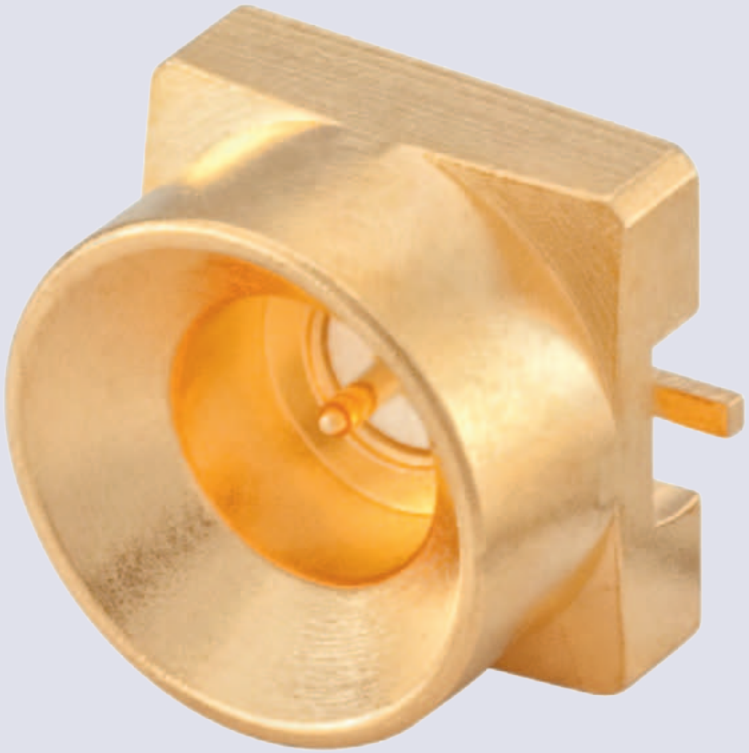
SMP, Longwipe-SMP, Mini-SMP

SMP, Longwipe-SMP and Mini-SMP coaxial connector series are available with different retention variants, main application fields are as PCB connectors and in board-to-board connections. Using adaptors, so-called bullets, equalization of radial and axial misalignments is possible, maintaining constant electrical characteristics. Bullets are available in different lengths to enable any board spacing e.g. from 7.94 mm (Mini-SMP).

Die Koaxial-Steckverbinder-Serien SMP, Longwipe-SMP und Mini-SMP werden in verschiedenen Festhaltevarianten angeboten und vor allem als PCB-Steckverbinder und in Board-to-Board-Verbindungen eingesetzt. Durch Verwendung von Adaptern, sogenannten Bullets, wird mechanischer Toleranzausgleich ermöglicht bei weiterhin ausgezeichneten elektrischen Eigenschaften. Bullets sind in verschiedenen Längen lieferbar, wodurch Leiterplattenabstände beispielsweise ab 7,94 mm (Serie Mini-SMP) möglich sind.

