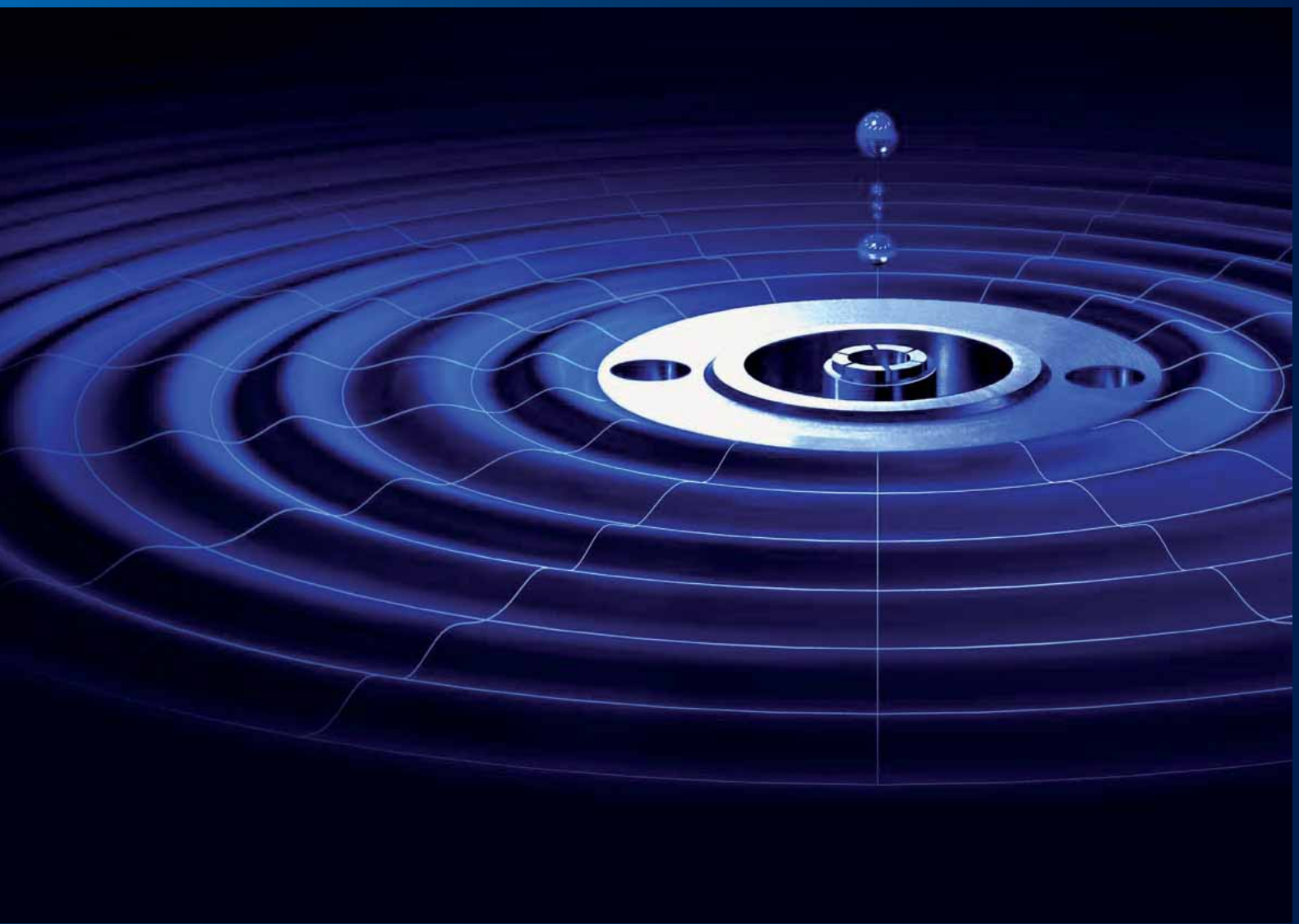
Rosenberger

Test, Measurement & Calibration







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

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

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

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

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.

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

Series 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

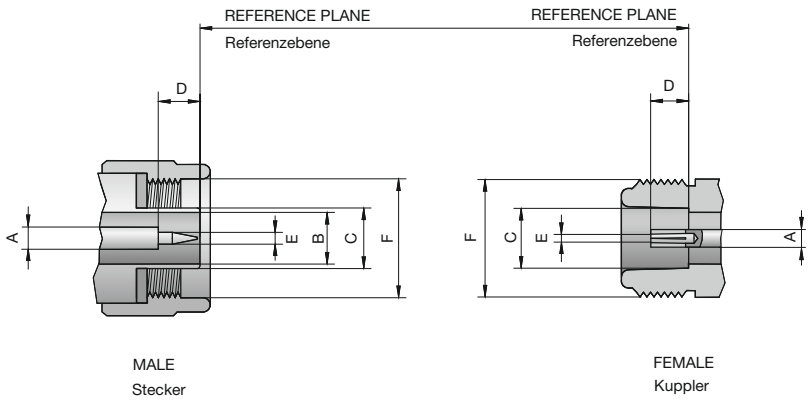
Impedance 50 Ω / 75 Ω

Threaded coupling

Intermateable with standard N

No coupling between 50 Ω and 75 Ω

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



Series RPC-N, 50 Ω

	Male | *Stecker*		Female | *Kuppler*	
dimension	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

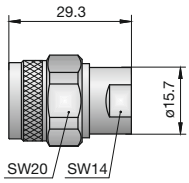
Applicable standards | *Anwendbare Standards*	
Interface according to | *Interface gemäß*	IEC 61169-16; CECC 22 210; MIL-STD 348A/402
Electrical data | *Elektrische Daten*	
Impedance | *Wellenwiderstand*	50 Ω
Frequency range | *Frequenzbereich*	DC to 18 GHz
Return loss (connector head) | *Rückflußdämpfung (Steckerkopf)*	≥ 30 dB, DC to 18 GHz
Insertion loss (connector head) | *Dämpfung (Steckerkopf)*	≤ 0.03 dB x |f[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.

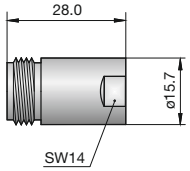
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem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

Connector Heads

Straight Plug

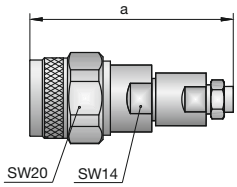
Ordering Number	Version	Remarks	Return Loss	
05 S 121-000 S3	straight	with bead	≥ 30 dB @ DC to 18 GHz	

Straight Jack

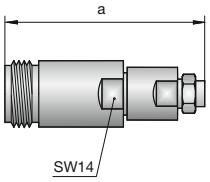
Ordering Number	Version	Remarks	Return Loss	
05 K 121-000 S3	straight	with bead	≥ 30 dB @ DC to 18 GHz	

Cable Connectors Semi-Rigid Cable

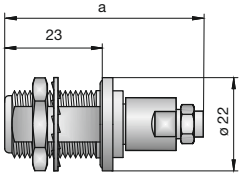
Straight Plug, solder — Semi-Rigid

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

Straight Jack, solder — Semi-Rigid

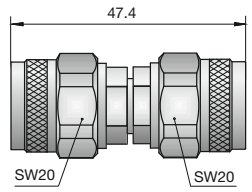
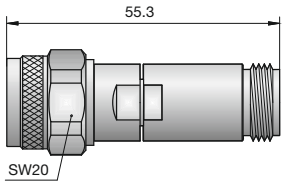
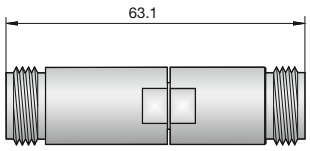
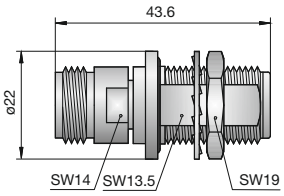
Ordering Number	Remarks	Return Loss	Cable Group	Assembly Instruction	
05 K 121-271 S3	a = 46.9 mm	≥ 25 dB @ DC to 18 GHz	71	02 A3	
05 K 121-272 S3	a = 40.0 mm	≥ 25 dB @ DC to 18 GHz	72	03 A	
05 K 121-273 S3	a = 46.9 mm	≥ 25 dB @ DC to 18 GHz	73	03 A	

Panel Jack, round flange — Semi-Rigid

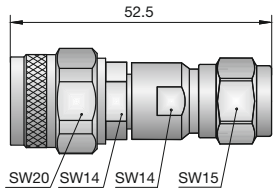
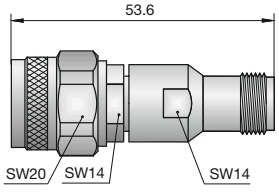
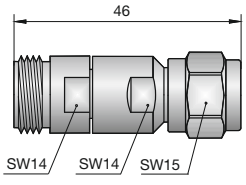
Ordering Number	Remarks	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
05 K 521-271 S3	a = 46.9 mm	≥ 25 dB @ DC to 18 GHz	71	02 A3	MB 13	
05 K 521-272 S3	a = 40.0 mm	≥ 25 dB @ DC to 18 GHz	72	03 A	MB 13	
05 K 521-273 S3	a = 46.9 mm	≥ 25 dB @ DC to 18 GHz	73	03 A	MB 13	

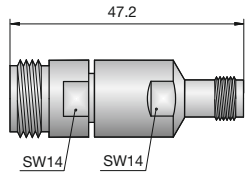
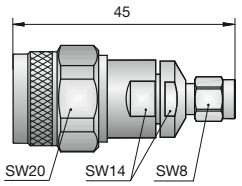
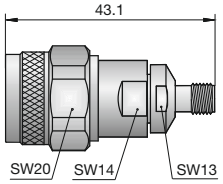
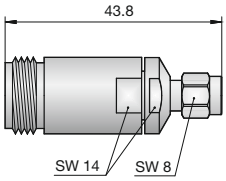
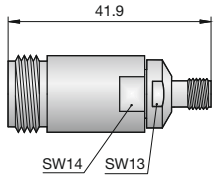
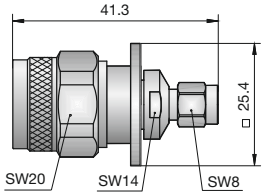
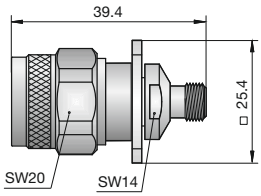
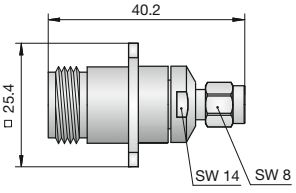
Adaptors

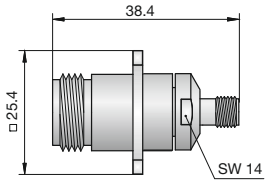
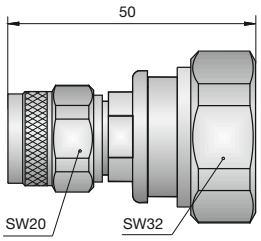
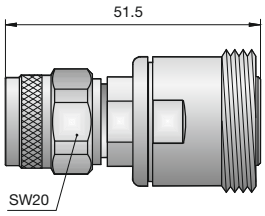
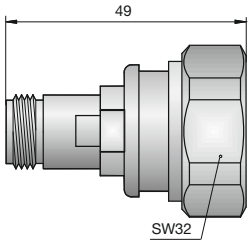
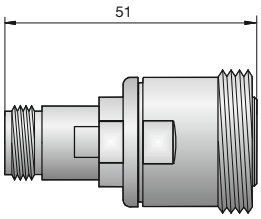
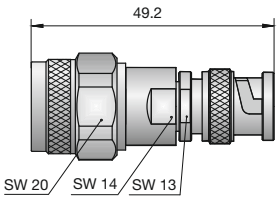
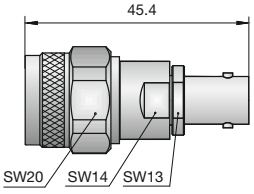
Adaptor (In Series)

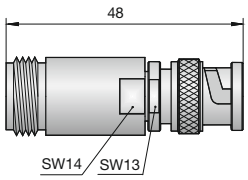
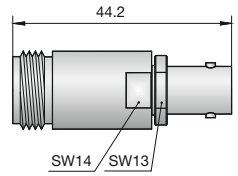
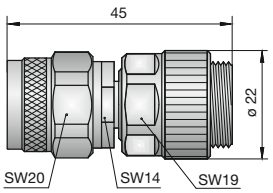
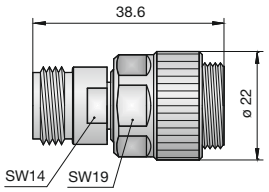
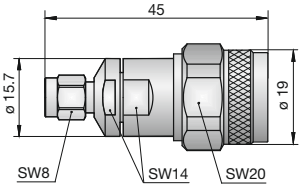
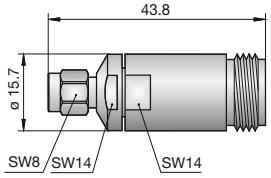
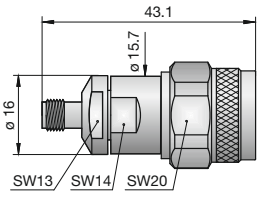
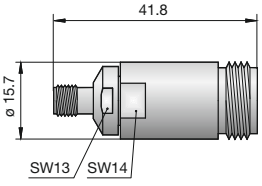
Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
05 S 121-S00 S3	straight	RPC-N 50 Ω male - male	≥ 26 dB @ DC to 18 GHz		
05 S 121-S20 S3	straight	RPC-N 50 Ω male - male, calibration adaptor	≥ 36 dB @ DC to 4 GHz ≥ 30 dB @ 4 GHz to 18 GHz		
05 S 121-K00 S3	straight	RPC-N 50 Ω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

