisiert. Die Messungen sind rückführbar auf Normale der Physikalisch-Technischen Bundesanstalt Braunschweig (PTB).

Verification Kit

RPC-3.50

Ordering Number	Remarks
03 CK 200-150	Rosenberger verification kits are delivered in stable wooden boxes including test reports and network analyzer measurements.   <i>Lieferung von Verifizier-Kits erfolgt in stabiler Holzbox einschließlich Testreport und Messprotokoll.</i>

Contents of Verification Kit

Inhalt des Verifizier-Kits

Ordering Number	Components	Quantity	Remarks
03 AS 122-K20 S3	20 dB Attenuator   <i>Dämpfungsglied</i>	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
03 AS 122-K40 S3	40 dB Attenuator   <i>Dämpfungsglied</i>	1	
03 S 101-K100	50 $\Omega$ Air line   <i>Luftleitung</i>	1	
03 S 102-K100	25 $\Omega$ Mismatch air line   <i>Fehlabschluss-Luftleitung</i>	1	

## Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
20 dB Attenuator   <i>20-dB-Dämpfungsglied</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i> Return Loss   <i>Rückflusdämpfung</i> Insertion Loss   <i>Dämpfung</i> Insertion Loss   <i>Dämpfung</i>	$\geq 26$ dB $\geq 20$ dB $20 \text{ dB} \pm 0.30 \text{ dB}$ $20 \text{ dB} \pm 0.50 \text{ dB}$	DC to $\leq 4$ > 4 to $\leq 26.5$ DC to $\leq 4$ > 4 to $\leq 26.5$
40 dB Attenuator   <i>40-dB-Dämpfungsglied</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i> Return Loss   <i>Rückflusdämpfung</i> Insertion Loss   <i>Dämpfung</i> Insertion Loss   <i>Dämpfung</i>	$\geq 26$ dB $\geq 20$ dB $40 \text{ dB} \pm 0.40 \text{ dB}$ $40 \text{ dB} \pm 1.00 \text{ dB}$	DC to $\leq 4$ > 4 to $\leq 26.5$ DC to $\leq 4$ > 4 to $\leq 26.5$
50 $\Omega$ Air line   <i>50-<math>\Omega</math>-Luftleitung</i> (male and female)	Return Loss   <i>Rückflusdämpfung</i> Return Loss   <i>Rückflusdämpfung</i> Insertion Loss   <i>Dämpfung</i> Insertion Loss   <i>Dämpfung</i>	$\geq 40$ dB $\geq 35$ dB $\leq 0.15 \text{ dB}$ $\leq 0.30 \text{ dB}$	0.3 to $\leq 4$ > 4 to $\leq 26.5$ 0.04 to $\leq 4$ > 4 to $\leq 26.5$
	<b>50 <math>\Omega</math> Air line</b> Outer Conductor   <i>Außenleiter:</i> Diameter   <i>Durchmesser</i> Length   <i>Länge</i> Inner Conductor   <i>Innenleiter:</i> Diameter   <i>Durchmesser</i> Length   <i>Länge</i>	 $3.500 \text{ mm} \pm 0.005 \text{ mm}$ $100.00 \text{ mm} \pm 0.02 \text{ mm}$  $1.520 \text{ mm} \pm 0.010 \text{ mm}$ $100.00 \text{ mm} \pm 0.02 \text{ mm}$	
25 $\Omega$ Mismatch air line   <i>25-<math>\Omega</math>-Fehlabschluss-Luftleitung</i> (male and female)	<b>25 <math>\Omega</math> Mismatch air line</b> Outer Conductor   <i>Außenleiter:</i> Diameter   <i>Durchmesser</i> Length   <i>Länge</i> Inner Conductor   <i>Innenleiter:</i> Diameter   <i>Durchmesser</i> -50 $\Omega$ Section   <i>Abschnitt</i> -25 $\Omega$ Section   <i>Abschnitt</i> Length   <i>Länge</i> -Total -25 $\Omega$ Section   <i>Abschnitt</i>	 $3.500 \text{ mm} \pm 0.005 \text{ mm}$ $100.00 \text{ mm} \pm 0.02 \text{ mm}$  $1.520 \text{ mm} \pm 0.010 \text{ mm}$ $2.307 \text{ mm} \pm 0.007 \text{ mm}$ $100.00 \text{ mm} \pm 0.02 \text{ mm}$ $75.00 \text{ mm} \pm 0.050 \text{ mm}$	



## Verification Kit RPC-2.92

Each verification device is electrically characterized on a network analyzer measurement system. These measurements are traceable to the Physikalisch-Technische Bundesanstalt Braunschweig (PTB) through mechanical and electrical paths.

Alle Verifizier-Komponenten werden mit einem Netzwerk-Analysator elektrisch geprüft und charakterisiert. Die Messungen sind rückführbar auf Normale der Physikalisch-Technischen Bundesanstalt Braunschweig (PTB).

Verification Kit

RPC-2.92

Ordering Number	Remarks
02 CK 200-150	Rosenberger verification kits are delivered in stable wooden boxes including test reports and network analyzer measurements.   <i>Lieferung von Verifizier-Kits erfolgt in stabiler Holzbox einschließlich Testreport und Messprotokoll.</i>

Contents of Verification Kit

Inhalt des Verifizier-Kits

Ordering Number	Components	Quantity	Remarks
02 AS 122-K20 S3	20 dB Attenuator   <i>Dämpfungsglied</i>	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
02 AS 122-K40 S3	40 dB Attenuator   <i>Dämpfungsglied</i>	1	
02 S 101-K075	50 $\Omega$ Air line   <i>Luftleitung</i>	1	
02 S 102-K075	25 $\Omega$ Mismatch air line   <i>Fehlabschluss-Luftleitung</i>	1	


## Electrical Specifications

Devices   Komponenten	Parameters   Parameter	Specifications   Spezifikation	Frequency range in GHz   Frequenzbereich in GHz
20 dB Attenuator   20-dB-Dämpfungsglied (male and female)	Return Loss   <i>Rückflusddämpfung</i>	$\geq 32$ dB	DC to $\leq 4$
	Return Loss   <i>Rückflusddämpfung</i>	$\geq 20.1$ dB	$> 4$ to $\leq 40$
	Insertion Loss   <i>Dämpfung</i>	20 dB $\pm$ 0.30 dB	DC to $\leq 40$
40 dB Attenuator   40-dB-Dämpfungsglied (male and female)	Return Loss   <i>Rückflusddämpfung</i>	$\geq 32$ dB	DC to $\leq 4$
	Return Loss   <i>Rückflusddämpfung</i>	$\geq 20.1$ dB	$> 4$ to $\leq 40$
	Insertion Loss   <i>Dämpfung</i>	40 dB $\pm$ 0.40 dB	DC to $\leq 4$
	Insertion Loss   <i>Dämpfung</i>	40 dB $\pm$ 0.80 dB	$> 4$ to $\leq 40$
50 $\Omega$ Air line 50- $\Omega$ -Luftleitung (male and female)	Return Loss   <i>Rückflusddämpfung</i>	$\geq 38$ dB	0.3 to $\leq 4$
	Return Loss   <i>Rückflusddämpfung</i>	$\geq 30$ dB	$> 4$ to $\leq 40$
	Insertion Loss   <i>Dämpfung</i>	$\leq 0.38$ dB	0.3 to $\leq 40$
	<b>50 <math>\Omega</math> Air line</b>		
	Outer Conductor   <i>Außenleiter:</i>		
	Diameter   <i>Durchmesser</i>	2.9235 mm $\pm$ 0.005 mm	
25 $\Omega$ Mismatch air line   25- $\Omega$ -Fehlabschluss-Luftleitung (male and female)	Length   <i>Länge</i>	75.00 mm $\pm$ 0.02 mm	
	Inner Conductor   <i>Innenleiter:</i>		
	Diameter   <i>Durchmesser</i>	1.270 mm $\pm$ 0.005 mm	
	Length   <i>Länge</i>	75.00 mm - 0.02 mm	
	<b>25 <math>\Omega</math> Mismatch air line</b>		
	Outer Conductor   <i>Außenleiter:</i>		
	Diameter   <i>Durchmesser</i>	2.9235 mm $\pm$ 0.005 mm	
	Length   <i>Länge</i>	75.00 mm $\pm$ 0.02 mm	
	Inner Conductor   <i>Innenleiter:</i>		
	Diameter   <i>Durchmesser</i>	1.270 mm $\pm$ 0.007 mm	
	-50 $\Omega$ Section   <i>Abschnitt</i>	1.927 mm $\pm$ 0.005 mm	
	-25 $\Omega$ Section   <i>Abschnitt</i>		
	Length   <i>Länge</i>		
	-Total	75.00 mm - 0.02 mm	
	-25 $\Omega$ Section   <i>Abschnitt</i>	50.00 mm $\pm$ 0.050 mm	

## Gauge Kit RPC-N 50 Ω

Gauge Kit

RPC-N 50 Ω

Ordering Number	Remarks	
05 GK OKS-000	Rosenberger gauge kits are delivered in stable wooden box with gauge male/female incl. gauge block male/female.   <i>Lieferung von Messuhren-Kits erfolgt in stabiler Holzbox, Messuhren einschließlich Kalibrier-Blocks.</i>	

Contents of Gauge Kit

Inhalt des Messuhren-Kits

Ordering Number	Components	Quantity	Remarks
05 W 00S-000	Gauge male incl. block	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
05 W 00K-000	Gauge female incl. block	1	


## Mechanical Specifications

Mechanical data   Mechanische Daten	
Gauge range	± 500 µm
Gauge scale gradation	1 µm
Gauge accuracy	5 µm
Gauge block flatness	≤ 2 µm
Gauge block surface finish	≤ 0.2 µm

## Gauge Kit RPC-N 75 Ω

Gauge Kit

RPC-N 75 Ω

Ordering Number	Remarks	
P5 GK OKS-000	Rosenberger gauge kits are delivered in stable wooden box with gauge male/female incl. gauge block male/female.   <i>Lieferung von Messuhren-Kits erfolgt in stabiler Holzbox, Messuhren einschließlich Kalibrier-Blocks.</i>	

Contents of Gauge Kit

Inhalt des Messuhren-Kits

Ordering Number	Components	Quantity	Remarks
P5 W 00S-000	Gauge male incl. block	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
05 W 00K-000	Gauge female incl. block	1	

## Mechanical Specifications

Mechanical data   Mechanische Daten	
Gauge range	± 500 µm
Gauge scale gradation	1 µm
Gauge accuracy	5 µm
Gauge block flatness	≤ 2 µm
Gauge block surface finish	≤ 0.2 µm

## Gauge Kit RPC-TNC

Gauge Kit

RPC-TNC

Ordering Number	Remarks	
06 GK OKS-000	Rosenberger gauge kits are delivered in stable wooden box with gauge male/female incl. gauge block male/female.   <i>Lieferung von Messuhren-Kits erfolgt in stabiler Holzbox, Messuhren einschließlich Kalibrier-Blocks.</i>	

Contents of Gauge Kit

Inhalt des Messuhren-Kits

Ordering Number	Components	Quantity	Remarks
06 W 00S-000	Gauge male incl. block	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
06 W 00K-000	Gauge female incl. block	1	

## Mechanical Specifications

Mechanical data   Mechanische Daten		
Gauge range		± 500 µm
Gauge scale gradation		1 µm
Gauge accuracy		5 µm
Gauge block flatness		≤ 2 µm
Gauge block surface finish		≤ 0.2 µm

**Gauge Kit RPC-7**

Gauge Kit

RPC-7

Ordering Number	Remarks	
07 GK OKS-000	Rosenberger gauge kits are delivered in stable wooden box with gauge incl. gauge block.   <i>Lieferung von Messuhren-Kits erfolgt in stabiler Holzbox, Messuhr einschließlich Kalibrier-Block.</i>	

Contents of Gauge Kit

Inhalt des Messuhren-Kits

Ordering Number	Components	Quantity	Remarks
07 W 001-000	Gauge incl. block	1	Please use this part number for ordering single components.   <i>Bitte diese Artikel-Nummer für Nachbestellungen von Einzel-Komponenten verwenden.</i>


**Mechanical Specifications**

Mechanical data   <i>Mechanische Daten</i>	
Gauge range	$\pm 500 \mu\text{m}$
Gauge scale gradation	$1 \mu\text{m}$
Gauge accuracy	$5 \mu\text{m}$
Gauge block flatness	$\leq 2 \mu\text{m}$
Gauge block surface finish	$\leq 0.2 \mu\text{m}$

## Gauge Kit RPC-3.50 / RPC-2.92

Gauge Kit

RPC-3.50 / RPC-2.92

Ordering Number	Remarks	
03 GK 0KS-000	Rosenberger gauge kits are delivered in stable wooden box with gauge male/female incl. gauge block male/female.   <i>Lieferung von Messuhren-Kits erfolgt in stabiler Holzbox, Messuhren einschließlich Kalibrier-Blocks.</i>	

Contents of Gauge Kit

Inhalt des Messuhren-Kits

Ordering Number	Components	Quantity	Remarks
03 W 00S-000	Gauge male incl. block	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
03 W 00K-000	Gauge female incl. block	1	


## Mechanical Specifications

Mechanical data   Mechanische Daten	
Gauge range	$\pm 500 \mu\text{m}$
Gauge scale gradation	$1 \mu\text{m}$
Gauge accuracy	$5 \mu\text{m}$
Gauge block flatness	$\leq 2 \mu\text{m}$
Gauge block surface finish	$\leq 0.2 \mu\text{m}$

## Gauge Kit RPC-2.40 / RPC-1.85

Gauge Kit

RPC-2.40 / RPC-1.85

Ordering Number	Remarks	
08 GK OKS-000	Rosenberger gauge kits are delivered in stable wooden box with gauge male/female incl. gauge block male/female.   <i>Lieferung von Messuhren-Kits erfolgt in stabiler Holzbox, Messuhren einschließlich Kalibrier-Blocks.</i>	

Contents of Gauge Kit

Inhalt des Messuhren-Kits

Ordering Number	Components	Quantity	Remarks
08 W 00S-000	Gauge male incl. block	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
08 W 00K-000	Gauge female incl. block	1	


## Mechanical Specifications

Mechanical data   Mechanische Daten	
Gauge range	$\pm 500 \mu\text{m}$
Gauge scale gradation	$1 \mu\text{m}$
Gauge accuracy	$5 \mu\text{m}$
Gauge block flatness	$\leq 2 \mu\text{m}$
Gauge block surface finish	$\leq 0.2 \mu\text{m}$

## Gauge Kit RPC-1.00

Gauge Kit

RPC-1.00

Ordering Number	Remarks	
01 GK OKS-000	Rosenberger gauge kits are delivered in stable wooden box with gauge male/female incl. gauge block male/female.   <i>Lieferung von Messuhren-Kits erfolgt in stabiler Holzbox, Messuhren einschließlich Kalibrier-Blocks.</i>	

Contents of Gauge Kit

Inhalt des Messuhren-Kits

Ordering Number	Components	Quantity	Remarks
01 W 00S-000	Gauge male incl. block	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
01 W 00K-000	Gauge female incl. block	1	

## Mechanical Specifications

Mechanical data   Mechanische Daten	
Gauge range	$\pm 500 \mu\text{m}$
Gauge scale gradation	$1 \mu\text{m}$
Gauge accuracy	$5 \mu\text{m}$
Gauge block flatness	$\leq 2 \mu\text{m}$
Gauge block surface finish	$\leq 0.2 \mu\text{m}$



**Gauge Kit RPC-7-16**

Gauge Kit

7-16

Ordering Number	Remarks	
60 GK OKS-000	Rosenberger gauge kits are delivered in stable wooden box with gauge male/female incl. gauge block male/female.   <i>Lieferung von Messuhren-Kits erfolgt in stabiler Holzbox, Messuhren einschließlich Kalibrier-Blocks.</i>	

Contents of Gauge Kit

Inhalt des Messuhren-Kits

Ordering Number	Components	Quantity	Remarks
60 W 00S-000	Gauge male incl. block	1	Please use this part numbers for ordering single components.   <i>Bitte diese Artikel-Nummern für Nachbestellungen von Einzel-Komponenten verwenden.</i>
60 W 00K-000	Gauge female incl. block	1	

**Mechanical Specifications**

Mechanical data   Mechanische Daten		
Gauge range		$\pm 500 \mu\text{m}$
Gauge scale gradation		$1 \mu\text{m}$
Gauge accuracy		$5 \mu\text{m}$
Gauge block flatness		$\leq 2 \mu\text{m}$
Gauge block surface finish		$\leq 0.2 \mu\text{m}$



For vector network analyzer applications, Rosenberger offers high-flexible microwave test cables while maintaining excellent electrical characteristics. Outstanding phase and amplitude stability are guaranteed. A flexible armor protects the cable against mechanical damages.

Test cables are available as individual cable assemblies or cable sets containing 2 cables with 60cm standard length each. The various types of Rosenberger test cables are optimized for frequencies up to 26.5GHz, 40GHz or 50GHz. Test cable sets are supplied in stable wooden boxes.

The Rosenberger interchangeable port connector system has been designed for test equipment applications using test ports that will be continually mated and re-mated. The interchangeable port connector system – designed with a panel mounting half and an especially developed sexless interface – allows a high number of mating cycles without any damage to the equipment device interface.

*Für vektorielle Netzwerkanalysatoren bietet Rosenberger Testkabel mit hoher Flexibilität, die ausgezeichnete Werte für Phasen- und Amplitudenstabilität bei Biegung erreichen. Eine flexible Spezialarmierung schützt die Kabel gegen Beschädigungen.*

*Die Testkabel werden einzeln oder als Set, bestehend aus 2 Kabeln mit Standardlänge 60 cm, angeboten. Das Spektrum deckt Anwendungen bis 26,5GHz, 40GHz oder 50GHz ab. Die Lieferung erfolgt in einer stabilen Holzschatulle.*

*Das Rosenberger-Wechselport-Steckersystem wurde für Messgeräte entwickelt, deren Testports durch Serienmessungen sehr stark beansprucht werden. Das Wechselport-Steckersystem – mit einem Gehäuseeinbauteil und einem speziell entwickelten Innenleitersystem – gewährleistet wiederholte Steckungen ohne Verschleiß oder Beschädigung der Ausgangsstecker am Messgerät.*

# Test Cables & Interchangeable Port Connectors



## Features

Test Cable Kits

Test Cable Assemblies

Interchangeable Port Connector System

## Test Cables

### VA26 Test Cables

with RPC-3.50 and/or RPC-SL connectors: for applications up to 26.5 GHz  
with RPC-N (50  $\Omega$ ) and/or RPC-7 connectors: for applications up to 18 GHz

### VA40 Test Cables

with RPC-2.92 and/or RPC-SL connectors: for applications up to 40 GHz

### VA41 Test Cables

with RPC-2.92, RPC-2.40 and/or RPC-SL connectors: for applications up to 40 GHz

### VA50 Test Cables

with RPC-2.40 connectors: for applications up to 50 GHz

### VA75 Test Cables

With RPC-N (75  $\Omega$ ) connectors: for applications up to 4 GHz

### Test Cables with Interchangeable Connector Heads

Rosenberger offers a wide range of connector heads for test setups which often require other connector series, e.g. N, PC-7 or SMA connectors. Due to the special cable interface, mounting of changeable connector heads is very easy to handle, without any need for tools. Thus, test cables can be readily adapted to the required connector types already available on the DUT.

## Interchangeable Port Connector System

The **Rosenberger** Interchangeable Port Connector System was developed for use with test equipment featuring a test port that will be continually mated and re-mated. In a heavy use environment the test port is readily damaged and this can entail in large repair expenses. The **Rosenberger** Interchangeable Port Connector allows the equipment/device interface to be fully protected from damage.

The Interchangeable Port Connector consists of a panel mounting half and a sexless interface. This interface uses two spring loaded butt contacts, which ensure that no wear occurs during mating and allows no possibility of damage due to mismatching of the connector halves.

The interface between the panel mount and the adaptor is slotted. This ensures that at no time the mating faces will be allowed to rotate, thus preventing any damage. Adaptors can be interchanged and are available in different connector series.

The connector heads for these two ranges are not compatible and can be used inside their own system only.

## Testkabel

### VA 26-Testkabel

Mit RPC-3.50- und/oder RPC-SL Steckverbindern: für Anwendungen bis 26.5 GHz  
Mit RPC-N (50  $\Omega$ )- und/oder RPC-7-Steckverbindern: für Anwendungen bis 18 GHz

### VA 40-Testkabel

Mit RPC-2.92- und/oder RPC-SL-Steckverbindern: für Anwendungen bis 40 GHz

### VA 41-Testkabel

Mit RPC-2.92-, RPC-2.40- und/oder RPC-SL-Steckverbindern: für Anwendungen bis 40 GHz

### VA 50-Testkabel

Mit RPC-2.40-Steckverbindern: für Anwendungen bis 50 GHz

### VA 75-Testkabel

Mit RPC-N (75  $\Omega$ )-Steckverbindern: für Anwendungen bis 4 GHz

### Testkabel mit austauschbaren Wechselköpfen

Für Messaufbauten mit anderen Steckverbinder-Serien, z.B. N, PC-7 oder SMA, bietet Rosenberger eine Vielzahl von Steckerköpfen. Das spezielle Kabel-Interface ermöglicht dem Anwender, Steckerköpfe ohne Werkzeug selbst zu wechseln und Testkabel auf die gewünschte Steckverbinder-Serie umzurüsten.

## Wechselport-Steckersystem

Das **Rosenberger** Wechselport-Steckersystem wurde für Messgeräte entwickelt, deren Testports durch Serienmessungen stark beansprucht werden und die an die verschiedenen Steckerfamilien, ohne Einsatz von Übergängen, in kurzer Zeit angepasst werden müssen. Durch den Einsatz des **Rosenberger** Wechselport-Steckersystems wird der Ausgangsstecker des Messgerätes sicher vor Beschädigung geschützt.

Das Wechselport-Steckersystem besteht aus einem Gehäuseeinbauteil und einem speziell entwickelten Innenleitersystem, das eine Abnutzung der Innenleiterkontaktfläche verhindert. Die beiden federnden Innenleiter berühren sich nur auf ihren Kontaktflächen und gewährleisten so wiederholte Steckungen ohne Verschleiß.

Durch die im Gehäuse-Verbindungsstück eingefräste Nut ist eine definierte Positionierung der verwendeten Adapter gewährleistet. Die Adapter können leicht gewechselt werden und sind für verschiedene Steckerfamilien lieferbar.

Die Steckerköpfe sind nur innerhalb ihres Systems verwendbar und nicht untereinander austauschbar.

## Technical Data Test Cables

Cable Type	VA26	VA26	VA40 / VA41	VA 50
Length	60 cm	60 cm	60 cm	60 cm
Max. frequency range	18 GHz	26.5 GHz	40 GHz	50 GHz
Insertion loss	< 1.3 dB @ DC to 18 GHz	< 1.5 dB @ DC to 26.5 GHz	< 2.0 dB @ DC to 40 GHz	< 2.8 dB @ DC to 50 GHz
Return loss	28 dB @ DC to 4 GHz 20 dB @ 4 GHz to 18 GHz	26 dB @ DC to 4 GHz 20 dB @ 4 GHz to 26.5 GHz	26 dB @ DC to 4 GHz 17 dB @ 4 GHz to 40 GHz	26 dB @ DC to 4 GHz 17 dB @ 4 GHz to 50 GHz
Max. phase deviation <sup>1</sup> (after 90° bending)	< 0.5° @ DC to 4 GHz < 2.0° @ 4 GHz to 18 GHz	< 1.0° @ DC to 4 GHz < 3.0° @ 4 GHz to 26.5 GHz	< 1.3° @ DC to 4 GHz < 6.0° @ 4 GHz to 40 GHz	< 1.3° @ DC to 4 GHz < 7.0° @ 4 GHz to 50 GHz
max. phase deviation <sup>1</sup> (straight after 3x90° bending)	< 0.5° @ DC to 4 GHz < 1.5° @ 4 GHz to 18 GHz	< 0.5° @ DC to 4GHz < 1.5° @ 4 GHz to 26.5 GHz	< 1.0° @ DC to 4 GHz < 4.0° @ 4 GHz to 40 GHz	< 1.0° @ DC to 4 GHz < 4.5° @ 4 GHz to 50 GHz
Amplitude stability <sup>1</sup>	< 0.03 dB @ DC to 4 GHz < 0.05 dB @ 4 GHz to 18 GHz	< 0.03 dB DC to 4 GHz < 0.05 dB @ 4 GHz to 26.5 GHz	< 0.03 dB @ DC to 4 GHz < 0.08 dB @ 4 GHz to 40 GHz	< 0.03 dB @ DC to 4 GHz < 0.08 dB @ 4 GHz to 50 GHz
Return loss stability <sup>2</sup>	> 48 dB @ DC to 4 GHz > 40 dB @ 4 GHz to 18 GHz	> 48 dB @ DC to 4 GHz > 40 dB @ 4 GHz to 26.5 GHz	> 45 dB @ DC to 4 GHz > 35 dB @ 4 GHz to 40 GHz	> 45 dB @ DC to 4 GHz > 35 dB @ 4 GHz to 50 GHz

1. The test cable is terminated with a short circuit and tested on a calibrated vector network analyzer with a mandrel of 10 cm diameter. The one-way transmission phase stability is determined by dividing the two-way transmission phase measurement by two. The one-way transmission loss stability is determined by dividing the two-way transmission loss measurement by two. The DATA/MEM feature provides an indication of both stabilities.

2. The test cable is terminated with a fixed load and tested on a calibrated vector network analyzer with a mandrel of 10 cm diameter. The DATA/MEM feature provides an indication of the return loss stability.

1. Das Testkabel ist mit einem Kurzschluss abgeschlossen und wird an einem kalibrierten Netzwerkanalysator mit einem Biegedurchmesser von 10 cm getestet. Die Durchgangs-Phasenstabilität erhält man, indem man die Rückfluss-Phasenstabilität durch zwei teilt. Die Durchgangs-Amplitudenstabilität erhält man, indem man die Rückfluss-Amplitudenstabilität durch zwei teilt. Die DATA/MEM Funktion liefert eine Darstellung beider Stabilitäten.

2. Das Testkabel ist mit einem Festabschluss abgeschlossen und wird an einem kalibrierten Netzwerkanalysator mit einem Biegedurchmesser von 10 cm getestet. Die DATA/MEM Funktion liefert eine Darstellung der Rückfluss-Dämpfungsstabilität.

## Number Designation Test Cable Kits

## Nummernschlüssel Testkabel-Kits

VA26-	Nm-	Nm-	60
			Length cm
		Connector 2	
	Connector 1		
Vector Analyser			
Test Cable Kit			
(precise cable, connectors and armouring, please see data sheet)			



## Test Cable Kits

Ordering Number	Return Loss	Frequency	Length	Cable	Cable Assemblies	Connector 1	Connector 2
VA26-3.50m-3.50f-60	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 26.5 GHz	DC to 26.5 GHz	600 mm	RTK 162	2x LU7-055-600	RPC-3.50 male 03 S 123-2U7S3	RPC-3.50 female 03 K 123-2U7S3
VA26-Nm-Nm-60	≥ 28 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	DC to 18 GHz	600 mm	RTK 162	2x LU7-042-600	RPC-N 50 Ω male 05 S 123-2U7S3	RPC-N 50 Ω male 05 S 123-2U7S3
VA26-PC7-PC7-60	≥ 28 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	DC to 18 GHz	600 mm	RTK 162	2x LU7-070-600	RPC-7 07 P 123-2U7S3	RPC-7 07 P 123-2U7S3
VA26-TP-3.50-60	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 26.5 GHz	DC to 26.5 GHz	600 mm	RTK 162	1x LU7-039-600 1x LU7-043-600	RPC-3.50 ruggedized female 03 KR 123-2U7S3	RPC-3.50 male and female 03 S 123-2U7S3 03 K 123-2U7S3
VA26-TP-N-60	≥ 28 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	DC to 18 GHz	600 mm	RTK 162	1x LU7-069-600 1x LU7-059-600	RPC-3.50 ruggedized female 03 KR 123-2U7S3	RPC-N 50 Ω male and female 05 S 123-2U7S3 05 K 123-2U7S3
VA26-TP-PC7-60	≥ 28 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	DC to 18 GHz	600 mm	RTK 162	2x LU7-031-600	RPC-3.50 ruggedized female 03 KR 123-2U7S3	RPC-7 07 P 123-2U7S3
VA26-TP-W-60	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 26.5 GHz	DC to 26.5 GHz	600 mm	RTK 162	2x LU7-035-600	RPC-3.50 ruggedized female 03 KR 123-2U7S3	RPC-SL 26.5 GHz female 04 K 123-2U7S3
VA40-TP-2.92-60	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	1x LU1-005-600 1x LU1-006-600	RPC-2.92 ruggedized female 02 KR 123-2U1S3	RPC-2.92 male and female 02 S 123-2U1S3 02 K 123-2U1S3
VA40-TP-W-60	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	2x LU1-022-600	RPC-2.92 ruggedized female 02 KR 123-2U1S3	RPC-SL 40 GHz female P4 K 123-2U1S3
VA41-TP-2.40-60	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	1x LU1-003-600 1x LU1-025-600	RPC-2.40 ruggedized female 09 KR 123-2U1S3	RPC-2.40 male and female 09 S 123-2U1S3 09 K 123-2U1S3
VA41-TP-2.92-60	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	1x LU1-034-600 1x LU1-045-600	RPC-2.40 ruggedized female 09 KR 123-2U1S3	RPC-2.92 male and female 02 S 123-2U1S3 02 K 123-2U1S3
VA41-TP-W-60	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	2x LU1-004-600	RPC-2.40 ruggedized female 09 KR 123-2U1S3	RPC-SL 40 GHz female P4 K 123-2U1S3
VA50-TP-2.40-60	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 50 GHz	DC to 50 GHz	600 mm	RTK 125	1x LU8-005-600 1x LU8-006-600	RPC-2.40 ruggedized female 09 KR 123-2U8S3	RPC-2.40 male and female 09 S 123-2U8S3 09 K 123-2U8S3
VA75-Nm-Nm-60	≥ 28 dB @ DC to 3 GHz ≥ 23 dB @ 3 GHz to 4 GHz	DC to 4 GHz	600 mm	RG 216/U	2x L20-001-600	RPC-N 75 Ω male P5 S 123-320CS	RPC-N 75 Ω male P5 S 123-320CS

## Number Designation Test Cable Assemblies

## Nummernschlüssel Testkabel-Assemblies

L-	U7-	031-	600
			Length cm
		Successive Number	
		(precise connectors and armouring, please see data sheet)	
	Cable group		
Leitung (Test Cable Assembly)			



Connector 1

Connector 2



## Test Cable Assemblies

Ordering Number	Return Loss	Frequency	Length	Cable	Connector 1	Connector 2	Armouring
L20-001-600	≥ 28 dB @ DC to 3 GHz ≥ 23 dB @ 3 GHz to 4 GHz	DC to 4 GHz	600 mm	RG 216/U	RPC-N 75 Ω male, P5 S 123-320CS	RPC-N 75 Ω male, P5 S 123-320CS	Protection braid
LU1-003-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	RPC-2.40 female ruggedized, 09 KR 123-2U1S3	RPC-2.40 male, 09 S 123-2U1S3	ETFE Tubing with protection braid
LU1-004-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	RPC-2.40 female ruggedized, 09 KR 123-2U1S3	RPC-SL 40 GHz female, P4 K 123-2U1S3	ETFE Tubing with protection braid
LU1-005-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	RPC-2.92 female ruggedized, 02 KR 123-2U1S3	RPC-2.92 male, 02 S 123-2U1S3	ETFE Tubing with protection braid
LU1-006-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	RPC-2.92 female ruggedized, 02 KR 123-2U1S3	RPC-2.92 female, 02 K 123-2U1S3	ETFE Tubing with protection braid
LU1-022-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	RPC-2.92 female ruggedized, 02 KR 123-2U1S3	RPC-SL 40 GHz female, P4 K 123-2U1S3	ETFE Tubing with protection braid
LU1-025-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	RPC-2.40 female ruggedized, 09 KR 123-2U1S3	RPC-2.40 female, 09 K 123-2U1S3	ETFE Tubing with protection braid
LU1-034-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	RPC-2.40 female ruggedized, 09 KR 123-2U1S3	RPC-2.92 male, 02 S 123-2U1S3	ETFE Tubing with protection braid
LU1-045-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 40 GHz	DC to 40 GHz	600 mm	RTK 106	RPC-2.40 female ruggedized, 09 KR 123-2U1S3	RPC-2.92 female, 02 K 123-2U1S3	ETFE Tubing with protection braid
LU7-031-600	≥ 28 dB @ DC to 4 GHz ≥ 20 dB @ 4 to 18 GHz	DC to 18 GHz	600 mm	RTK 162	RPC-3.50 female ruggedized, 03 KR 123-2U7S3	RPC-7, 07 P 123-2U7S3	ETFE Tubing with protection braid
LU7-035-600	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 26.5 GHz	DC to 26.5 GHz	600 mm	RTK 162	RPC-3.50 female ruggedized, 03 KR 123-2U7S3	RPC-SL 26.5 GHz female, 04 K 123-2U7S3	ETFE Tubing with protection braid
LU7-039-600	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 26.5 GHz	DC to 26.5 GHz	600 mm	RTK 162	RPC-3.50 male, 03 S 123-2U7S3	RPC-3.50 female ruggedized, 03 KR 123-2U7S3	ETFE Tubing with protection braid
LU7-042-600	≥ 28 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	DC to 18 GHz	600 mm	RTK 162	RPC-N 50 Ω male, 05 S 123-2U7S3	RPC-N 50 Ω male, 05 S 123-2U7S3	ETFE Tubing with protection braid
LU7-043-600	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 26.5 GHz	DC to 26.5 GHz	600 mm	RTK 162	RPC-3.50 female, 03 K 123-2U7S3	RPC-3.50 female ruggedized, 03 KR 123-2U7S3	ETFE Tubing with protection braid
LU7-055-600	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 26.5 GHz	DC to 26.5 GHz	600 mm	RTK 162	RPC-3.50 male, 03 S 123-2U7S3	RPC-3.50 female, 03 K 123-2U7S3	ETFE Tubing with protection braid
LU7-056-600	≥ 28 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	DC to 18 GHz	600 mm	RTK 162	RPC-3.50 female ruggedized, 03 KR 123-2U7S3	RPC-N 50 Ω female, 05 K 123-2U7S3	ETFE Tubing with protection braid
LU7-069-600	≥ 28 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	DC to 18 GHz	600 mm	RTK 162	RPC-3.50 female ruggedized, 03 KR 123-2U7S3	RPC-N 50 Ω male, 05 S 123-2U7S3	ETFE Tubing with protection braid
LU7-070-600	≥ 28 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	DC to 18 GHz	600 mm	RTK 162	RPC-7, 07 P 123-2U7S3	RPC-7, 07 P 123-2U7S3	ETFE Tubing with protection braid
LU8-005-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 50 GHz	DC to 50 GHz	600 mm	RTK 125	RPC-2.40 male, 09 S 123-2U8S3	RPC-2.40 female ruggedized, 09 KR 123-2U8S3	ETFE Tubing with protection braid
LU8-006-600	≥ 26 dB @ DC to 4 GHz ≥ 17 dB @ 4 GHz to 50 GHz	DC to 50 GHz	600 mm	RTK 125	RPC-2.40 female, 09 K 123-2U8S3	RPC-2.40 female ruggedized, 09 KR 123-2U8S3	ETFE Tubing with protection braid