SMP
Longwipe-SMP
Mini-SMP

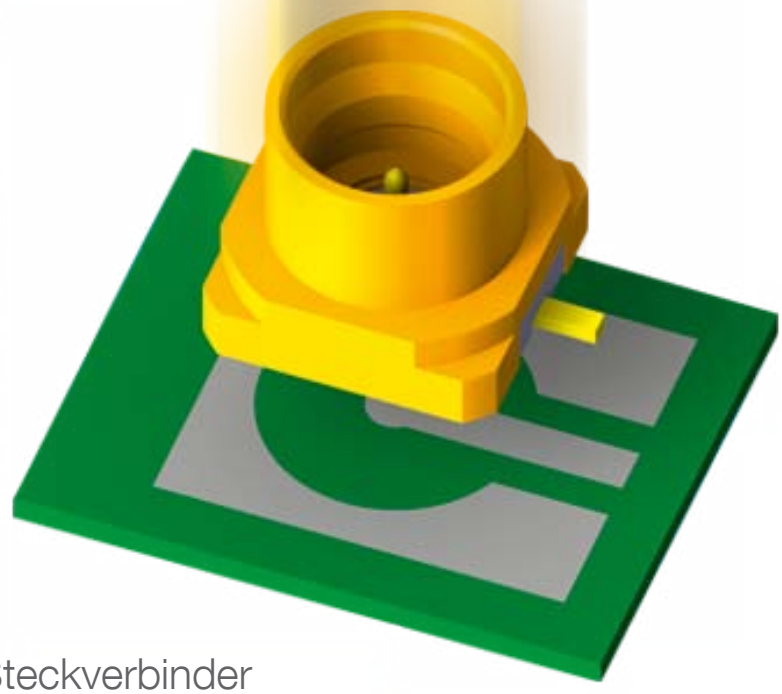


PCB Connectors

Rosenberger provides a wide range of RF coaxial connectors for PCB applications. A wide range of retention and installation variants are available. The range incorporates straight and angled Cable-to-Board connections for common standard RF series such as SMA, QMA, SMB or MCX as well as Board-to-Board connectors for innovative coaxial series such as SMP, Longwipe-SMP, P-SMP, FMC, Mini-SMP and Micro-RF.

The surface-mount technology facilitates very good transmission characteristics and automatic installation using the special tape & reel packaging.In addition to small Board-to-Board distances, essential characteristics are equalization of radial and axial misalignments, the different holding forces and a fast and cost-effective assembly design.
The quality of surface mount connections is dependent on several parameters, such as substrate thickness and board-stack-up. Rosenberger offers tailor-made footprints and layout recommendations for customized applications. The quality of surface mount connections is dependent on several parameters, such as substrate thickness and board-stack-up.

Rosenberger offers tailor-made footprints and layout recommendations for customized applications.



Leiterplatten-Steckverbinder

Rosenberger verfügt über eine breite Palette von koaxialen HF-Steckverbindern für PCB-Anwendungen. Vielfältige Festhalte- und Montage-Varianten stehen zur Verfügung. Das Spektrum umfasst gerade und gewinkelte Cable-to-Board-Steckverbinder z.B. der Serien SMA, QMA, SMB oder MCX und zudem Board-to-Board-Steckverbinder aller innovativen Koaxial-Serien wie SMP, Longwipe-SMP, P-SMP, FMC, Mini-SMP und Micro-RF.

Die Surface-Mount-Technologie ermöglicht sehr gute Übertragungseigenschaften und automatische Montage durch spezielle Tape & Reel-Verpackungen.
Wesentliche Merkmale sind, neben der geringen Board-to-Board-Abstände, der axiale und radiale Toleranzausgleich, die verschiedenen Festhaltekräfte und ein schnelles und kostengünstiges Baugruppendesign.
Die Qualität der Surface-Mount-Anschlüsse ist abhängig von einer Vielzahl von Parametern, wie z.B. Substratstärke und Board-Stack-up.

Rosenberger bietet maßgeschneiderte Footprints und Layoutempfehlungen für kundenspezifische Anwendungen.

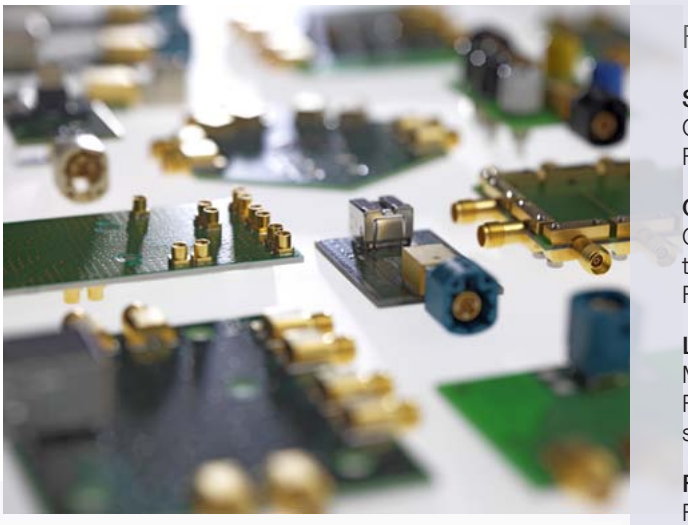
Retention Variants

Smooth bore
Sliding contact
For modular systems, backplane applications

Catchers mitt
Sliding contact with extended catching range
For modular systems, backplane applications