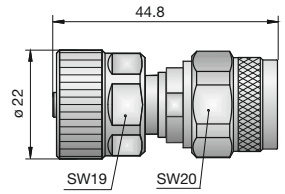
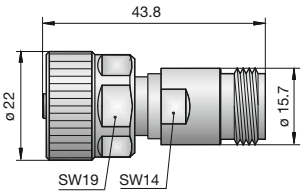
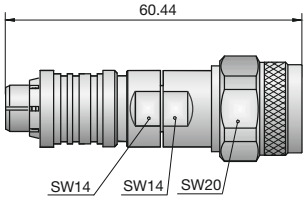
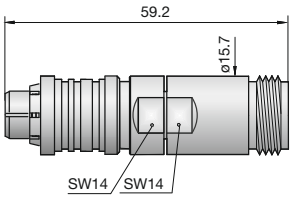
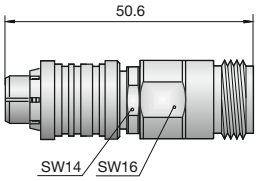
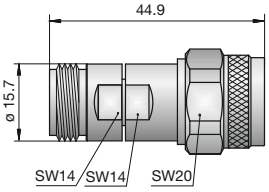
Adaptor (Inter Series)

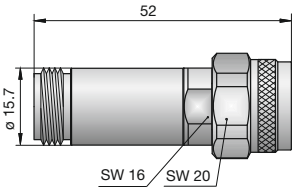
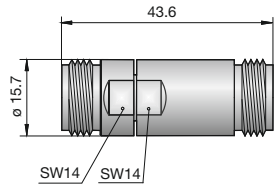
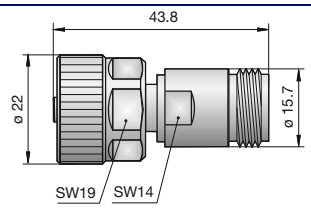
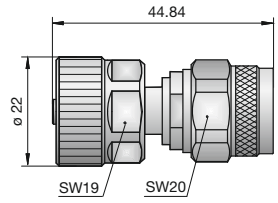
Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
05 S 106-S00 S3	straight	RPC-N 50 Ω male - RPC-TNC male	≥ 20 dB @ DC to 18 GHz		
05 S 106-S20 S3	straight	RPC-N 50 Ω male - RPC-TNC male, calibration adaptor	≥ 30 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz		
05 S 106-K00 S3	straight	RPC-N 50 Ω male - RPC-TNC female	≥ 20 dB @ DC to 18 GHz		
05 K 106-S00 S3	straight	RPC-N 50 Ω female - RPC-TNC male	≥ 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 Ω female - RPC-TNC female	≥ 20 dB @ DC to 18 GHz		
05 K 106-K20 S3	straight	RPC-N 50 Ω female - RPC-TNC female, calibration adaptor	≥ 30 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz		
05 S 132-S00 S3	straight	RPC-N 50 Ω male - SMA male	≥ 23 dB @ DC to 18 GHz		
05 S 132-K00 S3	straight	RPC-N 50 Ω male - SMA female	≥ 23 dB @ DC to 18 GHz		
05 K 132-S00 S3	straight	RPC-N 50 Ω female - SMA male	≥ 23 dB @ DC to 18 GHz		
05 K 132-K00 S3	straight	RPC-N 50 Ω female - SMA female	≥ 23 dB @ DC to 18 GHz		
05 S 432-S00 S3	straight	RPC-N 50 Ω male - SMA male, 4-hole flange	≥ 23 dB @ DC to 18 GHz	MB 12	
05 S 432-K00 S3	straight	RPC-N 50 Ω male - SMA female, 4-hole flange	≥ 23 dB @ DC to 18 GHz	MB 12	
05 K 432-S00 S3	straight	RPC-N 50 Ω female - SMA male, 4-hole flange	≥ 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 Ω female - SMA female, 4-hole flange	≥ 23 dB @ DC to 18 GHz	MB 12	
05 S 160-S50 D3	straight	RPC-N 50 Ω male - 7-16 male, calibration adaptor	≥ 36.6 dB @ DC to 8 GHz		
05 S 160-K50 D3	straight	RPC-N 50 Ω male - 7-16 female, calibration adaptor	≥ 36.6 dB @ DC to 8 GHz		
05 K 160-S50 D3	straight	RPC-N 50 Ω female - 7-16 male, calibration adaptor	≥ 36.6 dB @ DC to 8 GHz		
05 K 160-K50 D3	straight	RPC-N 50 Ω female - 7-16 female, calibration adaptor	≥ 36.6 dB @ DC to 8 GHz		
05 S 151-S00 S3	straight	RPC-N 50 Ω male - BNC 50 Ω male	≥ 22 dB @ DC to 4 GHz		
05 S 151-S20 S3	straight	RPC-N 50 Ω male - BNC 50 Ω male, calibration adaptor	≥ 36 dB @ DC to 2 GHz ≥ 30 dB @ 2 GHz to 4 GHz		
05 S 151-K00 S3	straight	RPC-N 50 Ω male - BNC 50 Ω female	≥ 22 dB @ DC to 4 GHz		

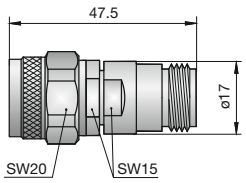
Ordering Number	Version	Remarks	Return Loss	Panel Piercing / PCB Layout	
05 K 151-S00 S3	straight	RPC-N 50 Ω female - BNC 50 Ω male	≥ 22 dB @ DC to 4 GHz		
05 K 151-K00 S3	straight	RPC-N 50 Ω female - BNC 50 Ω female	≥ 22 dB @ DC to 4 GHz		
05 K 151-K20 S3	straight	RPC-N 50 Ω female - BNC 50 Ω female, calibration adaptor	≥ 36 dB @ DC to 2 GHz ≥ 30 dB @ 2 GHz to 4 GHz		
05 S 107-P00 S3	straight	RPC-N 50 Ω male - RPC-7	≥ 28 dB @ DC to 18 GHz		
05 K 107-P00 S3	straight	RPC-N 50 Ω female - RPC-7	≥ 28 dB @ DC to 18 GHz		
03 S 105-S00 S3	straight	RPC-3.50 male - RPC-N 50 Ω male	≥ 26 dB @ DC to 18 GHz		
03 S 105-K00 S3	straight	RPC-3.50 male - RPC-N 50 Ω female	≥ 26 dB @ DC to 18 GHz		
03 K 105-S00 S3	straight	RPC-3.50 female - RPC-N 50 Ω male	≥ 26 dB @ DC to 18 GHz		
03 K 105-K00 S3	straight	RPC-3.50 female - RPC-N 50 Ω female	≥ 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 Ω male	≥ 26 dB @ DC to 18 GHz		
03 KR 105-K00 S3	straight	RPC-3.50 female, ruggedized - RPC-N 50 Ω female	≥ 26 dB @ DC to 18 GHz		
53 QS 105-S00 S3	straight	SnapN male - RPC-N 50 Ω male	≥ 26 dB @ DC to 11 GHz		
53 QS 105-K00 S3	straight	SnapN male - RPC-N 50 Ω female	≥ 26 dB @ DC to 11 GHz		
53 QS 105-K20 S3	straight	SnapN male - RPC-N 50 Ω female calibration adaptor	≥ 36 dB @ DC to 4 GHz ≥ 27 dB @ 4 GHz to 11 GHz		
53 QK 105-S00 S3	straight	SnapN female - RPC-N 50 Ω male	≥ 28 dB @ DC to 11 GHz ≥ 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		

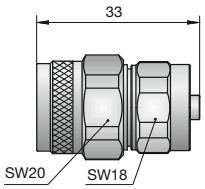
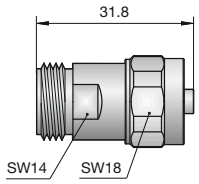
DC-Block

DC-Block RPC-N 50 Ω male - female

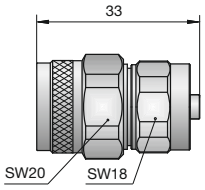
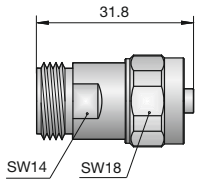
Ordering Number	Version	Return Loss	Insertion Loss	
05 DS 121-K00 S3	straight	≥ 25 dB @ 3 MHz to 18 GHz	< 1 dB @ 3 MHz to 18 GHz	

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	

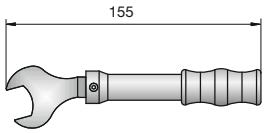
RPC-N 50 Ω - RPC-SL 40 GHz

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	

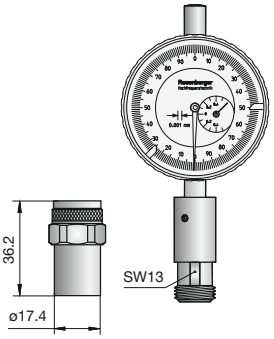
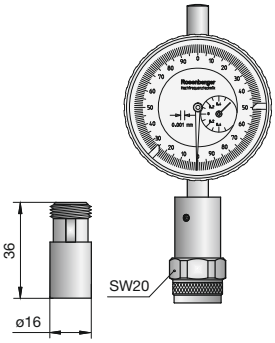
see also chapter interchangeable port connector system

Tools

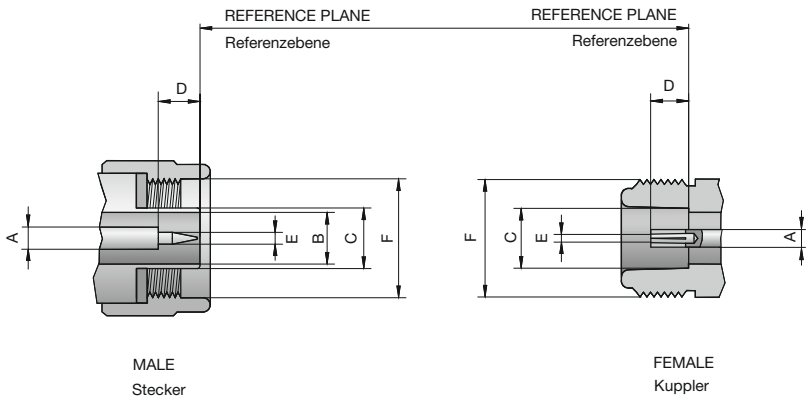
Torque Wrench

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

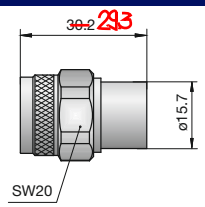
Applicable standards | *Anwendbare Standards*	
Interface according to | *Interface gemäß*	IEC 61169-16; CECC 22 210; MIL-STD 348A/402
Electrical data | *Elektrische Daten*	
Impedance | *Wellenwiderstand*	75 Ω
Frequency range | *Frequenzbereich*	DC to 4 GHz
Return loss (connector head) | *Rückflußdämpfung (Steckerkopf)*	≥ 36 dB, DC to 4 GHz
Insertion loss (connector head) | *Dämpfung (Steckerkopf)*	≤ 0.03 dB x |f[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.