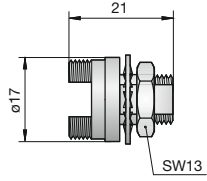
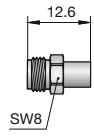
## Technical Data RPC-SL 26.5 GHz

Applicable standards   Anwendbare Standards	
Interface according to   Interface gemäß	Interchangeable port connector system
Electrical data   Elektrische Daten	
Impedance   Wellenwiderstand	50 $\Omega$
Frequency range   Frequenzbereich	DC to 26.5 GHz
Return loss (mated pair)   Rückflußdämpfung (gestecktes Paar)	$\geq 21$ dB, DC to 26.5 GHz
Insertion loss (mated pair)   Dämpfung (gestecktes Paar)	$\leq 0.03$ dB x $f$ [GHz]
Insulation resistance   Isolationswiderstand	$\geq 5$ G $\Omega$
Center contact resistance   Übergangswiderstand Innenleiter	$\leq 3.0$ m $\Omega$
Outer contact resistance   Übergangswiderstand Außenleiter	$\leq 2.0$ m $\Omega$
Test voltage   Prüfspannung	1000 V rms
Working voltage   Betriebsspannung	335 V rms
RF-leakage   Schirmdämpfung	$\geq 100$ dB up to 1 GHz
Mechanical data   Mechanische Daten	
Mating cycles   Steckzyklen	$\geq 3000$
Center contact captivation   Innenleiter Haltekraft	$\geq 27$ N
Coupling torque recommended   Anzugsdrehmoment empfohlen	2.0 Nm
Environmental data   Umweltdaten	
Temperature range   Temperaturbereich	-40 °C to +85 °C
Thermal shock   Temperaturzyklen	MIL-STD 202, Method 107, Condition B
Corrosion resistance   Korrosionsbeständigkeit	MIL-STD 202, Method 101, Condition B
Vibration   Vibration	MIL-STD 202, Method 204, Condition D
Shock   Schock	MIL-STD 202, Method 213, Condition I
Moisture resistance   Feuchtigkeitsbeständigkeit	MIL-STD 202, Method 106
Max. soldering temperature   Maximale Löttemperatur	IEC 61760-1, +260 °C for 10 sec.
Materials   Materialien	
Center contact   Innenleiter	Beryllium copper, gold-plated
Outer contact   Außenleiter	Stainless steel, gold-plated
Dielectric   Dielektrikum	PS

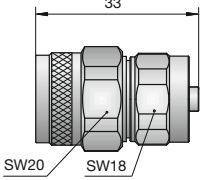
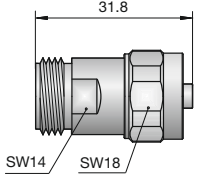
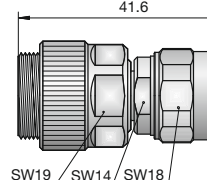
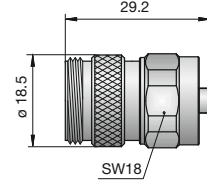
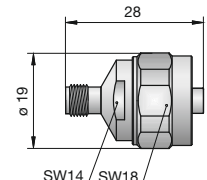
Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

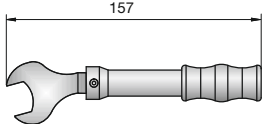
## Adaptor and Cable Clamp RPC-SL 26.5 GHz

Ordering Number	Version	Remarks	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
04 K 529-K00 S3	straight	RPC-SL 26.5 GHz female - female, panel mount, round flange	$\geq 21$ dB @ DC to 26.5 GHz			MB 82	
03 Z 001-272 D	straight	RPC-3.50 cable clamp for 04K529-K00S3, UT 141		72	03 A		

## Adaptor RPC-SL 26.5 GHz

Ordering Number	Version	Remarks	Return Loss	
05 S 104-S00 S3	straight	RPC-N 50 $\Omega$ male - RPC-SL 26.5 GHz male, max. Frequency 18 GHz	$\geq 21$ dB @ DC to 18 GHz	
05 K 104-S00 S3	straight	RPC-N 50 $\Omega$ female - RPC-SL 26.5 GHz male, max. Frequency 18 GHz	$\geq 21$ dB @ DC to 18 GHz	
07 P 104-S00 S3	straight	RPC-7 - RPC-SL 26.5 GHz male, max. Frequency 18 GHz	$\geq 21$ dB @ DC to 18 GHz	
03 S 104-S00 S3	straight	RPC-3.50 male - RPC-SL 26.5 GHz male	$\geq 21$ dB @ DC to 26.5 GHz	
03 K 104-S00 S3	straight	RPC-3.50 female - RPC-SL 26.5 GHz male	$\geq 21$ dB @ DC to 26.5 GHz	

## Torque Wrench

Ordering Number	Remarks	
04 W 021-000	flat 18 mm - 2 Nm torque for RPC-SL 26.5 GHz, RPC-SL 40 GHz	

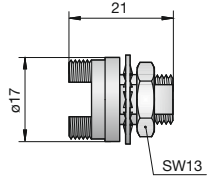
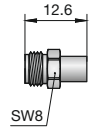
## Technical Data RPC-SL 40 GHz

Applicable standards   <i>Anwendbare Standards</i>	
Interface according to   <i>Interface gemäß</i>	Interchangeable port connector system
Electrical data   <i>Elektrische Daten</i>	
Impedance   <i>Wellenwiderstand</i>	50 $\Omega$
Frequency range   <i>Frequenzbereich</i>	DC to 40 GHz
Return loss (mated pair)   <i>Rückflußdämpfung (gestecktes Paar)</i>	$\geq 19$ dB, DC to 40 GHz
Insertion loss (mated pair)   <i>Dämpfung (gestecktes Paar)</i>	$\leq 0.04$ dB x $\sqrt{f[\text{GHz}]}$
Insulation resistance   <i>Isolationswiderstand</i>	$\geq 5$ G $\Omega$
Center contact resistance   <i>Übergangswiderstand Innenleiter</i>	$\leq 3.0$ m $\Omega$
Outer contact resistance   <i>Übergangswiderstand Außenleiter</i>	$\leq 2.0$ m $\Omega$
Test voltage   <i>Prüfspannung</i>	750 V rms
Working voltage   <i>Betriebsspannung</i>	250 V rms
RF-leakage   <i>Schirmdämpfung</i>	$\geq 100$ dB up to 1 GHz
Mechanical data   <i>Mechanische Daten</i>	
Mating cycles   <i>Steckzyklen</i>	$\geq 3000$
Center contact captivation   <i>Innenleiter Haltekraft</i>	$\geq 22$ N
Coupling torque recommended   <i>Anzugsdrehmoment empfohlen</i>	2.0 Nm
Environmental data   <i>Umweltdaten</i>	
Temperature range   <i>Temperaturbereich</i>	-40 °C to +85 °C
Thermal shock   <i>Temperaturzyklen</i>	MIL-STD 202, Method 107, Condition B
Corrosion resistance   <i>Korrosionsbeständigkeit</i>	MIL-STD 202, Method 101, Condition B
Vibration   <i>Vibration</i>	MIL-STD 202, Method 204, Condition D
Shock   <i>Schock</i>	MIL-STD 202, Method 213, Condition I
Moisture resistance   <i>Feuchtigkeitsbeständigkeit</i>	MIL-STD 202, Method 106
Max. soldering temperature   <i>Maximale Löttemperatur</i>	IEC 61760-1, +260 °C for 10 sec.
Materials   <i>Materialien</i>	
Center contact   <i>Innenleiter</i>	Beryllium copper, gold-plated
Outer contact   <i>Außenleiter</i>	Stainless steel, gold-plated
Dielectric   <i>Dielektrikum</i>	PS

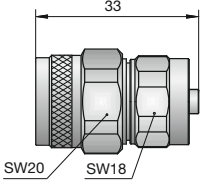
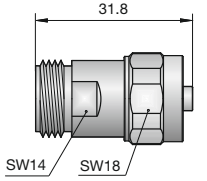
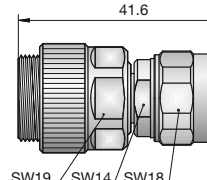
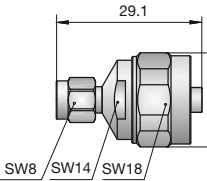
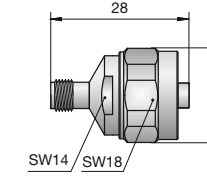
Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

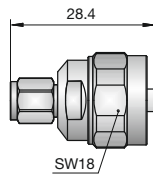
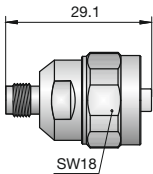
*Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.*

## Adaptor and Cable Clamp RPC-SL 40 GHz

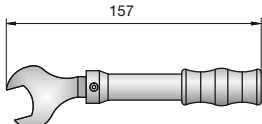
Ordering Number	Version	Remarks	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
P4 K 52A-K00 S3	straight	RPC-SL 40 GHz female - female, panel mount, round flange	$\geq 21$ dB @ DC to 26.5 GHz $\geq 16$ dB @ 26.5 to 40 GHz			MB 82	
02 Z 001-2W9 D	straight	RPC-2.92 cable clamp for P4K52A-K00S3, UT 118		W9	03 A		

## Adaptor RPC-SL 40 GHz

Ordering Number	Version	Remarks	Return Loss	
05 S 1P4-S00 S3	straight	RPC-N 50 $\Omega$ male - RPC-SL 40 GHz male, max. Frequency 18 GHz	$\geq 21$ dB @ DC to 18 GHz	
05 K 1P4-S00 S3	straight	RPC-N 50 $\Omega$ female - RPC-SL 40 GHz male, max. Frequency 18 GHz	$\geq 21$ dB @ DC to 18 GHz	
07 P 1P4-S00 S3	straight	RPC-7 - RPC-SL 40 GHz male, max. Frequency 18 GHz	$\geq 21$ dB @ DC to 18 GHz	
02 S 1P4-S00 S3	straight	RPC-2.92 male - RPC-SL 40 GHz male	$\geq 21$ dB @ DC to 26.5 GHz $\geq 19$ dB @ 26.5 to 40 GHz	
02 K 1P4-S00 S3	straight	RPC-2.92 female - RPC-SL 40 GHz male	$\geq 21$ dB @ DC to 26.5 GHz $\geq 19$ dB @ 26.5 to 40 GHz	

Ordering Number	Version	Remarks	Return Loss	
09 S 1P4-S00 S3	straight	RPC-2.40 male - RPC-SL 40 GHz male	$\geq 21$ dB @ DC to 26.5 GHz $\geq 19$ dB @ 26.5 GHz to 40 GHz	
09 K 1P4-S00 S3	straight	RPC-2.40 female - RPC-SL 40 GHz male	$\geq 21$ dB @ DC to 26.5 GHz $\geq 19$ dB @ 26.5 GHz to 40 GHz	

## Torque Wrench

Ordering Number	Remarks	
04 W 021-000	flat 18 mm - 2 Nm torque for RPC-SL 26.5 GHz, RPC-SL 40 GHz	





Rosenberger offers a wide range of test devices for microwave measurements designed for various requirements – from low-frequency devices for simple measurements to components which permit high-precision broadband measurements: opens, shorts and loads, sliding loads, T-calibration adaptors, mismatches, airlines, attenuators, matching attenuators and test accessories, e. g. gauges or tools.

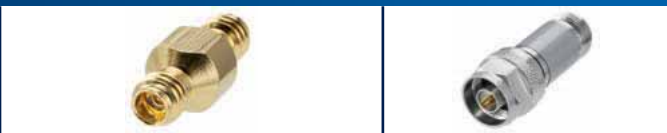
Additional devices are available on request.

*Für verschiedene Aufgaben in der Mikrowellenmesstechnik bietet Rosenberger eine Vielzahl von Test-Komponenten an – von Bauelementen mit relativ niedrigen Frequenzen für einfache Messaufgaben bis hin zu Bauteilen, die in komplexen Messaufbauten auch für anspruchsvolle und hochpräzise Messungen geeignet sind: Opens, Shorts und Loads, Gleitlasten, T-Kalibrieradapter, Fehlabschlüsse, Luftleitungen, Dämpfungsglieder, Anpassungsglieder und Zubehör-Komponenten wie Werkzeuge oder Messuhren.*

*Weitere Komponenten sind auf Anfrage erhältlich.*



# Test Devices

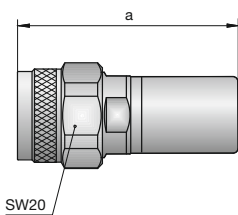
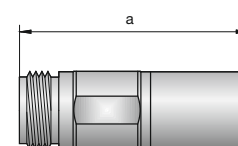


## Features

Open-Short-Load  
Sliding Loads  
T-Calibration Adaptors  
Mismatches  
Airlines  
Attenuators  
Matching Attenuators  
Gauges, Tools

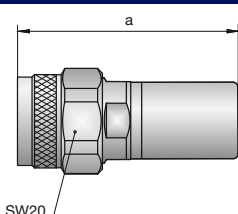
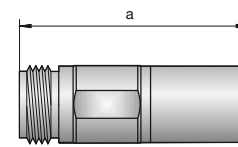
## Open - Short - Load

RPC-N 50  $\Omega$  Open - Short - Load

Ordering Number	Version	Remarks	Return Loss	Power Handling	
05 S 12L-000 S3	straight	RPC-N 50 $\Omega$ open circuit, male, a = 46.3 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 18 GHz		
05 S 12S-000 S3	straight	RPC-N 50 $\Omega$ short circuit, male, a = 46.3 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.15$ dB @ 4 GHz to 18 GHz		
05 S 150-C10 S3	straight	RPC-N 50 $\Omega$ broadband load, calibration kit, male, a = 42.7 mm	$\geq 45$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 18 GHz	0.5 W	
05 S 150-010 S3	straight	RPC-N 50 $\Omega$ broadband load standard, male, a = 49.3 mm	$\geq 28$ dB @ DC to 18 GHz	0.5 W	
05 K 12L-000 S3	straight	RPC-N 50 $\Omega$ open circuit, female, a = 46.3 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 18 GHz		
05 K 12S-000 S3	straight	RPC-N 50 $\Omega$ short circuit, female, a = 46.3 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.15$ dB @ 4 GHz to 18 GHz		
05 K 150-C10 S3	straight	RPC-N 50 $\Omega$ broadband load, calibration kit, female, a = 39.2 mm	$\geq 45$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 18 GHz	0.5 W	
05 K 150-010 S3	straight	RPC-N 50 $\Omega$ broadband load standard, female, a = 48 mm	$\geq 28$ dB @ DC to 18 GHz	0.5 W	

complete calibration kits also available

RPC-N 75  $\Omega$  Open - Short - Load

Ordering Number	Version	Remarks	Return Loss	Power Handling	
P5 S 12L-000 S3	straight	RPC-N 75 $\Omega$ open circuit, male, a = 46.3 mm	$\leq 0.07$ dB @ DC to 2 GHz $\leq 0.10$ dB @ 2 GHz to 4 GHz		
P5 S 12S-000 S3	straight	RPC-N 75 $\Omega$ short circuit, male, a = 46.3 mm	$\leq 0.07$ dB @ DC to 2 GHz $\leq 0.10$ dB @ 2 GHz to 4 GHz		
P5 S 150-C10 S3	straight	RPC-N 75 $\Omega$ broadband load, calibration kit, male a = 42.7 mm	$\geq 40$ dB @ DC to 2 GHz $\geq 36$ dB @ 2 GHz to 4 GHz	0.5 W	
P5 K 12L-000 S3	straight	RPC-N 75 $\Omega$ open circuit, female, a = 46.3 mm	$\leq 0.07$ dB @ DC to 2 GHz $\leq 0.10$ dB @ 2 GHz to 4 GHz		
P5 K 12S-000 S3	straight	RPC-N 75 $\Omega$ short circuit, female, a = 46.3 mm	$\leq 0.07$ dB @ DC to 2 GHz $\leq 0.10$ dB @ 2 GHz to 4 GHz		
P5 K 150-C10 S3	straight	RPC-N 75 $\Omega$ broadband load calibration kit, female, a = 41.3 mm	$\geq 40$ dB @ DC to 2 GHz $\geq 36$ dB @ 2 GHz to 4 GHz	0.5 W	

complete calibration kits also available

## RPC-TNC Open - Short - Load

Ordering Number	Remarks	Return Loss	Power Handling	
06 S 12L-000 S3	RPC-TNC open circuit, male a = 48.8 mm	$\leq 0.50$ dB @ DC to 4 GHz $\leq 1.00$ dB @ 4 GHz to 18 GHz		
06 S 12S-000 S3	RPC-TNC short circuit, male a = 49.8 mm	$\leq 0.50$ dB @ DC to 4 GHz $\leq 1.00$ dB @ 4 GHz to 18 GHz		
06 S 150-C10 S3	RPC-TNC broadband load, calibration kit, male a = 50.3 mm	$\geq 35$ dB @ DC to 4 GHz $\geq 25$ dB @ 4 GHz to 18 GHz	0.5 W	
06 K 12L-000 S3	RPC-TNC open circuit, female a = 59 mm	$\leq 0.50$ dB @ DC to 4 GHz $\leq 1.00$ dB @ 4 GHz to 18 GHz		
06 K 12S-000 S3	RPC-TNC short circuit, female a = 58.6 mm	$\leq 0.50$ dB @ DC to 4 GHz $\leq 1.00$ dB @ 4 GHz to 18 GHz		
06 K 150-C10 S3	RPC-TNC broadband load, calibration kit, female a = 51.4 mm	$\geq 35$ dB @ DC to 4 GHz $\geq 25$ dB @ 4 GHz to 18 GHz	0.5 W	

complete calibration kits also available

## RPC-7 Open - Short - Load

Ordering Number	Remarks	Return Loss	Power Handling	
07 P 12L-000 S3	RPC-7 open circuit, a = 42.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.15$ dB @ 4 GHz to 18 GHz		
07 P 12S-000 S3	RPC-7 short circuit, a = 44.2 mm	$\leq 0.07$ dB @ DC to 4 GHz $\leq 0.12$ dB @ 4 GHz to 18 GHz		
07 P 150-C10 S3	RPC-7 broadband load, calibration kit, a = 42.9 mm	$\geq 45$ dB @ DC to 4 GHz $\geq 32$ dB @ 4 GHz to 18 GHz	0.5 W	
07 P 150-010 S3	RPC-7 broadband load standard, a = 42.9 mm	$\geq 28$ dB @ DC to 18 GHz	0.5 W	

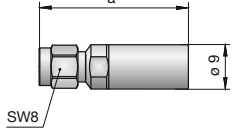
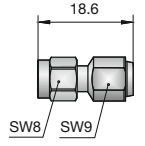
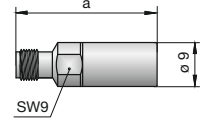
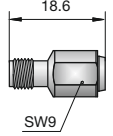
complete calibration kits also available

## RPC-SP Open - Short - Load

Ordering Number	Remarks	Return Loss	Power Handling	
10 S 12L-000 S3	RPC-SP open circuit, male a = 34.4 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 22 GHz		
10 S 12S-000 S3	RPS-SP short circuit, male a = 35.6 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.15$ dB @ 4 GHz to 22 GHz		
10 S 150-C10 S3	RPC-SP broadband load, male a = 31.4 mm	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 18 GHz $\geq 23$ dB @ 18 GHz to 22 GHz	0.5 W	
10 K 12L-000 S3	RPC-SP open circuit, female a = 38.8 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 22 GHz		
10 K 12S-000 S3	RPS-SP short circuit, female a = 40.2 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.15$ dB @ 4 GHz to 22 GHz		
10 K 150-C10 S3	RPC-SP broadband load, female a = 34.4 mm	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 18 GHz $\geq 23$ dB @ 18 GHz to 22 GHz	0.5 W	

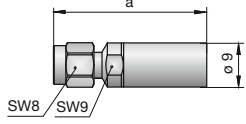
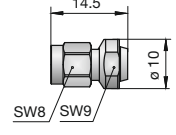
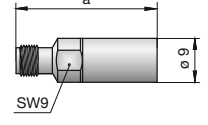
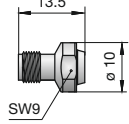
complete calibration kits also available

## RPC-3.50 Open - Short - Load

Ordering Number	Remarks	Return Loss	Power Handling	
03 S 12L-000 S3	RPC-3.50 open circuit, male, a = 30.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 26.5 GHz		
03 S 12S-000 S3	RPC-3.50 short circuit, male, a = 30.7 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.15$ dB @ 4 GHz to 26.5 GHz		
03 S 12S-001 D3	RPC-3.50 short circuit, male, LRL calibration kit a = 28.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.15$ dB @ 4 GHz to 26.5 GHz		
03 S 150-C10 S3	RPC-3.50 broadband load, calibration kit, male, a = 31.5 mm	$\geq 40$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 26.5 GHz	0.5 W	
03 S 17R-001 D3	RPC-3.50 broadband load standard, male	$\geq 36$ dB @ DC to 4 GHz, $\geq 23$ dB @ 4 GHz to 26.5 GHz	0.5 W	
03 K 12L-000 S3	RPC-3.50 open circuit, female, a = 29.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 26.5 GHz		
03 K 12S-000 S3	RPC-3.50 short circuit, female, a = 29.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.15$ dB @ 4 GHz to 26.5 GHz		
03 K 12S-001 D3	RPC-3.50 short circuit, female, LRL calibration kit a = 28.8 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.15$ dB @ 4 GHz to 26.5 GHz		
03 K 150-C10 S3	RPC-3.50 broadband load, calibration kit, female, a = 30.5 mm	$\geq 40$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 26.5 GHz	0.5 W	
03 K 17R-001 D3	RPC-3.50 broadband load standard, female	$\geq 36$ dB @ DC to 4 GHz, $\geq 23$ dB @ 4 GHz to 26.5 GHz	0.5 W	

complete calibration kits also available

## RPC-2.92 Open - Short - Load

Ordering Number	Remarks	Return Loss	Power Handling	
02 S 12L-000 S3	RPC-2.92 open circuit, male, a = 30.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 to 40 GHz		
02 S 12S-000 S3	RPC-2.92 short circuit, male, a = 30.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 to 40 GHz		
02S 12S-001 D3	RPC-3.50 short circuit, male, LRL calibration kit a = 28.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 40 GHz		
02 S 150-C10 S3	RPC-2.92 broadband load, male, a = 31 mm	$\geq 42$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 to 40 GHz	0.5 W	
02 S 17R-001 D3	RPC-2.92 broadband load standard, male	$\geq 36$ dB @ DC to 4 GHz, $\geq 21$ dB @ 4 GHz to 40 GHz	0.5 W	
02 K 12L-000 S3	RPC-2.92 open circuit, female, a = 29.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 40 GHz		
02 K 12S-000 S3	RPC-2.92 short circuit, female, a = 29.9 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 40 GHz		
02K 12S-001 D3	RPC-3.50 short circuit, female, LRL calibration kit a = 28.8 mm	$\leq 0.10$ dB @ DC to 4 GHz $\leq 0.20$ dB @ 4 GHz to 40 GHz		
02 K 150-C10 S3	RPC-2.92 broadband load, calibration kit, female, a = 29.9 mm	$\geq 42$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 40 GHz	0.5 W	
02 K 17R-001 D3	RPC-2.92 broadband load standard, female	$\geq 36$ dB @ DC to 4 GHz, $\geq 21$ dB @ 4 GHz to 40 GHz	0.5 W	

complete calibration kits also available

## RPC-2.40 Open - Short - Load

Ordering Number	Remarks	Return Loss	Power Handling	
09 S 12L-000 S3	RPC-2.40 open circuit, male, a = 30.3 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.30$ dB @ 4 GHz to 50 GHz		
09 S 12S-000 S3	RPC-2.40 short circuit, male, a = 31.4 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.25$ dB @ 4 GHz to 50 GHz		
09 S 150-C10 S3	RPC-2.40 broadband load, calibration kit, male, a = 26.5 mm	$\geq 36$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 20 GHz $\geq 26$ dB @ 20 GHz to 26.5 GHz $\geq 22$ dB @ 26.5 GHz to 50 GHz	0.5 W	
09 K 12L-000 S3	RPC-2.40 open circuit, female, a = 30 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.30$ dB @ 4 GHz to 50 GHz		
09 K 12S-000 S3	RPC-2.40 short circuit, female, a = 32.1 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.25$ dB @ 4 GHz to 50 GHz		
09 K 150-C10 S3	RPC-2.40 broadband load, calibration kit, female, a = 27.3 mm	$\geq 36$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 20 GHz $\geq 26$ dB @ 20 GHz to 26.5 GHz $\geq 22$ dB @ 26.5 GHz to 50 GHz	0.5 W	

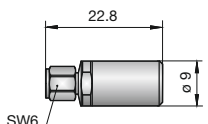
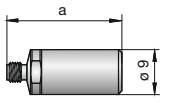
complete calibration kits also available

## RPC-1.85 Open - Short - Load

Ordering Number	Remarks	Return Loss	Power Handling	
08 S 12L-000 S3	RPC-1.85 open circuit, male, a = 30.3 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.40$ dB @ 4 GHz to 65 GHz		
08 S 12S-000 S3	RPC-1.85 short circuit, male, a = 32 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.30$ dB @ 4 GHz to 65 GHz		
08 S 150-C10 S3	RPC-1.85 broadband load, calibration kit, male, a = 26.5 mm	$\geq 34$ dB @ DC to 4 GHz $\geq 25$ dB @ 4 GHz to 26.5 GHz $\geq 22$ dB @ 26.5 GHz to 50 GHz $\geq 20$ dB @ 50 GHz to 65 GHz	0.5 W	
08 K 12L-000 S3	RPC-1.85 open circuit, female, a = 30 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.40$ dB @ 4 GHz to 65 GHz		
08 K 12S-000 S3	RPC-1.85 short circuit, female, a = 32.7 mm	$\leq 0.15$ dB @ DC to 4 GHz $\leq 0.30$ dB @ 4 GHz to 65 GHz		
08 K 150-C10 S3	RPC-1.85 broadband load, calibration kit, female, a = 27.3 mm	$\geq 34$ dB @ DC to 4 GHz $\geq 25$ dB @ 4 GHz to 26.5 GHz $\geq 22$ dB @ 26.5 GHz to 50 GHz $\geq 20$ dB @ 50 GHz to 65 GHz	0.5 W	

complete calibration kits also available

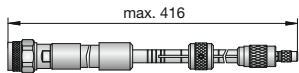
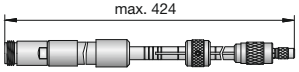
## RPC-1.00 Short - Load

Ordering Number	Remarks	Return Loss	Power Handling	
01 S 12S-000 D3	RPC-1.00 short circuit, male	$\leq 0.20$ dB @ DC to 20 GHz $\leq 0.50$ dB @ 20 GHz to 50 GHz $\leq 0.75$ dB @ 50 GHz to 75 GHz $\leq 1.00$ dB @ 75 GHz to 110 GHz		
01 S 150-C10 D3	RPC-1.00 lowband load, calibration kit, male	$\geq 36$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 18 GHz $\geq 28$ dB @ 18 GHz to 22 GHz	0.5 W	
01 K 12S-000 D3	RPC-1.00 short circuit, female, a = 20.5 mm	$\leq 0.20$ dB @ DC to 20 GHz $\leq 0.50$ dB @ 20 GHz to 50 GHz $\leq 0.75$ dB @ 50 GHz to 75 GHz $\leq 1.00$ dB @ 75 GHz to 110 GHz		
01 K 150-C10 D3	RPC-1.00 lowband load, calibration kit, female, a = 23 mm	$\geq 36$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 18 GHz $\geq 28$ dB @ 18 GHz to 22 GHz	0.5 W	

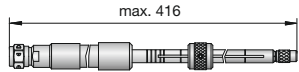
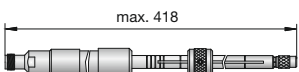
complete calibration kits also available

## Sliding Loads

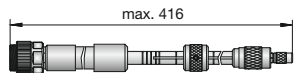
### RPC-N 50 $\Omega$ Sliding Load

Ordering Number	Remarks	Return Loss	
05 S 150-G300	RPC-N 50 $\Omega$ male	$\geq 35$ dB @ 2 GHz to 18 GHz	
05 K 150-G300	RPC-N 50 $\Omega$ female	$\geq 35$ dB @ 2 GHz to 18 GHz	

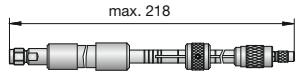
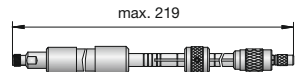
### RPC-TNC Sliding Load

Ordering Number	Remarks	Return Loss	
06 S 150-G300	RPC-TNC	$\geq 30$ dB @ 2 GHz to 18 GHz	
06 K 150-G300	RPC-TNC	$\geq 30$ dB @ 2 GHz to 18 GHz	

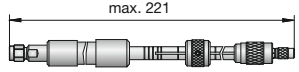
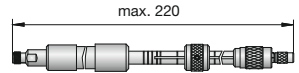
### RPC-7 Sliding Load

Ordering Number	Remarks	Return Loss	
07 P 150-G300	RPC-7	$\geq 35$ dB @ 2 GHz to 18 GHz	

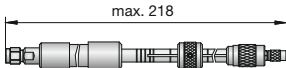
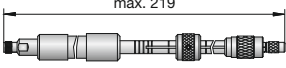
### RPC-3.50 Sliding Load

Ordering Number	Remarks	Return Loss	
03 S 150-G300	RPC-3.50 male	$\geq 26$ dB @ 2 to 4 GHz $\geq 32$ dB @ 4 to 26.5 GHz	
03 K 150-G300	RPC-3.50 female	$\geq 26$ dB @ 2 to 4 GHz $\geq 32$ dB @ 4 to 26.5 GHz	

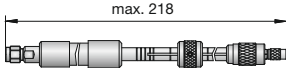
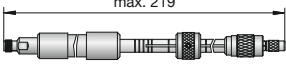
### RPC-2.92 Sliding Load

Ordering Number	Remarks	Return Loss	
02 S 150-G300	RPC-2.92 male	$\geq 28$ dB @ 4 GHz to 8 GHz $\geq 32$ dB @ 8 GHz to 40 GHz	
02 K 150-G300	RPC-2.92 female	$\geq 28$ dB @ 4 GHz to 8 GHz $\geq 32$ dB @ 8 GHz to 40 GHz	

RPC-2.40 Sliding Load

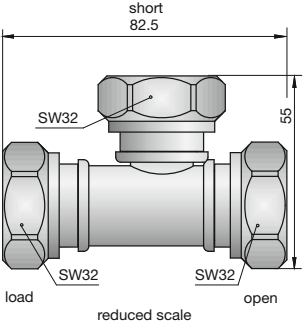
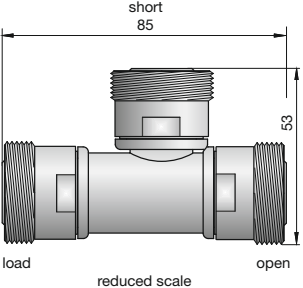
Ordering Number	Remarks	Return Loss	
09 S 150-G300	RPC-2.40 male	$\geq 26.4$ dB @ 4 GHz to 8 GHz $\geq 32$ dB @ 8 GHz to 50 GHz	
09 K 150-G300	RPC-2.40 female	$\geq 26.4$ dB @ 4 GHz to 8 GHz $\geq 32$ dB @ 8 GHz to 50 GHz	

RPC-1.85 Sliding Load

Ordering Number	Remarks	Return Loss	
08 S 150-G300	RPC-1.85 male	$\geq 26.4$ dB @ 4 GHz to 8 GHz $\geq 32$ dB @ 8 GHz to 65 GHz	
08 K 150-G300	RPC-1.85 female	$\geq 26.4$ dB @ 4 GHz to 8 GHz $\geq 32$ dB @ 8 GHz to 65 GHz	