Limited detent
Medium-tight retention
For applications with low to medium mechanical loads: telecommunications and test and measurement applications

Full detent
Fixed retention, vibration resistant
For high mechanical loads, e.g. in aerospace applications



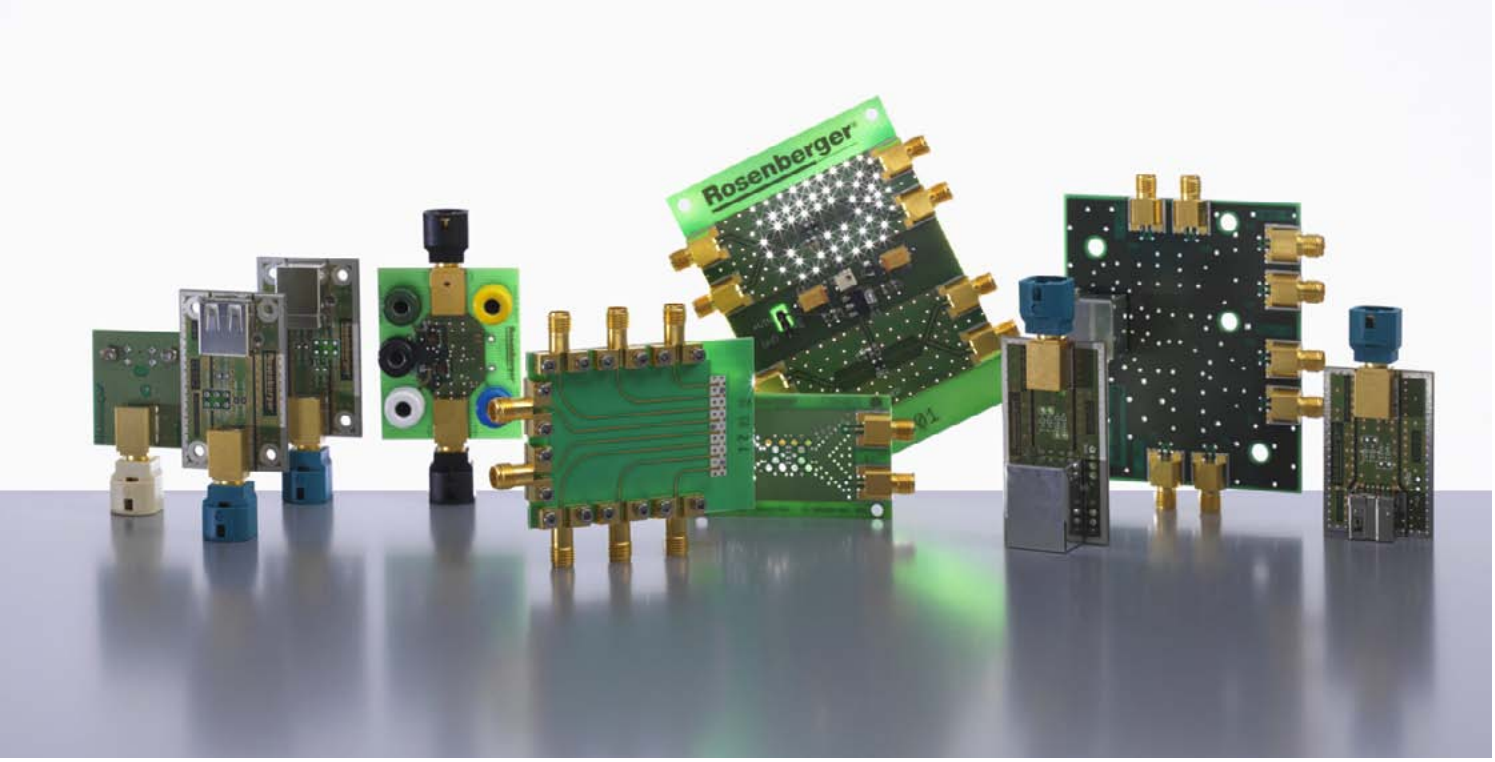
Festhaltevarianten

Smooth bore
Gleitender Kontakt
Für Einschubtechnik, Backplane-Anwendungen

Catchers mitt
Gleitender Kontakt mit erweitertem Fangbereich für lange Board-to-Board-Verbindungen
Für Einschubtechnik, Backplane-Anwendungen