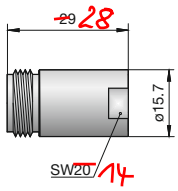
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem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

Connector Heads

Straight Plug

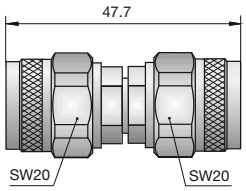
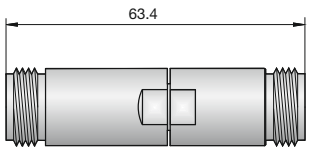
Ordering Number	Remarks	Return Loss	
P5 S 121-000 CS	with bead	≥ 36 dB @ DC to 4 GHz	

Straight Jack

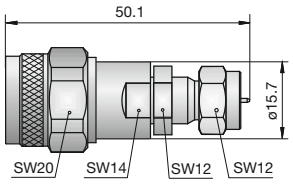
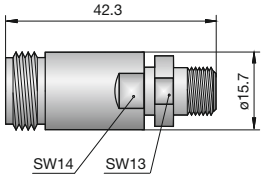
Ordering Number	Remarks	Return Loss	
P5 K 121-000 CS	with bead	≥ 36 dB @ DC to 4 GHz	

Adaptors

Adaptor (In Series)

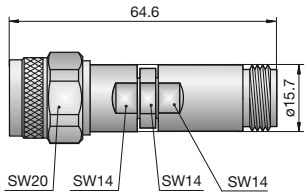
Ordering Number	Version	Remarks	Return Loss	
P5 S 121-S20 CS	straight	RPC-N 75 Ω male - male, calibration adaptor	≥ 38 dB @ DC to 2 GHz ≥ 34 dB @ 2 GHz to 4 GHz	
P5 K 121-K20 CS	straight	RPC-N 75 Ω female - female, calibration adaptor	≥ 38 dB @ DC to 2 GHz ≥ 34 dB @ 2 GHz to 4 GHz	

Adaptor (Inter Series)

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

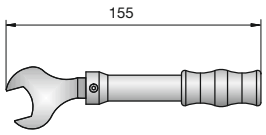
DC-Block

DC-Block RPC-N 75 Ω male - female

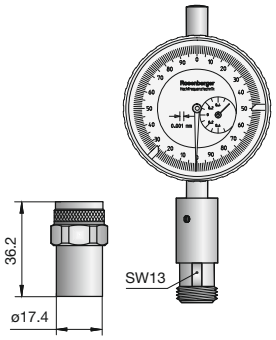
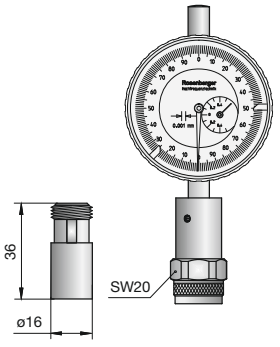
Ordering Number	Version	Return Loss	Insertion Loss	
P5 DS 121-K01 ~~CS~~ S3	straight	≥ 25 dB @ 4 MHz to 1 GHz ≥ 21 dB @ 1 GHz to 4 GHz	< 1 dB @ 4 MHz to 4 GHz	

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 18 GHz. Interface dimensions are based on BNC series interface. Rosenberger RPC-TNC precision connectors are intermateable with standard TNC connectors, 50 Ω and 75 Ω types both.

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 Ω und 75 Ω-Typen.

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

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

Series RPC-TNC

Features

Interface according to IEC 60169-26

Frequency range DC to 18 GHz

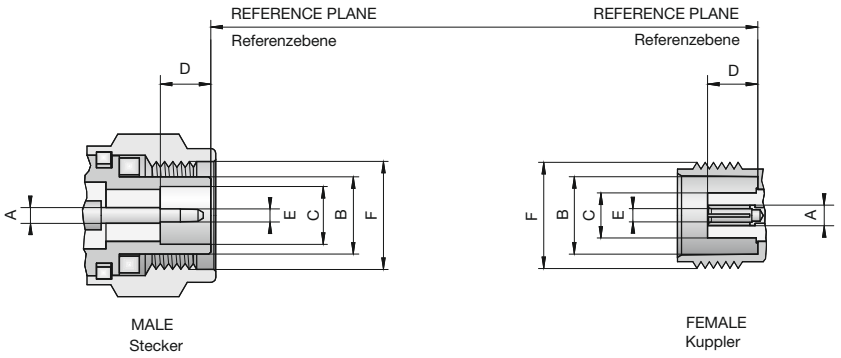
Return loss (connector head) ≥ 23 dB

Impedance 50 Ω

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

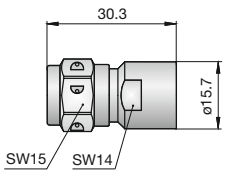
Applicable standards | *Anwendbare Standards*	
Interface according to | *Interface gemäß*	IEC 60169-26
Electrical data | *Elektrische Daten*	
Impedance | *Wellenwiderstand*	50 Ω
Frequency range | *Frequenzbereich*	DC to 18 GHz
Return loss (connector head) | *Rückflußdämpfung (Steckerkopf)*	≥ 23 dB, DC to 18 GHz
Insertion loss (connector head) | *Dämpfung (Steckerkopf)*	≤ 0.05 dB x |f[GHz]
Insulation resistance | *Isolationswiderstand*	≥ 5 GΩ
Center contact resistance | *Übergangswiderstand Innenleiter*	≤ 1.5 mΩ
Outer contact resistance | *Übergangswiderstand Außenleiter*	≤ 1.0 mΩ
Test voltage | *Prüfspannung*	1500 V rms
Working voltage | *Betriebsspannung*	500 V rms
RF-leakage | *Schirmdämpfung*	≥ 90 dB up to 1 GHz
Mechanical data | *Mechanische Daten*	
Mating cycles | *Steckzyklen*	≥ 500
Center contact captivation | *Innenleiter Haltekraft*	≥ 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.

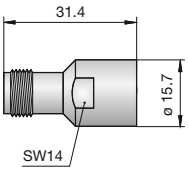
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem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

Connector Heads

Straight Plug

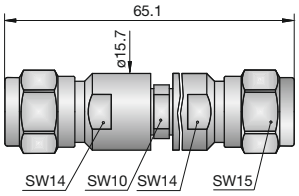
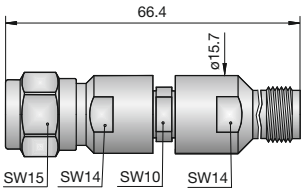
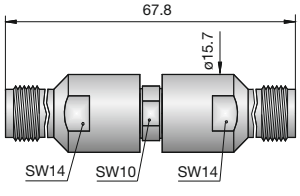
Ordering Number	Remarks	Return Loss	
06 S 121-000 S3	with bead	≥ 23 dB @ DC to 18 GHz	
06 S 121-002 S3	with bead, coupling nut without wire-lock	≥ 23 dB @ DC to 18 GHz	

Straight Jack

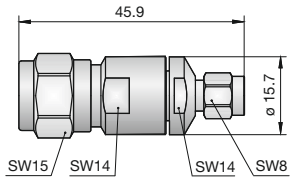
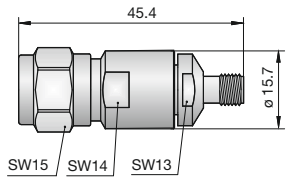
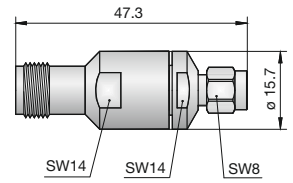
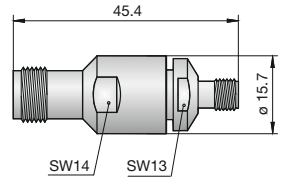
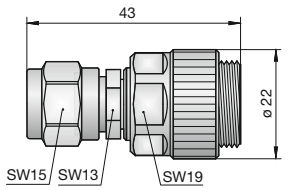
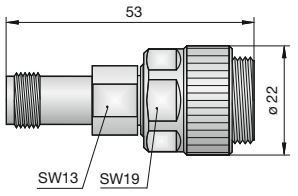
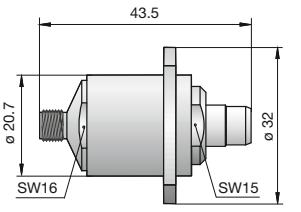
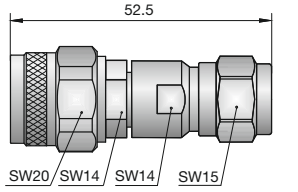
Ordering Number	Remarks	Return Loss	
06 K 121-000 S3	with bead	≥ 23 dB @ DC to 18 GHz	

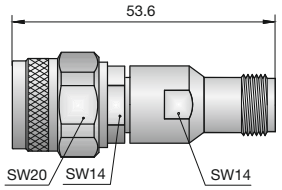
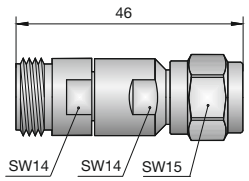
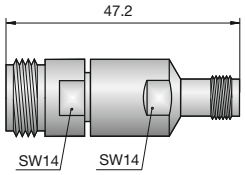
Adaptors

Adaptor (In Series)

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

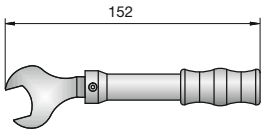
Adaptor (Inter Series)

Ordering Number	Version	Remarks	Return Loss	
06 S 132-S00 S3	straight	RPC-TNC male - SMA male	≥ 19 dB @ DC to 18 GHz	
06 S 132-K00 S3	straight	RPC-TNC male - SMA female	≥ 19 dB @ DC to 18 GHz	
06 K 132-S00 S3	straight	RPC-TNC female - SMA male	≥ 19 dB @ DC to 18 GHz	
06 K 132-K00 S3	straight	RPC-TNC female - SMA female	≥ 19 dB @ DC to 18 GHz	
06 S 107-P20 S3	straight	RPC-TNC male - RPC-7, calibration adaptor	≥ 30 dB @ DC to 4 GHz ≥ 20 dB @ 4 to 18 GHz	
06 K 107-P20 S3	straight	RPC-TNC female - RPC-7, calibration adaptor	≥ 30 dB @ DC to 4 GHz ≥ 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	≥ 35 dB @ DC to 2.5 GHz ≥ 25 dB @ 2.5 GHz to 6 GHz ≥ 20 dB @ 6 GHz to 16 GHz ≥ 17 dB @ 16 GHz to 18 GHz	
05 S 106-S00 S3	straight	RPC-N 50 Ω male - RPC-TNC male	≥ 20 dB @ DC to 18 GHz	
05 S 106-S20 S3	straight	RPC-N 50 Ω male - RPC-TNC male, calibration adaptor	≥ 30 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	

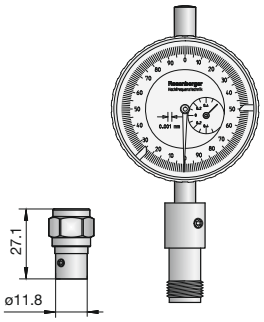
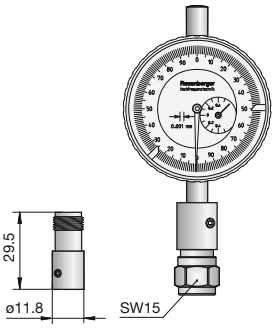
Ordering Number	Version	Remarks	Return Loss	
05 S 106-K00 S3	straight	RPC-N 50 Ω male - RPC-TNC female	≥ 20 dB @ DC to 18 GHz	
05 K 106-S00 S3	straight	RPC-N 50 Ω female - RPC-TNC male	≥ 20 dB @ DC to 18 GHz	
05 K 106-K00 S3	straight	RPC-N 50 Ω female - RPC-TNC female	≥ 20 dB @ DC to 18 GHz	
05 K 106-K20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





Rosenberger RPC-7 precision connectors – with 7 mm outer diameter – have been designed for applications up to 18 GHz. 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.

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 connectors are intermateable 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.

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.

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).

Das umfangreiche Produktspektrum umfasst Kabel-Steck-verbinder, Adapter, Wechselport, 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

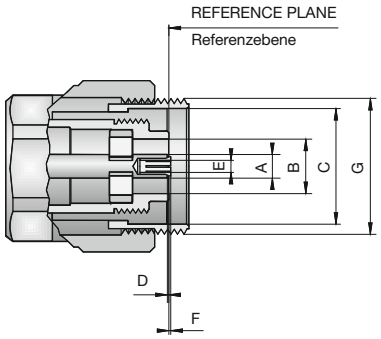
Return loss (connector head) ≥ 32 dB

Impedance 50 Ω

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 Ω
Frequency range | *Frequenzbereich*	DC to 18 GHz
Return loss (connector head) | *Rückflußdämpfung (Steckerkopf)*	≥ 32 dB, DC to 18 GHz
Insertion loss (connector head) | *Dämpfung (Steckerkopf)*	≤ 0.03 dB x |f[GHz]
Insulation resistance | *Isolationswiderstand*	≥ 5 GΩ
Center contact resistance | *Übergangswiderstand Innenleiter*	≤ 1.0 mΩ
Outer contact resistance | *Übergangswiderstand Außenleiter*	≤ 0.1 mΩ
Test voltage | *Prüfspannung*	2500 V rms
Working voltage | *Betriebsspannung*	1000 V rms
RF-leakage | *Schirmdämpfung*	≥ 120 dB up to 1 GHz
Mechanical data | *Mechanische Daten*	
Mating cycles | *Steckzyklen*	≥ 5000
Center contact captivation | *Innenleiter Haltekraft*	≥ 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

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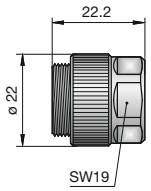
Connector Heads

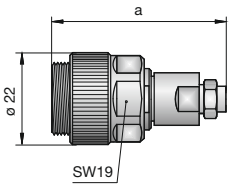
Straight Connector Head

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

Cable Connectors Semi-Rigid Cable

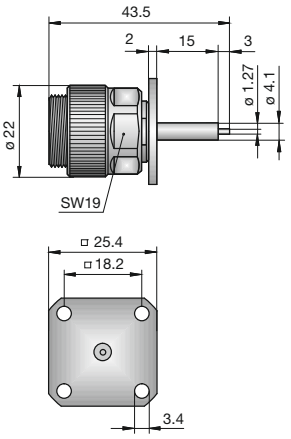
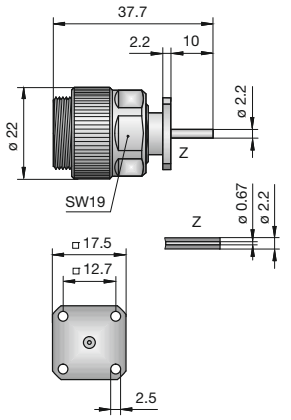
Straight Connector, solder