## T-Calibration-Adaptors

7-16 Open - Short - Load

Ordering Number	Version	Remarks	Return Loss	
60 S 34R-MSO N3	T-Adaptor	7-16 male-male-male Resulting phase uncertainty: Open $\leq 3.0^\circ$ to 4 GHz, Short $\leq 2.0^\circ$ to 4 GHz	Open/Short: $\leq 0.15$ dB @ DC to 4 GHz  Load: $\geq 40$ dB @ DC to 2.5 GHz $\geq 38$ dB @ 2.5 GHz to 4 GHz	
60 S 36R-MSO N3	T-Adaptor	7-16 male-male-male Resulting phase uncertainty: Open $\leq 3.0^\circ$ to 6 GHz, Short $\leq 3.0^\circ$ to 6 GHz	Open/Short: $\leq 0.15$ dB @ DC to 6 GHz  Load: $\geq 40$ dB @ DC to 2.5 GHz $\geq 38$ dB @ 2.5 GHz to 6 GHz	
60 K 34R-MSO N3	T-Adaptor	7-16 female-female-female Resulting phase uncertainty: Open $\leq 3.0^\circ$ to 4 GHz, Short $\leq 2.0^\circ$ to 4 GHz	Open/Short: $\leq 0.15$ dB @ DC to 4 GHz  Load: $\geq 40$ dB @ DC to 2.5 GHz $\geq 38$ dB @ 2.5 GHz to 4 GHz	
60 K 36R-MSO N3	T-Adaptor	7-16 female-female-female Resulting phase uncertainty: Open $\leq 3.0^\circ$ to 6 GHz, Short $\leq 3.0^\circ$ to 6 GHz	Open/Short: $\leq 0.15$ dB @ DC to 6 GHz  Load: $\geq 40$ dB @ DC to 2.5 GHz $\geq 38$ dB @ 2.5 GHz to 6 GHz	

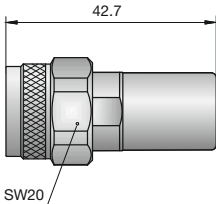
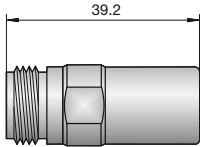
N Standard 50  $\Omega$  Open - Short - Load

Ordering Number	Version	Remarks	Return Loss	
53 S 34R-MSO N3	T-Adaptor	N Standard 50 $\Omega$ male-male-male Resulting phase uncertainty: Open $\leq 3.0^\circ$ to 4 GHz, Short $\leq 2.0^\circ$ to 4 GHz	Open/Short: $\leq 0.1$ dB @ DC to 4 GHz  Load: $\geq 42$ dB @ DC to 2.5 GHz $\geq 38$ dB @ 2.5 GHz to 4 GHz	
53 S 36R-MSO N3	T-Adaptor	N Standard 50 $\Omega$ male-male-male Resulting phase uncertainty: Open $\leq 3.0^\circ$ to 6 GHz, Short $\leq 2.0^\circ$ to 6 GHz	Open/Short: $\leq 0.1$ dB @ DC to 6 GHz  Load: $\geq 42$ dB @ DC to 2.5 GHz $\geq 38$ dB @ 2.5 GHz to 6 GHz	
53 K 34R-MSO N3	T-Adaptor	N Standard 50 $\Omega$ female-female-female Resulting phase uncertainty: Open $\leq 3.0^\circ$ to 4 GHz, Short $\leq 2.0^\circ$ to 4 GHz	Open/Short: $\leq 0.1$ dB @ DC to 4 GHz  Load: $\geq 42$ dB @ DC to 2.5 GHz $\geq 38$ dB @ 2.5 GHz to 4 GHz	
53 K 36R-MSO N3	T-Adaptor	N Standard 50 $\Omega$ female-female-female Resulting phase uncertainty: Open $\leq 3.0^\circ$ to 6 GHz, Short $\leq 2.0^\circ$ to 6 GHz	Open/Short: $\leq 0.1$ dB @ DC to 6 GHz  Load: $\geq 42$ dB @ DC to 2.5 GHz $\geq 38$ dB @ 2.5 GHz to 6 GHz	



## Mismatches

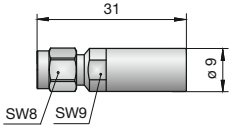
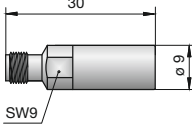
### RPC-N 50 $\Omega$ Mismatches

Ordering Number	Remarks	VSWR	Power Handling	
05 S 150-055 S3	RPC-N 50 $\Omega$ male, Impedance 55 $\Omega$	1.1 $\pm$ 0.04 @ DC to 12.4 GHz, 1.1 $\pm$ 0.06 @ 12.4 GHz to 18 GHz	1 W	
05 S 150-060 S3	RPC-N 50 $\Omega$ male, Impedance 60 $\Omega$	1.2 $\pm$ 0.04 @ DC to 8 GHz 1.2 $\pm$ 0.05 @ 8 GHz to 12.4 GHz 1.2 $\pm$ 0.07 @ 12.4 GHz to 18 GHz	1 W	
05 S 150-075 S3	RPC-N 50 $\Omega$ male, Impedance 75 $\Omega$	1.5 $\pm$ 0.05 @ DC to 8 GHz 1.5 $\pm$ 0.07 @ 8 GHz to 12.4 GHz 1.5 $\pm$ 0.09 @ 12.4 GHz to 18 GHz	1 W	
05 K 150-055 S3	RPC-N 50 $\Omega$ female, Impedance 55 $\Omega$	1.1 $\pm$ 0.04 @ DC to 12.4 GHz, 1.1 $\pm$ 0.06 @ 12.4 GHz to 18 GHz	1 W	
05 K 150-060 S3	RPC-N 50 $\Omega$ female, Impedance 60 $\Omega$	1.2 $\pm$ 0.04 @ DC to 8 GHz 1.2 $\pm$ 0.05 @ 8 GHz to 12.4 GHz 1.2 $\pm$ 0.07 @ 12.4 GHz to 18 GHz	1 W	
05 K 150-075 S3	RPC-N 50 $\Omega$ female, Impedance 75 $\Omega$	1.5 $\pm$ 0.05 @ DC to 8 GHz 1.5 $\pm$ 0.07 @ 8 GHz to 12.4 GHz 1.5 $\pm$ 0.09 @ 12.4 GHz to 18 GHz	1 W	

### RPC-3.50 Mismatches

Ordering Number	Remarks	VSWR	Power Handling	
03 S 150-055 S3	RPC-3.50 male, Impedance 55 $\Omega$	1.1 $\pm$ 0.03 @ DC to 12 GHz 1.1 $\pm$ 0.05 @ 12 GHz to 26.5 GHz	0.5 W @ 25 °C	
03 S 150-060 S3	RPC-3.50 male, Impedance 60 $\Omega$	1.2 $\pm$ 0.03 @ DC to 12 GHz 1.2 $\pm$ 0.05 @ 12 GHz to 26.5 GHz	0.5 W @ 25 °C	
03 S 150-075 S3	RPC-3.50 male, Impedance 75 $\Omega$	1.5 $\pm$ 0.06 @ DC to 12 GHz 1.5 $\pm$ 0.10 @ 12 GHz to 26.5 GHz	0.5 W @ 25 °C	
03 K 150-055 S3	RPC-3.50 female, Impedance 55 $\Omega$	1.1 $\pm$ 0.03 @ DC to 12 GHz 1.1 $\pm$ 0.05 @ 12 GHz to 26.5 GHz	0.5 W @ 25 °C	
03 K 150-060 S3	RPC-3.50 female, Impedance 60 $\Omega$	1.2 $\pm$ 0.03 @ DC to 12 GHz 1.2 $\pm$ 0.05 @ 12 GHz to 26.5 GHz	0.5 W @ 25 °C	
03 K 150-075 S3	RPC-3.50 female, Impedance 75 $\Omega$	1.5 $\pm$ 0.06 @ DC to 12 GHz 1.5 $\pm$ 0.10 @ 12 GHz to 26.5 GHz	0.5 W @ 25 °C	

### RPC-2.92 Mismatches

Ordering Number	Remarks	VSWR	Power Handling	
02 S 150-055 S3	RPC-2.92 male, Impedance 55 $\Omega$	1.1 $\pm$ 0.05 @ DC to 40 GHz	0.5 W @ 25 °C	
02 S 150-060 S3	RPC-2.92 male, Impedance 60 $\Omega$	1.2 $\pm$ 0.05 @ DC to 40 GHz	0.5 W @ 25 °C	
02 S 150-075 S3	RPC-2.92 male, Impedance 75 $\Omega$	1.5 $\pm$ 0.05 @ DC to 20 GHz 1.5 $\pm$ 0.08 @ 20 GHz to 40 GHz	0.5 W @ 25 °C	
02 K 150-055 S3	RPC-2.92 female, Impedance 55 $\Omega$	1.1 $\pm$ 0.05 @ DC to 40 GHz	0.5 W @ 25 °C	
02 K 150-060 S3	RPC-2.92 female, Impedance 60 $\Omega$	1.2 $\pm$ 0.05 @ DC to 40 GHz	0.5 W @ 25 °C	
02 K 150-075 S3	RPC-2.92 female, Impedance 75 $\Omega$	1.5 $\pm$ 0.05 @ DC to 20 GHz 1.5 $\pm$ 0.08 @ 20 GHz to 40 GHz	0.5 W @ 25 °C	

## Airlines

### RPC-N 50 $\Omega$ Airlines

Ordering Number	Remarks	Return Loss	Frequency	
05 S 101-K026	50 $\Omega$ ; a = 36.8 mm, b = 26.4 mm	$\geq 40$ dB @ 0.3 GHz to 4 GHz $\geq 35$ dB @ 4 GHz to 18 GHz	0.3 GHz to 18 GHz	
05 S 101-K033	50 $\Omega$ ; a = 43.7 mm, b = 33.3 mm	$\geq 40$ dB @ 0.3 GHz to 4 GHz $\geq 35$ dB @ 4 GHz to 18 GHz	0.3 GHz to 18 GHz	
05 S 101-K061	50 $\Omega$ ; a = 71.8 mm, b = 61 mm	$\geq 40$ dB @ 0.3 GHz to 4 GHz $\geq 35$ dB @ 4 GHz to 18 GHz	0.3 GHz to 18 GHz	
05 S 101-K100	50 $\Omega$ ; a = 110.8 mm, b = 100 mm	$\geq 40$ dB @ 0.3 GHz to 4 GHz $\geq 35$ dB @ 4 GHz to 18 GHz	0.3 GHz to 18 GHz	
05 S 102-K100	50 $\Omega$ with 25 $\Omega$ section; a = 110.8 mm, b = 100 mm		0.3 GHz to 18 GHz	

### RPC-N 75 $\Omega$ Airlines

Ordering Number	Remarks	Return Loss	Frequency	
P5 S 101-K031	75 $\Omega$ ; a = 41.6 mm, b = 31.2 mm	$\geq 42$ dB @ 0.1 GHz to 2 GHz $\geq 40$ dB @ 2 GHz to 4 GHz	0.1 GHz to 4 GHz	
P5 S 101-K150	50 $\Omega$ ; a = 160.8 mm, b = 150 mm	$\geq 42$ dB @ 0.1 GHz to 2 GHz $\geq 40$ dB @ 2 GHz to 4 GHz	0.1 GHz to 4 GHz	

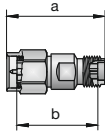
### RPC-7 Airlines

Ordering Number	Remarks	Return Loss	Frequency	
07 P 101-P034	50 $\Omega$ ; a = 40 mm, b = 34 mm	$\geq 45$ dB @ 0.3 GHz to 4 GHz $\geq 40$ dB @ 4 GHz to 18 GHz	0.3 GHz to 18 GHz	
07 P 101-P041	50 $\Omega$ ; a = 47 mm, b = 41 mm	$\geq 45$ dB @ 0.3 GHz to 4 GHz $\geq 40$ dB @ 4 GHz to 18 GHz	0.3 GHz to 18 GHz	
07 P 101-P068	50 $\Omega$ ; a = 74 mm, b = 68 mm	$\geq 45$ dB @ 0.3 GHz to 4 GHz $\geq 40$ dB @ 4 GHz to 18 GHz	0.3 GHz to 18 GHz	
07 P 101-P100	50 $\Omega$ ; a = 106.4 mm, b = 100 mm	$\geq 45$ dB @ 0.3 GHz to 4 GHz $\geq 40$ dB @ 4 GHz to 18 GHz	0.3 GHz to 18 GHz	
07 P 102-P100	50 $\Omega$ with 25 $\Omega$ section, a = 106.4 mm, b = 100 mm		0.3 GHz to 18 GHz	

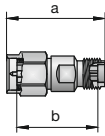
### RPC-SP Airlines

Ordering Number	Remarks	Return Loss	Frequency	
10 S 101-K005	50 $\Omega$ , a = 10.2 mm, b = 5.6 mm	$\geq 36$ dB @ 0.2 GHz to 4 GHz $\geq 32$ dB @ 4 GHz to 22 GHz	0.2 GHz to 22 GHz	
10 S 101-K027	50 $\Omega$ , a = 33 mm, b = 27.7 mm	$\geq 36$ dB @ 0.2 GHz to 4 GHz $\geq 32$ dB @ 4 GHz to 22 GHz	0.2 GHz to 22 GHz	

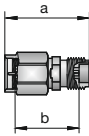
## RPC-3.50 Airlines

Ordering Number	Remarks	Return Loss	Frequency	
03 S 101-K015	50 $\Omega$ ; a = 19.9 mm, b = 15 mm	$\geq 40$ dB @ 0.3 GHz to 4 GHz $\geq 35$ dB @ 4 GHz to 26.5 GHz	0.3 GHz to 26.5 GHz	
03 S 101-K020	50 $\Omega$ ; a = 24.9 mm, b = 20 mm	$\geq 40$ dB @ 0.3 GHz to 4 GHz $\geq 35$ dB @ 4 GHz to 26.5 GHz	0.3 GHz to 26.5 GHz	
03 S 101-K038	50 $\Omega$ ; a = 43.6 mm, b = 38.5 mm	$\geq 40$ dB @ 0.3 GHz to 4 GHz $\geq 35$ dB @ 4 GHz to 26.5 GHz	0.3 GHz to 26.5 GHz	
03 S 101-K100	50 $\Omega$ ; a = 105.1 mm, b = 100 mm	$\geq 40$ dB @ 0.3 GHz to 4 GHz $\geq 35$ dB @ 4 GHz to 26.5 GHz	0.3 GHz to 26.5 GHz	
03 S 102-K100	50 $\Omega$ with 25 $\Omega$ section; a = 105.1 mm, b = 100 mm		0.3 GHz to 26.5 GHz	

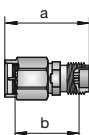
## RPC-2.92 Airlines

Ordering Number	Remarks	Return Loss	Frequency	
02 S 101-K015	50 $\Omega$ ; a = 19.9 mm, b = 15 mm	$\geq 38$ dB @ 0.3 GHz to 4 GHz $\geq 30$ dB @ 4 GHz to 40 GHz	0.3 GHz to 40 GHz	
02 S 101-K018	50 $\Omega$ ; a = 23.2 mm, b = 18.3 mm	$\geq 38$ dB @ 0.3 GHz to 4 GHz $\geq 30$ dB @ 4 GHz to 40 GHz	0.3 GHz to 40 GHz	
02 S 101-K040	50 $\Omega$ ; a = 45.1 mm, b = 40 mm	$\geq 38$ dB @ 0.3 GHz to 4 GHz $\geq 30$ dB @ 4 GHz to 40 GHz	0.3 GHz to 40 GHz	
02 S 101-K075	50 $\Omega$ ; a = 80 mm, b = 75 mm	$\geq 38$ dB @ 0.3 GHz to 4 GHz $\geq 30$ dB @ 4 GHz to 40 GHz	0.3 GHz to 40 GHz	
02 S 102-K075	50 $\Omega$ with 25 $\Omega$ section ; a = 80 mm, b = 75 mm		0.3 GHz to 40 GHz	

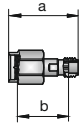
## RPC-2.40 Airlines

Ordering Number	Remarks	Return Loss	Frequency	
09 S 101-K013	50 $\Omega$ ; a = 18.4 mm, b = 13 mm	$\geq 36$ dB @ 0.4 GHz to 4 GHz $\geq 26$ dB @ 4 GHz to 50 GHz	0.4 GHz to 50 GHz	
09 S 101-K015	50 $\Omega$ ; a = 20.9 mm, b = 15.5 mm	$\geq 36$ dB @ 0.4 GHz to 4 GHz $\geq 26$ dB @ 4 GHz to 50 GHz	0.4 GHz to 50 GHz	
09 S 101-K025	50 $\Omega$ ; a = 30.9 mm, b = 25.5 mm	$\geq 36$ dB @ 0.4 GHz to 4 GHz $\geq 26$ dB @ 4 GHz to 50 GHz	0.4 GHz to 50 GHz	

## RPC-1.85 Airlines

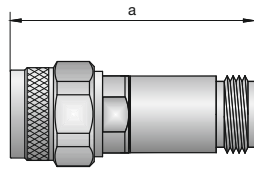
Ordering Number	Remarks	Return Loss	Frequency	
08 S 101-K013	50 $\Omega$ ; a = 18.4 mm, b = 13 mm	$\geq 34$ dB @ 0.5 GHz to 4 GHz $\geq 24$ dB @ 4 GHz to 65 GHz	0.5 GHz to 65 GHz	
08 S 101-K014	50 $\Omega$ ; a = 20.3 mm, b = 14.9 mm	$\geq 34$ dB @ 0.5 GHz to 4 GHz $\geq 24$ dB @ 4 GHz to 65 GHz	0.5 GHz to 65 GHz	
08 S 101-K022	50 $\Omega$ ; a = 28 mm, b = 22.6 mm	$\geq 34$ dB @ 0.5 GHz to 4 GHz $\geq 24$ dB @ 4 GHz to 65 GHz	0.5 GHz to 65 GHz	

## RPC-1.00 Airlines

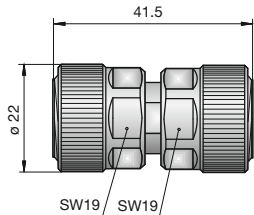
Ordering Number	Remarks	Return Loss	Frequency	
01 S 101-K011	50 $\Omega$ ; a = 14.1 mm, b = 11 mm	$\geq 24$ dB @ 0.8 GHz to 20 GHz $\geq 20$ dB @ 20 GHz to 50 GHz $\geq 18$ dB @ 50 GHz to 75 GHz $\geq 14$ dB @ 75 GHz to 110 GHz	0.8 GHz to 110 GHz	
01 S 101-K012	50 $\Omega$ ; a = 15.2 mm, b = 12.14 mm	$\geq 24$ dB @ 0.8 GHz to 20 GHz $\geq 20$ dB @ 20 GHz to 50 GHz $\geq 18$ dB @ 50 GHz to 75 GHz $\geq 14$ dB @ 75 GHz to 110 GHz	0.8 GHz to 110 GHz	
01 S 101-K016	50 $\Omega$ ; a = 19.7 mm, b = 16.68 mm	$\geq 24$ dB @ 0.8 GHz to 20 GHz $\geq 20$ dB @ 20 GHz to 50 GHz $\geq 18$ dB @ 50 GHz to 75 GHz $\geq 14$ dB @ 75 GHz to 110 GHz	0.8 GHz to 110 GHz	

## Attenuators

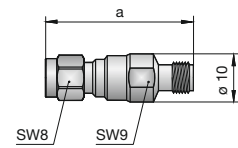
RPC-N 50  $\Omega$ , male - female

Ordering Number	Remarks	Return Loss	Attenuation	Tolerance	Power Handling	
05 AS 102-K03 S3	a = 49.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 18 GHz	3 dB	$\pm 0.3$ dB @ 8 GHz $\pm 0.5$ dB @ 12.4 GHz $\pm 0.8$ dB @ 18 GHz	2 W @ 25 °C	
05 AS 102-K06 S3	a = 49.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 18 GHz	6 dB	$\pm 0.3$ dB @ 8 GHz $\pm 0.5$ dB @ 12.4 GHz $\pm 0.8$ dB @ 18 GHz	2 W @ 25 °C	
05 AS 102-K10 S3	a = 49.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 18 GHz	10 dB	$\pm 0.3$ dB @ 8 GHz $\pm 0.6$ dB @ 12.4 GHz $\pm 0.8$ dB @ 18 GHz	2 W @ 25 °C	
05 AS 102-K20 S3	a = 49.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 18 GHz	20 dB	$\pm 0.3$ dB @ 4 GHz $\pm 0.5$ dB @ 8 GHz $\pm 0.8$ dB @ 18 GHz	2 W @ 25 °C	
05 AS 102-K30 S3	a = 49.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 18 GHz	30 dB	$\pm 0.8$ dB @ 4 GHz $\pm 1.0$ dB @ 12.4 GHz $\pm 1.5$ dB @ 18 GHz	2 W @ 25 °C	
05 AS 102-K40 S3	a = 57 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 18 GHz	40 dB	$\pm 0.8$ dB @ 4 GHz $\pm 1.0$ dB @ 12.4 GHz $\pm 1.5$ dB @ 18 GHz	2 W @ 25 °C	
05 AS 122-K20 S3	a = 49.1 mm	$\geq 32$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 18 GHz	20 dB	$\pm 0.3$ dB @ 4 GHz $\pm 0.5$ dB @ 18 GHz	0.5 W	
05 AS 122-K40 S3	a = 57 mm	$\geq 32$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 18 GHz	40 dB	$\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 18 GHz	0.5 W	

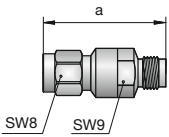
RPC-7

Ordering Number	Return Loss	Attenuation	Tolerance	Power Handling	
07 AP 122-P20 S3	$\geq 32$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 18 GHz	20 dB	$\pm 0.3$ dB @ 4 GHz $\pm 0.5$ dB @ 18 GHz	0.5 W	
07 AP 122-P40 S3	$\geq 32$ dB @ DC to 4 GHz $\geq 23$ dB @ 4 GHz to 18 GHz	40 dB	$\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 18 GHz	0.5 W	

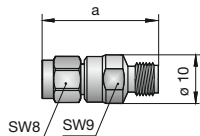
RPC-3.50, male - female

Ordering Number	Remarks	Return Loss	Attenuation	Tolerance	Power Handling	
03 AS 102-K03 S3	a = 30.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 26.5 GHz	3 dB	$\pm 0.5$ dB @ 26.5 GHz	2 W @ 25 °C	
03 AS 102-K06 S3	a = 30.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 26.5 GHz	6 dB	$\pm 0.5$ dB @ 26.5 GHz	2 W @ 25 °C	
03 AS 102-K10 S3	a = 30.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 26.5 GHz	10 dB	$\pm 0.5$ dB @ 26.5 GHz	2 W @ 25 °C	
03 AS 102-K20 S3	a = 30.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 26.5 GHz	20 dB	$\pm 0.5$ dB @ 26.5 GHz	2 W @ 25 °C	
03 AS 102-K30 S3	a = 30.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 26.5 GHz	30 dB	$\pm 0.7$ dB @ 26.5 GHz	2 W @ 25 °C	
03 AS 102-K40 S3	a = 32.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 23.1$ dB @ 4 GHz to 12.4 GHz $\geq 19.1$ dB @ 12.4 GHz to 26.5 GHz	40 dB	$\pm 1.0$ dB @ 26.5 GHz	2 W @ 25 °C	
03 AS 122-K20 S3	a = 30.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 20.1$ dB @ 4 GHz to 26.5 GHz	20 dB	$\pm 0.3$ dB @ 4 GHz $\pm 0.5$ dB @ 26.5 GHz	0.5 W	
03 AS 122-K40 S3	a = 32.1 mm	$\geq 26.4$ dB @ DC to 4 GHz $\geq 20.1$ dB @ 4 GHz to 26.5 GHz	40 dB	$\pm 0.4$ dB @ 4 GHz $\pm 1.0$ dB @ 26.5 GHz	0.5 W	

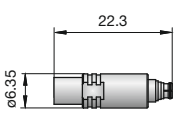
## RPC-2.92, male - female

Ordering Number	Remarks	Return Loss	Attenuation	Tolerance	Power Handling	
02 AS 102-K03 S3	a = 24.8 mm	≥ 26.4 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 40 GHz	3 dB	±0.3 dB @ 4 GHz ±0.5 dB @ 40 GHz	0.5 W	
02 AS 102-K06 S3	a = 24.8 mm	≥ 26.4 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 40 GHz	6 dB	±0.3 dB @ 4 GHz ±0.5 dB @ 40 GHz	0.5 W	
02 AS 102-K10 S3	a = 24.8 mm	≥ 26.4 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 40 GHz	10 dB	±0.3 dB @ 4 GHz ±0.5 dB @ 40 GHz	0.5 W	
02 AS 102-K20 S3	a = 24.8 mm	≥ 26.4 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 40 GHz	20 dB	±0.3 dB @ 4 GHz ±0.5 dB @ 40 GHz	0.5 W	
02 AS 102-K40 S3	a = 25.8 mm	≥ 26.4 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 40 GHz	40 dB	±0.4 dB @ 4 GHz ±1.0 dB @ 40 GHz	0.5 W	
02 AS 122-K20 S3	a = 24.8 mm	≥ 32 dB @ DC to 4 GHz ≥ 20.1 dB @ 4 GHz to 40 GHz	20 dB	±0.3 dB @ 40 GHz	0.5 W	
02 AS 122-K40 S3	a = 28.8 mm	≥ 32 dB @ DC to 4 GHz ≥ 20.1 dB @ 4 GHz to 40 GHz	40 dB	±0.4 dB @ 4 GHz ±0.8 dB @ 40 GHz	0.5 W	

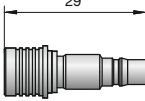
## RPC-1.85, male - female

Ordering Number	Remarks	Return Loss	Attenuation	Tolerance	Power Handling	
08 AS 102-K03 S3	a = 23.3 mm	≥ 32 dB @ DC to 4 GHz ≥ 25 dB @ 4 GHz to 26.5 GHz ≥ 20 dB @ 26.5 GHz to 40 GHz ≥ 14 dB @ 40 GHz to 65 GHz	3 dB	±0.5 dB @ 40 GHz ±1.0 dB @ 65 GHz	0.5 W @ 25 °C	
08 AS 102-K06 S3	a = 23.3 mm	≥ 32 dB @ DC to 4 GHz ≥ 25 dB @ 4 GHz to 26.5 GHz ≥ 20 dB @ 26.5 GHz to 40 GHz ≥ 15 dB @ 40 GHz to 65 GHz	6 dB	±0.5 dB @ 40 GHz ±1.0 dB @ 65 GHz	0.5 W @ 25 °C	
08 AS 102-K10 S3	a = 23.3 mm	≥ 32 dB @ DC to 4 GHz ≥ 25 dB @ 4 GHz to 26.5 GHz ≥ 20 dB @ 26.5 GHz to 40 GHz ≥ 15 dB @ 40 GHz to 65 GHz	10 dB	±0.5 dB @ 40 GHz ±1.0 dB @ 65 GHz	0.5 W @ 25 °C	
08 AS 102-K20 S3	a = 23.3 mm	≥ 32 dB @ DC to 4 GHz ≥ 25 dB @ 4 GHz to 26.5 GHz ≥ 20 dB @ 26.5 GHz to 40 GHz ≥ 15 dB @ 40 GHz to 65 GHz	20 dB	±0.5 dB @ 40 GHz ±1.0 dB @ 65 GHz	0.5 W @ 25 °C	
08 AS 102-K40 S3	a = 24.3 mm	≥ 32 dB @ DC to 4 GHz ≥ 25 dB @ 4 GHz to 26.5 GHz ≥ 20 dB @ 26.5 GHz to 40 GHz ≥ 15 dB @ 40 GHz to 65 GHz	40 dB	±0.5 dB @ 40 GHz ±1.0 dB @ 65 GHz	0.5 W @ 25 °C	

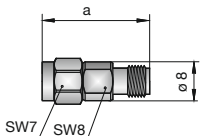
## SMP, male-female

Ordering Number	Return Loss	Attenuation	Tolerance	Power Handling	
19 AS 101-K03 E3	≥ 20.8 dB @ DC to 4 GHz ≥ 16.5 dB @ 4 GHz to 12.4 GHz ≥ 14.0 dB @ 12.4 GHz to 18 GHz	3 dB	±0.3 dB	0.5 W @ 25 °C	
19 AS 101-K06 E3	≥ 20.8 dB @ DC to 4 GHz ≥ 16.5 dB @ 4 GHz to 12.4 GHz ≥ 14.0 dB @ 12.4 GHz to 18 GHz	6 dB	±0.3 dB	0.5 W @ 25 °C	
19 AS 101-K10 E3	≥ 20.8 dB @ DC to 4 GHz ≥ 16.5 dB @ 4 GHz to 12.4 GHz ≥ 14.0 dB @ 12.4 GHz to 18 GHz	10 dB	±0.3 dB	0.5 W @ 25 °C	
19 AS 101-K20 E3	≥ 20.8 dB @ DC to 4 GHz ≥ 16.5 dB @ 4 GHz to 12.4 GHz ≥ 14.0 dB @ 12.4 GHz to 18 GHz	20 dB	±0.3 dB	0.5 W @ 25 °C	
19 AS 101-K30 E3	≥ 20.8 dB @ DC to 4 GHz ≥ 16.5 dB @ 4 GHz to 12.4 GHz ≥ 14.0 dB @ 12.4 GHz to 18 GHz	30 dB	±0.3 dB	0.5 W @ 25 °C	

## QMA, male-female

Ordering Number	Return Loss	Attenuation	Tolerance	Power Handling	
28 AS 102-K03 N3	≥ 26.5 dB @ DC to 2 GHz ≥ 20.8 dB @ 2 GHz to 6 GHz	3 dB	±0.3 dB @ 6 GHz	2 W @ 25 °C	
28 AS 102-K06 N3	≥ 26.5 dB @ DC to 2 GHz ≥ 20.8 dB @ 2 GHz to 6 GHz	6 dB	±0.3 dB @ 6 GHz	2 W @ 25 °C	
28 AS 102-K10 N3	≥ 26.5 dB @ DC to 2 GHz ≥ 20.8 dB @ 2 GHz to 6 GHz	10 dB	±0.3 dB @ 6 GHz	2 W @ 25 °C	
28 AS 102-K20 N3	≥ 26.5 dB @ DC to 2 GHz ≥ 20.8 dB @ 2 GHz to 6 GHz	20 dB	±0.3 dB @ 6 GHz	2 W @ 25 °C	
28 AS 102-K30 N3	≥ 26.5 dB @ DC to 2 GHz ≥ 20.8 dB @ 2 GHz to 6 GHz	30 dB	±0.3 dB @ 6 GHz	2 W @ 25 °C	

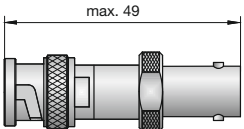
## SMA, male-female

Ordering Number	Remarks	Return Loss	Attenuation	Tolerance	Power Handling	
32 AS 102-K03 S3	a = 20 mm	≥ 23.1 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 12.4 GHz ≥ 16.5 dB @ 12.4 GHz to 18 GHz	3 dB	±0.3 dB @ 8 GHz ±0.5 dB @ 12.4 GHz ±0.75 dB @ 18 GHz	2 W @ 25 °C to 0 W @ 125 °C	
32 AS 102-K06 S3	a = 20 mm	≥ 23.1 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 12.4 GHz ≥ 16.5 dB @ 12.4 GHz to 18 GHz	6 dB	±0.3 dB @ 8 GHz ±0.5 dB @ 12.4 GHz ±0.75 dB @ 18 GHz	2 W @ 25 °C to 0 W @ 125 °C	
32 AS 102-K10 S3	a = 20 mm	≥ 23.1 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 12.4 GHz ≥ 16.5 dB @ 12.4 GHz to 18 GHz	10 dB	±0.3 dB @ 8 GHz ±0.5 dB @ 12.4 GHz ±0.75 dB @ 18 GHz	2 W @ 25 °C to 0 W @ 125 °C	
32 AS 102-K20 S3	a = 20 mm	≥ 23.1 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 12.4 GHz ≥ 16.5 dB @ 12.4 GHz to 18 GHz	20 dB	±0.3 dB @ 8 GHz ±0.5 dB @ 12.4 GHz ±0.75 dB @ 18 GHz	2 W @ 25 °C to 0 W @ 125 °C	
32 AS 102-K30 S3	a = 20 mm	≥ 23.1 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 12.4 GHz ≥ 16.5 dB @ 12.4 GHz to 18 GHz	30 dB	±0.3 dB @ 4 GHz ±0.5 dB @ 8 GHz ±0.75 dB @ 12.4 GHz ±1.5 dB @ 18 GHz	2 W @ 25 °C to 0 W @ 125 °C	
32 AS 102-K40 S3	a = 22 mm	≥ 23.1 dB @ DC to 4 GHz ≥ 19.1 dB @ 4 GHz to 12.4 GHz ≥ 16.5 dB @ 12.4 GHz to 18 GHz	40 dB	±0.3 dB @ 4 GHz ±0.5 dB @ 8 GHz ±1.0 dB @ 12.4 GHz ±1.75 dB @ 18 GHz	2 W @ 25 °C to 0 W @ 125 °C	