Limited detent
Mittelfeste Verrastung
Für Anwendungen mit geringer bis mittlerer mechanischer Beanspruchung: Telekom- und Messtechnik-Anwendungen

Full detent
Feste Verrastung, vibrationsstabil
Für hohe mechanische Beanspruchungen, z.B. für Anwendungen in Luft- und Raumfahrt

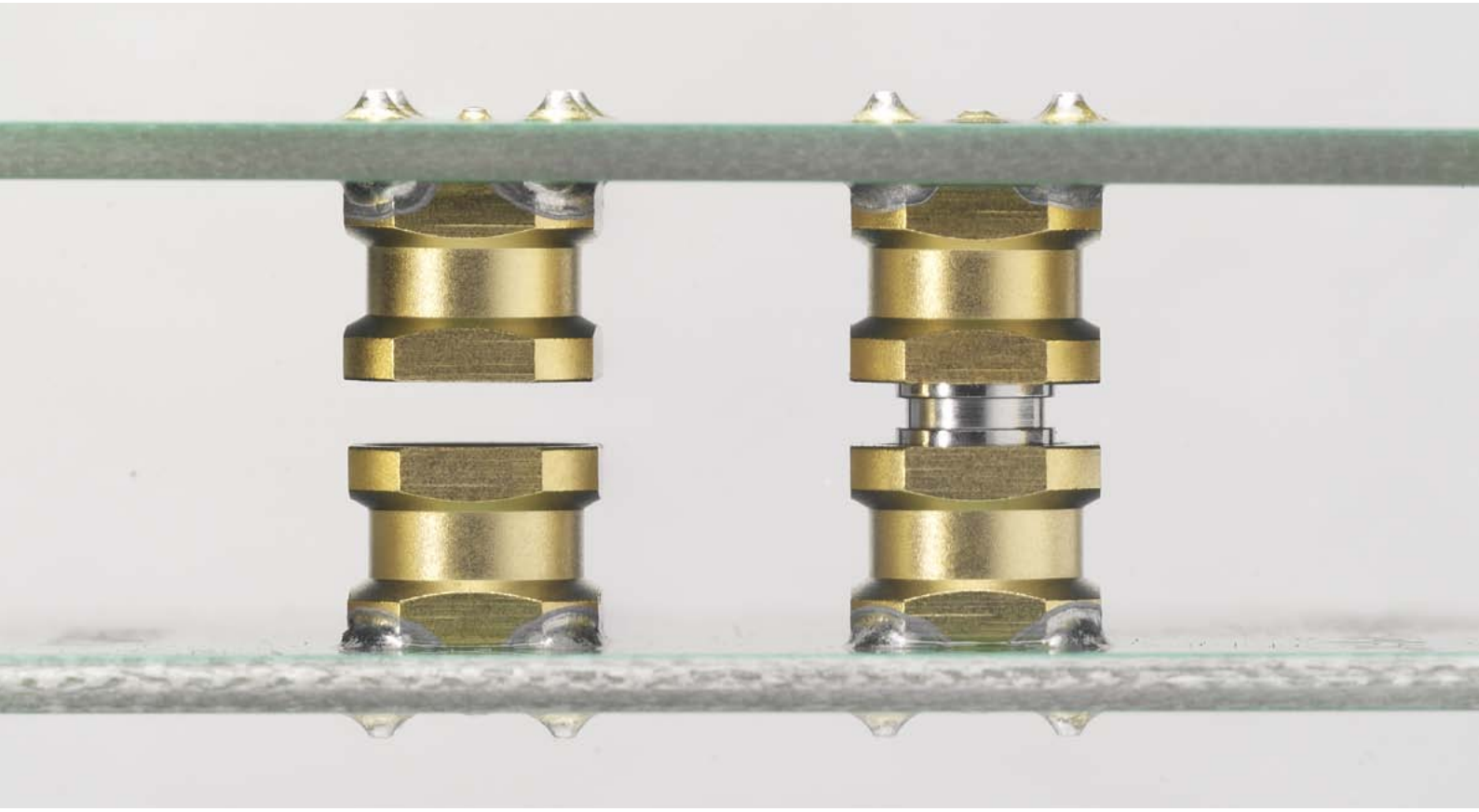


Misalignment with board-to-board connectors

Rosenberger's three-part board-to-board connection consists of a PCB connector with limited or full detent retention on one side and a smooth bore type on the other side, with a bullet in between. This design allows mechanical misalignment, while at the same time guaranteeing excellent electrical performance. It is possible to connect PCBs which are arranged parallel or perpendicular to each other.

Toleranzausgleich mit Board-to-Board-Verbindern