Semi-Rigid

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

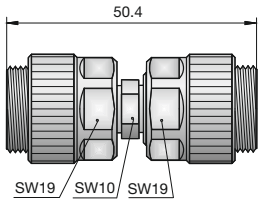
Panel Connectors Coaxial End

Panel Connector, 4-hole flange — Coaxial End

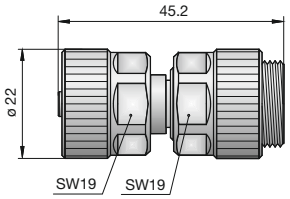
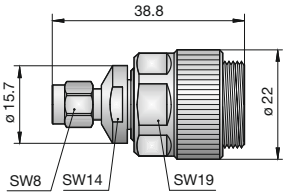
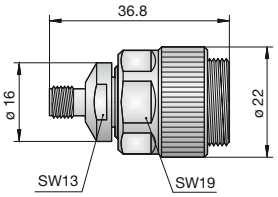
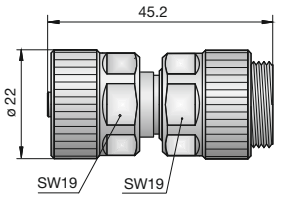
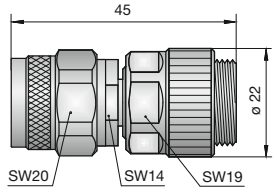
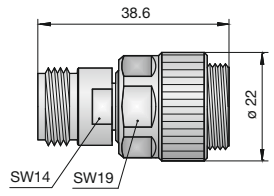
Ordering Number	Return Loss	Panel Piercing / PCB Layout	
07 P 421-500 S3	≥ 26 dB @ DC to 18 GHz	MB 98	
07 P 422-500 S3	≥ 26 dB @ DC to 18 GHz	MB 106a	

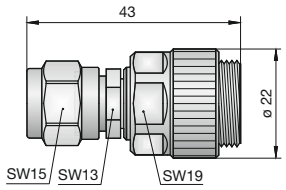
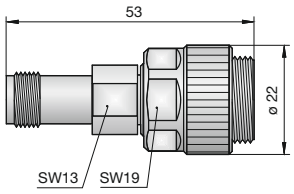
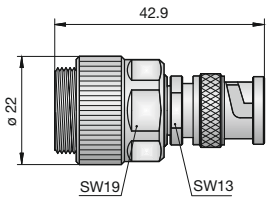
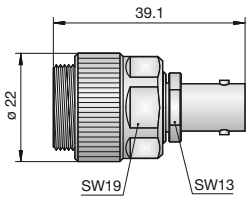
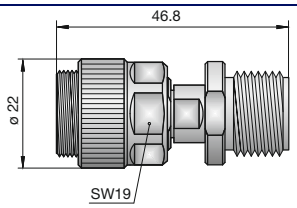
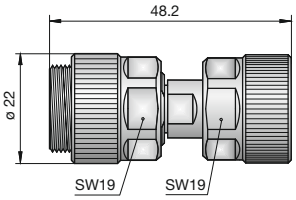
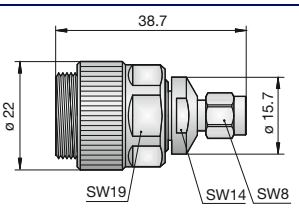
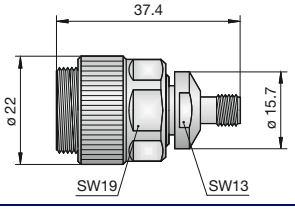
Adaptors

Adaptor (In Series)

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

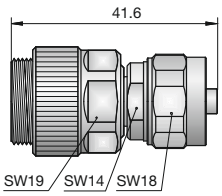
Adaptor (Inter Series)

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

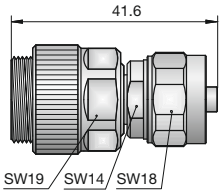
Ordering Number	Version	Remarks	Return Loss	
06 S 107-P20 S3	straight	RPC-TNC male - RPC-7, calibration adaptor	≥ 30 dB @ DC to 4 GHz ≥ 20 dB @ 4 to 18 GHz	
06 K 107-P20 S3	straight	RPC-TNC female - RPC-7, calibration adaptor	≥ 30 dB @ DC to 4 GHz ≥ 20 dB @ 4 to 18 GHz	
07 P 151-S00 S3	straight	RPC-7 - BNC 50 Ω male	≥ 22 dB @ DC to 4 GHz	
07 P 151-K00 S3	straight	RPC-7 - BNC 50 Ω female	≥ 22 dB @ DC to 4 GHz	
07 P 110-S20 S3	straight	RPC-7 - RPC-SP male, calibration adaptor	≥ 34 dB @ DC to 4 GHz ≥ 26 dB @ 4 GHz to 18 GHz	
07 P 110-K20 S3	straight	RPC-7 - RPC-SP female, calibration adaptor	≥ 34 dB @ DC to 4 GHz ≥ 26 dB @ 4 GHz to 18 GHz	
07 P 132-S00 S3	straight	RPC-7 - SMA male	≥ 23 dB @ DC to 18 GHz	
07 P 132-K00 S3	straight	RPC-7 - SMA female	≥ 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	≥ 21 dB @ DC to 18 GHz	

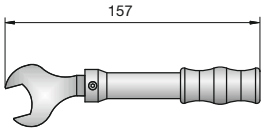
RPC-7 - RPC-SL 40 GHz

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

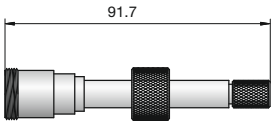
see also chapter interchangeable port connector system

Tools

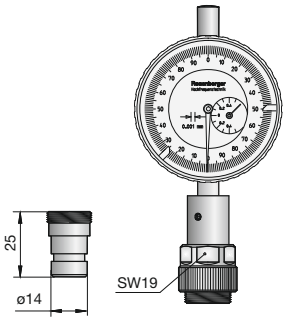
Torque Wrench

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

Collet Extractor

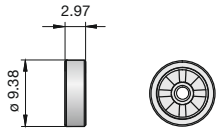
Ordering Number		
07 W 031-000	for RPC-7, to remove 7 mm center contact	

Gauge

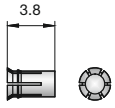
Ordering Number		
07 W 001-000	compatible to connectors for RPC-7 incl. gauge block	

Accessories

Bead

Ordering Number	Remarks	Return Loss	
07 B 003-000	7 mm, 50 Ω	≥ 54 dB @ DC to 2 GHz ≥ 37 dB @ 2 GHz to 18 GHz	 extended scale
07 B 003-010	7 mm, 50 Ω	≥ 54 dB @ DC to 2 GHz ≥ 40 dB @ 2 GHz to 18 GHz	

Center Contact

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





RPC-SP connectors are 50 Ω 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 Ω-Präzisionssteckverbinderserie 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-Steckverbinderserien, 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

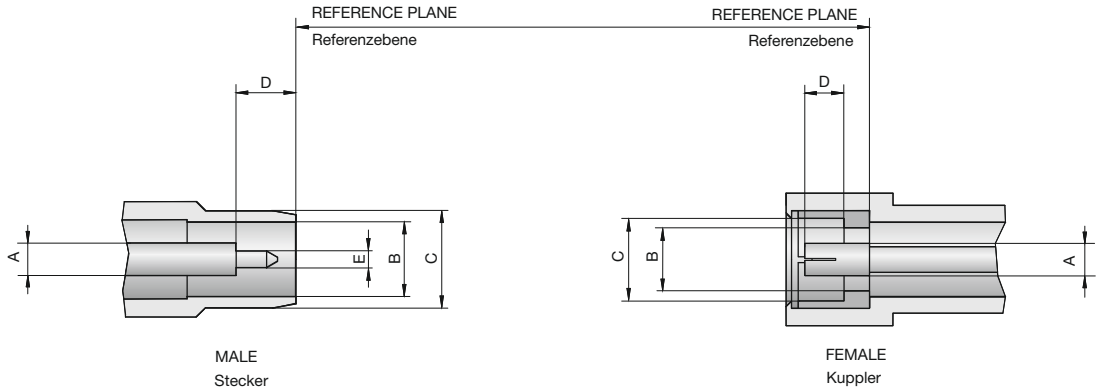
Return loss (cable connector) ≥ 26 dB

Impedance 50 Ω

Blind mate connection

Intermateable with OSP and BMA

Interface Dimensions Series RPC-SP (code 10)



Series RPC-SP

	Male | *Stecker*		**Female | *Kuppler***	
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

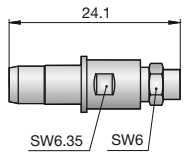
Applicable standards | *Anwendbare Standards*	
Interface according to | *Interface gemäß*	IEC 61169-33; MIL-STD 348A
Mechanically compatible with | *Mechanisch kompatibel mit*	OSP and BMA
Electrical data | *Elektrische Daten*	
Impedance | *Wellenwiderstand*	50 Ω
Frequency range | *Frequenzbereich*	DC to 22 GHz
Return loss (cable connector) | *Rückflußdämpfung (Kabelsteckverbinder)*	≥ 26 dB, DC to 22 GHz
Insertion loss (cable connector) | *Dämpfung (Kabelsteckverbinder)*	≤ 0.03 dB x |f[GHz]
Insulation resistance | *Isolationswiderstand*	≥ 5 GΩ
Center contact resistance | *Übergangswiderstand Innenleiter*	≤ 2.0 mΩ
Outer contact resistance | *Übergangswiderstand Außenleiter*	≤ 2.0 mΩ
Test voltage | *Prüfspannung*	1000 V rms
Working voltage | *Betriebsspannung*	400 V rms
RF-leakage | *Schirmdämpfung*	≥ 85 dB up to 1 GHz
Mechanical data | *Mechanische Daten*	
Mating cycles | *Steckzyklen*	≥ 1000
Center contact captivation | *Innenleiter Haltekraft*	≥ 27 N
Engagement force | *Einsteckkraft*	≤ 13.5 N
Disengagement force | *Ausziehkraft*	≥ 2.0 N
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, PTFE

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.

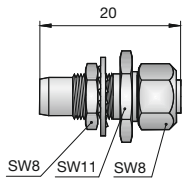
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem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

Cable Connectors Semi-Rigid Cable

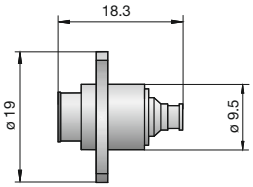
Straight Plug, solder — Semi-Rigid

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

Panel Plug, hexagonal flange — Semi-Rigid

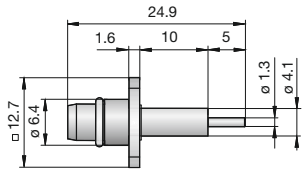
Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
10 S 641-271 E3	≥ 23 dB @ DC to 22 GHz	71	02 A3	MB 92	
10 S 641-272 E3	≥ 23 dB @ DC to 22 GHz	72	03 A	MB 92	

Panel Jack, 2-hole flange — Semi-Rigid

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

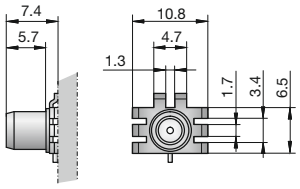
Panel Connectors Coaxial End

Panel Jack, 4-hole flange — Coaxial End

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

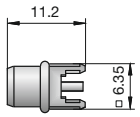
PCB Connectors SMD

Straight Plug — SMD

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

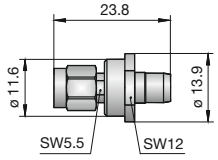
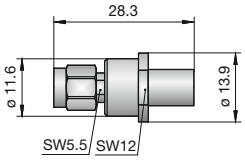
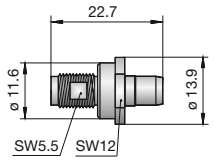
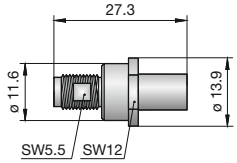
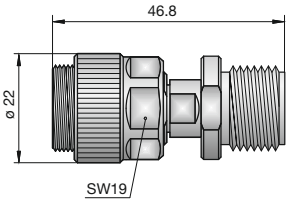
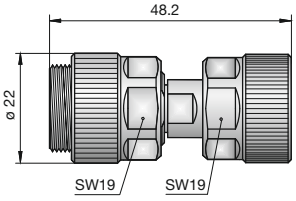
PCB Connectors Solder Pin

Straight Plug — Solder Pin

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

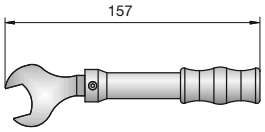
Adaptors

Adaptor (Inter Series)

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

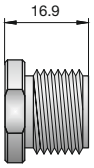
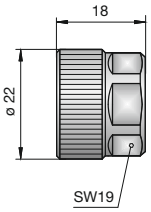
Tools

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 – 50Ω 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 RPC-3.50 Steckverbinder – 50Ω-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.