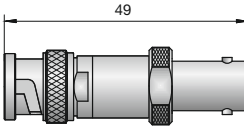
N 50  $\Omega$  Standard, male-female

Ordering Number	Return Loss	Attenuation	Tolerance	Power Handling	
53 AS 102-K01 N3	$\geq 26.4$ dB @ DC to 4 GHz $\geq 20.8$ dB @ 4 GHz to 10 GHz $\geq 19.1$ dB @ 10 GHz to 12.4 GHz	1 dB	$\pm 0.3$ dB @ 8 GHz $\pm 0.5$ dB @ 12.4 GHz	2 W @ 25 °C to 0 W @ 125 °C	
53 AS 102-K02 N3	$\geq 26.4$ dB @ DC to 4 GHz $\geq 20.8$ dB @ 4 GHz to 10 GHz $\geq 19.1$ dB @ 10 GHz to 12.4 GHz	2 dB	$\pm 0.3$ dB @ 8 GHz $\pm 0.5$ dB @ 12.4 GHz	2 W @ 25 °C to 0 W @ 125 °C	
53 AS 102-K03 N3	$\geq 26.4$ dB @ DC to 4 GHz $\geq 20.8$ dB @ 4 GHz to 10 GHz $\geq 19.1$ dB @ 10 GHz to 12.4 GHz	3 dB	$\pm 0.3$ dB @ 8 GHz $\pm 0.5$ dB @ 12.4 GHz	2 W @ 25 °C to 0 W @ 125 °C	
53 AS 102-K06 N3	$\geq 26.4$ dB @ DC to 4 GHz $\geq 20.8$ dB @ 4 GHz to 10 GHz $\geq 19.1$ dB @ 10 GHz to 12.4 GHz	6 dB	$\pm 0.3$ dB @ 8 GHz $\pm 0.5$ dB @ 12.4 GHz	2 W @ 25 °C to 0 W @ 125 °C	
53 AS 102-K10 N3	$\geq 26.4$ dB @ DC to 4 GHz $\geq 20.8$ dB @ 4 GHz to 10 GHz $\geq 19.1$ dB @ 10 GHz to 12.4 GHz	10 dB	$\pm 0.3$ dB @ 8 GHz $\pm 0.6$ dB @ 12.4 GHz	2 W @ 25 °C to 0 W @ 125 °C	
53 AS 102-K20 N3	$\geq 26.4$ dB @ DC to 4 GHz $\geq 20.8$ dB @ 4 GHz to 10 GHz $\geq 19.1$ dB @ 10 GHz to 12.4 GHz	20 dB	$\pm 0.3$ dB @ 4 GHz $\pm 0.6$ dB @ 8 GHz $\pm 0.8$ dB @ 12.4 GHz	2 W @ 25 °C to 0 W @ 125 °C	
53 AS 102-K30 N3	$\geq 26.4$ dB @ DC to 4 GHz $\geq 20.8$ dB @ 4 GHz to 10 GHz $\geq 19.1$ dB @ 10 GHz to 12.4 GHz	30 dB	$\pm 0.3$ dB @ 4 GHz $\pm 0.6$ dB @ 8 GHz $\pm 1.0$ dB @ 12.4 GHz	2 W @ 25 °C to 0 W @ 125 °C	
53 AS 105-K03 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	3 dB	$\pm 0.3$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 10 GHz	5 W @ 25 °C to 0 W @ 125 °C	
53 AS 105-K06 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	6 dB	$\pm 0.3$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 10 GHz	5 W @ 25 °C to 0 W @ 125 °C	
53 AS 105-K10 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	10 dB	$\pm 0.3$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 10 GHz	5 W @ 25 °C to 0 W @ 125 °C	
53 AS 105-K20 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	20 dB	$\pm 0.4$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.5$ dB @ 10 GHz	5 W @ 25 °C to 0 W @ 125 °C	
53 AS 105-K30 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	30 dB	$\pm 0.4$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.75$ dB @ 10 GHz	5 W @ 25 °C to 0 W @ 125 °C	
53 AS 110-K03 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	3 dB	$\pm 0.3$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 10 GHz	10 W @ 25 °C to 0 W @ 125 °C	
53 AS 110-K06 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	6 dB	$\pm 0.3$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 10 GHz	10 W @ 25 °C to 0 W @ 125 °C	
53 AS 110-K10 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	10 dB	$\pm 0.3$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 10 GHz	10 W @ 25 °C to 0 W @ 125 °C	
53 AS 110-K20 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	20 dB	$\pm 0.4$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.5$ dB @ 10 GHz	10 W @ 25 °C to 0 W @ 125 °C	
53 AS 110-K30 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	30 dB	$\pm 0.4$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.75$ dB @ 10 GHz	10 W @ 25 °C to 0 W @ 125 °C	
53 AS 120-K03 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	3 dB	$\pm 0.3$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 10 GHz	20 W @ 25 °C to 0 W @ 125 °C	
53 AS 120-K06 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	6 dB	$\pm 0.3$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 10 GHz	20 W @ 25 °C to 0 W @ 125 °C	
53 AS 120-K10 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	10 dB	$\pm 0.3$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.0$ dB @ 10 GHz	20 W @ 25 °C to 0 W @ 125 °C	
53 AS 120-K20 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	20 dB	$\pm 0.4$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.5$ dB @ 10 GHz	20 W @ 25 °C to 0 W @ 125 °C	
53 AS 120-K30 N3	$\geq 26.4$ dB @ DC to 2 GHz $\geq 21.2$ dB @ 2 GHz to 5 GHz $\geq 14.0$ dB @ 5 GHz to 10 GHz	30 dB	$\pm 0.4$ dB @ 2 GHz $\pm 0.5$ dB @ 4 GHz $\pm 1.75$ dB @ 10 GHz	20 W @ 25 °C to 0 W @ 125 °C	

## BNC 50 $\Omega$ , male-female

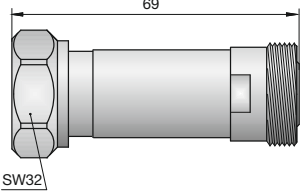
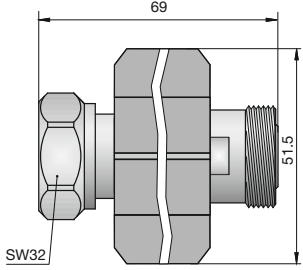
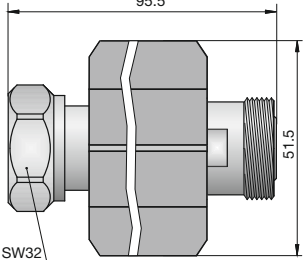
Ordering Number	Return Loss	Attenuation	Power Handling	
51 AS 103-K03 N4	$\geq 20.8$ dB @ DC to 1.2 GHz $\geq 15.5$ dB @ 1.2 GHz to 2 GHz	3 dB $\pm 0.4$ dB	3 W @ 25 °C to 0 W @ 125 °C	
51 AS 103-K06 N4	$\geq 20.8$ dB @ DC to 1.2 GHz $\geq 15.5$ dB @ 1.2 GHz to 2 GHz	6 dB $\pm 0.4$ dB	3 W @ 25 °C to 0 W @ 125 °C	
51 AS 103-K10 N4	$\geq 20.8$ dB @ DC to 1.2 GHz $\geq 15.5$ dB @ 1.2 GHz to 2 GHz	10 dB $\pm 0.4$ dB	3 W @ 25 °C to 0 W @ 125 °C	
51 AS 103-K20 N4	$\geq 20.8$ dB @ DC to 1.2 GHz $\geq 15.5$ dB @ 1.2 GHz to 2 GHz	20 dB $\pm 0.5$ dB	3 W @ 25 °C to 0 W @ 125 °C	
51 AS 103-K30 N4	$\geq 20.8$ dB @ DC to 1.2 GHz $\geq 15.5$ dB @ 1.2 GHz to 2 GHz	30 dB $\pm 1.0$ dB	3 W @ 25 °C to 0 W @ 125 °C	
51 AS 103-K40 N4	$\geq 20.8$ dB @ DC to 1.2 GHz $\geq 15.5$ dB @ 1.2 GHz to 2 GHz	40 dB $\pm 1.4$ dB	3 W @ 25 °C to 0 W @ 125 °C	

## BNC 75 $\Omega$ , male-female

Ordering Number	Return Loss	Attenuation	Power Handling	
71 AS 103-K03 N4	$\geq 23$ dB @ DC to 1 GHz $\geq 19$ dB @ 1 GHz to 2 GHz	3 dB $\pm 0.6$ dB	3 W @ 25 °C to 0 W @ 125 °C	
71 AS 103-K06 N4	$\geq 23$ dB @ DC to 1 GHz $\geq 19$ dB @ 1 GHz to 2 GHz	6 dB $\pm 0.6$ dB	3 W @ 25 °C to 0 W @ 125 °C	
71 AS 103-K10 N4	$\geq 23$ dB @ DC to 1 GHz $\geq 19$ dB @ 1 GHz to 2 GHz	10 dB $\pm 0.6$ dB	3 W @ 25 °C to 0 W @ 125 °C	
71 AS 103-K20 N4	$\geq 23$ dB @ DC to 1 GHz $\geq 19$ dB @ 1 GHz to 2 GHz	20 dB $\pm 0.6$ dB	3 W @ 25 °C to 0 W @ 125 °C	
71 AS 103-K30 N4	$\geq 23$ dB @ DC to 1 GHz $\geq 19$ dB @ 1 GHz to 2 GHz	30 dB $\pm 1.1$ dB	3 W @ 25 °C to 0 W @ 125 °C	
71 AS 103-K40 N4	$\geq 23$ dB @ DC to 1 GHz $\geq 19$ dB @ 1 GHz to 2 GHz	40 dB $\pm 1.1$ dB	3 W @ 25 °C to 0 W @ 125 °C	

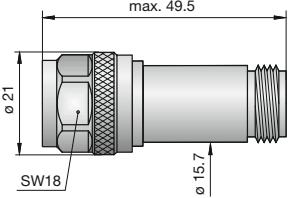


7-16, male-female

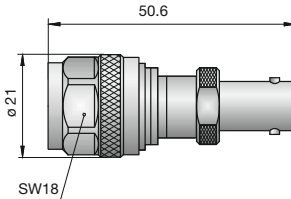
Ordering Number	Return Loss	Attenuation	Tolerance	Power Handling	
60 AS 105-K03 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	3 dB	±0.3 dB @ 2 GHz ±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	5 W @ 25 °C to 0 W @ 125 °C	
60 AS 105-K06 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	6 dB	±0.3 dB @ 2 GHz ±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	5 W @ 25 °C to 0 W @ 125 °C	
60 AS 105-K10 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	10 dB	±0.3 dB @ 2 GHz ±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	5 W @ 25 °C to 0 W @ 125 °C	
60 AS 105-K20 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	20 dB	±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	5 W @ 25 °C to 0 W @ 125 °C	
60 AS 105-K30 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	30 dB	±0.4 dB @ 2 GHz ±0.5 dB @ 4 GHz ±1.0 dB @ 8 GHz	5 W @ 25 °C to 0 W @ 125 °C	
60 AS 105-K40 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	40 dB	±0.4 dB @ 2 GHz ±0.5 dB @ 4 GHz ±1.2 dB @ 8 GHz	5 W @ 25 °C to 0 W @ 125 °C	
60 AS 110-K03 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	3 dB	±0.3 dB @ 2 GHz ±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	10 W @ 25 °C to 0 W @ 125 °C	
60 AS 110-K06 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	6 dB	±0.3 dB @ 2 GHz ±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	10 W @ 25 °C to 0 W @ 125 °C	
60 AS 110-K10 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	10 dB	±0.3 dB @ 2 GHz ±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	10 W @ 25 °C to 0 W @ 125 °C	
60 AS 110-K20 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	20 dB	±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	10 W @ 25 °C to 0 W @ 125 °C	
60 AS 110-K30 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	30 dB	±0.4 dB @ 2 GHz ±0.5 dB @ 4 GHz ±1.0 dB @ 8 GHz	10 W @ 25 °C to 0 W @ 125 °C	
60 AS 110-K40 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	40 dB	±0.4 dB @ 2 GHz ±0.5 dB @ 4 GHz ±1.2 dB @ 8 GHz	10 W @ 25 °C to 0 W @ 125 °C	
60 AS 120-K03 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	3 dB	±0.3 dB @ 2 GHz ±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	20 W @ 25 °C to 0 W @ 125 °C	
60 AS 120-K06 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	6 dB	±0.3 dB @ 2 GHz ±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	20 W @ 25 °C to 0 W @ 125 °C	
60 AS 120-K10 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	10 dB	±0.3 dB @ 2 GHz ±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	20 W @ 25 °C to 0 W @ 125 °C	
60 AS 120-K20 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	20 dB	±0.4 dB @ 4 GHz ±0.8 dB @ 8 GHz	20 W @ 25 °C to 0 W @ 125 °C	
60 AS 120-K30 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	30 dB	±0.4 dB @ 2 GHz ±0.5 dB @ 4 GHz ±1.0 dB @ 8 GHz	20 W @ 25 °C to 0 W @ 125 °C	
60 AS 120-K40 N1	≥ 30.7 dB @ DC to 1 GHz ≥ 26.4 dB @ 1 GHz to 2 GHz ≥ 20.0 dB @ 2 GHz to 8 GHz	40 dB	±0.4 dB @ 2 GHz ±0.5 dB @ 4 GHz ±1.2 dB @ 8 GHz	20 W @ 25 °C to 0 W @ 125 °C	

## Matching Attenuators

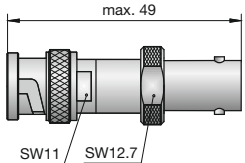
N 50  $\Omega$  male - N 75  $\Omega$  female

Ordering Number	Return Loss	Attenuation	Power Handling	
53 S 173-K00 N3	$\geq 26.4$ dB @ DC to 1 GHz $\geq 20.8$ dB @ 1 to 2 GHz	5.72 dB	2 W @ 25 °C to 0 W @ 125 °C	

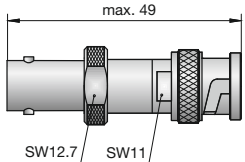
N 50  $\Omega$  male - BNC 75  $\Omega$  female

Ordering Number	Return Loss	Attenuation	Power Handling	
53 S 171-K00 N3	$\geq 46$ dB (male side), $\geq 44.5$ dB (female side) @ DC to 30 MHz $\geq 42$ dB (male side), $\geq 40.1$ dB (female side) @ 30 MHz to 100 MHz $\geq 36.6$ dB (male side), $\geq 34.1$ dB (female side) @ 100 MHz to 300 MHz $\geq 28.3$ dB (male side), $\geq 28.3$ dB (female side) @ 300 MHz to 0.5 GHz $\geq 26.4$ dB (male side), $\geq 23.1$ dB (female side) @ 0.5 GHz to 1 GHz $\geq 23.1$ dB (male side), $\geq 16.5$ dB (female side) @ 1 GHz to 2 GHz	5.72 dB	1 W @ 25 °C to 0 W @ 125 °C	

BNC 50  $\Omega$  male - BNC 75  $\Omega$  female

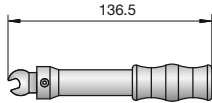
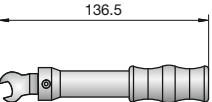
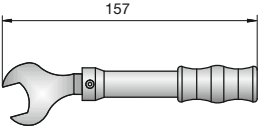
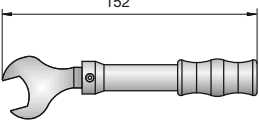
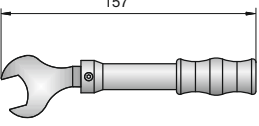
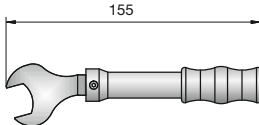
Ordering Number	Return Loss	Attenuation	Power Handling	
51 S 171-K00 N4	$\geq 46$ dB (male side), $\geq 44.5$ dB (female side) @ DC to 30 MHz $\geq 42$ dB (male side), $\geq 40.1$ dB (female side) @ 30 MHz to 100 MHz $\geq 36.6$ dB (male side), $\geq 34.1$ dB (female side) @ 100 MHz to 300 MHz $\geq 28.3$ dB (male side), $\geq 28.3$ dB (female side) @ 300 MHz to 0.5 GHz $\geq 26.4$ dB (male side), $\geq 23.1$ dB (female side) @ 0.5 GHz to 1 GHz $\geq 23.1$ dB (male side), $\geq 16.5$ dB (female side) @ 1 GHz to 2 GHz	5.72 dB	1 W @ 25 °C to 0 W @ 125 °C	

BNC 50  $\Omega$  female - BNC 75  $\Omega$  male

Ordering Number	Return Loss	Attenuation	Power Handling	
51 K 171-S00 N4	$\geq 46$ dB (male side), $\geq 44.5$ dB (female side) @ DC to 30 MHz $\geq 42$ dB (male side), $\geq 40.1$ dB (female side) @ 30 MHz to 100 MHz $\geq 36.6$ dB (male side), $\geq 34.1$ dB (female side) @ 100 MHz to 300 MHz $\geq 28.3$ dB (male side), $\geq 28.3$ dB (female side) @ 300 MHz to 0.5 GHz $\geq 26.4$ dB (male side), $\geq 23.1$ dB (female side) @ 0.5 GHz to 1 GHz $\geq 23.1$ dB (male side), $\geq 16.5$ dB (female side) @ 1 GHz to 2 GHz	5.72 dB	1 W @ 25 °C to 0 W @ 125 °C	

## Tools

## Torque Wrench

Ordering Number	Remarks	
01 W 021-000	flat 6 mm - 35 Ncm torque for RPC-1.00	 136.5
03 W 021-000	flat 8 mm - 0.9 Nm torque for RPC-3.50 , RPC- 2.92, RPC-2.40, RPC-1.85	 136.5
04 W 021-000	flat 18 mm - 2 Nm torque for RPC-SL 26.5 GHz, RPC-SL 40 GHz	 157
06 W 021-000	flat 15 mm - 55 Ncm torque for RPC-TNC	 152
07 W 021-000	flat 19 mm - 136 Ncm torque for RPC 7, RPC-SP	 157
53 W 009-000	flat 20 mm - 1,1 Nm torque for RPC-N 50 $\Omega$ , RPC-N 75 $\Omega$	 155

## Collet Extractor

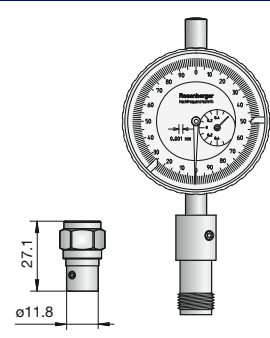
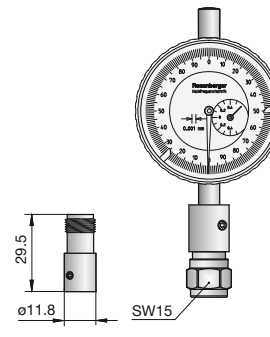
Ordering Number		
07 W 031-000	for RPC-7, to remove 7 mm center contact	 91.7

## Gauges

Gauge incl. Block RPC-N 50  $\Omega$  , RPC-N 75  $\Omega$

Ordering Number	Remarks	
05 W 00S-000	compatible to male connectors for RPC-N 50 $\Omega$ incl. gauge block	
P5 W 00S-000	compatible to male connectors for RPC-N 75 $\Omega$ incl. gauge block	
05 W 00K-000	compatible to female connectors for RPC-N 50 $\Omega$ , RPC-N 75 $\Omega$ incl. gauge block	

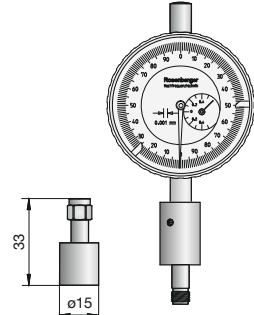
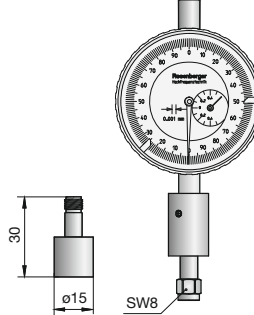
Gauge incl. Block RPC-TNC

Ordering Number	Remarks	
06 W 00S-000	compatible to male connectors for RPC-TNC incl. gauge block	
06 W 00K-000	compatible to female connectors for RPC-TNC incl. gauge block	
		

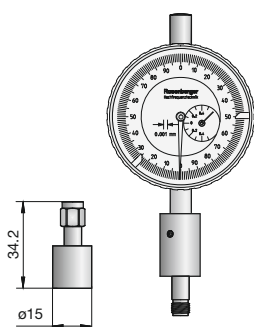
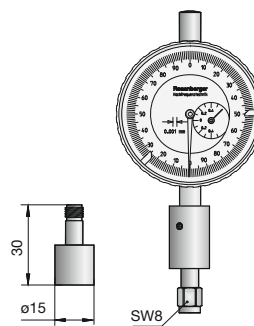
Gauge incl. Block RPC-7

Ordering Number	Remarks	
07 W 001-000	compatible to connectors for RPC-7 incl. gauge block	

Gauge incl. Block RPC-3.50, RPC-2.92

Ordering Number	Remarks	
03 W 00S-000	compatible to male connectors for RPC-3.50, RPC-2.92 incl. gauge block	
03 W 00K-000	compatible to female connectors for RPC-3.50, RPC-2.92 incl. gauge block	

Gauge incl. Block RPC-2.40, RPC-1.85

Ordering Number	Remarks	
08 W 00S-000	compatible to male connectors for RPC-2.40, RPC-1.85 incl. gauge block	
08 W 00K-000	compatible to female connectors for RPC-2.40, RPC-1.85 incl. gauge block	

Gauge incl. Block RPC-1.00

Ordering Number	Remarks	
01 W 00S-000	compatible to male connectors for RPC-1.00 incl. gauge block	
01 W 00K-000	compatible to female connectors for RPC-1.00 incl. gauge block	

Gauge incl. Block 7-16

Ordering Number	Remarks	
60 W 00S-000	compatible to male connectors for 7-16 incl. gauge block	
60 W 00K-000	compatible to female connectors for 7-16 incl. gauge block	

Test Devices



Rosenberger RPC-N connectors with an outer diameter of 7 mm have been designed for applications up to 18 GHz (50 Ohm), 75  $\Omega$  types up to 4 GHz.

RPC-N precision connectors are intermateable with standard N connectors 50  $\Omega$ , but not to 75  $\Omega$  types. RPC-N and RPC-7 connector heads are interchangeable using the same bead type.

Additionally, the RPC-N product spectrum includes cable connectors, adapters, as well as test & measurement accessories such as calibration kits, verification kits, attenuators, mismatches, airlines or sliding loads.

*Rosenberger RPC-N-Steckverbinder – Präzisionssteckverbinder mit 7 mm-Außenleiter – wurden konzipiert für Anwendungen bis 18 GHz, die 75  $\Omega$ -Ausführungen können bis 4 GHz eingesetzt werden.*

*RPC-N-Präzisionssteckverbinder sind steckkompatibel zu Standard-N-Steckverbindern, 50  $\Omega$ , jedoch nicht zu 75  $\Omega$ -Typen. Die Steckverbinderköpfe von RPC-N und RPC-7-Steckverbindern sind aufgrund gleicher Anschlussmaße auf der Montageseite austauschbar.*

*Das Produktspektrum umfasst Kabelsteckverbinder, Adapter, sowie Messzubehör wie z. B. RPC-N-Kalibrier-Kits, Verifizier-Kits, Dämpfungsglieder, Fehlabschlüsse, Luftleitungen oder Gleitlasten.*



## Series RPC-N

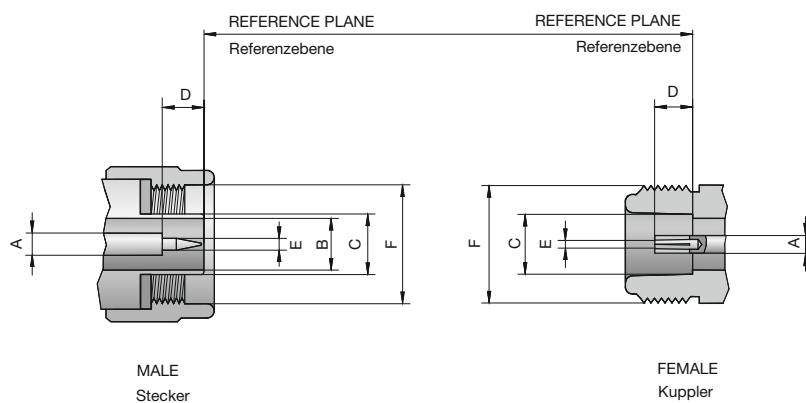
RPC-N



### Features

- Interface according to IEC 61169-16
- Frequency range DC to 18 GHz / 4 GHz
- Return loss (connector head) >- 30 dB / 36 dB
- Impedance 50  $\Omega$  / 75  $\Omega$
- Threaded coupling
- Intermateable with standard N
- No coupling between 50  $\Omega$  and 75  $\Omega$

## Interface Dimensions Series RPC-N, 50 Ω (code 05)



### Series RPC-N, 50 Ω

dimension	Male   Stecker		Female   Kuppler	
	min.	max.	min.	max.
A	3.03	3.05	3.03	3.05
B	6.99	7.01	6.99	7.01
C	7.98	8.02	8.05	8.10
D	5.28	5.36	5.18	5.26
E	1.64	1.66	1.68	1.71
F	5/8-24UNEF-2B		5/8-24UNEF-2A	

## Technical Data Series RPC-N, 50 Ω

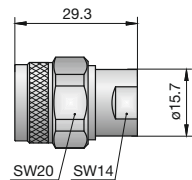
Applicable standards   Anwendbare Standards	
Interface according to   Interface gemäß	IEC 61169-16; CECC 22 210; MIL-STD 348A/402
Electrical data   Elektrische Daten	
Impedance   Wellenwiderstand	50 Ω
Frequency range   Frequenzbereich	DC to 18 GHz
Return loss (connector head)   Rückflußdämpfung (Steckerkopf)	≥ 30 dB, DC to 18 GHz
Insertion loss (connector head)   Dämpfung (Steckerkopf)	≤ 0.03 dB x  [GHz]
Insulation resistance   Isolationswiderstand	≥ 5 GΩ
Center contact resistance   Übergangswiderstand Innenleiter	≤ 1.0 mΩ
Outer contact resistance   Übergangswiderstand Außenleiter	≤ 1.0 mΩ
Test voltage   Prüfspannung	2500 V rms
Working voltage   Betriebsspannung	1000 V rms
RF-leakage   Schirmdämpfung	≥ 90 dB up to 1 GHz
Mechanical data   Mechanische Daten	
Mating cycles   Steckzyklen	≥ 500
Center contact captivation   Innenleiter Haltekraft	≥ 28 N
Coupling torque recommended   Anzugsdrehmoment empfohlen	0.70 Nm to 1.10 Nm
Coupling test torque   Prüfdrehmoment	1.70 Nm
Environmental data   Umweltdaten	
Temperature range   Temperaturbereich	-40 °C to +85 °C
Thermal shock   Temperaturzyklen	IEC 61169-1, Subclause 9.4.4
Corrosion resistance   Korrosionsbeständigkeit	IEC 61169-1, Subclause 9.4.6
Vibration   Vibration	IEC 61169-1, Subclause 9.3.3
Shock   Schock	IEC 61169-1, Subclause 9.3.14
Moisture resistance   Feuchtigkeitsbeständigkeit	IEC 61169-1, Subclause 9.4.3
Max. soldering temperature   Maximale Löttemperatur	IEC 61760-1, +260 °C for 10 sec.
Materials   Materialien	
Center contact   Innenleiter	Beryllium copper, gold-plated
Outer contact   Außenleiter	Stainless steel, passivated
Dielectric   Dielektrikum	PPE

Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

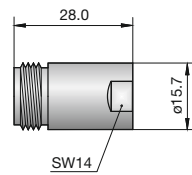
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Connector Heads

Straight Plug

Ordering Number	Version	Remarks	Return Loss	
05 S 121-000 S3	straight	with bead	$\geq 30$ dB @ DC to 18 GHz	

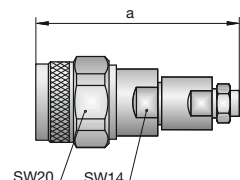
Straight Jack

Ordering Number	Version	Remarks	Return Loss	
05 K 121-000 S3	straight	with bead	$\geq 30$ dB @ DC to 18 GHz	

## Cable Connectors Semi-Rigid Cable

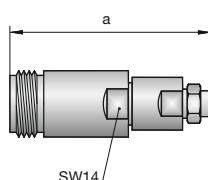
Straight Plug, solder

Semi-Rigid

Ordering Number	Remarks	Return Loss	Cable Group	Assembly Instruction	
05 S 121-271 S3	a = 48.1 mm	$\geq 25$ dB @ DC to 18 GHz	71	02 A3	
05 S 121-272 S3	a = 41.2 mm	$\geq 25$ dB @ DC to 18 GHz	72	02 A3	
05 S 121-273 S3	a = 48.1 mm	$\geq 25$ dB @ DC to 18 GHz	73	03 A	

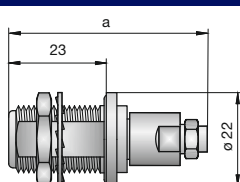
Straight Jack, solder

Semi-Rigid

Ordering Number	Remarks	Return Loss	Cable Group	Assembly Instruction	
05 K 121-271 S3	a = 46.9 mm	$\geq 25$ dB @ DC to 18 GHz	71	02 A3	
05 K 121-272 S3	a = 40.0 mm	$\geq 25$ dB @ DC to 18 GHz	72	03 A	
05 K 121-273 S3	a = 46.9 mm	$\geq 25$ dB @ DC to 18 GHz	73	03 A	

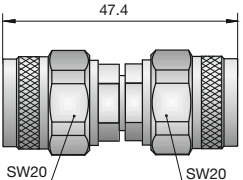
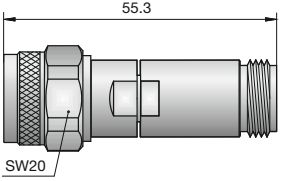
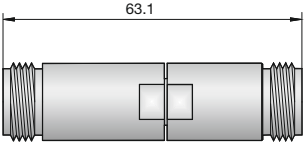
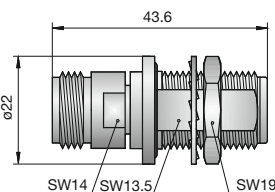
Panel Jack, round flange

Semi-Rigid

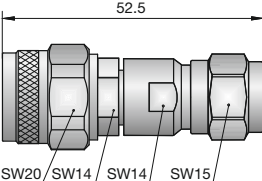
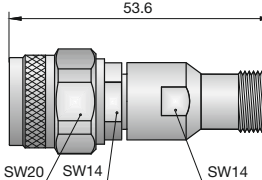
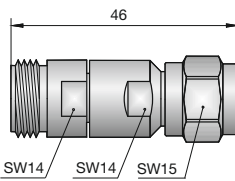
Ordering Number	Remarks	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
05 K 521-271 S3	a = 46.9 mm	$\geq 25$ dB @ DC to 18 GHz	71	02 A3	MB 13	
05 K 521-272 S3	a = 40.0 mm	$\geq 25$ dB @ DC to 18 GHz	72	03 A	MB 13	
05 K 521-273 S3	a = 46.9 mm	$\geq 25$ dB @ DC to 18 GHz	73	03 A	MB 13	

## Adaptors

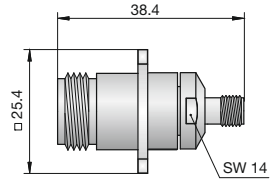
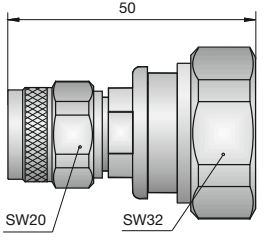
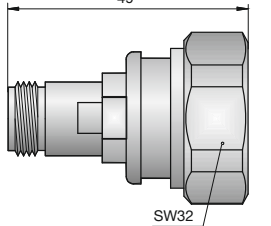
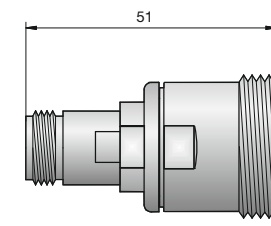
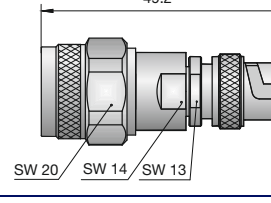
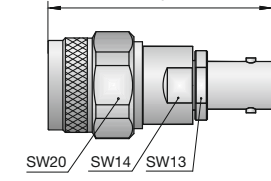
Adaptor (In Series)

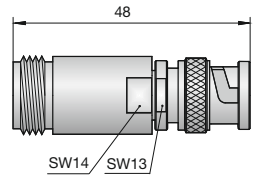
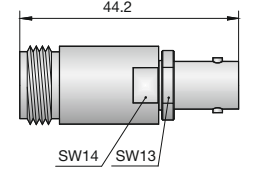
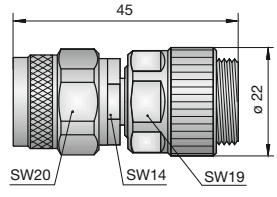
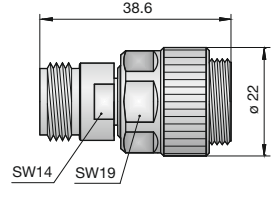
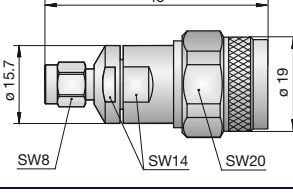
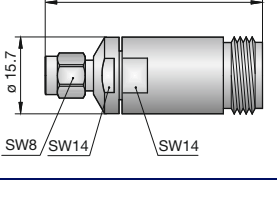
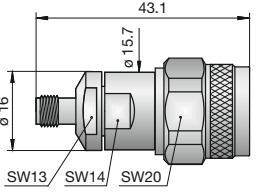
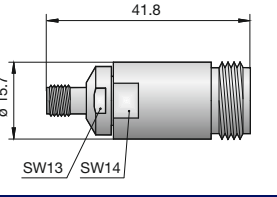
Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
05 S 121-S00 S3	straight	RPC-N 50 $\Omega$ male - male	$\geq 26$ dB @ DC to 18 GHz		
05 S 121-S20 S3	straight	RPC-N 50 $\Omega$ male - male, calibration adaptor	$\geq 36$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 18 GHz		
05 S 121-K00 S3	straight	RPC-N 50 $\Omega$ male - female	$\geq 26$ dB @ DC to 18 GHz		
05 S 121-K20 S3	straight	RPC-N 50 $\Omega$ male - female, calibration adaptor	$\geq 36$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 18 GHz		
05 K 121-K00 S3	straight	RPC-N 50 $\Omega$ female - female	$\geq 26$ dB @ DC to 18 GHz		
05 K 121-K20 S3	straight	RPC-N 50 $\Omega$ female - female, calibration adaptor	$\geq 36$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 18 GHz		
05 K 521-K00 S3	straight	RPC-N 50 $\Omega$ female - female, round flange	$\geq 26$ dB @ DC to 18 GHz	MB 13	