Das dreiteilige Design der Rosenberger Board-to-Board-Verbinder besteht aus einem Leiterplatten-Steckverbinder in Limited-Detent- oder Full-Detent-Ausführung auf der einen Seite und aus einem Smooth-Bore-Typen auf der anderen Seite. Zwischen beide Steckverbinder wird ein Adapter, das so genannte Bullet, eingesetzt. Diese Anordnung ermöglicht einen mechanischen Toleranzausgleich und gewährleistet gleichzeitig ausgezeichnete elektrische Eigenschaften. Es können sowohl senkrecht aufeinander stehende als auch parallel angeordnete Leiterplatten kontaktiert werden.



Axial Misalignment

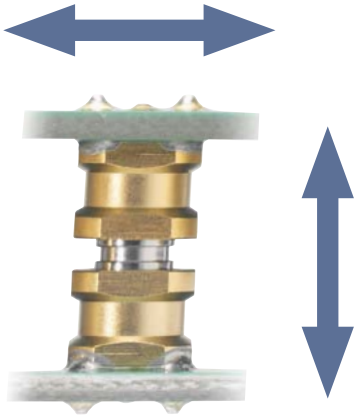
When using a smooth bore type on one side, the connection allows axial misalignment.

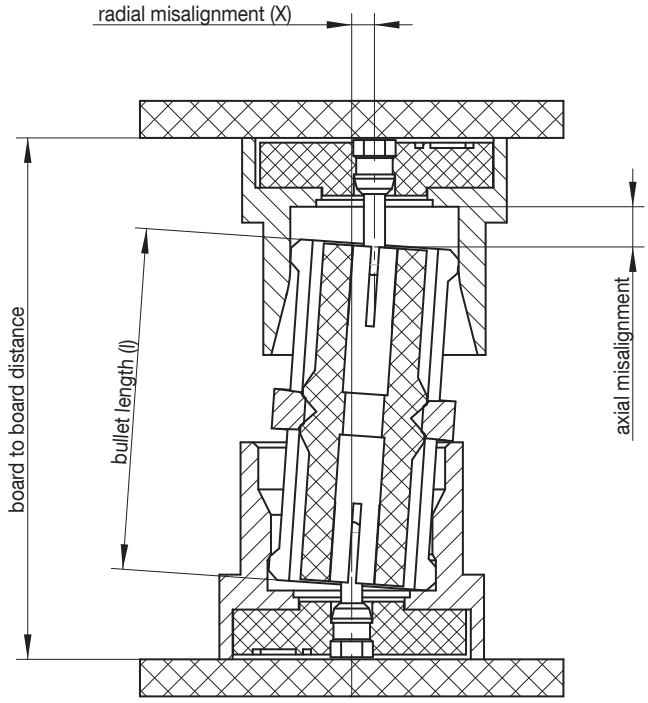
It is limited by the sliding surface of the outer contact. Depending on the used connector series, different tolerance ranges are covered. With simultaneous radial misalignment applied to the connection, the maximum axial misalignment is reduced accordingly.