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.

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

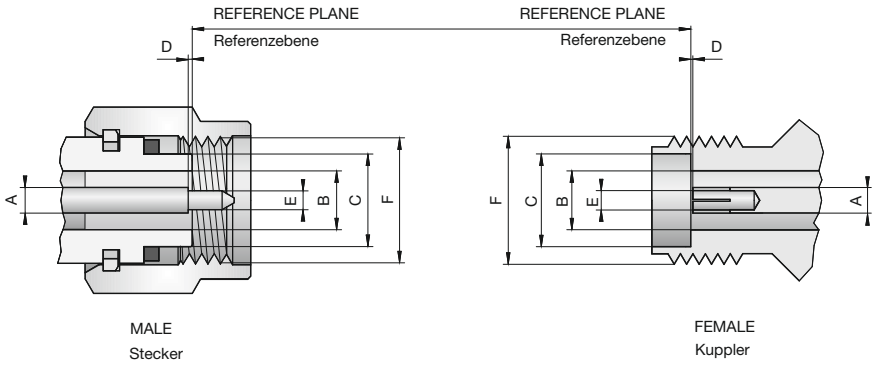
Return loss (connector head) ≥ 30 dB

Impedance 50 Ω

Threaded coupling

Intermateable with K-, SMA and RPC-2.92

Interface Dimensions Series RPC-3.50 (code 03)



Series RPC-3.50

	Male | *Stecker*		Female | *Kuppler*	
dimension	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

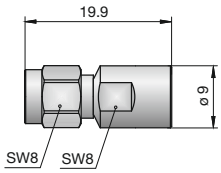
Applicable standards | *Anwendbare Standards*	
Interface according to | *Interface gemäß*	IEC 60169-23
Mechanically compatible with | *Mechanisch kompatibel mit*	RPC-2.92 and SMA
Electrical data | *Elektrische Daten*	
Impedance | *Wellenwiderstand*	50 Ω
Frequency range | *Frequenzbereich*	DC to 26.5 GHz
Return loss (connector head) | *Rückflußdämpfung (Steckerkopf)*	≥ 30 dB, DC to 26.5 GHz
Insertion loss (connector head) | *Dämpfung (Steckerkopf)*	≤ 0.03 dB x |f[GHz]
Insulation resistance | *Isolationswiderstand*	≥ 5 GΩ
Center contact resistance | *Übergangswiderstand Innenleiter*	≤ 3.0 mΩ
Outer contact resistance | *Übergangswiderstand Außenleiter*	≤ 2.0 mΩ
Test voltage | *Prüfspannung*	1000 V rms
Working voltage | *Betriebsspannung*	335 V rms
RF-leakage | *Schirmdämpfung*	≥ 100 dB up to 1 GHz
Mechanical data | *Mechanische Daten*	
Mating cycles | *Steckzyklen*	≥ 500
Center contact captivation | *Innenleiter Haltekraft*	≥ 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.

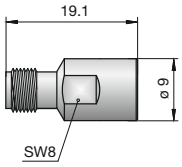
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem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

Connector Heads

Straight Plug

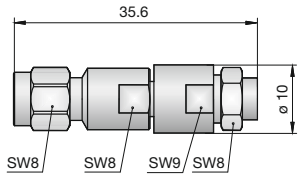
Ordering Number	Remarks	Return Loss	
03 S 121-000 S3	with bead	≥ 30 dB @ DC to 26.5 GHz	

Straight Jack

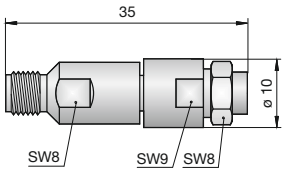
Ordering Number	Remarks	Return Loss	
03 K 121-000 S3	with bead	≥ 30 dB @ DC to 26.5 GHz	

Cable Connectors Semi-Rigid Cable

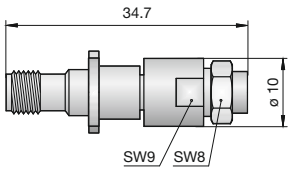
Straight Plug, solder — Semi-Rigid

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

Straight Jack, solder — Semi-Rigid

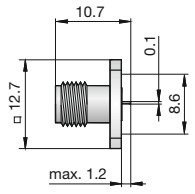
Ordering Number	Return Loss	Cable Group	Assembly Instruction	
03 K 121-271 S3	≥ 25 dB @ DC to 26.5 GHz	71	02 A3	
03 K 121-272 S3	≥ 25 dB @ DC to 26.5 GHz	72	03 A	

Panel Jack, 4-hole flange — Semi-Rigid

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

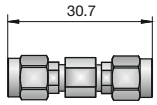
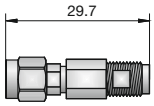
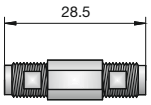
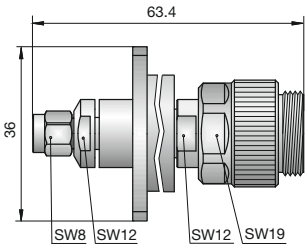
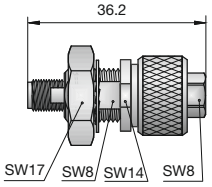
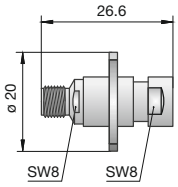
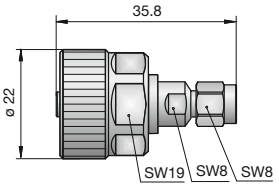
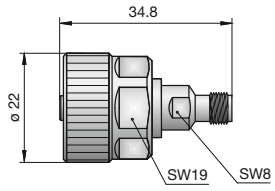
Panel Connectors Stripline

Panel Jack, 4-hole flange — Stripline

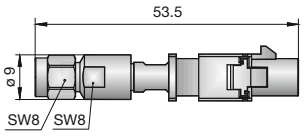
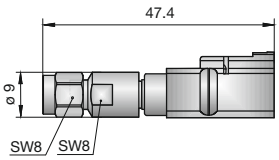
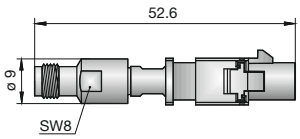
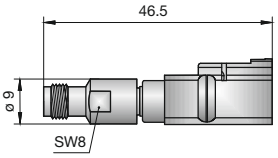
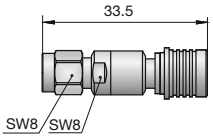
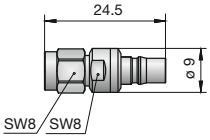
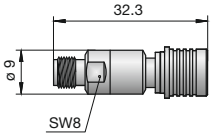
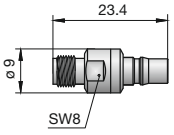
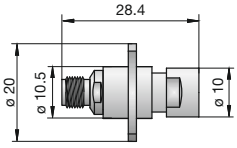
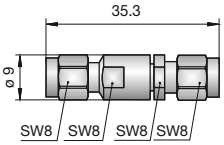
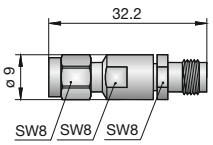
Ordering Number	Remarks	Return Loss	Panel Piercing / PCB Layout	
03 K 421-600 S3	stripline	≥ 23 dB @ DC to 26.5 GHz	MB 55d	

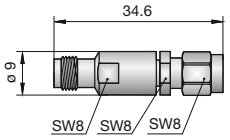
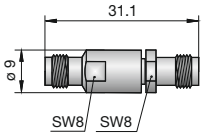
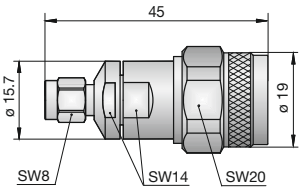
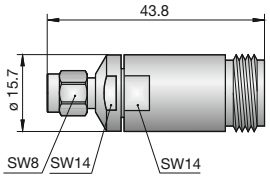
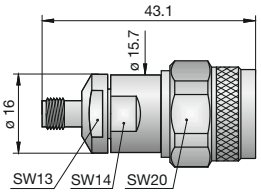
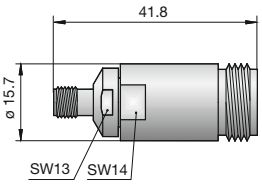
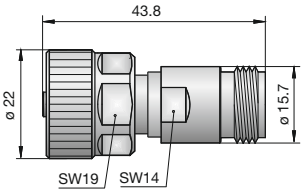
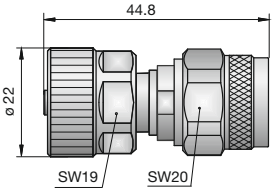
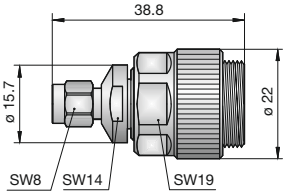
Adaptors

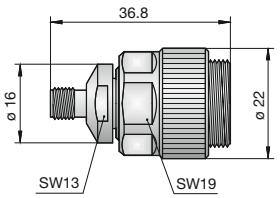
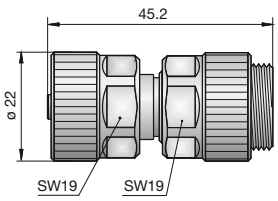
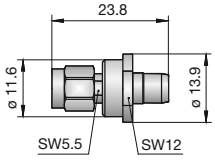
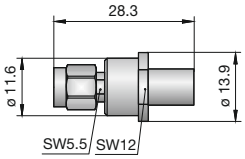
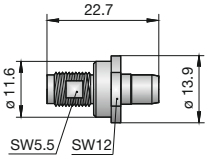
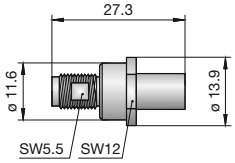
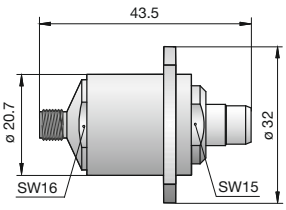
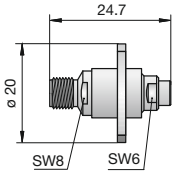
Adaptor (In Series)

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

Adaptor (Inter Series)

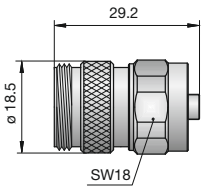
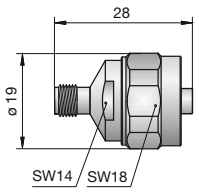
Ordering Number	Version	Remarks	Return Loss	
03 S 159-S20 S3	straight	RPC-3.50 male - FAKRA male, calibration adaptor	≥ 38 dB @ DC to 1 GHz ≥ 26 dB @ 1 to 3 GHz ≥ 21 dB @ 3 to 6 GHz	
03 S 159-K20 S3	straight	RPC-3.50 male - FAKRA female, calibration adaptor	≥ 38 dB @ DC to 1 GHz ≥ 26 dB @ 1 to 3 GHz ≥ 21 dB @ 3 to 6 GHz	
03 K 159-S20 S3	straight	RPC-3.50 female - FAKRA male, calibration adaptor	≥ 38 dB @ DC to 1 GHz ≥ 26 dB @ 1 to 3 GHz ≥ 21 dB @ 3 to 6 GHz	
03 K 159-K20 S3	straight	RPC-3.50 female - FAKRA female, calibration adaptor	≥ 38 dB @ DC to 1 GHz ≥ 26 dB @ 1 to 3 GHz ≥ 21 dB @ 3 to 6 GHz	
03 S 128-S20 N3	straight	RPC-3.50 male - QMA male, calibration adaptor	≥ 32 dB @ DC to 4 GHz ≥ 24 dB @ 4 GHz to 18 GHz	
03 S 128-K20 N3	straight	RPC-3.50 male - QMA female, calibration adaptor	≥ 32 dB @ DC to 4 GHz ≥ 24 dB @ 4 GHz to 18 GHz	
03 K 128-S20 N3	straight	RPC-3.50 female - QMA male, calibration adaptor	≥ 32 dB @ DC to 4 GHz ≥ 24 dB @ 4 GHz to 18 GHz	
03 K 128-K20 N3	straight	RPC-3.50 female - QMA female, calibration adaptor	≥ 32 dB @ DC to 4 GHz ≥ 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	≥ 40 dB @ DC to 2.5 GHz ≥ 28 dB @ 2.5 GHz to 6 GHz ≥ 24 dB @ 6 GHz to 18 GHz	
03 S 109-S00 S3	straight	RPC-3.50 male - RPC 2.40 male	≥ ~~23~~ 26 dB @ DC to 26.5 GHz	
03 S 109-K00 S3	straight	RPC-3.50 male - RPC 2.40 female	≥ ~~23~~ 26 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	≥ ~~23~~ 26 dB @ DC to 26.5 GHz	
03 K 109-K00 S3	straight	RPC-3.50 female - RPC 2.40 female	≥ ~~23~~ 26 dB @ DC to 26.5 GHz	
03 S 105-S00 S3	straight	RPC-3.50 male - RPC-N 50 Ω male	≥ 26 dB @ DC to 18 GHz	
03 S 105-K00 S3	straight	RPC-3.50 male - RPC-N 50 Ω female	≥ 26 dB @ DC to 18 GHz	
03 K 105-S00 S3	straight	RPC-3.50 female - RPC-N 50 Ω male	≥ 26 dB @ DC to 18 GHz	
03 K 105-K00 S3	straight	RPC-3.50 female - RPC-N 50 Ω female	≥ 26 dB @ DC to 18 GHz	
03 KR 105-K00 S3	straight	RPC-3.50 female, ruggedized - RPC-N 50 Ω female	≥ 26 dB @ DC to 18 GHz	
03 KR 105-S00 S3	straight	RPC-3.50 female, ruggedized - RPC-N 50 Ω male	≥ 26 dB @ DC to 18 GHz	
03 S 107-P00 S3	straight	RPC-3.50 male - RPC-7	≥ 28 dB @ DC to 18 GHz	
03 S 107-P20 S3	straight	RPC-3.50 male - RPC-7, calibration adaptor	≥ 36 dB @ DC to 4 GHz ≥ 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	≥ 28 dB @ DC to 18 GHz	
03 K 107-P20 S3	straight	RPC-3.50 female - RPC-7, calibration adaptor	≥ 36 dB @ DC to 4 GHz ≥ 28 dB @ 4 GHz to 18 GHz	
03 KR 107-P00 S3	straight	RPC-3.50 female, ruggedized - RPC-7	≥ 28 dB @ DC to 18 GHz	
03 S 110-S01 S3	straight	RPC-3.50 male - RPC-SP male	≥ 23 dB @ DC to 22 GHz	
03 S 110-S21 S3	straight	RPC-3.50 male - RPC-SP male, calibration adaptor	≥ 34 dB @ DC to 4 GHz ≥ 26 dB @ 4 GHz to 22 GHz	
03 S 110-K01 S3	straight	RPC-3.50 male - RPC-SP female	≥ 23 dB @ DC to 22 GHz	
03 S 110-K21 S3	straight	RPC-3.50 male - RPC-SP female, calibration adaptor	≥ 34 dB @ DC to 4 GHz ≥ 26 dB @ 4 GHz to 22 GHz	
03 K 110-S01 S3	straight	RPC-3.50 female - RPC-SP male	≥ 23 dB @ DC to 22 GHz	
03 K 110-S21 S3	straight	RPC-3.50 female - RPC-SP male, calibration adaptor	≥ 34 dB @ DC to 4 GHz ≥ 26 dB @ 4 GHz to 22 GHz	
03 K 110-K01 S3	straight	RPC-3.50 female - RPC-SP female	≥ 23 dB @ DC to 22 GHz	
03 K 110-K21 S3	straight	RPC-3.50 female - RPC-SP female, calibration adaptor	≥ 34 dB @ DC to 4 GHz ≥ 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	≥ 35 dB @ DC to 2.5 GHz ≥ 25 dB @ 2.5 GHz to 6 GHz ≥ 20 dB @ 6 GHz to 16 GHz ≥ 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	≥ 30 dB @ DC to 12 GHz ≥ 20 dB @ 12 to 26.5 GHz	