Adaptor (Inter Series)

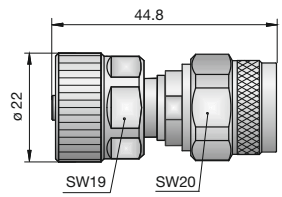
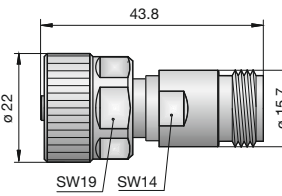
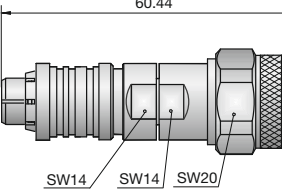
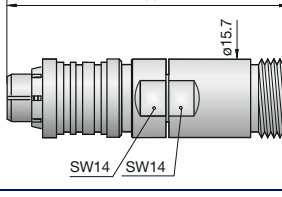
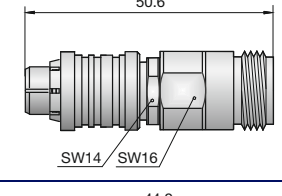
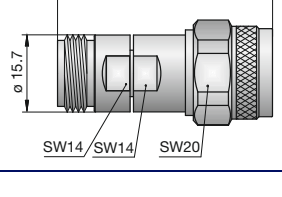
Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
05 S 106-S00 S3	straight	RPC-N 50 $\Omega$ male - RPC-TNC male	$\geq 20$ dB @ DC to 18 GHz		
05 S 106-S20 S3	straight	RPC-N 50 $\Omega$ male - RPC-TNC male, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 GHz to 18 GHz		
05 S 106-K00 S3	straight	RPC-N 50 $\Omega$ male - RPC-TNC female	$\geq 20$ dB @ DC to 18 GHz		
05 K 106-S00 S3	straight	RPC-N 50 $\Omega$ female - RPC-TNC male	$\geq 20$ dB @ DC to 18 GHz		

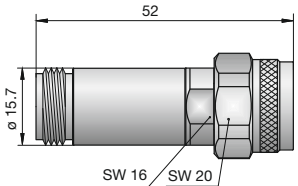
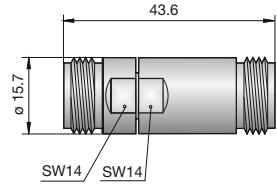
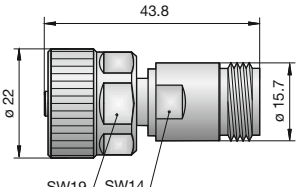
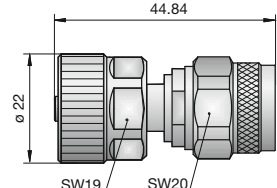
Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
05 K 106-K00 S3	straight	RPC-N 50 $\Omega$ female - RPC-TNC female	$\geq 20$ dB @ DC to 18 GHz		
05 K 106-K20 S3	straight	RPC-N 50 $\Omega$ female - RPC-TNC female, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 GHz to 18 GHz		
05 S 132-S00 S3	straight	RPC-N 50 $\Omega$ male - SMA male	$\geq 23$ dB @ DC to 18 GHz		
05 S 132-K00 S3	straight	RPC-N 50 $\Omega$ male - SMA female	$\geq 23$ dB @ DC to 18 GHz		
05 K 132-S00 S3	straight	RPC-N 50 $\Omega$ female - SMA male	$\geq 23$ dB @ DC to 18 GHz		
05 K 132-K00 S3	straight	RPC-N 50 $\Omega$ female - SMA female	$\geq 23$ dB @ DC to 18 GHz		
05 S 432-S00 S3	straight	RPC-N 50 $\Omega$ male - SMA male, 4-hole flange	$\geq 23$ dB @ DC to 18 GHz	MB 12	
05 S 432-K00 S3	straight	RPC-N 50 $\Omega$ male - SMA female, 4-hole flange	$\geq 23$ dB @ DC to 18 GHz	MB 12	
05 K 432-S00 S3	straight	RPC-N 50 $\Omega$ female - SMA male, 4-hole flange	$\geq 23$ dB @ DC to 18 GHz	MB 12	

Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
05 K 432-K00 S3	straight	RPC-N 50 $\Omega$ female - SMA female, 4-hole flange	$\geq 23$ dB @ DC to 18 GHz	MB 12	
05 S 160-S50 D3	straight	RPC-N 50 $\Omega$ male - 7-16 male, calibration adaptor	$\geq 36.6$ dB @ DC to 8 GHz		
05 S 160-K50 D3	straight	RPC-N 50 $\Omega$ male - 7-16 female, calibration adaptor	$\geq 36.6$ dB @ DC to 8 GHz		
05 K 160-S50 D3	straight	RPC-N 50 $\Omega$ female - 7-16 male, calibration adaptor	$\geq 36.6$ dB @ DC to 8 GHz		
05 K 160-K50 D3	straight	RPC-N 50 $\Omega$ female - 7-16 female, calibration adaptor	$\geq 36.6$ dB @ DC to 8 GHz		
05 S 151-S00 S3	straight	RPC-N 50 $\Omega$ male - BNC 50 $\Omega$ male	$\geq 22$ dB @ DC to 4 GHz		
05 S 151-S20 S3	straight	RPC-N 50 $\Omega$ male - BNC 50 $\Omega$ male, calibration adaptor	$\geq 36$ dB @ DC to 2 GHz $\geq 30$ dB @ 2 GHz to 4 GHz		
05 S 151-K00 S3	straight	RPC-N 50 $\Omega$ male - BNC 50 $\Omega$ female	$\geq 22$ dB @ DC to 4 GHz		

Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
05 K 151-S00 S3	straight	RPC-N 50 $\Omega$ female - BNC 50 $\Omega$ male	$\geq 22$ dB @ DC to 4 GHz		
05 K 151-K00 S3	straight	RPC-N 50 $\Omega$ female - BNC 50 $\Omega$ female	$\geq 22$ dB @ DC to 4 GHz		
05 K 151-K20 S3	straight	RPC-N 50 $\Omega$ female - BNC 50 $\Omega$ female, calibration adaptor	$\geq 36$ dB @ DC to 2 GHz $\geq 30$ dB @ 2 GHz to 4 GHz		
05 S 107-P00 S3	straight	RPC-N 50 $\Omega$ male - RPC-7	$\geq 28$ dB @ DC to 18 GHz		
05 K 107-P00 S3	straight	RPC-N 50 $\Omega$ female - RPC-7	$\geq 28$ dB @ DC to 18 GHz		
03 S 105-S00 S3	straight	RPC-3.50 male - RPC-N 50 $\Omega$ male	$\geq 26$ dB @ DC to 18 GHz		
03 S 105-K00 S3	straight	RPC-3.50 male - RPC-N 50 $\Omega$ female	$\geq 26$ dB @ DC to 18 GHz		
03 K 105-S00 S3	straight	RPC-3.50 female - RPC-N 50 $\Omega$ male	$\geq 26$ dB @ DC to 18 GHz		
03 K 105-K00 S3	straight	RPC-3.50 female - RPC-N 50 $\Omega$ female	$\geq 26$ dB @ DC to 18 GHz		

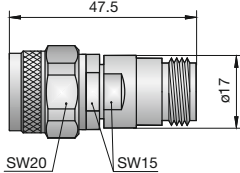


Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
03 KR 105-S00 S3	straight	RPC-3.50 female, ruggedized - RPC-N 50 $\Omega$ male	$\geq 26$ dB @ DC to 18 GHz		
03 KR 105-K00 S3	straight	RPC-3.50 female, ruggedized - RPC-N 50 $\Omega$ female	$\geq 26$ dB @ DC to 18 GHz		
53 QS 105-S00 S3	straight	SnapN male - RPC-N 50 $\Omega$ male	$\geq 26$ dB @ DC to 11 GHz		
53 QS 105-K00 S3	straight	SnapN male - RPC-N 50 $\Omega$ female	$\geq 26$ dB @ DC to 11 GHz		
53 QS 105-K20 S3	straight	SnapN male - RPC-N 50 $\Omega$ female calibration adaptor	$\geq 36$ dB @ DC to 4 GHz $\geq 27$ dB @ 4 GHz to 11 GHz		
53 QK 105-S00 S3	straight	SnapN female - RPC-N 50 $\Omega$ male	$\geq 28$ dB @ DC to 11 GHz $\geq 26$ dB @ 11 GHz to 18 GHz		

Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
53 QK 105-S20 S3	straight	SnapN female - RPC-N 50 Ω male calibration adaptor	≥ 36 dB @ DC to 4 GHz ≥ 27 dB @ 4 GHz to 11 GHz		
53 QK 105-K00 S3	straight	SnapN female - RPC-N 50 Ω female	≥ 28 dB @ DC to 11 GHz ≥ 26 dB @ 11 GHz to 18 GHz		
02 KR 105-K00 S3	straight	RPC-2.92 female, ruggedized - RPC-N 50 Ω female	≥ 26 dB @ DC to 18 GHz		
02 KR 105-S00 S3	straight	RPC-2.92 female, ruggedized - RPC-N 50 Ω male	≥ 26 dB @ DC to 18 GHz		

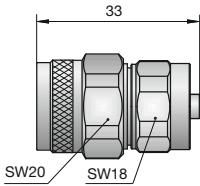
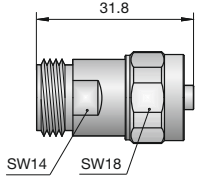
## DC-Block

DC-Block RPC-N 50 Ω male - female

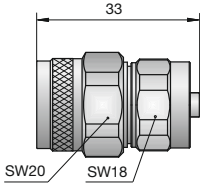
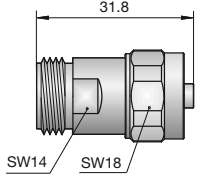
Ordering Number	Version	Return Loss	Insertion Loss	
05 DS 121-K00 S3	straight	≥ 25 dB @ 3 MHz to 18 GHz	< 1 dB @ 3 MHz to 18 GHz	

Interchangeable Port Connector System

RPC-N 50 Ω - RPC-SL 26.5 GHz

Ordering Number	Version	Remarks	Return Loss	
05 S 104-S00 S3	straight	RPC-N 50 Ω male - RPC-SL 26.5 GHz male, max. Frequency 18 GHz	≥ 21 dB @ DC to 18 GHz	
05 K 104-S00 S3	straight	RPC-N 50 Ω female - RPC-SL 26.5 GHz male, max. Frequency 18 GHz	≥ 21 dB @ DC to 18 GHz	

RPC-N 50 Ω - RPC-SL 40 GHz

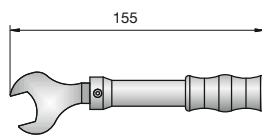
Ordering Number	Version	Remarks	Return Loss	
05 S 1P4-S00 S3	straight	RPC-N 50 Ω male - RPC-SL 40 GHz male, max. Frequency 18 GHz	≥ 21 dB @ DC to 18 GHz	
05 K 1P4-S00 S3	straight	RPC-N 50 Ω female - RPC-SL 40 GHz male, max. Frequency 18 GHz	≥ 21 dB @ DC to 18 GHz	

see also chapter interchangeable port connector system

RPC-N

## Tools

Torque Wrench

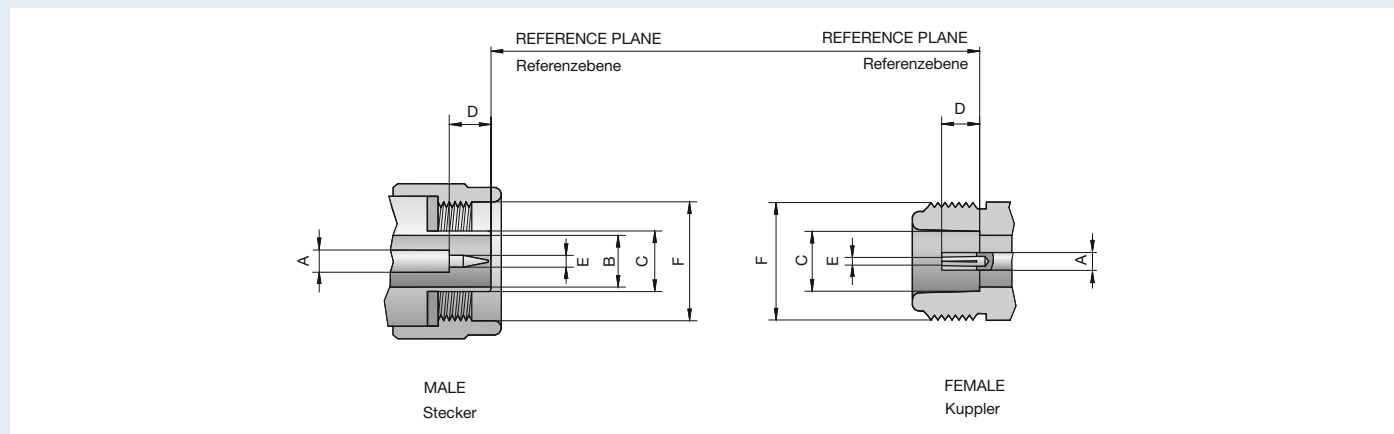
Ordering Number	Remarks	
53 W 009-000	flat 20 mm - 1,1 Nm torque for RPC-N 50 Ω , RPC-N 75 Ω	

Gauge

Ordering Number	Remarks	
05 W 00S-000	compatible to male connectors for RPC-N 50 Ω incl. gauge block	
05 W 00K-000	compatible to female connectors for RPC-N 50 Ω , RPC-N 75 Ω incl. gauge block	



## Interface Dimensions Series RPC-N, 75 Ω (code P5)



## Series RPC-N, 75 Ω

	Male   Stecker		Female   Kuppler	
dimension	min.	max.	min.	max.
A	2.00	2.02	2.00	2.02
B	6.99	7.01	6.99	7.01
C	7.98	8.02	8.05	8.10
D	5.28	5.36	5.18	5.26
E	0.864	0.914		
F	5/8-24UNEF-2B		5/8-24UNEF-2A	

## Technical Data Series RPC-N, 75 Ω

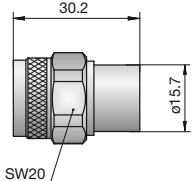
Applicable standards   Anwendbare Standards	
Interface according to   Interface gemäß	IEC 61169-16; CECC 22 210; MIL-STD 348A/402
Electrical data   Elektrische Daten	
Impedance   Wellenwiderstand	75 Ω
Frequency range   Frequenzbereich	DC to 4 GHz
Return loss (connector head)   Rückflußdämpfung (Steckerkopf)	≥ 36 dB, DC to 4 GHz
Insertion loss (connector head)   Dämpfung (Steckerkopf)	≤ 0.03 dB x $\sqrt{f[\text{GHz}]}$
Insulation resistance   Isolationswiderstand	≥ 5 GΩ
Center contact resistance   Übergangswiderstand Innenleiter	≤ 1.0 mΩ
Outer contact resistance   Übergangswiderstand Außenleiter	≤ 1.0 mΩ
Test voltage   Prüfspannung	2500 V rms
Working voltage   Betriebsspannung	1000 V rms
RF-leakage   Schirmdämpfung	≥ 90 dB up to 1 GHz
Mechanical data   Mechanische Daten	
Mating cycles   Steckzyklen	≥ 500
Center contact captivation   Innenleiter Haltekraft	≥ 28 N
Coupling torque recommended   Anzugsdrehmoment empfohlen	0.70 Nm to 1.10 Nm
Coupling test torque   Prüfdrehmoment	1.70 Nm
Environmental data   Umweltdaten	
Temperature range   Temperaturbereich	-40 °C to +85 °C
Thermal shock   Temperaturzyklen	IEC 61169-1, Subclause 9.4.4
Corrosion resistance   Korrosionsbeständigkeit	IEC 61169-1, Subclause 9.4.6
Vibration   Vibration	IEC 61169-1, Subclause 9.3.3
Shock   Schock	IEC 61169-1, Subclause 9.3.14
Moisture resistance   Feuchtigkeitsbeständigkeit	IEC 61169-1, Subclause 9.4.3
Max. soldering temperature   Maximale Löttemperatur	IEC 61760-1, +260 °C for 10 sec.
Materials   Materialien	
Center contact   Innenleiter	Beryllium copper, gold-plated
Outer contact   Außenleiter	Stainless steel, passivated
Dielectric   Dielektrikum	PS, PEI

Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

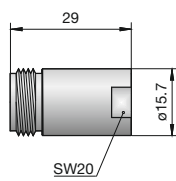
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Connector Heads

### Straight Plug

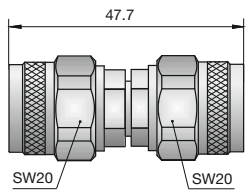
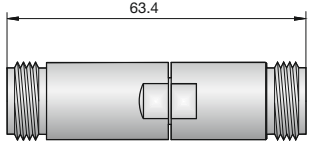
Ordering Number	Remarks	Return Loss	
P5 S 121-000 CS	with bead	$\geq 36$ dB @ DC to 4 GHz	

### Straight Jack

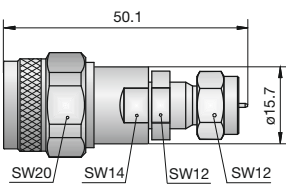
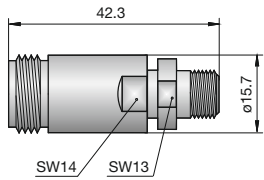
Ordering Number	Remarks	Return Loss	
P5 K 121-000 CS	with bead	$\geq 36$ dB @ DC to 4 GHz	

## Adaptors

### Adaptor (In Series)

Ordering Number	Version	Remarks	Return Loss	
P5 S 121-S20 CS	straight	RPC-N 75 $\Omega$ male - male, calibration adaptor	$\geq 38$ dB @ DC to 2 GHz $\geq 34$ dB @ 2 GHz to 4 GHz	
P5 K 121-K20 CS	straight	RPC-N 75 $\Omega$ female - female, calibration adaptor	$\geq 38$ dB @ DC to 2 GHz $\geq 34$ dB @ 2 GHz to 4 GHz	

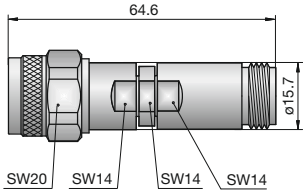
### Adaptor (Inter Series)

Ordering Number	Version	Remarks	Return Loss	
P5 S 174-S20 CS	straight	RPC-N 75 $\Omega$ male - F male, calibration adaptor	$\geq 32$ dB @ DC to 3 GHz $\geq 28$ dB @ 3 GHz to 4 GHz	
P5 K 174-K20 CS	straight	RPC-N 75 $\Omega$ female - F female, calibration adaptor	$\geq 32$ dB @ DC to 3 GHz $\geq 28$ dB @ 3 GHz to 4 GHz	



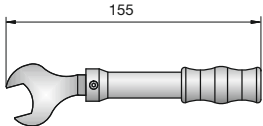
DC-Block

DC-Block RPC-N 75 Ω male - female

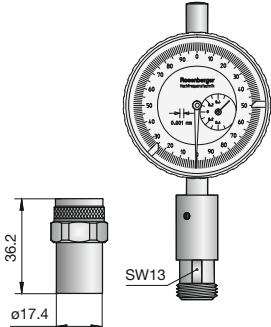
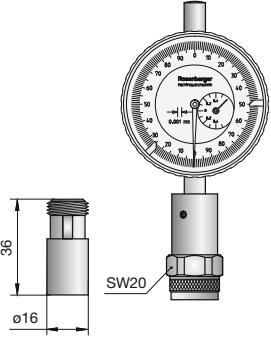
Ordering Number	Version	Return Loss	Insertion Loss	
P5 DS 121-K01 CS	straight	≥ 25 dB @ 4 MHz to 1 GHz ≥ 21 dB @ 1 GHz to 4 GHz	< 1 dB @ 4 MHz to 4 GHz	

Tools

Torque Wrench

Ordering Number	Remarks	
53 W 009-000	flat 20 mm - 1,1 Nm torque for RPC-N 50 Ω , RPC-N 75 Ω	

Gauge

Ordering Number	Remarks	
P5 W 00S-000	compatible to male connectors for RPC-N 75 Ω incl. gauge block	
05 W 00K-000	compatible to female connectors for RPC-N 50 Ω , RPC-N 75 Ω incl. gauge block	



Rosenberger RPC-TNC precision connectors – with threaded coupling – have been designed for applications up to 18GHz. Interface dimensions are based on BNC series interface. Rosenberger RPC-TNC precision connectors are intermateable with standard TNC connectors, 50 $\Omega$  and 75 $\Omega$  types both.

The wide product range includes cable connectors, adapters, as well as test & measurement accessories such as calibration kits or test devices (open – short – load).

*Rosenberger RPC-TNC-Präzisionssteckverbinder – mit Schraubverbindung – eignen sich für Anwendungen bis 18 GHz. Die Interface-Abmessungen entsprechen dem Interface von BNC-Steckverbindern. Rosenberger RPC-TNC-Steckverbinder sind steckkompatibel zu Standard-TNC-Steckverbindern, 50 $\Omega$  und 75 $\Omega$ -Typen.*

*Das umfangreiche Produktspektrum umfasst Kabelsteckverbinder, Adapter, sowie Messzubehör wie RPC-TNC-Kalibrier-Kits oder Test-Komponenten (Open – Short – Load).*

## Series RPC-TNC



RPC-TNC

### Features

Interface according to IEC 60169-26

Frequency range DC to 18 GHz

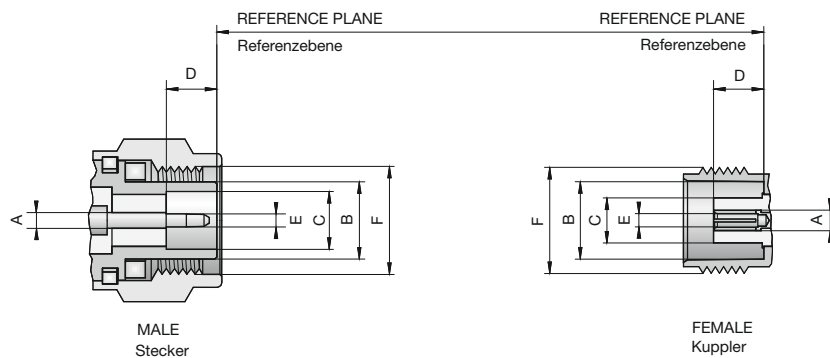
Return loss (connector head)  $\geq 23$  dB

Impedance  $50\ \Omega$

Threaded coupling

Intermateable with standard TNC

## Interface Dimensions Series RPC-TNC (code 06)



## Series RPC-TNC

	Male   Stecker		Female   Kuppler	
dimension	min.	max.	min.	max.
A	1.64	1.66	2.13	2.15
B	8.06	8.08	8.10	8.15
C	6.07	6.12	4.62	4.72
D	5.28	5.38	5.18	5.28
E	1.34	1.37	1.38	1.41
F	7/16-28UNEF-2B		7/16-28UNEF-2A	

## Technical Data Series RPC-TNC

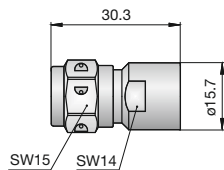
Applicable standards   Anwendbare Standards	
Interface according to   Interface gemäß	IEC 60169-26
Electrical data   Elektrische Daten	
Impedance   Wellenwiderstand	50 $\Omega$
Frequency range   Frequenzbereich	DC to 18 GHz
Return loss (connector head)   Rückflußdämpfung (Steckerkopf)	$\geq 23$ dB, DC to 18 GHz
Insertion loss (connector head)   Dämpfung (Steckerkopf)	$\leq 0.05$ dB x $\sqrt{f[\text{GHz}]}$
Insulation resistance   Isolationswiderstand	$\geq 5$ G $\Omega$
Center contact resistance   Übergangswiderstand Innenleiter	$\leq 1.5$ m $\Omega$
Outer contact resistance   Übergangswiderstand Außenleiter	$\leq 1.0$ m $\Omega$
Test voltage   Prüfspannung	1500 V rms
Working voltage   Betriebsspannung	500 V rms
RF-leakage   Schirmdämpfung	$\geq 90$ dB up to 1 GHz
Mechanical data   Mechanische Daten	
Mating cycles   Steckzyklen	$\geq 500$
Center contact captivation   Innenleiter Haltekraft	$\geq 27$ N
Coupling torque recommended   Anzugsdrehmoment empfohlen	0.46 Nm to 0.69 Nm
Coupling test torque   Prüfdrehmoment	1.70 Nm
Environmental data   Umweltdaten	
Temperature range   Temperaturbereich	-40 °C to +85 °C
Thermal shock   Temperaturzyklen	MIL-STD 202, Method 107, Condition B
Corrosion resistance   Korrosionsbeständigkeit	MIL-STD 202, Method 101, Condition B
Vibration   Vibration	MIL-STD 202, Method 204, Condition D
Shock   Schock	MIL-STD 202, Method 213, Condition I
Moisture resistance   Feuchtigkeitsbeständigkeit	MIL-STD 202, Method 106
Max. soldering temperature   Maximale Löttemperatur	IEC 61760-1, +260 °C for 10 sec.
Materials   Materialien	
Center contact   Innenleiter	Beryllium copper, gold-plated
Outer contact   Außenleiter	Stainless steel, passivated
Dielectric 1   Dielektrikum 1	PTFE
Dielectric 2   Dielektrikum 2	PPE
Gasket   Dichtung	Neoprene E50

Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

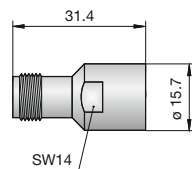
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

## Connector Heads

### Straight Plug

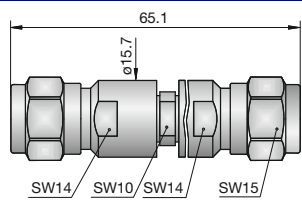
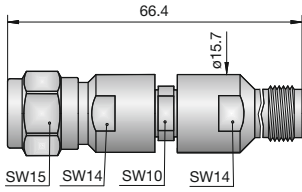
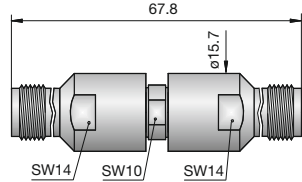
Ordering Number	Remarks	Return Loss	
06 S 121-000 S3	with bead	$\geq 23$ dB @ DC to 18 GHz	
06 S 121-002 S3	with bead, coupling nut without wire-lock	$\geq 23$ dB @ DC to 18 GHz	

### Straight Jack

Ordering Number	Remarks	Return Loss	
06 K 121-000 S3	with bead	$\geq 23$ dB @ DC to 18 GHz	

## Adaptors

### Adaptor (In Series)

Ordering Number	Version	Remarks	Return Loss	
06 S 121-S20 S3	straight	RPC-TNC male - male, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 to 18 GHz	
06 S 121-K20 S3	straight	RPC-TNC male - female, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 to 18 GHz	
06 K 121-K20 S3	straight	RPC-TNC female - female, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 to 18 GHz	

## Adaptor (Inter Series)

Ordering Number	Version	Remarks	Return Loss	
06 S 132-S00 S3	straight	RPC-TNC male - SMA male	$\geq 19$ dB @ DC to 18 GHz	
06 S 132-K00 S3	straight	RPC-TNC male - SMA female	$\geq 19$ dB @ DC to 18 GHz	
06 K 132-S00 S3	straight	RPC-TNC female - SMA male	$\geq 19$ dB @ DC to 18 GHz	
06 K 132-K00 S3	straight	RPC-TNC female - SMA female	$\geq 19$ dB @ DC to 18 GHz	
06 S 107-P20 S3	straight	RPC-TNC male - RPC-7, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 to 18 GHz	
06 K 107-P20 S3	straight	RPC-TNC female - RPC-7, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 to 18 GHz	
03 K 706-S23 S3	straight	RPC-3.50 female - RPC-TNC male, 2-hole flange, floating test adaptor	$\geq 35$ dB @ DC to 2.5 GHz $\geq 25$ dB @ 2.5 GHz to 6 GHz $\geq 20$ dB @ 6 GHz to 16 GHz $\geq 17$ dB @ 16 GHz to 18 GHz	
05 S 106-S00 S3	straight	RPC-N 50 $\Omega$ male - RPC-TNC male	$\geq 20$ dB @ DC to 18 GHz	
05 S 106-S20 S3	straight	RPC-N 50 $\Omega$ male - RPC-TNC male, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 GHz to 18 GHz	

Ordering Number	Version	Remarks	Return Loss	
05 S 106-K00 S3	straight	RPC-N 50 $\Omega$ male - RPC-TNC female	$\geq 20$ dB @ DC to 18 GHz	
05 K 106-S00 S3	straight	RPC-N 50 $\Omega$ female - RPC-TNC male	$\geq 20$ dB @ DC to 18 GHz	
05 K 106-K00 S3	straight	RPC-N 50 $\Omega$ female - RPC-TNC female	$\geq 20$ dB @ DC to 18 GHz	
05 K 106-K20 S3	straight	RPC-N 50 $\Omega$ female - RPC-TNC female, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 GHz to 18 GHz	

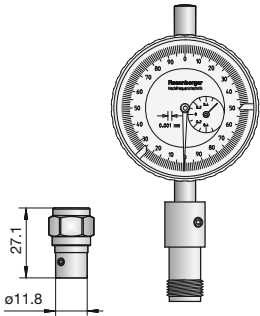
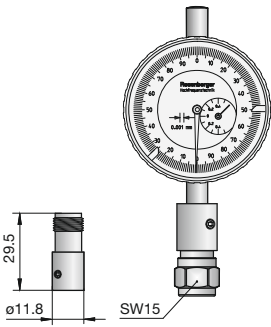


Tools

Torque Wrench

Ordering Number	Remarks	
06 W 021-000	flat 15 mm - 55 Ncm torque for RPC-TNC	

Gauge

Ordering Number	Remarks	
06 W 00S-000	compatible to male connectors for RPC-TNC incl. gauge block	
06 W 00K-000	compatible to female connectors for RPC-TNC incl. gauge block	

RPC-TNC



Rosenberger RPC-7 precision connectors – with 7 mm outer diameter – have been designed for applications up to 18GHz. RPC-7 connectors are “hermaphroditic” types mating electrically both centre and outer conductor by end-surface (butt) contact. The mechanical connection is designed as a counter-sinkable threaded socket.

Rosenberger RPC-7 connectors are interchangeable with other 7 mm connector series, e.g. APC-7, PC-7, GPC-7 or Precifix AA. RPC-7 and RPC-N connector heads are interchangeable using the same bead type.

The wide product range consists of connectors and connector heads, adapters, interchangeable port connectors, airlines as well as test & measurement accessories such as RPC-7 calibration and verification kits, test cables, attenuators or test devices (open – short – load).