Axialer Toleranzausgleich

Der axiale Toleranzausgleich ist möglich bei Verwendung eines Smooth-Bore-Steckverbinders auf der einen Seite der Leiterplattenverbindung.

Er ist begrenzt durch die maximale Gleitfläche des Außenleiters. Abhängig von der eingesetzten Steckverbinder-Serie werden unterschiedlich große Toleranzbereiche abgedeckt. Bei gleichzeitigem radialen Toleranzausgleich verringert sich der maximale axiale Toleranzausgleich entsprechend.





Radial Misalignment

The maximum radial misalignment of the three-part board-to-board connection is dependent on the length of the bullet. It can be easily calculated by using following formula:

$X = l \times \sin \alpha$

X = maximum radial tolerance [mm]
α = maximum angle 4°
l = bullet length [mm]

Radialer Toleranzausgleich

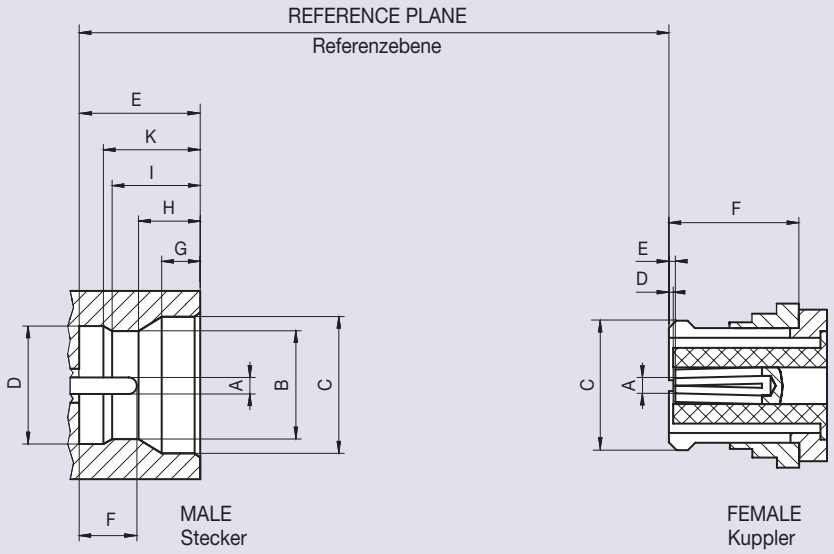
Die maximale radiale Toleranz bei der dreiteiligen Leiterplattenverbindung ist abhängig von der Länge des verwendeten Bullets und kann mit einer einfachen Formel berechnet werden:

$X = l \times \sin \alpha$

X = maximale radiale Toleranz [mm]
α = maximaler Winkel 4°
l = Länge des Bullets [mm]

Interface Dimensions SMP

Code 19



Dimensions in mm

	Male | Stecker						**Female** | Kuppler	
	Smooth bore		Limited detent		Full detent			
	min.	max.	min.	max.	min.	max.	min.	max.
A	Ø 0.36	Ø 0.41	Ø 0.36	Ø 0.41	Ø 0.36	Ø 0.41	[1]	
B	Ø 3.12	Ø 3.23	Ø 3.00	Ø 3.10	Ø 2.90	Ø 3.00	–	–
C	Ø 3.53	Ø 3.68	Ø 3.53	Ø 3.68	Ø 3.53	Ø 3.68	–	Ø 3.43
D	–	–	Ø 3.15	Ø 3.20	Ø 3.15	Ø 3.20	0.00 nom.	
E	2.74	2.84	2.74	2.84	2.74	2.84	0.20 nom.	
F	1.14	1.40	1.14	1.40	1.14	1.40	2.84	–
G	0.84	0.94	0.84	0.94	0.84	0.94	–	–
H	–	–	1.40	1.45	1.40	1.45	–	–
I	–	–	1.98	2.08	1.98	2.08	–	–
K	–	–	2.19	2.29	2.19	2.29	–	–

[1] Resilient, dimension to meet electrical and mechanical requirements

SMP coaxial connectors are available as smooth bore, catchers mitt, limited detent and full detent versions, they are suitable for a wide range of board-to-board interconnect applications up to 40 GHz - from low up to the highest mechanical loads, e.g. in telecommunication, test & measurement or aerospace applications.
SMP connectors are mateable with GPO™ connectors. PCB connectors are supplied in tape & reel packaging.