Interchangeable Port Connector System

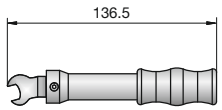
RPC-3.50 - RPC-SL 26.5 GHz

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

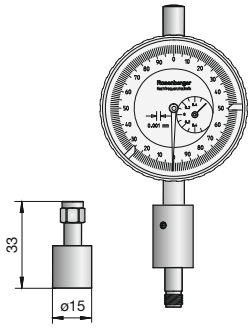
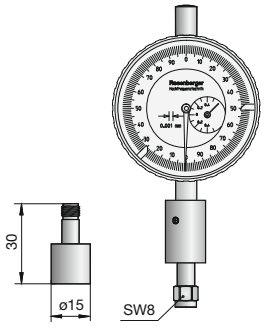
see also chapter interchangeable port connector system

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 Ω 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 Ω-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, Wechselport-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

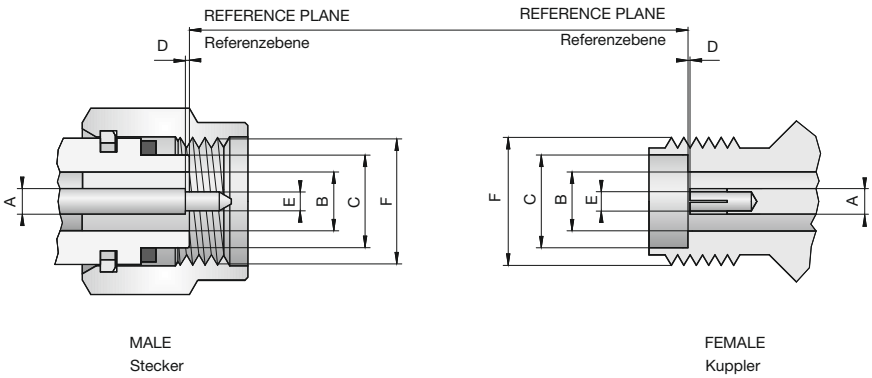
Return loss (connector head) ≥ 23 dB

Impedance 50 Ω

Threaded coupling

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

Interface Dimensions Series RPC-2.92 (code 02)



Series RPC-2.92

	Male | *Stecker*		**Female | *Kuppler***	
dimension	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

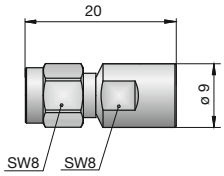
Applicable standards | *Anwendbare Standards*	
Mechanically compatible with | *Mechanisch kompatibel mit*	RPC-3.50 and SMA
Electrical data | *Elektrische Daten*	
Impedance | *Wellenwiderstand*	50 Ω
Frequency range | *Frequenzbereich*	DC to 40 GHz
Return loss (connector head) | *Rückflußdämpfung (Steckerkopf)*	≥ 23 dB, DC to 40 GHz
Insertion loss (connector head) | *Dämpfung (Steckerkopf)*	≤ 0.04 dB x |f[GHz]
Insulation resistance | *Isolationswiderstand*	≥ 5 GΩ
Center contact resistance | *Übergangswiderstand Innenleiter*	≤ 3.0 mΩ
Outer contact resistance | *Übergangswiderstand Außenleiter*	≤ 2.0 mΩ
Test voltage | *Prüfspannung*	750 V rms
Working voltage | *Betriebsspannung*	250 V rms
RF-leakage | *Schirmdämpfung*	≥ 100 dB up to 1 GHz
Mechanical data | *Mechanische Daten*	
Mating cycles | *Steckzyklen*	≥ 500
Center contact captivation | *Innenleiter Haltekraft*	≥ 22 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 plating
Dielectric | *Dielektrikum*	PS, PEEK
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.

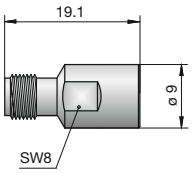
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem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

Connector Heads

Straight Plug

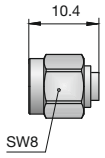
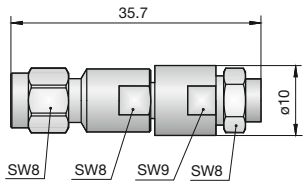
Ordering Number	Remarks	Return Loss	
02 S 121-000 S3	with bead	≥ 23 dB @ DC to 40 GHz	

Straight Jack

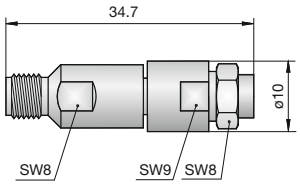
Ordering Number	Remarks	Return Loss	
02 K 121-000 S3	with bead	≥ 23 dB @ DC to 40 GHz	

Cable Connectors Semi-Rigid Cable

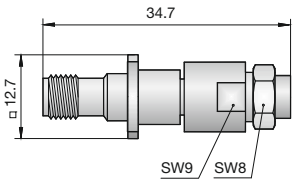
Straight Plug, solder — Semi-Rigid

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

Straight Jack, solder — Semi-Rigid

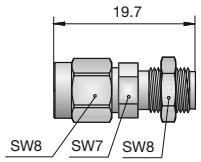
Ordering Number	Return Loss	Cable Group	Assembly Instruction	
02 K 121-271 S3	≥ 23 dB @ DC to 40 GHz	71	02 A3	

Panel Jack, 4-hole flange — Semi-Rigid

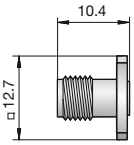
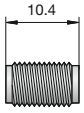
Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
02 K 421-271 S3	≥ 23 dB @ DC to 40 GHz	71	02 A3	MB 55	

Panel Connectors

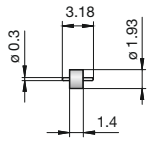
Panel Plug

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	~~≥ 19 dB @ DC to 40 GHz~~	

Panel Jack

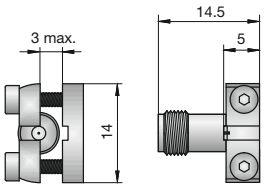
Ordering Number	Remarks	Return Loss	Panel Piercing / PCB Layout	Packing Unit	
02 K 421-800 S3	without glass bead, for hermetic sealed glass bead pin 0.3 mm 02 Z 101-000	≥ 23 dB @ DC to 34 GHz ≥ 19 dB @ 34 to 40 GHz	MB 55	100 blister	
02 K 526-800 S3	without glass bead, for hermetic sealed glass bead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

Glass Bead

Ordering Number	Remarks	Return Loss	
02 Z 101-000	hermetic sealed	≥ 19 dB @ DC to 40 GHz	 extended scale

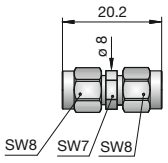
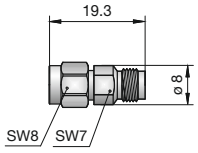
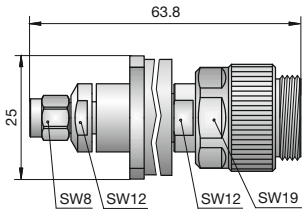
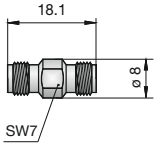
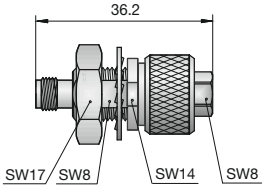
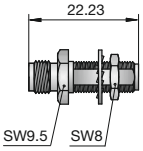
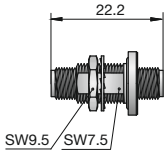
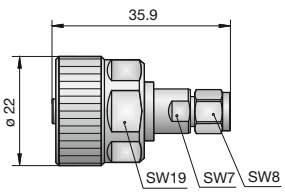
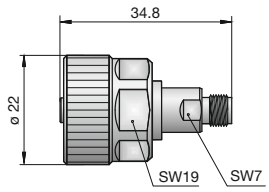
PCB Connectors SMD

Right Angle Panel Jack, edge mount SMD

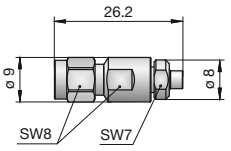
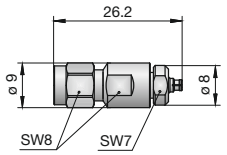
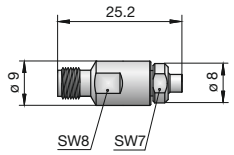
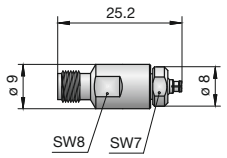
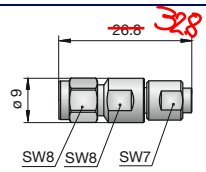
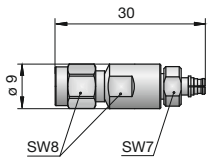
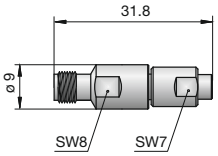
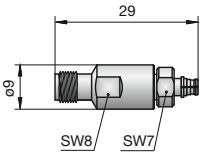
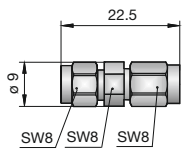
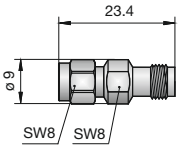
Ordering Number	Remarks	Return Loss	Panel Piercing / PCB Layout	
02 K 243-40M E3	for various PCB´s 0-3 mm	≥ 14 dB @ DC to 40 GHz	MB 208	

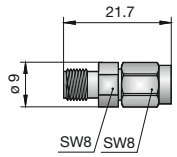
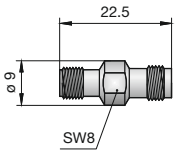
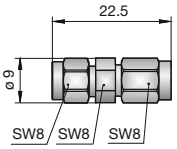
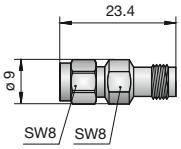
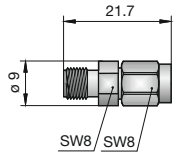
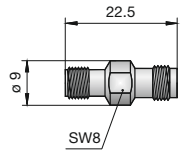
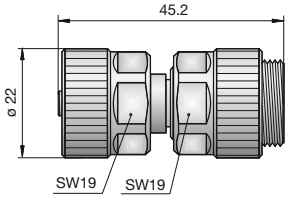
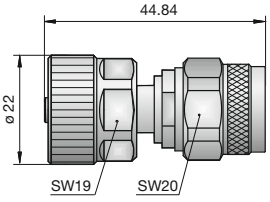
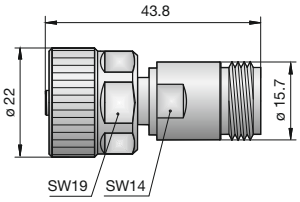
Adaptors