*Die Rosenberger-Serie RPC-7 – Präzisionssteckverbinder mit 7 mm Außenleiter – wurde für Anwendungen im Frequenzbereich bis 18 GHz entwickelt. Die elektrische Verbindung erfolgt am Innen- wie auch am Außenleiter durch Stirnkontakt, die mechanische Verbindung wird durch eine versenkbare Gewindebuchse sichergestellt („Zwitter-Steckverbinder“)*

*Rosenberger RPC-7-Steckverbinder sind steckkompatibel zu anderen 7 mm-Steckverbinder-Serien, z.B. APC-7, PC-7, GPC-7 oder Precifix AA. Die Steckverbinderköpfe von RPC-7 und RPC-N-Steckverbindern sind aufgrund gleicher Anschlussmaße auf der Montageseite austauschbar.*

*Das umfangreiche Produktspektrum umfasst Kabel-Steckverbinder, Adapter, Wechselfort, Luftleitungen, sowie Messzubehör wie RPC-7-Kalibrier- und Verifizier-Kits, Testkabel, Dämpfungsglieder oder Test-Komponenten (Open – Short – Load).*

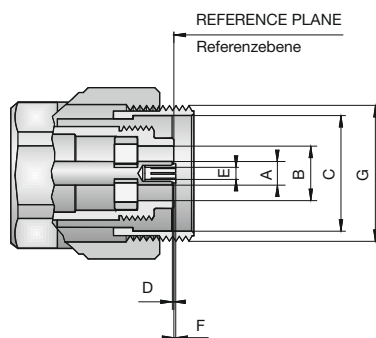
## Series RPC-7



### Features

- Interface according to IEC 457-2
- Frequency range DC to 18 GHz
- Return loss (connector head)  $\geq 32$  dB
- Impedance  $50\ \Omega$
- Threaded coupling, hermaphroditic
- Butted contact at inner and outer contact

## Interface Dimensions Series RPC-7 (code 07)



### Series RPC-7

	RPC-7	
dimension	min.	max.
A	3.0397 nom.	
B	6.995	7.005
C	14.850	14.860
D	0.000	0.050
E	1.060	1.085
F	0.050	0.380
G	11/16-24UNEF-2A	

## Technical Data Series RPC-7

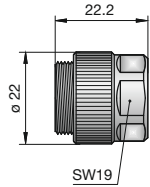
Applicable standards   Anwendbare Standards	
Interface according to   Interface gemäß	IEC 457-2
Electrical data   Elektrische Daten	
Impedance   Wellenwiderstand	50 $\Omega$
Frequency range   Frequenzbereich	DC to 18 GHz
Return loss (connector head)   Rückflußdämpfung (Steckerkopf)	$\geq 32$ dB, DC to 18 GHz
Insertion loss (connector head)   Dämpfung (Steckerkopf)	$\leq 0.03$ dB x $f$ [GHz]
Insulation resistance   Isolationswiderstand	$\geq 5$ G $\Omega$
Center contact resistance   Übergangswiderstand Innenleiter	$\leq 1.0$ m $\Omega$
Outer contact resistance   Übergangswiderstand Außenleiter	$\leq 0.1$ m $\Omega$
Test voltage   Prüfspannung	2500 V rms
Working voltage   Betriebsspannung	1000 V rms
RF-leakage   Schirmdämpfung	$\geq 120$ dB up to 1 GHz
Mechanical data   Mechanische Daten	
Mating cycles   Steckzyklen	$\geq 5000$
Center contact captivation   Innenleiter Haltekraft	$\geq 28$ N
Coupling torque recommended   Anzugsdrehmoment empfohlen	1.36 Nm
Coupling test torque   Prüfdrehmoment	1.95 Nm
Environmental data   Umweltdaten	
Temperature range   Temperaturbereich	-40 °C to +85 °C
Thermal shock   Temperaturzyklen	MIL-STD 202, Method 107, Condition B
Corrosion resistance   Korrosionsbeständigkeit	MIL-STD 202, Method 101, Condition B
Vibration   Vibration	MIL-STD 202, Method 204, Condition D
Shock   Schock	MIL-STD 202, Method 213, Condition I
Moisture resistance   Feuchtigkeitsbeständigkeit	MIL-STD 202, Method 106
Max. soldering temperature   Maximale Löttemperatur	IEC 61760-1, +260 °C for 10 sec.
Materials   Materialien	
Center contact   Innenleiter	Beryllium copper, gold-plated
Outer contact   Außenleiter	Beryllium copper, gold-plated
Dielectric   Dielektrikum	PPE

Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

**Connector Heads**

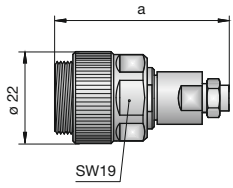
Straight Connector Head

Ordering Number	Remarks	Return Loss	
07 P 121-000 S3	with bead	$\geq 32$ dB @ DC to 18 GHz	

**Cable Connectors Semi-Rigid Cable**

Straight Connector, solder

Semi-Rigid

Ordering Number	Remarks	Return Loss	Cable Group	Assembly Instruction	
07 P 121-271 S3	a = 41.8 mm	$\geq 26$ dB @ DC to 18 GHz	71	02 A3	
07 P 121-272 S3	a = 35 mm	$\geq 26$ dB @ DC to 18 GHz	72	02 A3	
07 P 121-273 S3	a = 41.8 mm	$\geq 26$ dB @ DC to 18 GHz	73	03 A	

## Panel Connectors Coaxial End

Panel Connector, 4-hole flange

Coaxial End

Ordering Number	Return Loss	Panel Piercing / PCB Layout	
07 P 421-500 S3	$\geq 26$ dB @ DC to 18 GHz	MB 98	
07 P 422-500 S3	$\geq 26$ dB @ DC to 18 GHz	MB 106a	

## Adaptors

Adaptor (In Series)

Ordering Number	Version	Remarks	Return Loss	
07 P 121-P00 S3	straight	RPC-7	$\geq 28$ dB @ DC to 18 GHz	

Adaptor (Inter Series)

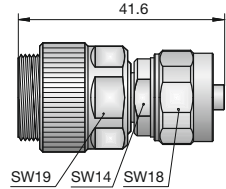
Ordering Number	Version	Remarks	Return Loss	
02 KR 107-P00 S3	straight	RPC-2.92 female, ruggedized - RPC-7	$\geq 28$ dB @ DC to 18 GHz	
03 S 107-P00 S3	straight	RPC-3.50 male - RPC-7	$\geq 28$ dB @ DC to 18 GHz	
03 S 107-P20 S3	straight	RPC-3.50 male - RPC-7, calibration adaptor	$\geq 36$ dB @ DC to 4 GHz $\geq 28$ dB @ 4 GHz to 18 GHz	
03 K 107-P00 S3	straight	RPC-3.50 female - RPC-7	$\geq 28$ dB @ DC to 18 GHz	
03 K 107-P20 S3	straight	RPC-3.50 female - RPC-7, calibration adaptor	$\geq 36$ dB @ DC to 4 GHz $\geq 28$ dB @ 4 GHz to 18 GHz	
03 KR 107-P00 S3	straight	RPC-3.50 female, ruggedized - RPC-7	$\geq 28$ dB @ DC to 18 GHz	
05 S 107-P00 S3	straight	RPC-N 50 $\Omega$ male - RPC-7	$\geq 28$ dB @ DC to 18 GHz	
05 K 107-P00 S3	straight	RPC-N 50 $\Omega$ female - RPC-7	$\geq 28$ dB @ DC to 18 GHz	



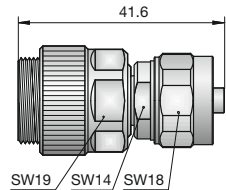
Ordering Number	Version	Remarks	Return Loss	
06 S 107-P20 S3	straight	RPC-TNC male - RPC-7, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 to 18 GHz	
06 K 107-P20 S3	straight	RPC-TNC female - RPC-7, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 20$ dB @ 4 to 18 GHz	
07 P 151-S00 S3	straight	RPC-7 - BNC 50 $\Omega$ male	$\geq 22$ dB @ DC to 4 GHz	
07 P 151-K00 S3	straight	RPC-7 - BNC 50 $\Omega$ female	$\geq 22$ dB @ DC to 4 GHz	
07 P 110-S20 S3	straight	RPC-7 - RPC-SP male, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 18 GHz	
07 P 110-K20 S3	straight	RPC-7 - RPC-SP female, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 18 GHz	
07 P 132-S00 S3	straight	RPC-7 - SMA male	$\geq 23$ dB @ DC to 18 GHz	
07 P 132-K00 S3	straight	RPC-7 - SMA female	$\geq 23$ dB @ DC to 18 GHz	

## Interchangeable Port Connector System

RPC-7 - RPC-SL 26.5 GHz

Ordering Number	Version	Remarks	Return Loss	
07 P 104-S00 S3	straight	RPC-7 - RPC-SL 26.5 GHz male, max. Frequency 18 GHz	$\geq 21$ dB @ DC to 18 GHz	

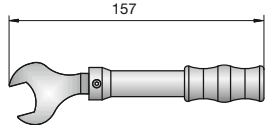
RPC-7 - RPC-SL 40 GHz

Ordering Number	Version	Remarks	Return Loss	
07 P 1P4-S00 S3	straight	RPC-7 - RPC-SL 40 GHz male, max. Frequency 18 GHz	$\geq 21$ dB @ DC to 18 GHz	

see also chapter interchangeable port connector system

## Tools

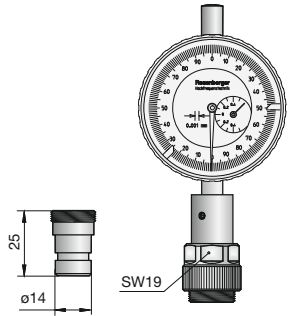
### Torque Wrench

Ordering Number	Remarks	
07 W 021-000	flat 19 mm - 136 Ncm torque for RPC 7, RPC-SP	

### Collet Extractor

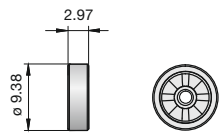
Ordering Number	Remarks	
07 W 031-000	for RPC-7, to remove 7 mm center contact	

### Gauge

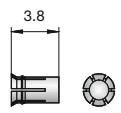
Ordering Number	Remarks	
07 W 001-000	compatible to connectors for RPC-7 incl. gauge block	

## Accessories

### Bead

Ordering Number	Remarks	Return Loss	
07 B 003-000	7 mm, 50 $\Omega$	$\geq 54$ dB @ DC to 2 GHz $\geq 37$ dB @ 2 GHz to 18 GHz	
07 B 003-010	7 mm, 50 $\Omega$	$\geq 54$ dB @ DC to 2 GHz $\geq 40$ dB @ 2 GHz to 18 GHz	

### Center Contact

Ordering Number	Remarks	
07 P 121-000/21	changeable center conductor	



RPC-SP connectors are  $50\Omega$  precision connectors with an outer contact diameter of 4.10 mm for applications up to 22 GHz. RPC-SP precision connectors are intermateable with OSP and BMA connectors.

RPC-SP connectors are indicated for applications where quick and reliable interconnects are required, as well as for applications with racks and plug-in units. The floating construction allows compensation of axial and radial misalignment. Tightening the connection requires no additional tooling, so that RPC-SP-connectors are ideally suited for application with tight space requirements.

The product range consists of cable, panel and PCB connectors, adapters to other coaxial connector series, airlines as well as test & measurement accessories such as RPC-SP calibration kits, test cables or test devices (open – short – load).

*Die Serie RPC-SP ist eine  $50\Omega$ -Präzisionssteckverbinderreihe mit 4.10 mm Außenleiterdurchmesser für Anwendungen bis 22 GHz. RPC-SP-Steckverbinder sind steckkompatibel zu OSP- und BMA-Steckverbindern.*

*Die Serie wurde entwickelt für Anwendungen, die zuverlässiges und wiederholtes Verbinden mit gleichzeitigem axialen und radialen Toleranzausgleich erfordern („Blind-Mate-Verbindungen“). Da zum Verriegeln der Verbindung kein Werkzeug benötigt wird (z.B. Drehmomentschlüssel), eignen sich RPC-SP-Steckverbinder für Anwendungen auf engstem Raum.*

*Das Produktspektrum umfasst Kabel-, Gehäuse- und Leiterplattensteckverbinder, Adapter auf andere Koaxial-Steckverbinderreihen, Luftleitungen, sowie Messzubehör wie RPC-7-Kalibrier-Kits, Testkabel oder Test-Komponenten (Open – Short – Load).*

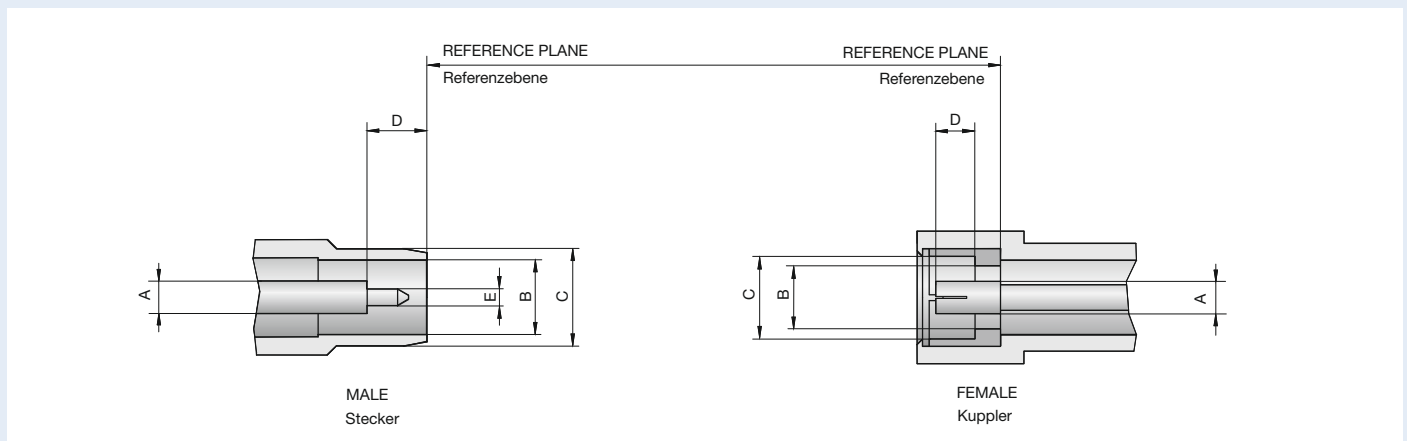
## Series RPC-SP



### Features

- Interface according to IEC 61169-33
- Frequency range DC to 22 GHz
- Return loss (cable connector)  $\geq 26$  dB
- Impedance  $50\Omega$
- Blind mate connection
- Intermateable with OSP and BMA

## Interface Dimensions Series RPC-SP (code 10)



### Series RPC-SP

	Male   <i>Stecker</i>		Female   <i>Kuppler</i>	
dimension	min.	max.	min.	max.
A	1.77	1.79	1.77	1.79
B	4.09	4.11	4.07	
C	5.30	5.35	5.50	
D	3.25	3.35	3.12	3.22
E	0.90	0.93	1.77	1.79

## Technical Data Series RPC-SP

Applicable standards   <i>Anwendbare Standards</i>	
Interface according to   <i>Interface gemäß</i>	IEC 61169-33; MIL-STD 348A
Mechanically compatible with   <i>Mechanisch kompatibel mit</i>	OSP and BMA
Electrical data   <i>Elektrische Daten</i>	
Impedance   <i>Wellenwiderstand</i>	50 $\Omega$
Frequency range   <i>Frequenzbereich</i>	DC to 22 GHz
Return loss (cable connector)   <i>Rückflußdämpfung (Kabelsteckverbinder)</i>	$\geq 26$ dB, DC to 22 GHz
Insertion loss (cable connector)   <i>Dämpfung (Kabelsteckverbinder)</i>	$\leq 0.03$ dB x $\sqrt{f[\text{GHz}]}$
Insulation resistance   <i>Isolationswiderstand</i>	$\geq 5$ G $\Omega$
Center contact resistance   <i>Übergangswiderstand Innenleiter</i>	$\leq 2.0$ m $\Omega$
Outer contact resistance   <i>Übergangswiderstand Außenleiter</i>	$\leq 2.0$ m $\Omega$
Test voltage   <i>Prüfspannung</i>	1000 V rms
Working voltage   <i>Betriebsspannung</i>	400 V rms
RF-leakage   <i>Schirmdämpfung</i>	$\geq 85$ dB up to 1 GHz
Mechanical data   <i>Mechanische Daten</i>	
Mating cycles   <i>Steckzyklen</i>	$\geq 1000$
Center contact captivation   <i>Innenleiter Haltekraft</i>	$\geq 27$ N
Engagement force   <i>Einsteckkraft</i>	$\leq 13.5$ N
Disengagement force   <i>Ausziehkraft</i>	$\geq 2.0$ N
Environmental data   <i>Umweltdaten</i>	
Temperature range   <i>Temperaturbereich</i>	-40 °C to +85 °C
Thermal shock   <i>Temperaturzyklen</i>	MIL-STD 202, Method 107, Condition B
Corrosion resistance   <i>Korrosionsbeständigkeit</i>	MIL-STD 202, Method 101, Condition B
Vibration   <i>Vibration</i>	MIL-STD 202, Method 204, Condition D
Shock   <i>Schock</i>	MIL-STD 202, Method 213, Condition I
Moisture resistance   <i>Feuchtigkeitsbeständigkeit</i>	MIL-STD 202, Method 106
Max. soldering temperature   <i>Maximale Löttemperatur</i>	IEC 61760-1, +260 °C for 10 sec.
Materials   <i>Materialien</i>	
Center contact   <i>Innenleiter</i>	Beryllium copper, gold-plated
Outer contact   <i>Außenleiter</i>	Stainless steel, passivated
Dielectric   <i>Dielektrikum</i>	PS, PTFE

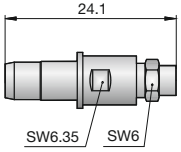
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## Cable Connectors Semi-Rigid Cable

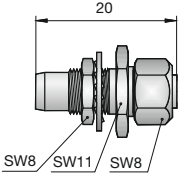
Straight Plug, solder

Semi-Rigid

Ordering Number	Remarks	Return Loss	Cable Group	Assembly Instruction	
10 S 125-271 S3	applicable to MIL C 38 999 shell	$\geq 21$ dB @ DC to 22 GHz	71	02 A3	
10 S 125-272 S3	applicable to MIL C 38 999 shell	$\geq 21$ dB @ DC to 22 GHz	72	03 A	

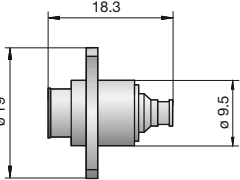
Panel Plug, hexagonal flange

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
10 S 641-271 E3	$\geq 23$ dB @ DC to 22 GHz	71	02 A3	MB 92	
10 S 641-272 E3	$\geq 23$ dB @ DC to 22 GHz	72	03 A	MB 92	

Panel Jack, 2-hole flange

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
10 K 762-271 N3	$\geq 21$ dB @ DC to 22 GHz	71	10 E	MB 100	
10 K 762-272 N3	$\geq 21$ dB @ DC to 22 GHz	72	10 E	MB 100	



## Panel Connectors Coaxial End

Panel Jack, 4-hole flange

Coaxial End

Ordering Number	Return Loss	Panel Piercing / PCB Layout	
10 S 441-500 N3	$\geq 21$ dB @ DC to 22 GHz	MB 55a	

## PCB Connectors SMD

Straight Plug

SMD

Ordering Number	Remarks	Return Loss	Panel Piercing / PCB Layout	
10 S 101-40M T3	tape & reel, VG 07.50000	$\geq 25$ dB @ DC to 18 GHz $\geq 21$ dB @ 18 GHz to 22 GHz	on request	

## PCB Connectors Solder Pin

Straight Plug

Solder Pin

Ordering Number	Remarks	Return Loss	Panel Piercing / PCB Layout	
10 S 142-400 E3	blister	$\geq 30$ dB @ DC to 3 GHz $\geq 28$ dB @ 3 to 6 GHz	on request	

## Adaptors

Adaptor (Inter Series)

Ordering Number	Version	Remarks	Return Loss	
03 S 110-S01 S3	straight	RPC-3.50 male - RPC-SP male	$\geq 23$ dB @ DC to 22 GHz	
03 S 110-S21 S3	straight	RPC-3.50 male - RPC-SP male, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 22 GHz	
03 S 110-K01 S3	straight	RPC-3.50 male - RPC-SP female	$\geq 23$ dB @ DC to 22 GHz	
03 S 110-K21 S3	straight	RPC-3.50 male - RPC-SP female, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 22 GHz	
03 K 110-S01 S3	straight	RPC-3.50 female - RPC-SP male	$\geq 23$ dB @ DC to 22 GHz	
03 K 110-S21 S3	straight	RPC-3.50 female - RPC-SP male, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 22 GHz	
03 K 110-K01 S3	straight	RPC-3.50 female - RPC-SP female	$\geq 23$ dB @ DC to 22 GHz	
03 K 110-K21 S3	straight	RPC-3.50 female - RPC-SP female, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 22 GHz	
07 P 110-S20 S3	straight	RPC-7 - RPC-SP male, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 18 GHz	
07 P 110-K20 S3	straight	RPC-7 - RPC-SP female, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 18 GHz	

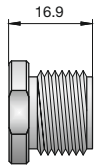
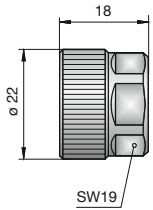
## Tools

Torque Wrench

Ordering Number	Remarks	
07 W 021-000	flat 19 mm - 136 Ncm torque for RPC 7, RPC-SP	

## Accessories

Coupling Nut

Ordering Number	Remarks	
10 Z 001-S00 S	male, stainless steel	
10 Z 001-K00 S	female, stainless steel	



Rosenberger RPC-3.50 connectors –  $50\Omega$  precision connectors with an outer diameter of 3.50mm and air dielectric – are featured by excellent technical data over the full frequency range up to 26.5GHz. They are intermateable with APC-3.50, GPC-3.50, SMA, K and RPC-2.92 connectors.

Rosenberger offers a wide range of RPC-3.50 cable and panel connectors, adaptors, interchangeable port connectors, attenuators as well as test & measurement accessories such as RPC-3.50 calibration kits, test cables or test devices, e.g. opens, shorts, loads, attenuators, airlines, sliding loads.

*Rosenberger RPC-3.50 Steckverbinder –  $50\Omega$ -Präzisionssteckverbinder mit 3.50mm Außenleiterdurchmesser – bieten aufgrund des Luft-Dielektrikums hervorragende Eigenschaften über den gesamten Frequenzbereich bis 26.5GHz. Sie sind steckkompatibel zu APC-3.50-, GPC-3.50-, SMA-, K-, und RPC-2.92-Steckverbindern.*

*Das Produktspektrum umfasst Kabel- und Gehäuse-Steckverbinder, Adapter, Wechselport-Steckverbinder, Dämpfungsglieder sowie Messzubehör wie RPC-3.50-Kalibrier-Kits, Testkabel oder Testzubehör, z. B. Opens, Shorts, Loads, Dämpfungsglieder, Luftleitungen oder Sliding Loads.*

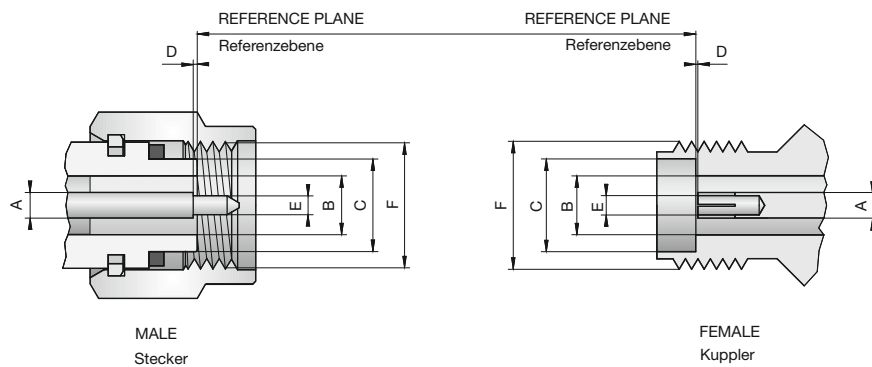
## Series RPC-3.50



### Features

- Interface according to 60169-23
- Frequency range DC to 26.5 GHz
- Return loss (connector head)  $\geq 30$  dB
- Impedance  $50\ \Omega$
- Threaded coupling
- Intermateable with K-, SMA and RPC-2.92

## Interface Dimensions Series RPC-3.50 (code 03)



### Series RPC-3.50

dimension	Male   Stecker		Female   Kuppler	
	min.	max.	min.	max.
A	1.51	1.53	1.51	1.53
B	3.49	3.51	3.49	3.51
C	4.57	4.59	4.63	4.65
D	0.00	0.08	0.00	0.08
E	0.91	0.93	0.96	0.98
F	1/4-36UNS-2B		1/4-36UNS-2A	

## Technical Data Series RPC-3.50

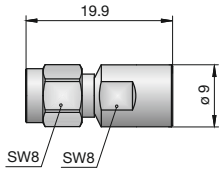
Applicable standards   Anwendbare Standards	
Interface according to   Interface gemäß	IEC 60169-23
Mechanically compatible with   Mechanisch kompatibel mit	RPC-2.92 and SMA
Electrical data   Elektrische Daten	
Impedance   Wellenwiderstand	50 $\Omega$
Frequency range   Frequenzbereich	DC to 26.5 GHz
Return loss (connector head)   Rückflußdämpfung (Steckerkopf)	$\geq 30$ dB, DC to 26.5 GHz
Insertion loss (connector head)   Dämpfung (Steckerkopf)	$\leq 0.03$ dB x $\sqrt{f[\text{GHz}]}$
Insulation resistance   Isolationswiderstand	$\geq 5$ G $\Omega$
Center contact resistance   Übergangswiderstand Innenleiter	$\leq 3.0$ m $\Omega$
Outer contact resistance   Übergangswiderstand Außenleiter	$\leq 2.0$ m $\Omega$
Test voltage   Prüfspannung	1000 V rms
Working voltage   Betriebsspannung	335 V rms
RF-leakage   Schirmdämpfung	$\geq 100$ dB up to 1 GHz
Mechanical data   Mechanische Daten	
Mating cycles   Steckzyklen	$\geq 500$
Center contact captivation   Innenleiter Haltekraft	$\geq 27$ N
Coupling torque recommended   Anzugsdrehmoment empfohlen	0.80 Nm to 1.10 Nm
Coupling test torque   Prüfdrehmoment	1.70 Nm
Environmental data   Umweltdaten	
Temperature range   Temperaturbereich	-40 °C to +85 °C
Thermal shock   Temperaturzyklen	MIL-STD 202, Method 107, Condition B
Corrosion resistance   Korrosionsbeständigkeit	MIL-STD 202, Method 101, Condition B
Vibration   Vibration	MIL-STD 202, Method 204, Condition D
Shock   Schock	MIL-STD 202, Method 213, Condition I
Moisture resistance   Feuchtigkeitsbeständigkeit	MIL-STD 202, Method 106
Max. soldering temperature   Maximale Löttemperatur	IEC 61760-1, +260 °C for 10 sec.
Materials   Materialien	
Center contact   Innenleiter	Beryllium copper, gold-plated
Outer contact   Außenleiter	Stainless steel, passivated
Dielectric   Dielektrikum	PS
Gasket   Dichtung	Silicone

Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

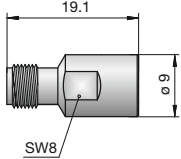
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

**Connector Heads**

## Straight Plug

Ordering Number	Remarks	Return Loss	
03 S 121-000 S3	with bead	$\geq 30$ dB @ DC to 26.5 GHz	

## Straight Jack

Ordering Number	Remarks	Return Loss	
03 K 121-000 S3	with bead	$\geq 30$ dB @ DC to 26.5 GHz	



## Cable Connectors Semi-Rigid Cable

Straight Plug, solder

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
03 S 121-271 S3	$\geq 25$ dB @ DC to 26.5 GHz	71	02 A3	
03 S 121-272 S3	$\geq 25$ dB @ DC to 26.5 GHz	72	03 A	

Straight Jack, solder

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
03 K 121-271 S3	$\geq 25$ dB @ DC to 26.5 GHz	71	02 A3	
03 K 121-272 S3	$\geq 25$ dB @ DC to 26.5 GHz	72	03 A	

Panel Jack, 4-hole flange

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
03 K 421-271 S3	$\geq 25$ dB @ DC to 26.5 GHz	71	02 A3	MB 55	

## Panel Connectors Stripline

Panel Jack, 4-hole flange

Stripline

Ordering Number	Remarks	Return Loss	Panel Piercing / PCB Layout	
03 K 421-600 S3	stripline	$\geq 23$ dB @ DC to 26.5 GHz	MB 55d	

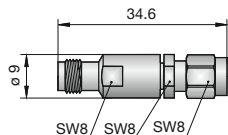
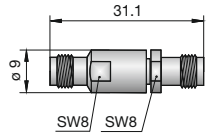
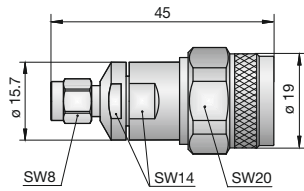
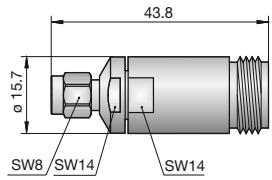
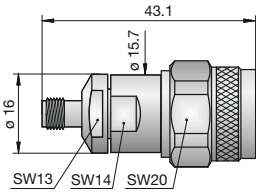
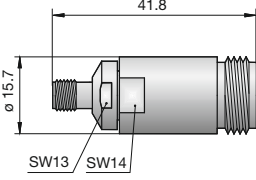
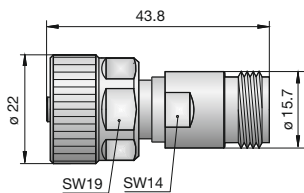
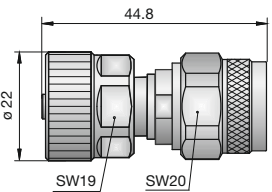
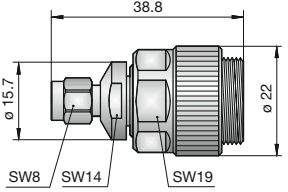
## Adaptors

Adaptor (In Series)

Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
03 S 121-S00 S3	straight	RPC-3.50 male - male	$\geq 26$ dB @ DC to 26.5 GHz		
03 S 121-S20 S3	straight	RPC-3.50 male - male, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 26.5 GHz		
03 S 121-K00 S3	straight	RPC-3.50 male - female	$\geq 26$ dB @ DC to 26.5 GHz		
03 S 121-K20 S3	straight	RPC-3.50 male - female, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 26.5 GHz		
03 K 121-K00 S3	straight	RPC-3.50 female - female	$\geq 26$ dB @ DC to 26.5 GHz		
03 K 121-K20 S3	straight	RPC-3.50 female - female, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 30$ dB @ 4 GHz to 26.5 GHz		
03 S 422-S00 S3	straight	RPC-3.50 male-male ruggedized, 4-hole flange	$\geq 20$ dB @ DC to 26.5 GHz		
03 K 521-S00 S3	straight	RPC-3.50 female - male, round flange	$\geq 26$ dB @ DC to 26.5 GHz	MB 107	
03 K 721-S23 S3	straight	RPC-3.50 female - male, 2-hole flange, floating test adaptor	$\geq 26$ dB @ DC to 18 GHz $\geq 23$ dB @ 18 GHz to 26.5 GHz		
03 KR 121-S00 S3	straight	RPC-3.50 female ruggedized - male	$\geq 26$ dB @ DC to 26.5 GHz		
03 KR 121-K00 S3	straight	RPC-3.50 female ruggedized - female	$\geq 26$ dB @ DC to 26.5 GHz		

## Adaptor (Inter Series)

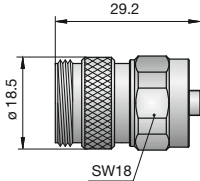
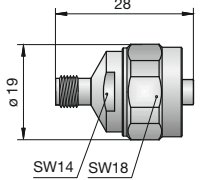
Ordering Number	Version	Remarks	Return Loss	
03 S 159-S20 S3	straight	RPC-3.50 male - FAKRA male, calibration adaptor	$\geq 38$ dB @ DC to 1 GHz $\geq 26$ dB @ 1 to 3 GHz $\geq 21$ dB @ 3 to 6 GHz	
03 S 159-K20 S3	straight	RPC-3.50 male - FAKRA female, calibration adaptor	$\geq 38$ dB @ DC to 1 GHz $\geq 26$ dB @ 1 to 3 GHz $\geq 21$ dB @ 3 to 6 GHz	
03 K 159-S20 S3	straight	RPC-3.50 female - FAKRA male, calibration adaptor	$\geq 38$ dB @ DC to 1 GHz $\geq 26$ dB @ 1 to 3 GHz $\geq 21$ dB @ 3 to 6 GHz	
03 K 159-K20 S3	straight	RPC-3.50 female - FAKRA female, calibration adaptor	$\geq 38$ dB @ DC to 1 GHz $\geq 26$ dB @ 1 to 3 GHz $\geq 21$ dB @ 3 to 6 GHz	
03 S 128-S20 N3	straight	RPC-3.50 male - QMA male, calibration adaptor	$\geq 32$ dB @ DC to 4 GHz $\geq 24$ dB @ 4 GHz to 18 GHz	
03 S 128-K20 N3	straight	RPC-3.50 male - QMA female, calibration adaptor	$\geq 32$ dB @ DC to 4 GHz $\geq 24$ dB @ 4 GHz to 18 GHz	
03 K 128-S20 N3	straight	RPC-3.50 female - QMA male, calibration adaptor	$\geq 32$ dB @ DC to 4 GHz $\geq 24$ dB @ 4 GHz to 18 GHz	
03 K 128-K20 N3	straight	RPC-3.50 female - QMA female, calibration adaptor	$\geq 32$ dB @ DC to 4 GHz $\geq 24$ dB @ 4 GHz to 18 GHz	
03 K 728-S22 S3	straight	RPC-3.50 female - QMA male, 2-hole flange, floating test adaptor	$\geq 40$ dB @ DC to 2.5 GHz $\geq 28$ dB @ 2.5 GHz to 6 GHz $\geq 24$ dB @ 6 GHz to 18 GHz	
03 S 109-S00 S3	straight	RPC-3.50 male - RPC 2.40 male	$\geq 23$ dB @ DC to 26.5 GHz	
03 S 109-K00 S3	straight	RPC-3.50 male - RPC 2.40 female	$\geq 23$ dB @ DC to 26.5 GHz	

Ordering Number	Version	Remarks	Return Loss	
03 K 109-S00 S3	straight	RPC-3.50 female - RPC 2.40 male	$\geq 23$ dB @ DC to 26.5 GHz	
03 K 109-K00 S3	straight	RPC-3.50 female - RPC 2.40 female	$\geq 23$ dB @ DC to 26.5 GHz	
03 S 105-S00 S3	straight	RPC-3.50 male - RPC-N 50 $\Omega$ male	$\geq 26$ dB @ DC to 18 GHz	
03 S 105-K00 S3	straight	RPC-3.50 male - RPC-N 50 $\Omega$ female	$\geq 26$ dB @ DC to 18 GHz	
03 K 105-S00 S3	straight	RPC-3.50 female - RPC-N 50 $\Omega$ male	$\geq 26$ dB @ DC to 18 GHz	
03 K 105-K00 S3	straight	RPC-3.50 female - RPC-N 50 $\Omega$ female	$\geq 26$ dB @ DC to 18 GHz	
03 KR 105-K00 S3	straight	RPC-3.50 female, ruggedized - RPC-N 50 $\Omega$ female	$\geq 26$ dB @ DC to 18 GHz	
03 KR 105-S00 S3	straight	RPC-3.50 female, ruggedized - RPC-N 50 $\Omega$ male	$\geq 26$ dB @ DC to 18 GHz	
03 S 107-P00 S3	straight	RPC-3.50 male - RPC-7	$\geq 28$ dB @ DC to 18 GHz	
03 S 107-P20 S3	straight	RPC-3.50 male - RPC-7, calibration adaptor	$\geq 36$ dB @ DC to 4 GHz $\geq 28$ dB @ 4 GHz to 18 GHz	

Ordering Number	Version	Remarks	Return Loss	
03 K 107-P00 S3	straight	RPC-3.50 female - RPC-7	$\geq 28$ dB @ DC to 18 GHz	
03 K 107-P20 S3	straight	RPC-3.50 female - RPC-7, calibration adaptor	$\geq 36$ dB @ DC to 4 GHz $\geq 28$ dB @ 4 GHz to 18 GHz	
03 KR 107-P00 S3	straight	RPC-3.50 female, ruggedized - RPC-7	$\geq 28$ dB @ DC to 18 GHz	
03 S 110-S01 S3	straight	RPC-3.50 male - RPC-SP male	$\geq 23$ dB @ DC to 22 GHz	
03 S 110-S21 S3	straight	RPC-3.50 male - RPC-SP male, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 22 GHz	
03 S 110-K01 S3	straight	RPC-3.50 male - RPC-SP female	$\geq 23$ dB @ DC to 22 GHz	
03 S 110-K21 S3	straight	RPC-3.50 male - RPC-SP female, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 22 GHz	
03 K 110-S01 S3	straight	RPC-3.50 female - RPC-SP male	$\geq 23$ dB @ DC to 22 GHz	
03 K 110-S21 S3	straight	RPC-3.50 female - RPC-SP male, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 22 GHz	
03 K 110-K01 S3	straight	RPC-3.50 female - RPC-SP female	$\geq 23$ dB @ DC to 22 GHz	
03 K 110-K21 S3	straight	RPC-3.50 female - RPC-SP female, calibration adaptor	$\geq 34$ dB @ DC to 4 GHz $\geq 26$ dB @ 4 GHz to 22 GHz	
03 K 706-S23 S3	straight	RPC-3.50 female - RPC-TNC male, 2-hole flange, floating test adaptor	$\geq 35$ dB @ DC to 2.5 GHz $\geq 25$ dB @ 2.5 GHz to 6 GHz $\geq 20$ dB @ 6 GHz to 16 GHz $\geq 17$ dB @ 16 GHz to 18 GHz	
03 K 719-S22 S3	straight	RPC-3.50 female - SMP male, full detent, 2-hole flange, floating test adaptor	$\geq 30$ dB @ DC to 12 GHz $\geq 20$ dB @ 12 to 26.5 GHz	

Interchangeable Port Connector System

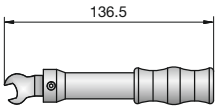
RPC-3.50 - RPC-SL 26.5 GHz

Ordering Number	Version	Remarks	Return Loss	
03 S 104-S00 S3	straight	RPC-3.50 male - RPC-SL 26.5 GHz male	$\geq 21$ dB @ DC to 26.5 GHz	
03 K 104-S00 S3	straight	RPC-3.50 female - RPC-SL 26.5 GHz male	$\geq 21$ dB @ DC to 26.5 GHz	

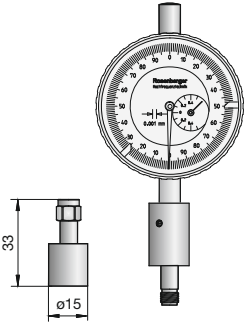
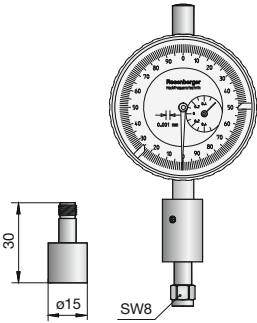
see also chapter interchangeable port connector system

Tools

Torque Wrench

Ordering Number	Remarks	
03 W 021-000	flat 8 mm - 0.9 Nm torque for RPC-3.50 , RPC- 2.92, RPC-2.40, RPC-1.85	

Gauge

Ordering Number	Remarks	
03 W 00S-000	compatible to male connectors for RPC-3.50, RPC-2.92 incl. gauge block	
03 W 00K-000	compatible to female connectors for RPC-3.50, RPC-2.92 incl. gauge block	



RPC-2.92 precision connectors from Rosenberger with  $50\Omega$  impedance and an outer diameter of 2.92 mm are applicable for test & measurement applications up to 40 GHz.