SMP-Koaxial-Steckverbinder werden in den Festhaltevarianten Smooth bore, Catchers mitt, Limited detent und Full detent angeboten und eignen sich für vielseitige Board-to-Board-Verbindungen bis 40 GHz von geringer bis zu höchster mechanischer Beanspruchung, z.B. in Telekom- und Messtechnik-Anwendungen bis zu Anwendungen in Luft- und Raumfahrt.
SMP Steckverbinder sind steckkompatibel mit GPO™ Steckverbindern. PCB-Steckverbinder werden in Blistergurt-Verpackungen ausgeliefert.

Features

- Interface according to US MIL-STD 348A, Fig. 326
- Frequency range DC to 40 GHz
- Return loss (cable connector straight) ≥ 23 dB @ DC to 20 GHz
- Impedance 50 Ω
- Minimum board-to-board distance ≥ 9.05 mm
- Snap-on coupling

Product Range

- Cable connectors
- PCB connectors
- Panel connectors
- Adaptors
- Terminations

Technical Data SMP

Code 19

Applicable standards | Anwendbare Normen	
Interface according to | Interface gemäß	MIL-STD-348A, Fig. 326 Mateable with GPO™ (Gilbert Engineering Co., Inc)
Electrical data | Elektrische Daten	
Impedance | Wellenwiderstand	50 Ω
Frequency range | Frequenzbereich	DC to 40 GHz
Return loss (cable connector straight) | Rückflussdämpfung (Kabelsteckverbinder gerade)	≥ 23 dB @ DC to 20 GHz ≥ 14 dB @ 20 GHz to 40 GHz
Insertion loss | Dämpfung	≤ 0.1 x $\sqrt{f\ (GHz)}$ dB
Insulation resistance | Isolationswiderstand	≥ 5 GΩ
Center contact resistance | Übergangswiderstand Innenleiter	≤ 6 mΩ
Outer contact resistance | Übergangswiderstand Außenleiter	≤ 2 mΩ
Test voltage | Prüfspannung	500 V rms
Working voltage | Betriebsspannung	335 V rms
Power handling | Leistungsbelastbarkeit	65 W @ 2.2 GHz
Contact current | Kontaktstrombelastbarkeit	≤ 1.2 A DC
RF leakage - Interface | Schirmdämpfung	≥ 85 dB @ DC to 4 GHz
Mechanical data | Mechanische Daten	
Mating cycles | Steckzyklen	Full detent: ≥ 100 Limited detent: ≥ 500 Smooth bore, Catchers mitt: ≥ 1000
Center contact captivation | Innenleiter Haltekraft	axial: ≥ 7 N
Engagement force | Steckkraft	Full detent: ≤ 68 N Limited detent: ≤ 45 N Smooth bore, Catchers mitt: ≤ 9 N
Disengagement force | Ziehkraft	Full detent: ≥ 22 N Limited detent: ≥ 9 N Smooth bore, Catchers mitt: ≥ 2.2 N
Axial misalignment | Axialer Toleranzausgleich	± 0.3 mm
Radial misalignment | Radialer Toleranzausgleich	4° (interface)
Board-to-board distance (min.) | Board-to-Board Abstand (min.)	9.05 mm (solder paste thickness not included)
Environmental data | Umweltdaten	
Temperature range | Temperaturbereich	-65 °C to +155 °C
Thermal shock | Temperaturzyklen	MIL-STD-202, Method 107, Condition B
Damp heat | Feuchte Wärme	IEC 60068-2-78 (40 °C, 93% RH, 56d)
Climatic category | Klimakategorie	IEC 61169-1, Sub-clause 9.4.5 (+155 °C, 1000 hours)
Moisture resistance | Feuchtigkeitsbeständigkeit	MIL-STD-202, Method 106
Vibration | Vibration	MIL-STD-202, Method 204, Condition B
Shock | Schock	MIL-STD-202, Method 213, Condition A
Max. soldering temperature (PCB connectors) | Max. Löttemperatur (Leiterplattensteckverbinder)	IEC 61760-1, +260 °C for 10 sec.
Materials | Materialien	
Spring loaded contact parts | Federnde Kontaktteile	CuBe, Au plating
Center contact | Innenleiter	CuZn, Au plating
Outer contact | Außenleiter	CuZn, Au plating
Crimping ferrule | Crimphülse	Cu, Au plating
Dielectric | Dielektrikum	PTFE / PEEK / LCP