Adaptor (In Series)

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

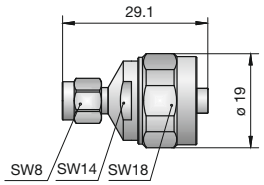
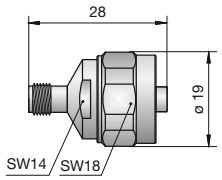
Adaptor (Inter Series)

Ordering Number	Version	Remarks	Return Loss	
02 S 118-S00 S3	straight	RPC-2.92 male - Mini-SMP male	≥ 30 dB @ DC to 12 GHz ≥ 26 dB @ 12 to 20 GHz ≥ 18 dB @ 20 to 40 GHz	
02 S 118-K00 S3	straight	RPC-2.92 male - Mini-SMP female	≥ 30 dB @ DC to 12 GHz ≥ 26 dB @ 12 to 20 GHz ≥ 18 dB @ 20 to 40 GHz	
02 K 118-S00 S3	straight	RPC-2.92 female - Mini-SMP male	≥ 30 dB @ DC to 12 GHz ≥ 26 dB @ 12 to 20 GHz ≥ 18 dB @ 20 to 40 GHz	
02 K 118-K00 S3	straight	RPC-2.92 female - Mini-SMP female	≥ 30 dB @ DC to 12 GHz ≥ 26 dB @ 12 to 20 GHz ≥ 18 dB @ 20 to 40 GHz	
02 S 119-S00 E3	straight	RPC-2.92 male - SMP male	≥ 32 dB @ DC to 12 GHz ≥ 26 dB @ 12 to 26.5 GHz ≥ 21 dB @ 26.5 to 40 GHz	
02 S 119-K00 E3	straight	RPC-2.92 male - SMP female	≥ 32 dB @ DC to 12 GHz ≥ 26 dB @ 12 to 26.5 GHz ≥ 21 dB @ 26.5 to 40 GHz	
02 K 119-S00 E3	straight	RPC-2.92 female - SMP male	≥ 32 dB @ DC to 12 GHz ≥ 26 dB @ 12 to 26.5 GHz ≥ 21 dB @ 26.5 to 40 GHz	
02 K 119-K00 E3	straight	RPC-2.92 female - SMP female	≥ 32 dB @ DC to 12 GHz ≥ 26 dB @ 12 to 26.5 GHz ≥ 21 dB @ 26.5 to 40 GHz	
02 S 108-S00 S3	straight	RPC-2.92 male - RPC-1.85 male	≥ 19 dB @ DC to 40 GHz	
02 S 108-K00 S3	straight	RPC-2.92 male - RPC-1.85 female	≥ 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	≥ 19 dB @ DC to 40 GHz	
02 K 108-K00 S3	straight	RPC-2.92 female - RPC-1.85 female	≥ 19 dB @ DC to 40 GHz	
02 S 109-S00 S3	straight	RPC-2.92 male - RPC-2.40 male	≥ 19 dB @ DC to 40 GHz	
02 S 109-K00 S3	straight	RPC-2.92 male - RPC-2.40 female	≥ 19 dB @ DC to 40 GHz	
02 K 109-S00 S3	straight	RPC-2.92 female - RPC-2.40 male	≥ 19 dB @ DC to 40 GHz	
02 K 109-K00 S3	straight	RPC-2.92 female - RPC-2.40 female	≥ 19 dB @ DC to 40 GHz	
02 KR 107-P00 S3	straight	RPC-2.92 female, ruggedized - RPC-7	≥ 28 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	
02 KR 105-K00 S3	straight	RPC-2.92 female, ruggedized - RPC-N 50 Ω female	≥ 26 dB @ DC to 18 GHz	

Interchangeable Port Connector System

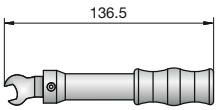
RPC 2.92 - RPC-SL 40 GHz

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

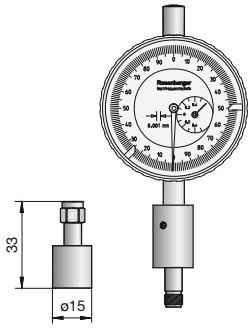
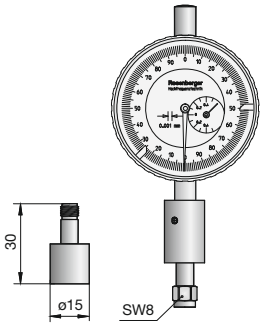
see also chapter interchangeable port connector system

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 Ω impedance and 2.40 mm outer conductor – have been designed for test & measurement applications up to 50 GHz and are characterized by high reliability and outstanding repeatability performance.

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

RPC-2.40 connectors are intermateable with other 2.40 mm 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 2.40 mm-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) ≥ 23 dB

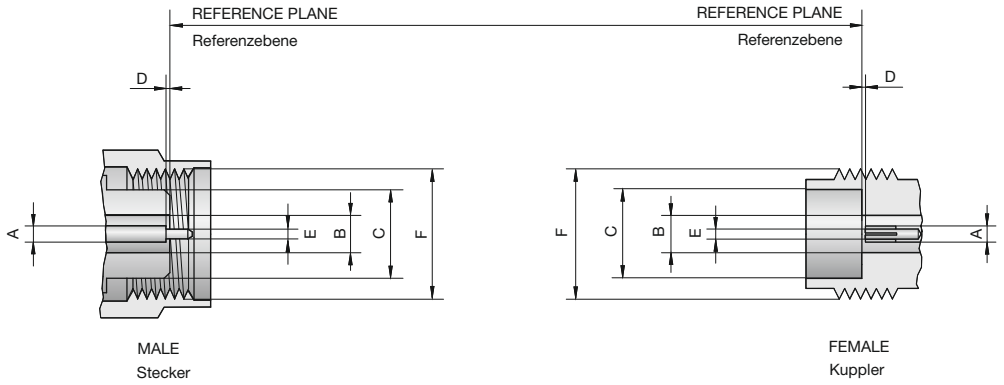
Impedance 50 Ω

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

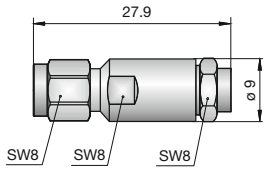
Applicable standards | *Anwendbare Standards*	
Mechanically compatible with | *Mechanisch kompatibel mit*	RPC-1.85
Electrical data | *Elektrische Daten*	
Impedance | *Wellenwiderstand*	50 Ω
Frequency range | *Frequenzbereich*	DC to 50 GHz
Return loss (cable connector straight) | *Rückflußdämpfung (Kabelsteckverbinder, gerade)*	≥ 23 dB, DC to 50 GHz
Insertion loss (cable connector straight) | *Dämpfung (Kabelsteckverbinder, gerade)*	≤ 0.05 dB x |f[GHz]
Insulation resistance | *Isolationswiderstand*	≥ 5 GΩ
Center contact resistance | *Übergangswiderstand Innenleiter*	≤ 4.0 mΩ
Outer contact resistance | *Übergangswiderstand Außenleiter*	≤ 2.5 mΩ
Test voltage | *Prüfspannung*	500 V rms
Working voltage | *Betriebsspannung*	150 V rms
RF-leakage | *Schirmdämpfung*	≥ 100 dB up to 1 GHz
Mechanical data | *Mechanische Daten*	
Mating cycles | *Steckzyklen*	≥ 500
Center contact captivation | *Innenleiter Haltekraft*	≥ 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

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.

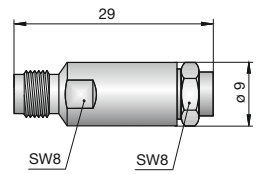
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem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

Cable Connectors Semi-Rigid Cable

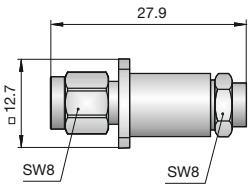
Straight Plug, solder — Semi-Rigid

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

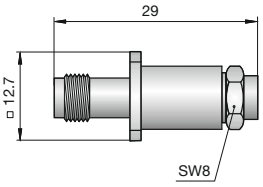
Straight Jack, solder — Semi-Rigid

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

Panel Plug, 4-hole flange — Semi-Rigid

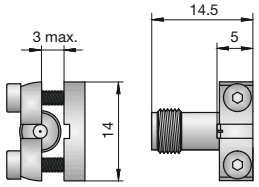
Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
09 S 421-271 S3	≥ 23 dB @ DC to 50 GHz	71	02 A3	MB 55	

Panel Jack, 4-hole flange — Semi-Rigid

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

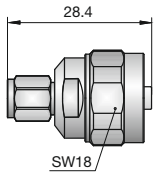
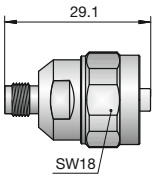
PCB Connectors SMD

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	≥ 12 dB @ DC to 50 GHz	MB 208	

Interchangeable Port Connector System

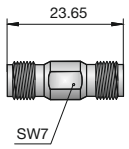
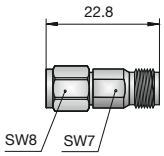
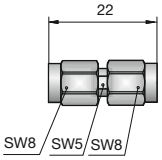
RPC 2.40 - RPC-SL 40 GHz

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

see also chapter interchangeable port connector system

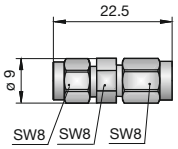
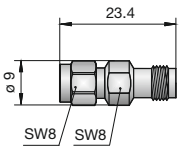
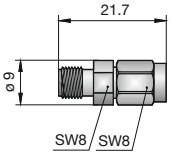
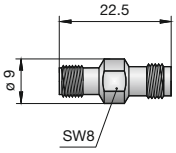
Adaptors

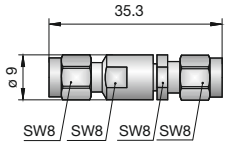
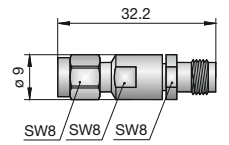
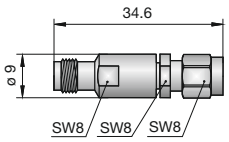
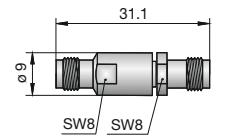
Adaptor (In Series)

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

Adaptors

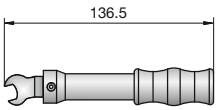
Adaptor (Inter Series)

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

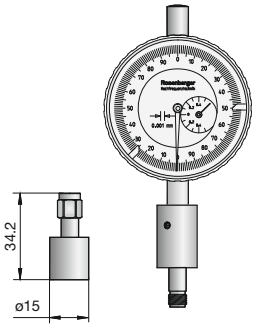
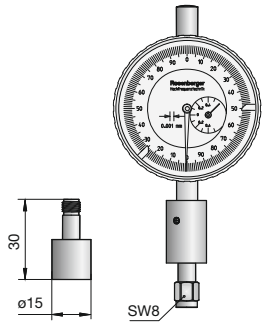
Ordering Number	straight	Remarks	Return Loss	
03 S 109-S00 S3	straight	RPC-3.50 male - RPC 2.40 male	≥ 23 dB @ DC to 26.5 GHz	
03 S 109-K00 S3	straight	RPC-3.50 male - RPC 2.40 female	≥ 23 dB @ DC to 26.5 GHz	
03 K 109-S00 S3	straight	RPC-3.50 female - RPC 2.40 male	≥ 23 dB @ DC to 26.5 GHz	
03 K 109-K00 S3	straight	RPC-3.50 female - RPC 2.40 female	≥ 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 50 Ω impedance and 1.85 mm outer conductor diameter – have been designed for test & measurement applications up to 65 GHz.