Due to the shortened male pin and the fourfold slotted female center contact, RPC-2.92 connectors meet highest levels of reliability and repeatability of performance.

RPC-2.92 connectors are intermateable with APC-3.50, GPC-3.50, SMA, as well as K connectors.

The wide product spectrum consists of cable, PCB and panel connectors, adaptors, interchangeable port connectors, attenuators as well as test & measurement accessories such as RPC-2.92 calibration kits, test cables, opens, shorts, loads, attenuators, airlines or sliding loads.

*RPC-2.92-Steckverbinder von Rosenberger sind  $50\Omega$ -Präzisionssteckverbinder mit 2.92 mm Außenleiter für Messtechnik-Anwendungen bis 40 GHz.*

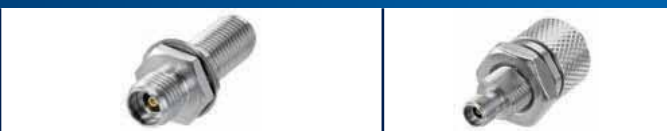
*Aufgrund eines verkürzten Steckerstiftes und einer 4-fach geschlitzten Innenleiterbuchse zeichnet sich die Steckverbinder-Serie RPC-2.92 durch sehr hohe Zuverlässigkeit sowie eine hervorragende Reproduzierbarkeit aus.*

*RPC-2.92 Steckverbinder sind steckkompatibel zu APC-3.50-, GPC-3.50-, SMA-, sowie K-Steckverbindern.*

*Das Produktspektrum umfasst Kabel-, Leiterplatten- und Gehäuse-Steckverbinder, Adapter, Wechsellport-Steckverbinder, Dämpfungsglieder sowie Messzubehör wie RPC-2.92-Kalibrier-Kits, Testkabel, Opens, Shorts, Loads, Dämpfungsglieder, Luftleitungen oder Sliding Loads.*



## Series RPC-2.92



### Features

Frequency range DC to 40 GHz

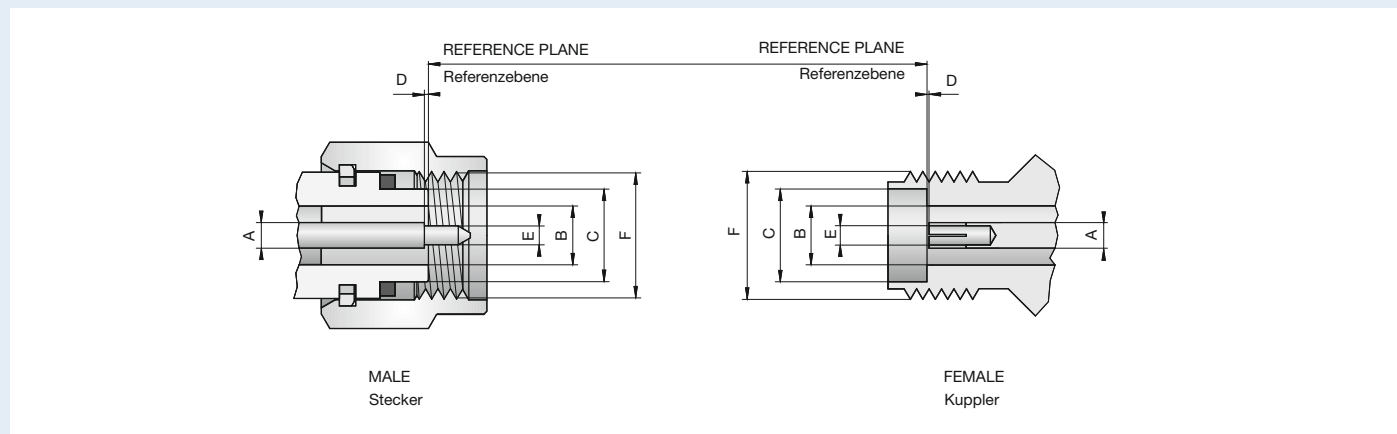
Return loss (connector head)  $\geq 23$  dB

Impedance  $50\ \Omega$

Threaded coupling

Intermateable with K-, SMA- and RPC-3.50 mm connectors

## Interface Dimensions Series RPC-2.92 (code 02)



### Series RPC-2.92

dimension	Male   <i>Stecker</i>		Female   <i>Kuppler</i>	
	min.	max.	min.	max.
A	1.26	1.28	1.26	1.28
B	2.91	2.93	2.91	2.93
C	4.57	4.59	4.62	4.65
D	0.00	0.08	0.00	0.08
E	0.91	0.93	0.96	0.98
F	1/4-36UNS-2B		1/4-36UNS-2A	

## Technical Data Series RPC-2.92

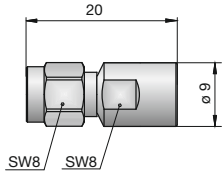
Applicable standards   <i>Anwendbare Standards</i>	
Mechanically compatible with   <i>Mechanisch kompatibel mit</i>	RPC-3.50 and SMA
Electrical data   <i>Elektrische Daten</i>	
Impedance   <i>Wellenwiderstand</i>	50 $\Omega$
Frequency range   <i>Frequenzbereich</i>	DC to 40 GHz
Return loss (connector head)   <i>Rückflußdämpfung (Steckerkopf)</i>	$\geq 23$ dB, DC to 40 GHz
Insertion loss (connector head)   <i>Dämpfung (Steckerkopf)</i>	$\leq 0.04$ dB x $\sqrt{f[\text{GHz}]}$
Insulation resistance   <i>Isolationswiderstand</i>	$\geq 5$ G $\Omega$
Center contact resistance   <i>Übergangswiderstand Innenleiter</i>	$\leq 3.0$ m $\Omega$
Outer contact resistance   <i>Übergangswiderstand Außenleiter</i>	$\leq 2.0$ m $\Omega$
Test voltage   <i>Prüfspannung</i>	750 V rms
Working voltage   <i>Betriebsspannung</i>	250 V rms
RF-leakage   <i>Schirmdämpfung</i>	$\geq 100$ dB up to 1 GHz
Mechanical data   <i>Mechanische Daten</i>	
Mating cycles   <i>Steckzyklen</i>	$\geq 500$
Center contact captivation   <i>Innenleiter Haltekraft</i>	$\geq 22$ N
Coupling torque recommended   <i>Anzugsdrehmoment empfohlen</i>	0.80 Nm to 1.10 Nm
Coupling test torque   <i>Prüfdrehmoment</i>	1.70 Nm
Environmental data   <i>Umweltdaten</i>	
Temperature range   <i>Temperaturbereich</i>	-40 °C to +85 °C
Thermal shock   <i>Temperaturzyklen</i>	MIL-STD 202, Method 107, Condition B
Corrosion resistance   <i>Korrosionsbeständigkeit</i>	MIL-STD 202, Method 101, Condition B
Vibration   <i>Vibration</i>	MIL-STD 202, Method 204, Condition D
Shock   <i>Schock</i>	MIL-STD 202, Method 213, Condition I
Moisture resistance   <i>Feuchtigkeitsbeständigkeit</i>	MIL-STD 202, Method 106
Max. soldering temperature   <i>Maximale Löttemperatur</i>	IEC 61760-1, +260 °C for 10 sec.
Materials   <i>Materialien</i>	
Center contact   <i>Innenleiter</i>	Beryllium copper, gold-plated
Outer contact   <i>Außenleiter</i>	Stainless steel, passivated plating
Dielectric   <i>Dielektrikum</i>	PS, PEEK
Gasket   <i>Dichtung</i>	Silicone

Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

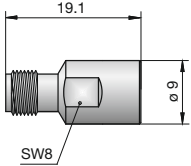
*Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.*

**Connector Heads**

## Straight Plug

Ordering Number	Remarks	Return Loss	
02 S 121-000 S3	with bead	$\geq 23$ dB @ DC to 40 GHz	

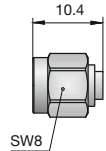
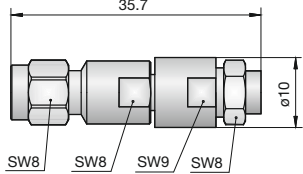
## Straight Jack

Ordering Number	Remarks	Return Loss	
02 K 121-000 S3	with bead	$\geq 23$ dB @ DC to 40 GHz	

## Cable Connectors Semi-Rigid Cable

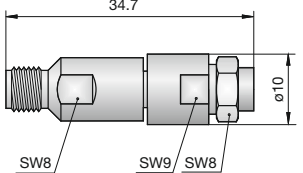
Straight Plug, solder

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
02 S 141-271 E4	$\geq 30$ dB @ DC to 4 GHz $\geq 22$ dB @ 4 GHz to 32 GHz $\geq 20$ dB @ 32 GHz to 40 GHz	71	02 A5	
02 S 141-2W9 E4	$\geq 30$ dB @ DC to 4 GHz $\geq 22$ dB @ 4 GHz to 32 GHz $\geq 20$ dB @ 32 GHz to 40 GHz	W9	02 A8	
02 S 121-271 S3	$\geq 23$ dB @ DC to 40 GHz	71	02 A3	

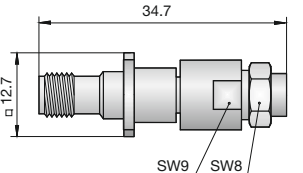
Straight Jack, solder

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
02 K 121-271 S3	$\geq 23$ dB @ DC to 40 GHz	71	02 A3	

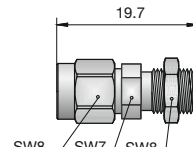
Panel Jack, 4-hole flange

Semi-Rigid

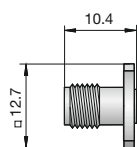
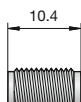
Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
02 K 421-271 S3	$\geq 23$ dB @ DC to 40 GHz	71	02 A3	MB 55	

## Panel Connectors

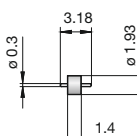
### Panel Plug

Ordering Number	Remarks	Return Loss	
02 S 521-800 S3	without glass bead, for hermetic sealed glass bead pin 0.3 mm 02 Z 101-000	$\geq 19$ dB @ DC to 40 GHz	

### Panel Jack

Ordering Number	Remarks	Return Loss	Panel Piercing / PCB Layout	Packing Unit	
02 K 421-800 S3	without glass bead, for hermetic sealed glass bead pin 0.3 mm 02 Z 101-000	$\geq 23$ dB @ DC to 34 GHz $\geq 19$ dB @ 34 to 40 GHz	MB 55	100 blister	
02 K 526-800 S3	without glass bead, for hermetic sealed glass bead pin 0.3 mm 02 Z 101-000	$\geq 23$ dB @ DC to 34 GHz $\geq 19$ dB @ 34 to 40 GHz		100 blister	

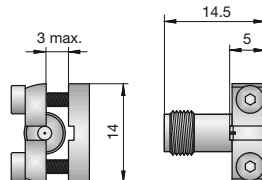
### Glass Bead

Ordering Number	Remarks	Return Loss	
02 Z 101-000	hermetic sealed	$\geq 19$ dB @ DC to 40 GHz	 <p>extended scale</p>

## PCB Connectors SMD

### Right Angle Panel Jack, edge mount

SMD

Ordering Number	Remarks	Return Loss	Panel Piercing / PCB Layout	
02 K 243-40M E3	for various PCB's 0-3 mm	$\geq 14$ dB @ DC to 40 GHz	MB 208	

## Adaptors

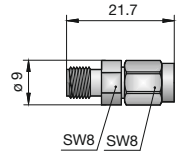
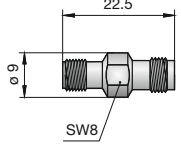
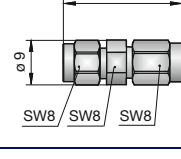
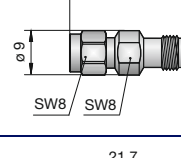
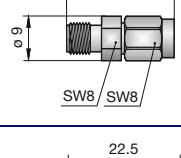
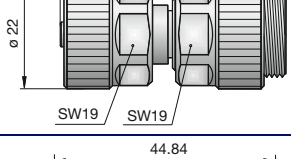
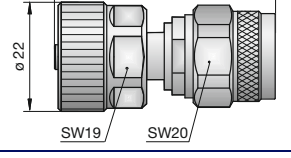
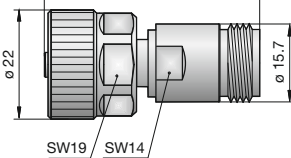
Adaptor (In Series)

Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
02 S 121-S00 S3	straight	RPC-2.92 male - male	$\geq 21$ dB @ DC to 40 GHz		
02 S 121-S20 S3	straight	RPC-2.92 male - male, calibration adaptor	$\geq 32$ dB @ DC to 4 GHz $\geq 25$ dB @ 4 GHz to 40 GHz		
02 S 121-K00 S3	straight	RPC-2.92 male - female	$\geq 21$ dB @ DC to 40 GHz		
02 S 121-K20 S3	straight	RPC-2.92 male - female, calibration adaptor	$\geq 32$ dB @ DC to 4 GHz, $\geq 25$ dB @ 4 to 40 GHz		
02 S 422-S00 S3	straight	RPC-2.92 male-male, ruggedized, 4-hole flange	$\geq 23$ dB @ DC to 18 GHz $\geq 17$ dB @ 18 GHz to 40 GHz		
02 K 121-K00 S3	straight	RPC-2.92 female - female	$\geq 21$ dB @ DC to 40 GHz		
02 K 121-K20 S3	straight	RPC-2.92 female - female, calibration adaptor	$\geq 32$ dB @ DC to 4 GHz $\geq 25$ dB @ 4 GHz to 40 GHz		
02 K 521-S00 S3	straight	RPC-2.92 female - male, round flange	$\geq 19$ dB @ DC to 40 GHz	MB 107	
02 K 621-K00 S3	straight	RPC-2.92 female - female, hexagonal flange	$\geq 21$ dB @ DC to 40 GHz	MB 56	
02 K 641-KH0 S3	straight	RPC-2.92 female - female, round flange, hermetic sealed	$\geq 15.5$ dB @ DC to 40 GHz	MB 58	
02 KR 121-S00 S3	straight	RPC-2.92 female, ruggedized - male	$\geq 21$ dB @ DC to 40 GHz		
02 KR 121-K00 S3	straight	RPC-2.92 female, ruggedized - female	$\geq 21$ dB @ DC to 40 GHz		

## Adaptor (Inter Series)

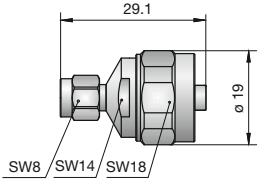
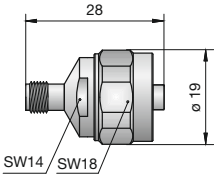
Ordering Number	Version	Remarks	Return Loss	
02 S 118-S00 S3	straight	RPC-2.92 male - Mini-SMP male	$\geq 30$ dB @ DC to 12 GHz $\geq 26$ dB @ 12 to 20 GHz $\geq 18$ dB @ 20 to 40 GHz	
02 S 118-K00 S3	straight	RPC-2.92 male - Mini-SMP female	$\geq 30$ dB @ DC to 12 GHz $\geq 26$ dB @ 12 to 20 GHz $\geq 18$ dB @ 20 to 40 GHz	
02 K 118-S00 S3	straight	RPC-2.92 female - Mini-SMP male	$\geq 30$ dB @ DC to 12 GHz $\geq 26$ dB @ 12 to 20 GHz $\geq 18$ dB @ 20 to 40 GHz	
02 K 118-K00 S3	straight	RPC-2.92 female - Mini-SMP female	$\geq 30$ dB @ DC to 12 GHz $\geq 26$ dB @ 12 to 20 GHz $\geq 18$ dB @ 20 to 40 GHz	
02 S 119-S00 E3	straight	RPC-2.92 male - SMP male	$\geq 32$ dB @ DC to 12 GHz $\geq 26$ dB @ 12 to 26.5 GHz $\geq 21$ dB @ 26.5 to 40 GHz	
02 S 119-K00 E3	straight	RPC-2.92 male - SMP female	$\geq 32$ dB @ DC to 12 GHz $\geq 26$ dB @ 12 to 26.5 GHz $\geq 21$ dB @ 26.5 to 40 GHz	
02 K 119-S00 E3	straight	RPC-2.92 female - SMP male	$\geq 32$ dB @ DC to 12 GHz $\geq 26$ dB @ 12 to 26.5 GHz $\geq 21$ dB @ 26.5 to 40 GHz	
02 K 119-K00 E3	straight	RPC-2.92 female - SMP female	$\geq 32$ dB @ DC to 12 GHz $\geq 26$ dB @ 12 to 26.5 GHz $\geq 21$ dB @ 26.5 to 40 GHz	
02 S 108-S00 S3	straight	RPC-2.92 male - RPC-1.85 male	$\geq 19$ dB @ DC to 40 GHz	
02 S 108-K00 S3	straight	RPC-2.92 male - RPC-1.85 female	$\geq 19$ dB @ DC to 40 GHz	



Ordering Number	Version	Remarks	Return Loss	
02 K 108-S00 S3	straight	RPC-2.92 female - RPC-1.85 male	$\geq 19$ dB @ DC to 40 GHz	
02 K 108-K00 S3	straight	RPC-2.92 female - RPC-1.85 female	$\geq 19$ dB @ DC to 40 GHz	
02 S 109-S00 S3	straight	RPC-2.92 male - RPC-2.40 male	$\geq 19$ dB @ DC to 40 GHz	
02 S 109-K00 S3	straight	RPC-2.92 male - RPC-2.40 female	$\geq 19$ dB @ DC to 40 GHz	
02 K 109-S00 S3	straight	RPC-2.92 female - RPC-2.40 male	$\geq 19$ dB @ DC to 40 GHz	
02 K 109-K00 S3	straight	RPC-2.92 female - RPC-2.40 female	$\geq 19$ dB @ DC to 40 GHz	
02 KR 107-P00 S3	straight	RPC-2.92 female, ruggedized - RPC-7	$\geq 28$ dB @ DC to 18 GHz	
02 KR 105-S00 S3	straight	RPC-2.92 female, ruggedized - RPC-N 50 $\Omega$ male	$\geq 26$ dB @ DC to 18 GHz	
02 KR 105-K00 S3	straight	RPC-2.92 female, ruggedized - RPC-N 50 $\Omega$ female	$\geq 26$ dB @ DC to 18 GHz	

Interchangeable Port Connector System

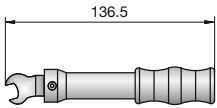
RPC 2.92 - RPC-SL 40 GHz

Ordering Number	Version	Remarks	Return Loss	
02 S 1P4-S00 S3	straight	RPC-2.92 male - RPC-SL 40 GHz male	$\geq 21$ dB @ DC to 26.5 GHz $\geq 19$ dB @ 26.5 to 40 GHz	
02 K 1P4-S00 S3	straight	RPC-2.92 female - RPC-SL 40 GHz male	$\geq 21$ dB @ DC to 26.5 GHz $\geq 19$ dB @ 26.5 to 40 GHz	

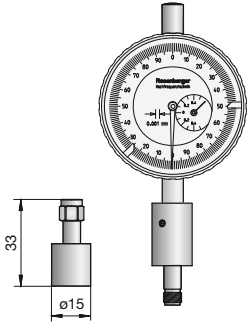
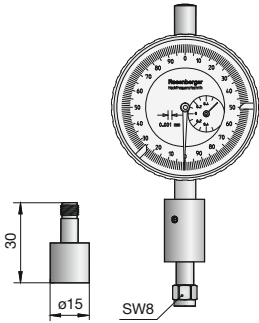
see also chapter interchangeable port connector system

Tools

Torque Wrench

Ordering Number	Remarks	
03 W 021-000	flat 8 mm - 0.9 Nm torque for RPC-3.50 , RPC- 2.92, RPC-2.40, RPC-1.85	

Gauge

Ordering Number	Remarks	
03 W 00S-000	compatible to male connectors for RPC-3.50, RPC-2.92 incl. gauge block	
03 W 00K-000	compatible to female connectors for RPC-3.50, RPC-2.92 incl. gauge block	



RPC-2.40 connectors from Rosenberger – with  $50\Omega$  impedance and 2.40mm outer conductor – have been designed for test & measurement applications up to 50GHz and are characterized by high reliability and outstanding repeatability performance.

*RPC-2.40-Steckverbinder von Rosenberger –  $50\Omega$ -Präzisionssteckverbinder mit 2.40mm Außenleiter – sind konzipiert für Messtechnik-Anwendungen bis 50GHz und zeichnen sich aus durch sehr hohe Zuverlässigkeit und beste Reproduzierbarkeit.*

RPC-2.40 connectors are intermateable with other 2.40mm connector series, such as APC-2.40, OS-50, HP-2.40 or RPC-1.85- and V connectors.

*RPC-2.40 Steckverbinder sind steckkompatibel zu anderen 2.40mm-Steckverbindern, z. B. APC-2.40-, OS-50-, HP-2.40- sowie zu RPC-1.85- und V-Steckverbindern.*

Rosenberger offers a wide range of RPC-2.40 cable and PCB connectors, adaptors, interchangeable port connectors as well as test & measurement accessories such as RPC-2.40 calibration kits, test cables or test devices, e.g. opens, shorts, loads, sliding loads or airlines.

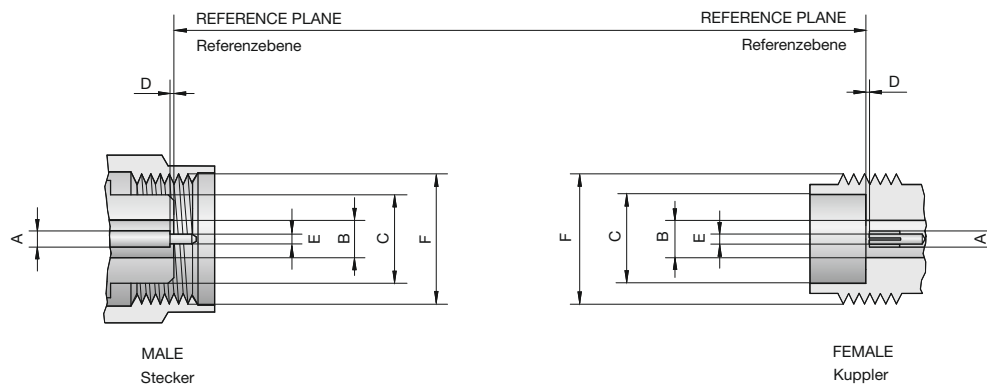
*Rosenberger bietet RPC-2.40-Kabel- und Leiterplatten-Steckverbinder, Adapter Wechselport-Steckverbinder sowie Messzubehör wie RPC-2.40-Kalibrier-Kits, Testkabel oder Testzubehör, z. B. Opens, Shorts, Loads, Sliding Loads und Luftleitungen.*

## Series RPC-2.40

### Features

- Frequency range DC to 50 GHz
- Return loss (cable connector straight)  $\geq 23$  dB
- Impedance  $50\Omega$
- Threaded coupling
- Damage free connection
- Intermateable with V and 1.85 mm connectors

## Interface Dimensions Series RPC-2.40 (code 09)



### Series RPC-2.40

	Male   Stecker		Female   Kuppler	
dimension	min.	max.	min.	max.
A	1.03	1.05	1.03	1.05
B	2.39	2.41	2.39	2.41
C	4.725	4.750	4.770	4.795
D	0.00	0.05	0.00	0.05
E	0.505	0.52	0.54	0.56
F	M7 x 0.75 - 6H		M7 x 0.75 - 6g	

## Technical Data Series RPC-2.40

Applicable standards   Anwendbare Standards	
Mechanically compatible with   Mechanisch kompatibel mit	RPC-1.85
Electrical data   Elektrische Daten	
Impedance   Wellenwiderstand	50 $\Omega$
Frequency range   Frequenzbereich	DC to 50 GHz
Return loss (cable connector straight)   Rückflußdämpfung (Kabelsteckverbinder, gerade)	$\geq 23$ dB, DC to 50 GHz
Insertion loss (cable connector straight)   Dämpfung (Kabelsteckverbinder, gerade)	$\leq 0.05$ dB x $\sqrt{f[\text{GHz}]}$
Insulation resistance   Isolationswiderstand	$\geq 5$ G $\Omega$
Center contact resistance   Übergangswiderstand Innenleiter	$\leq 4.0$ m $\Omega$
Outer contact resistance   Übergangswiderstand Außenleiter	$\leq 2.5$ m $\Omega$
Test voltage   Prüfspannung	500 V rms
Working voltage   Betriebsspannung	150 V rms
RF-leakage   Schirmdämpfung	$\geq 100$ dB up to 1 GHz
Mechanical data   Mechanische Daten	
Mating cycles   Steckzyklen	$\geq 500$
Center contact captivation   Innenleiter Haltekraft	$\geq 20$ N
Coupling torque recommended   Anzugsdrehmoment empfohlen	0.80 Nm to 1.10 Nm
Coupling test torque   Prüfdrehmoment	1.65 Nm
Environmental data   Umweltdaten	
Temperature range   Temperaturbereich	-40 °C to +85 °C
Thermal shock   Temperaturzyklen	IEC 61169-1, Subclause 9.4.4
Corrosion resistance   Korrosionsbeständigkeit	IEC 61169-1, Subclause 9.4.6
Vibration   Vibration	IEC 61169-1, Subclause 9.3.3
Shock   Schock	IEC 61169-1, Subclause 9.3.14
Moisture resistance   Feuchtigkeitsbeständigkeit	IEC 61169-1, Subclause 9.4.3
Max. soldering temperature   Maximale Löttemperatur	IEC 61760-1, +260 °C for 10 sec.
Materials   Materialien	
Center contact   Innenleiter	Beryllium copper, gold-plated
Outer contact   Außenleiter	Stainless steel, passivated
Dielectric   Dielektrikum	PEEK

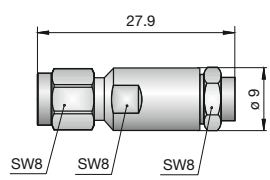
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## Cable Connectors Semi-Rigid Cable

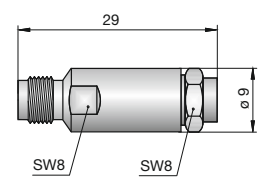
Straight Plug, solder

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
09 S 121-271 S3	$\geq 23$ dB @ DC to 50 GHz	71	02 A3	

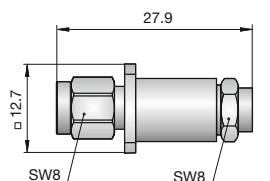
Straight Jack, solder

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
09 K 121-271 S3	$\geq 23$ dB @ DC to 50 GHz	71	02 A3	

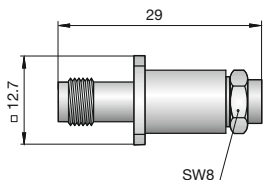
Panel Plug, 4-hole flange

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
09 S 421-271 S3	$\geq 23$ dB @ DC to 50 GHz	71	02 A3	MB 55	

Panel Jack, 4-hole flange

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
09 K 421-271 S3	$\geq 23$ dB @ DC to 50 GHz	71	02 A3	MB 55	



**PCB Connectors SMD**

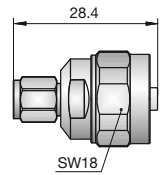
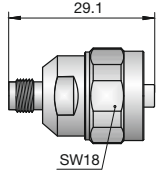
Right Angle Panel Jack, edge mount

SMD

Ordering Number	Remarks	Return Loss	Panel Piercing / PCB Layout	
09 K 243-40M E3	for various PCB's 0-3 mm	$\geq 12$ dB @ DC to 50 GHz	MB 208	

**Interchangeable Port Connector System**

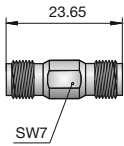
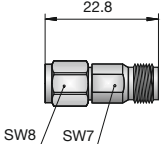
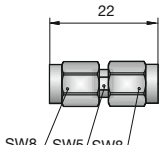
RPC 2.40 - RPC-SL 40 GHz

Ordering Number	Version	Remarks	Return Loss	
09 S 1P4-S00 S3	straight	RPC-2.40 male - RPC-SL 40 GHz male	$\geq 21$ dB @ DC to 26.5 GHz $\geq 19$ dB @ 26.5 GHz to 40 GHz	
09 K 1P4-S00 S3	straight	RPC-2.40 female - RPC-SL 40 GHz male	$\geq 21$ dB @ DC to 26.5 GHz $\geq 19$ dB @ 26.5 GHz to 40 GHz	

see also chapter interchangeable port connector system

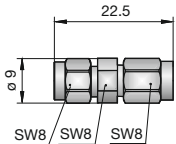
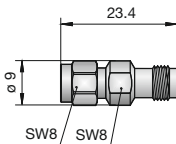
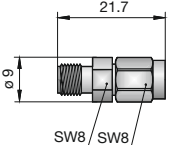
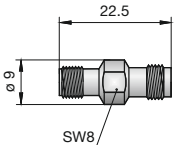
## Adaptors

Adaptor (In Series)

Ordering Number	Version	Remarks	Return Loss	
09 K 121-K00 S3	straight	RPC-2,40 female - female	$\geq 17$ dB @ DC to 50 GHz	
09 K 121-K20 S3	straight	RPC-2,40 female - female, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 17$ dB @ 4 GHz to 50 GHz	
09 S 121-K00 S3	straight	RPC-2,40 male - female	$\geq 17$ dB @ DC to 50 GHz	
09 S 121-K20 S3	straight	RPC-2,40 male - female, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz, $\geq 17$ dB @ 4 GHz to 50 GHz	
09 S 121-S00 S3	straight	RPC-2,40 male - male	$\geq 17$ dB @ DC to 50 GHz	
09 S 121-S20 S3	straight	RPC-2,40 male - male, calibration adaptor	$\geq 30$ dB @ DC to 4 GHz $\geq 17$ dB @ 4 GHz to 50 GHz	

## Adaptors

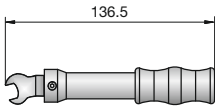
Adaptor (Inter Series)

Ordering Number	straight	Remarks	Return Loss	
02 S 109-S00 S3	straight	RPC-2.92 male - RPC-2.40 male	$\geq 19$ dB @ DC to 40 GHz	
02 S 109-K00 S3	straight	RPC-2.92 male - RPC-2.40 female	$\geq 19$ dB @ DC to 40 GHz	
02 K 109-S00 S3	straight	RPC-2.92 female - RPC-2.40 male	$\geq 19$ dB @ DC to 40 GHz	
02 K 109-K00 S3	straight	RPC-2.92 female - RPC-2.40 female	$\geq 19$ dB @ DC to 40 GHz	

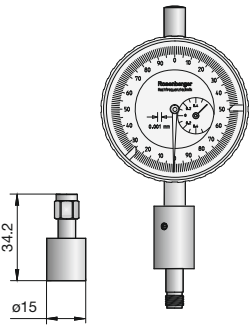
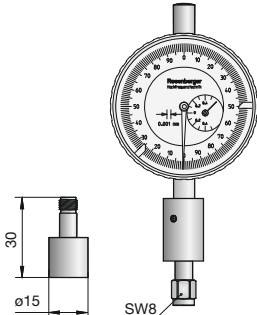
Ordering Number	straight	Remarks	Return Loss	
03 S 109-S00 S3	straight	RPC-3.50 male - RPC 2.40 male	$\geq 23$ dB @ DC to 26.5 GHz	
03 S 109-K00 S3	straight	RPC-3.50 male - RPC 2.40 female	$\geq 23$ dB @ DC to 26.5 GHz	
03 K 109-S00 S3	straight	RPC-3.50 female - RPC 2.40 male	$\geq 23$ dB @ DC to 26.5 GHz	
03 K 109-K00 S3	straight	RPC-3.50 female - RPC 2.40 female	$\geq 23$ dB @ DC to 26.5 GHz	

Tools

Torque Wrench

Ordering Number	Remarks	
03 W 021-000	flat 8 mm - 0.9 Nm torque for RPC-3.50 , RPC- 2.92, RPC-2.40, RPC-1.85	

Gauge

Ordering Number	Remarks	
08 W 00S-000	compatible to male connectors for RPC-2.40, RPC-1.85 incl. gauge block	
08 W 00K-000	compatible to female connectors for RPC-2.40, RPC-1.85 incl. gauge block	



RPC-1.85 precision connectors from Rosenberger – with 50Ω impedance and 1.85mm outer conductor diameter – have been designed for test & measurement applications up to 65GHz.