Outstanding characteristics are high reliability and outstanding repeatability performance, RPC-1.85 connectors are intermateable with 2.40 mm 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 – 50 Ω-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) ≥ 20 dB

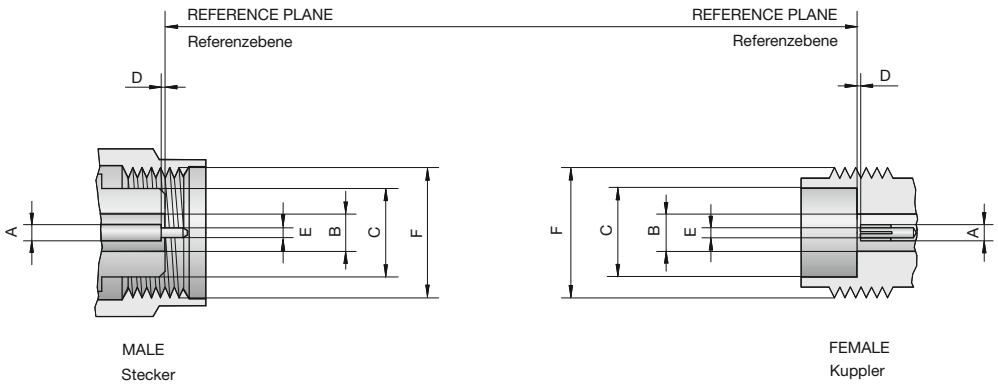
Impedance 50 Ω

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

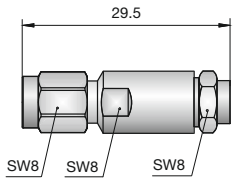
Applicable standards | *Anwendbare Standards*	
Interface according to | *Interface gemäß*	IEC 61169-32
Mechanically compatible with | *Mechanisch kompatibel mit*	RPC-2.40
Electrical data | *Elektrische Daten*	
Impedance | *Wellenwiderstand*	50 Ω
Frequency range | *Frequenzbereich*	DC to 65 GHz
Return loss (cable connector straight) | *Rückflußdämpfung (Kabelsteckverbinder, gerade)*	≥ 20 dB, DC to 65 GHz
Insertion loss (cable connector straight) | *Dämpfung (Kabelsteckverbinder, gerade)*	≤ 0.05 dB x |f[GHz]
Insulation resistance | *Isolationswiderstand*	≥ 5 GΩ
Center contact resistance | *Übergangswiderstand Innenleiter*	≤ 4.0 mΩ
Outer contact resistance | *Übergangswiderstand Außenleiter*	≤ 2.5 mΩ
Test voltage | *Prüfspannung*	500 V rms
Working voltage | *Betriebsspannung*	150 V rms
RF-leakage | *Schirmdämpfung*	≥ 100 dB up to 1 GHz
Mechanical data | *Mechanische Daten*	
Mating cycles | *Steckzyklen*	≥ 500
Center contact captivation | *Innenleiter Haltekraft*	≥ 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

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.

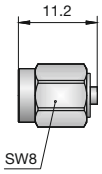
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem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

Cable Connectors Semi-Rigid Cable

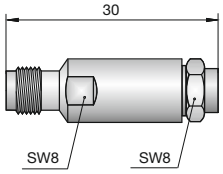
Straight Plug, solder — Semi-Rigid

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

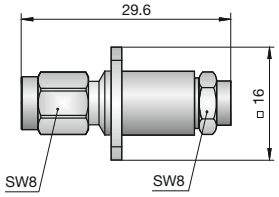
Straight Plug, solder, without pin, without dielectric — Semi-Rigid

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

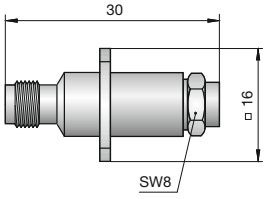
Straight Jack, solder — Semi-Rigid

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

Panel Plug, 4-hole flange — Semi-Rigid

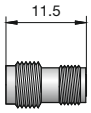
Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
08 S 421-270 S3	≥ 20 dB @ DC to 65 GHz	70	02 A6	MB 71	
08 S 421-271 S3	≥ 20 dB @ DC to 65 GHz	71	02 A3	MB 71	
08 S 421-2W7 S3	≥ 20 dB @ DC to 65 GHz	W7	02 A3	MB 71	

Panel Jack, 4-hole flange — Semi-Rigid

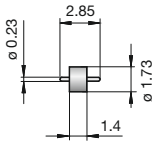
Ordering Number	Return Loss	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	
08 K 421-270 S3	≥ 20 dB @ DC to 65 GHz	70	02 A6	MB 71	
08 K 421-271 S3	≥ 20 dB @ DC to 65 GHz	71	02 A3	MB 71	
08 K 421-2W7 S3	≥ 20 dB @ DC to 65 GHz	W7	02 A3	MB 71	

Panel Connectors

Panel Jack

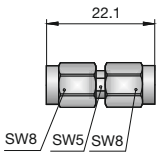
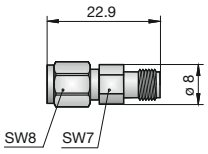
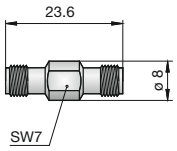
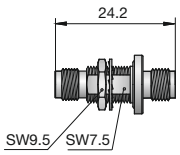
Ordering Number	Remarks	Return Loss	Packing Unit	
08 K 521-800 S3	without glass bead, for hermetic sealed glass bead pin 0,24 mm 08 Z 101-000	≥ 15 dB @ DC to 65 GHz	100	

Glass Bead

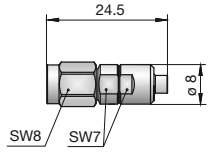
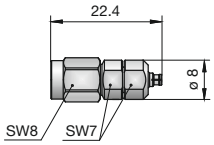
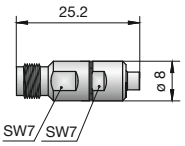
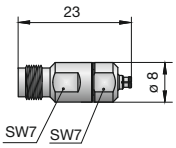
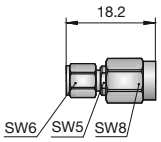
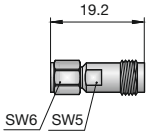
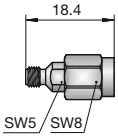
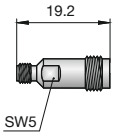
Ordering Number	Remarks	Return Loss	
08 Z 101-000	hermetic sealed	≥ 17 dB @ DC to 65 GHz	 extended scale

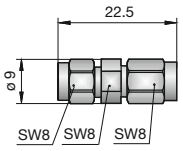
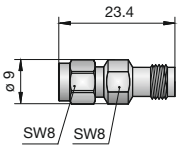
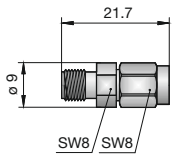
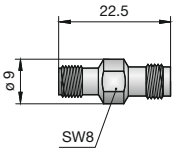
Adaptors

Adaptor (In Series)

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

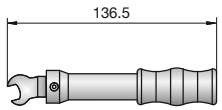
Adaptor (Inter Series)

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

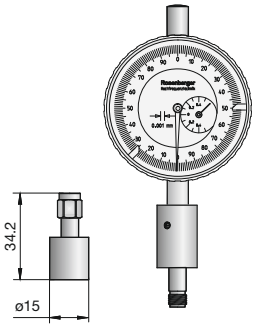
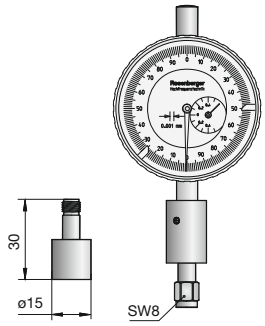
Ordering Number	Version	Remarks	Return Loss	
02 S 108-S00 S3	straight	RPC-2.92 male - RPC-1.85 male	≥ 19 dB @ DC to 40 GHz	
02 S 108-K00 S3	straight	RPC-2.92 male - RPC-1.85 female	≥ 19 dB @ DC to 40 GHz	
02 K 108-S00 S3	straight	RPC-2.92 female - RPC-1.85 male	≥ 19 dB @ DC to 40 GHz	
02 K 108-K00 S3	straight	RPC-2.92 female - RPC-1.85 female	≥ 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 Ω impedance and 1.00 mm outer conductor – can be used for test & measurement applications up to 110 GHz.

Rosenberger RPC-1.00-Steckverbinder sind 50 Ω-Präzisionssteckverbinder mit 1.00 mm Außenleiterdurchmesser und hervorragenden Eigenschaften für Messtechnik-Anwendungen bis 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.

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.

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.

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 110 GHz

Return loss (cable connector straight) ≥ 14 dB

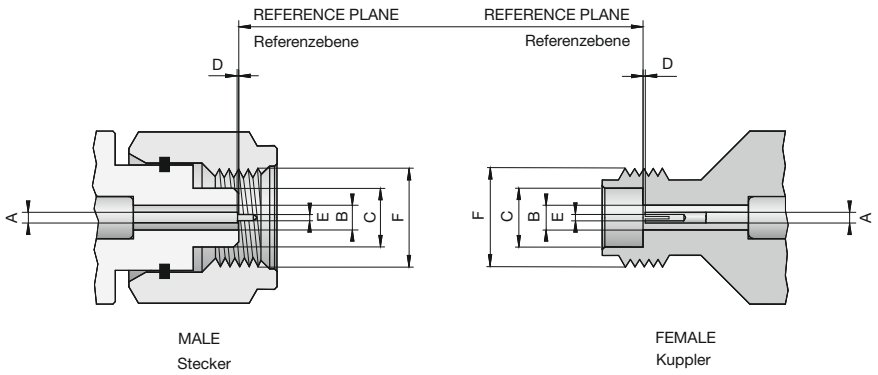
Impedance 50 Ω

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

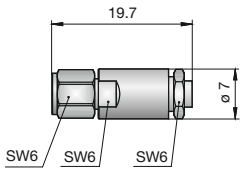
Applicable standards | *Anwendbare Standards*	
Interface according to | *Interface gemäß*	IEC 61169-31
Electrical data | *Elektrische Daten*	
Impedance | *Wellenwiderstand*	50 Ω
Frequency range | *Frequenzbereich*	DC to 110 GHz
Return loss (cable connector straight) | *Rückflußdämpfung (Kabelsteckverbinder, 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 GΩ
Center contact resistance | *Übergangswiderstand Innenleiter*	≤ 4.0 mΩ
Outer contact resistance | *Übergangswiderstand Außenleiter*	≤ 1.0 mΩ
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.

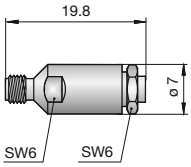
Rosenberger-Steckverbinder erfüllen grundsätzlich die in den Technischen Daten angegebenen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte von Steckverbindern hiervon abweichen. Spezifische Datenblätter zu einzelnen Produkten erhalten Sie auf Anfrage von Ihrem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

Cable Connectors Semi-Rigid Cable

Straight Plug, solder — Semi-Rigid

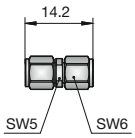
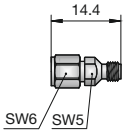
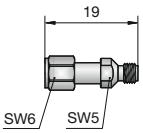
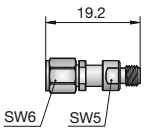
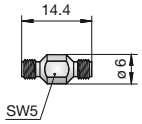
Ordering Number	Return Loss	Cable Group	Assembly Instruction	
01 S 101-270 E3	≥ 23 dB @ DC to 50 GHz ≥ 19 dB @ 50 to 75 GHz ≥ 14 dB @ 75 to 110 GHz	70	01 A1	

Straight Jack, solder — Semi-Rigid

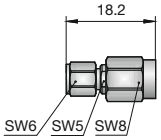
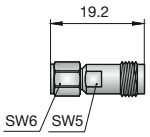
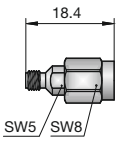
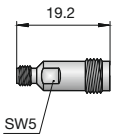
Ordering Number	Return Loss	Cable Group	Assembly Instruction	
01 K 101-270 E3	≥ 23 dB @ DC to 50 GHz ≥ 19 dB @ 50 to 75 GHz ≥ 14 dB @ 75 to 110 GHz	70	01 A1	

Adaptors

Adaptor (In Series)

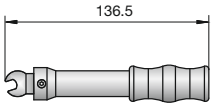
Ordering Number	Version	Remarks	Return Loss	
01 S 101-S20 D3	straight	RPC-1.00 male - male, calibration adaptor, phase matched	≥ 20 dB @ DC to 20 GHz ≥ 17 dB @ 20 GHz to 50 GHz ≥ 15 dB @ 50 GHz to 75 GHz ≥ 12 dB @ 75 GHz to 110 GHz	
01 S 101-K20 D3	straight	RPC-1.00 male - female, calibration adaptor,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

Adaptor (Inter Series)

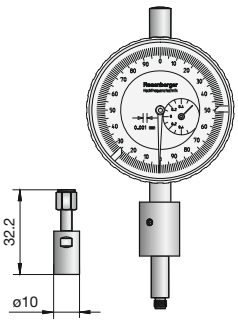
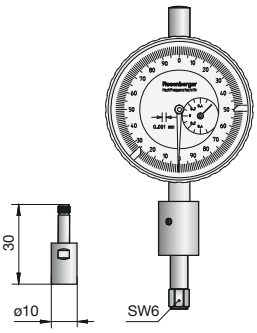
Ordering Number	Version	Remarks	Return Loss	
01 S 108-S00 D3	straight	RPC-1.00 male - RPC-1.85 male	≥ 19dB @ DC to 20 GHz ≥ 17 dB @ 20 to 50 GHz ≥ 14 dB @ 50 to 65 GHz	
01 S 108-K00 D3	straight	RPC-1.00 male - RPC-1.85 female	≥ 19dB @ DC to 20 GHz ≥ 17 dB @ 20 to 50 GHz ≥ 14 dB @ 50 to 65 GHz	
01 K 108-S00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

Rosenberger
Hochfrequenztechnik GmbH & Co. KG

P.O.Box 1260
D-84526 Tittmoning

Tel.: +49 - 86 84 -18 - 0
Fax: +49 - 86 84 -18 - 499
E-Mail: info@rosenberger.de
Web: www.rosenberger.com

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