Outstanding characteristics are high reliability and outstanding repeatability performance, RPC-1.85 connectors are intermateable with 2.40mm connector series, such as APC-2.40, OS-50, HP-2.40 or RPC-2.40 and V connectors.

The comprehensive product range includes RPC-1.85 cable and panel connectors, adaptors and test & measurement accessories such as RPC-1.85 calibration kits, test cables opens, shorts, loads, attenuators, sliding loads or airlines.

*RPC-1.85-Steckverbinder von Rosenberger – 50Ω-Präzisionssteckverbinder mit 1.85 mm Außenleiter – sind konzipiert für Messtechnik-Anwendungen bis 65 GHz.*

*RPC-1.85-Steckverbinder zeichnen sich aus durch sehr hohe Zuverlässigkeit und beste Reproduzierbarkeit, sie sind steckkompatibel zu allen entsprechenden 2.40 mm-Steckverbindern, z. B. APC-2.40-, OS-50-, HP-2.40-, RPC-2.40- sowie zu V-Steckverbindern.*

*Das Produktspektrum von Rosenberger umfasst RPC-1.85-Kabel- und Gehäuse-Steckverbinder, Adapter sowie Messzubehör wie RPC-1.85-Kalibrier-Kits, Testkabel oder Opens, Shorts, Loads, Dämpfungsglieder, Sliding Loads und Luftleitungen.*

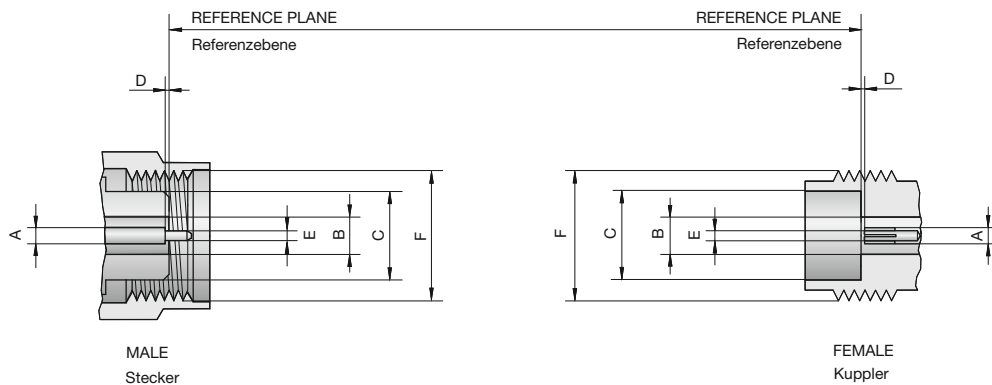
## Series RPC-1.85



### Features

- Interface according to IEC 61169-32
- Frequency range DC to 65 GHz
- Return loss (cable connector straight)  $\geq 20$  dB
- Impedance  $50\Omega$
- Threaded coupling
- Damage free connection
- Intermateable with V and 2.40 mm connectors

## Interface Dimensions Series RPC-1.85 (code 08)



### Series RPC-1.85

	Male   Stecker		Female   Kuppler	
dimension	min.	max.	min.	max.
A	0.799	0.809	0.799	0.809
B	1.84	1.86	1.84	1.86
C	4.725	4.750	4.770	4.795
D	0.00	0.05	0.00	0.05
E	0.505	0.52	0.54	0.56
F	M7 x 0.75 - 6H		M7 x 0.75 - 6g	



## Technical Data Series RPC-1.85

Applicable standards   <i>Anwendbare Standards</i>	
Interface according to   <i>Interface gemäß</i>	IEC 61169-32
Mechanically compatible with   <i>Mechanisch kompatibel mit</i>	RPC-2.40
Electrical data   <i>Elektrische Daten</i>	
Impedance   <i>Wellenwiderstand</i>	50 $\Omega$
Frequency range   <i>Frequenzbereich</i>	DC to 65 GHz
Return loss (cable connector straight)   <i>Rückflußdämpfung (Kabelsteckverbinder, gerade)</i>	$\geq 20$ dB, DC to 65 GHz
Insertion loss (cable connector straight)   <i>Dämpfung (Kabelsteckverbinder, gerade)</i>	$\leq 0.05$ dB x $\sqrt{f[\text{GHz}]}$
Insulation resistance   <i>Isolationswiderstand</i>	$\geq 5$ G $\Omega$
Center contact resistance   <i>Übergangswiderstand Innenleiter</i>	$\leq 4.0$ m $\Omega$
Outer contact resistance   <i>Übergangswiderstand Außenleiter</i>	$\leq 2.5$ m $\Omega$
Test voltage   <i>Prüfspannung</i>	500 V rms
Working voltage   <i>Betriebsspannung</i>	150 V rms
RF-leakage   <i>Schirmdämpfung</i>	$\geq 100$ dB up to 1 GHz
Mechanical data   <i>Mechanische Daten</i>	
Mating cycles   <i>Steckzyklen</i>	$\geq 500$
Center contact captivation   <i>Innenleiter Haltekraft</i>	$\geq 20$ N
Coupling torque recommended   <i>Anzugsdrehmoment empfohlen</i>	0.80 Nm to 1.10 Nm
Coupling test torque   <i>Prüfdrehmoment</i>	1.65 Nm
Environmental data   <i>Umweltdaten</i>	
Temperature range   <i>Temperaturbereich</i>	-40 °C to +85 °C
Thermal shock   <i>Temperaturzyklen</i>	IEC 61169-1, Subclause 9.4.4
Corrosion resistance   <i>Korrosionsbeständigkeit</i>	IEC 61169-1, Subclause 9.4.6
Vibration   <i>Vibration</i>	IEC 61169-1, Subclause 9.3.3
Shock   <i>Schock</i>	IEC 61169-1, Subclause 9.3.14
Moisture resistance   <i>Feuchtigkeitsbeständigkeit</i>	IEC 61169-1, Subclause 9.4.3
Max. soldering temperature   <i>Maximale Löttemperatur</i>	IEC 61760-1, +260 °C for 10 sec.
Materials   <i>Materialien</i>	
Center contact   <i>Innenleiter</i>	Beryllium copper, gold-plated
Outer contact   <i>Außenleiter</i>	Stainless steel, passivated
Dielectric   <i>Dielektrikum</i>	PEEK

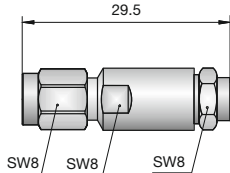
Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

*Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.*

## Cable Connectors Semi-Rigid Cable

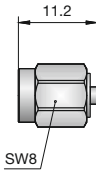
Straight Plug, solder

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
08 S 121-270 S3	$\geq 20$ dB @ DC to 65 GHz	70	02 A6	
08 S 121-271 S3	$\geq 20$ dB @ DC to 65 GHz	71	02 A3	
08 S 121-2W7 S3	$\geq 20$ dB @ DC to 65 GHz	W7	02 A3	

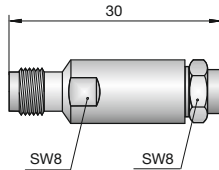
Straight Plug, solder, without pin, without dielectric

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
08 S 101-271 D	$\geq 20$ dB @ DC to 65 GHz	71	08 A1	

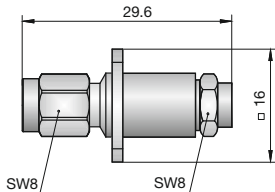
Straight Jack, solder

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
08 K 121-270 S3	$\geq 20$ dB @ DC to 65 GHz	70	02 A6	
08 K 121-271 S3	$\geq 20$ dB @ DC to 65 GHz	71	02 A3	
08 K 121-2W7 S3	$\geq 20$ dB @ DC to 65 GHz	W7	02 A3	

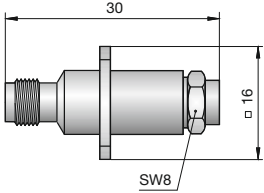
Panel Plug, 4-hole flange

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
08 S 421-270 S3	$\geq 20$ dB @ DC to 65 GHz	70	02 A6	MB 71	
08 S 421-271 S3	$\geq 20$ dB @ DC to 65 GHz	71	02 A3	MB 71	
08 S 421-2W7 S3	$\geq 20$ dB @ DC to 65 GHz	W7	02 A3	MB 71	

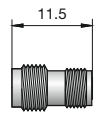
Panel Jack, 4-hole flange

Semi-Rigid

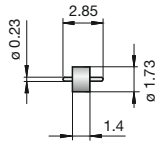
Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
08 K 421-270 S3	$\geq 20$ dB @ DC to 65 GHz	70	02 A6	MB 71	
08 K 421-271 S3	$\geq 20$ dB @ DC to 65 GHz	71	02 A3	MB 71	
08 K 421-2W7 S3	$\geq 20$ dB @ DC to 65 GHz	W7	02 A3	MB 71	

## Panel Connectors

### Panel Jack

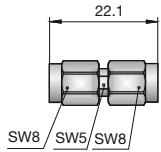
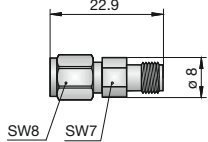
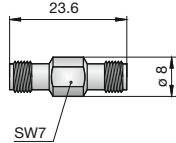
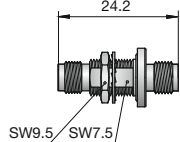
Ordering Number	Remarks	Return Loss	Packing Unit	
08 K 521-800 S3	without glass bead, for hermetic sealed glass bead pin 0,24 mm 08 Z 101-000	$\geq 15$ dB @ DC to 65 GHz	100	

### Glass Bead

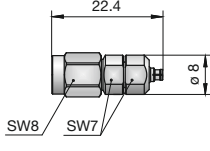
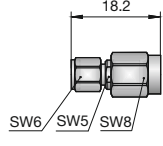
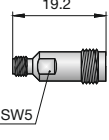
Ordering Number	Remarks	Return Loss	
08 Z 101-000	hermetic sealed	$\geq 17$ dB @ DC to 65 GHz	 extended scale

## Adaptors

Adaptor (In Series)

Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
08 S 121-S00 S3	straight	RPC-1,85 male - male	$\geq 17$ dB @ DC to 65 GHz		
08 S 121-S20 S3	straight	RPC-1,85 male - male, calibration adaptor	$\geq 28$ dB @ DC to 4 GHz $\geq 17$ dB @ 4 GHz to 65 GHz		
08 S 121-K00 S3	straight	RPC-1,85 male - female	$\geq 17$ dB @ DC to 65 GHz		
08 S 121-K20 S3	straight	RPC-1,85 male - female, calibration adaptor	$\geq 28$ dB @ DC to 4 GHz $\geq 17$ dB @ 4 GHz to 65 GHz		
08 K 121-K00 S3	straight	RPC-1,85 female - female	$\geq 17$ dB @ DC to 65 GHz		
08 K 121-K20 S3	straight	RPC-1,85 female - female, calibration adaptor	$\geq 28$ dB @ DC to 4 GHz $\geq 17$ dB @ 4 GHz to 65 GHz		
08 K 641-KH0 S3	straight	RPC-1.85 male - male, panel mount, round flange, hermetic sealed	$\geq 12$ dB @ DC to 65 GHz	MB 58	

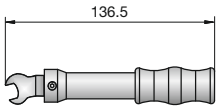
## Adaptor (Inter Series)

Ordering Number	Version	Remarks	Return Loss	
08 S 118-S00 S3	straight	RPC-1.85 male - Mini-SMP male	$\geq 30$ dB @ DC to 12 GHz $\geq 18$ dB @ 12 to 50 GHz $\geq 15$ dB @ 50 to 65 GHz	
08 S 118-K00 S3	straight	RPC-1.85 male - Mini-SMP female	$\geq 30$ dB @ DC to 12 GHz $\geq 18$ dB @ 12 to 50 GHz $\geq 15$ dB @ 50 to 65 GHz	
08 K 118-S00 S3	straight	RPC-1.85 female - Mini-SMP male	$\geq 30$ dB @ DC to 12 GHz $\geq 18$ dB @ 12 to 50 GHz $\geq 15$ dB @ 50 to 65 GHz	
08 K 118-K00 S3	straight	RPC-1.85 female - Mini-SMP female	$\geq 30$ dB @ DC to 12 GHz $\geq 18$ dB @ 12 to 50 GHz $\geq 15$ dB @ 50 to 65 GHz	
01 S 108-S00 D3	straight	RPC-1.00 male - RPC-1.85 male	$\geq 19$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 to 50 GHz $\geq 14$ dB @ 50 to 65 GHz	
01 S 108-K00 D3	straight	RPC-1.00 male - RPC-1.85 female	$\geq 19$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 to 50 GHz $\geq 14$ dB @ 50 to 65 GHz	
01 K 108-S00 D3	straight	RPC-1.00 female - RPC-1.85 male	$\geq 19$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 to 50 GHz $\geq 14$ dB @ 50 to 65 GHz	
01 K 108-K00 D3	straight	RPC-1.00 female - RPC-1.85 female	$\geq 19$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 to 50 GHz $\geq 14$ dB @ 50 to 65 GHz	

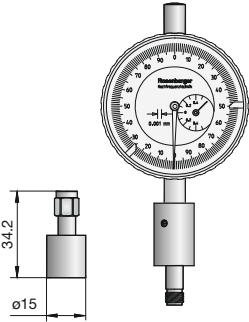
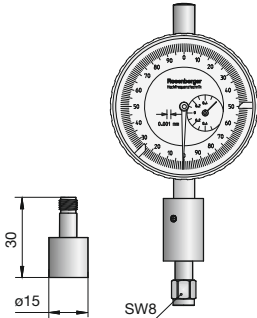
Ordering Number	Version	Remarks	Return Loss	
02 S 108-S00 S3	straight	RPC-2.92 male - RPC-1.85 male	$\geq 19$ dB @ DC to 40 GHz	
02 S 108-K00 S3	straight	RPC-2.92 male - RPC-1.85 female	$\geq 19$ dB @ DC to 40 GHz	
02 K 108-S00 S3	straight	RPC-2.92 female - RPC-1.85 male	$\geq 19$ dB @ DC to 40 GHz	
02 K 108-K00 S3	straight	RPC-2.92 female - RPC-1.85 female	$\geq 19$ dB @ DC to 40 GHz	

Tools

Torque Wrench

Ordering Number	Remarks	
03 W 021-000	flat 8 mm - 0.9 Nm torque for RPC-3.50 , RPC- 2.92, RPC-2.40, RPC-1.85	

Gauge

Ordering Number	Remarks	
08 W 00S-000	compatible to male connectors for RPC-2.40, RPC-1.85 incl. gauge block	
08 W 00K-000	compatible to female connectors for RPC-2.40, RPC-1.85 incl. gauge block	



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

They are characterized by excellent technical data over the full frequency range, meet the highest levels of reliability and repeatability of performance and are intermateable with 1.00 mm connectors, e.g. Agilent 1.00.

Additionally to cable connectors, there are also available adaptors and test & measurement accessories such as RPC-1.00 calibration kits, test cables or test devices, e.g. opens, shorts, loads or airlines.

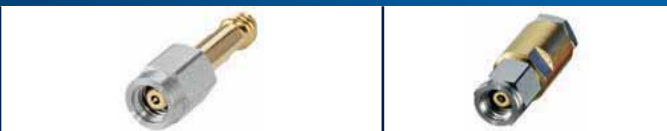
*Rosenberger RPC-1.00-Steckverbinder sind 50  $\Omega$ -Präzisionssteckverbinder mit 1.00 mm Außenleiterdurchmesser und hervorragenden Eigenschaften für Messtechnik-Anwendungen bis 110 GHz.*

*RPC-1.00-Steckverbinder sind gekennzeichnet durch sehr hohe Zuverlässigkeit und hervorragende Reproduzierbarkeit. Sie sind steckkompatibel zu 1.00 mm-Steckverbindern, z.B. Agilent-1.00.*

*Neben einer Reihe von Kabel-Steckverbindern sind auch Adapter und Messzubehör erhältlich wie z.B. RPC-1.00-Kalibrier-Kits, Testkabel oder Testzubehör, z. B. Opens, Shorts, Loads oder Luftleitungen.*



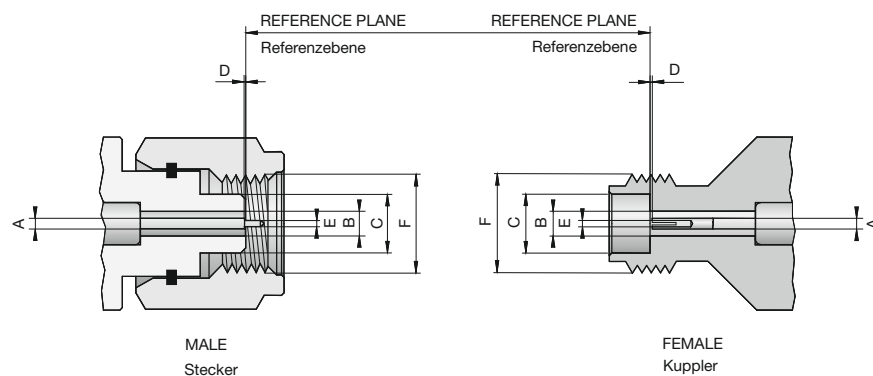
## Series RPC-1.00



### Features

- Interface according to IEC 61169-31
- Frequency range DC to 110GHz
- Return loss ( cable connector straight)  $\geq 14$  dB
- Impedance  $50\Omega$
- Threaded coupling
- Damage free connection
- Intermateable with W connectors

## Interface Dimensions Series RPC-1.00 (code 01)



### Series RPC-1.00

	Male   Stecker		Female   Kuppler	
dimension	min.	max.	min.	max.
A	0.4315	0.4365	0.4315	0.4365
B	0.995	1.005	0.995	1.005
C	2.348	2.368	2.380	2.400
D	0.000	0.050	0.000	0.050
E	0.245	0.255	0.270	0.290
F	M4 x 0.7 - 6H		M4 x 0.7 - 6g	

## Technical Data Series RPC-1.00

Applicable standards   Anwendbare Standards	
Interface according to   Interface gemäß	IEC 61169-31
Electrical data   Elektrische Daten	
Impedance   Wellenwiderstand	50 $\Omega$
Frequency range   Frequenzbereich	DC to 110 GHz
Return loss (cable connector straight)   Rückflußdämpfung (Kabelsteckverbinder, gerade)	≥ 23 dB, DC to 50 GHz ≥ 19 dB, 50 GHz to 75 GHz ≥ 14 dB, 75 GHz to 110 GHz
Insertion loss (cable connector straight)   Dämpfung (Kabelsteckverbinder, gerade)	≤ 0.05 dB x  f [GHz]
Insulation resistance   Isolationswiderstand	≥ 5 G $\Omega$
Center contact resistance   Übergangswiderstand Innenleiter	≤ 4.0 m $\Omega$
Outer contact resistance   Übergangswiderstand Außenleiter	≤ 1.0 m $\Omega$
Test voltage   Prüfspannung	500 V rms
Working voltage   Betriebsspannung	150 V rms
RF-leakage   Schirmdämpfung	≥ 90 dB up to 1 GHz
Mechanical data   Mechanische Daten	
Mating cycles   Steckzyklen	≥ 500
Center contact captivation   Innenleiter Haltekraft	≥ 10 N
Coupling torque recommended   Anzugsdrehmoment empfohlen	0.3 Nm to 0.41 Nm
Coupling test torque   Prüfdrehmoment	0.70 Nm
Environmental data   Umweltdaten	
Temperature range   Temperaturbereich	-40 °C to +85 °C
Thermal shock   Temperaturzyklen	IEC 61169-1, Subclause 9.4.4
Corrosion resistance   Korrosionsbeständigkeit	IEC 61169-1, Subclause 9.4.6
Vibration   Vibration	IEC 61169-1, Subclause 9.3.3
Shock   Schock	IEC 61169-1, Subclause 9.3.14
Moisture resistance   Feuchtigkeitsbeständigkeit	IEC 61169-1, Subclause 9.4.3
Max. soldering temperature   Maximale Löttemperatur	IEC 61760-1, +260 °C for 10 sec.
Materials   Materialien	
Center contact   Innenleiter	Beryllium copper, gold-plated
Outer contact   Außenleiter	Beryllium copper, gold-plated
Dielectric   Dielektrikum	PEEK

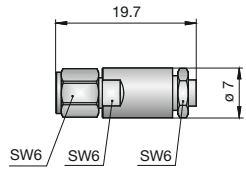
Rosenberger-connectors fulfill in principle the indicated data of the Technical Data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and execution. Specific data sheets for particular products can be provided on request from your Rosenberger sales partner.

Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem Rosenberger-Ansprechpartner.

**Cable Connectors Semi-Rigid Cable**

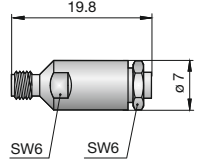
Straight Plug, solder

Semi-Rigid

Ordering Number	Return Loss	Cable Group	Assembly Instruction	
01 S 101-270 E3	$\geq 23$ dB @ DC to 50 GHz $\geq 19$ dB @ 50 to 75 GHz $\geq 14$ dB @ 75 to 110 GHz	70	01 A1	

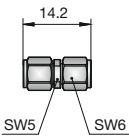
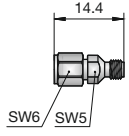
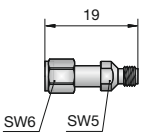
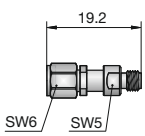
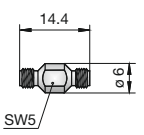
Straight Jack, solder

Semi-Rigid

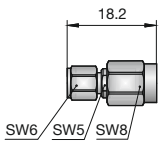
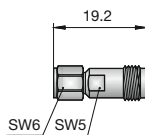
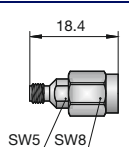
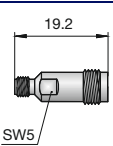
Ordering Number	Return Loss	Cable Group	Assembly Instruction	
01 K 101-270 E3	$\geq 23$ dB @ DC to 50 GHz $\geq 19$ dB @ 50 to 75 GHz $\geq 14$ dB @ 75 to 110 GHz	70	01 A1	

## Adaptors

### Adaptor (In Series)

Ordering Number	Version	Remarks	Return Loss	
01 S 101-S20 D3	straight	RPC-1.00 male - male, calibration adaptor, phase matched	$\geq 20$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 GHz to 50 GHz $\geq 15$ dB @ 50 GHz to 75 GHz $\geq 12$ dB @ 75 GHz to 110 GHz	
01 S 101-K20 D3	straight	RPC-1.00 male - female, calibration adaptor, phase matched	$\geq 20$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 GHz to 50 GHz $\geq 15$ dB @ 50 GHz to 75 GHz $\geq 12$ dB @ 75 GHz to 110 GHz	
01 S 101-K01 D3	straight	RPC-1.00 male - female, calibration adaptor, with retractable male nut	$\geq 20$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 GHz to 50 GHz $\geq 15$ dB @ 50 GHz to 75 GHz $\geq 12$ dB @ 75 GHz to 110 GHz	
01 S 101-K02 D3	straight	RPC-1.00 male - female, calibration adaptor, with retractable female nut	$\geq 20$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 GHz to 50 GHz $\geq 15$ dB @ 50 GHz to 75 GHz $\geq 12$ dB @ 75 GHz to 110 GHz	
01 K 101-K20 D3	straight	RPC-1.00 female - female, calibration adaptor, phase matched	$\geq 20$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 GHz to 50 GHz $\geq 15$ dB @ 50 GHz to 75 GHz $\geq 12$ dB @ 75 GHz to 110 GHz	

### Adaptor (Inter Series)

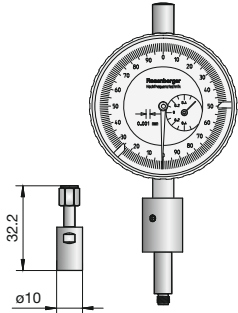
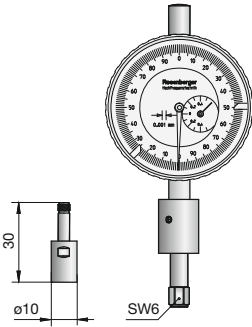
Ordering Number	Version	Remarks	Return Loss	
01 S 108-S00 D3	straight	RPC-1.00 male - RPC-1.85 male	$\geq 19$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 to 50 GHz $\geq 14$ dB @ 50 to 65 GHz	
01 S 108-K00 D3	straight	RPC-1.00 male - RPC-1.85 female	$\geq 19$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 to 50 GHz $\geq 14$ dB @ 50 to 65 GHz	
01 K 108-S00 D3	straight	RPC-1.00 female - RPC-1.85 male	$\geq 19$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 to 50 GHz $\geq 14$ dB @ 50 to 65 GHz	
01 K 108-K00 D3	straight	RPC-1.00 female - RPC-1.85 female	$\geq 19$ dB @ DC to 20 GHz $\geq 17$ dB @ 20 to 50 GHz $\geq 14$ dB @ 50 to 65 GHz	

Tools

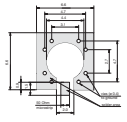
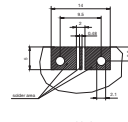
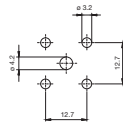
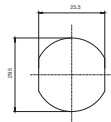
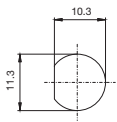
Torque Wrench

Ordering Number	Remarks	
01 W 021-000	flat 6 mm - 35 Ncm torque for RPC-1.00	

Gauge

Ordering Number	Remarks	
01 W 00S-000	compatible to male connectors for RPC-1.00 incl. gauge block	
01 W 00K-000	compatible to female connectors for RPC-1.00 incl. gauge block	





Please note when using footprints for SMD connectors: A wide variety of transmission line topologies and pcb-parameters like permittivity, substrate thickness and board-stack up are applied by customers. These parameters have a strong impact on the high frequency performance of the mounted connector.

*Bitte bei Verwendung von Footprints für SMD Steckverbinder beachten: Eine Vielzahl der PCB-Parameter, wie Substratstärke, dielektrische Leitfähigkeit und Board-to-Board-Anordnungen, werden anwendungsspezifisch vorgegeben. Diese Parameter beeinflussen die Hochfrequenz-Leistung des angebrachten Steckverbinders.*

The standard footprint layouts are not optimised to fit all of the possible board configurations regarding RF-performance. It represents a recommendation for optimum solderability of the connectors. In order to guarantee optimum high frequency properties of the connectors, an RF-analysis of the connector to board transition is recommended.

*Die Standard-Footprints erfüllen nicht alle möglichen Konfigurationsmöglichkeiten, sondern stellen eine Empfehlung für die optimale Lötbarkeit dar. Um die kundenspezifisch geforderten Hochfrequenzeigenschaften zu garantieren, wird eine HF-Analyse des Steckverbinders empfohlen.*



# Panel Piercings/PCB Layouts

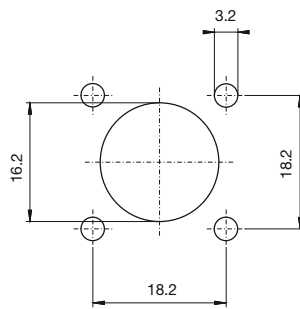
## Features

Panel Piercings

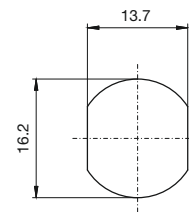
PCB Layouts

Index

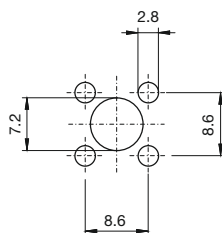
**MB 12**



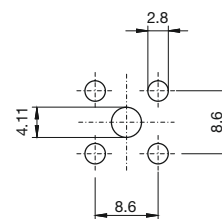
**MB 13**



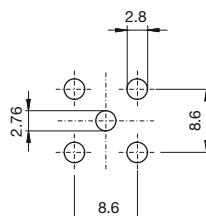
**MB 55**



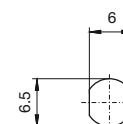
**MB 55a**

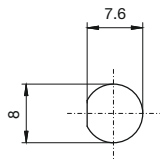
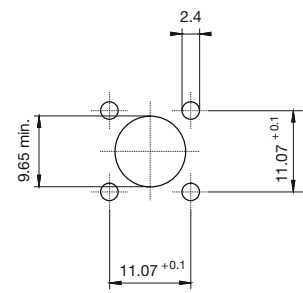
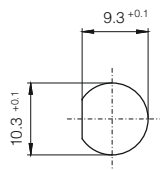
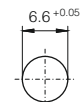
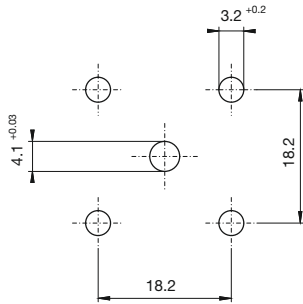
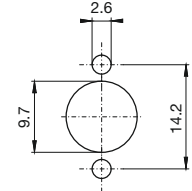


**MB 55d**

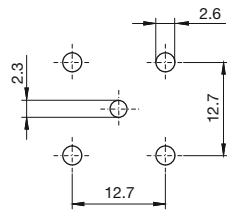


**MB 56**

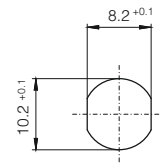


**MB 58**

**MB 71**

**MB 82**

**MB 92**

**MB 98**

**MB 100**


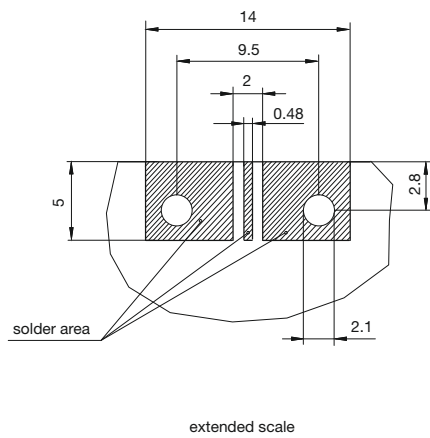
## MB 106a



## MB 107



## MB 208





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**RPC-SL, 26.5 GHz**

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**RPC-N, 50 Ω**

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