Rosenberger connectors generally fulfill the indicated technical data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and workmanship. Data sheets for particular products can be downloaded on our website or can be provided on request from your Rosenberger sales partner.

Rosenberger-Steckverbinder erfüllen grundsätzlich die hier angegebenen technischen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte der Steckverbinder hiervon abweichen. Datenblätter zu einzelnen Produkten können Sie von unserer Website herunterladen oder auf Anfrage von Ihrem Rosenberger-Ansprechpartner erhalten.

Cable Connectors Semi-Rigid Cables

Straight Plug, solder
Panel mount; hexagonal flange

Semi-Rigid Cables

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Cable Group	
19 S 601-271 L5	179837	100	standard	Limited detent rear mount	71	
19 S 641-271 L5	108028	100	standard	Smooth bore rear mount	71	
19 S 602-271 L5	139095	100	standard	Limited detent snap-in	71	

Straight Jack, solder

Semi-Rigid Cables

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Cable Group	
19 K 101-270 L5	192320	50	standard	Frequency: DC to 26.5 GHz	70	
19 K 107-270 L5	163569	50	standard	Frequency: DC to 40 GHz	70	
19 K 101-271 L5	189301	100	standard	Frequency: DC to 26.5 GHz	71	
19 K 107-271 L5	192325	100	standard	Frequency: DC to 40 GHz	71	
19 K 101-272 L5	135145	50	standard	Frequency: DC to 26.5 GHz	72	

Right Angle Jack, solder

Semi-Rigid Cables

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Cable Group	
19 K 202-270 L5	145500	100	standard	Frequency: DC to 26.5 GHz	70	
19 K 202-271 L5	192102	100	standard	Frequency: DC to 26.5 GHz	71	

Cable Connectors - Flexible Cables

Straight Jack, crimp **Flexible Cables**

Rosenberger No.	Order No.	Sales Unit	Packaging	Cable Group	
19 K 102-101 L5	146101	50	standard	01	
19 K 101-102 L5	183540	100	standard	02	
19 K 101-103 L5	183543	100	standard	03	
19 K 102-1X1 L5	107932	100	standard	X1	

Right Angle Jack, solder-crimp **Flexible Cables**

Rosenberger No.	Order No.	Sales Unit	Packaging	Cable Group	
19 K 202-301 L5	183546	100	standard	01	
19 K 201-302 L5	183483	100	standard	02	
19 K 201-303 L5	151723	100	standard	03	
19 K 203-3X1 L5	169113	25	standard	X1	

Panel Connectors - Coaxial End

Panel Plug **Coaxial End**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
19 S 105-500 L5	186175	100	blister	Limited detent	
19 S 181-5H0 E4	139397	100	blister	Full detent hermetic sealed	

Panel Plug, hexagonal flange **Coaxial End**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
19 S 601-500 L5	157742	100	blister	Limited detent Panel feed through	

PCB Connectors - SMD

Straight Plug, PCB **SMD**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
19 S 101-40M L5	179930	1500	tape & reel	Limited detent	
	180774	100	blister		
19 S 10H-40M L5	182497	1500	tape & reel	Limited detent removable plastic cap on suction area	
	148138	100	blister		
19 S 141-40M L5	145799	1500	tape & reel	Smooth bore	
	179999	100	blister		
19 S 14H-40M L5	147074	1500	tape & reel	Smooth bore removable plastic cap on suction area	
19 S 102-40M L5	136644	1500	tape & reel	Limited detent removable plastic cap on suction area Frequency: DC to 40 GHz	
	141613	100	blister		
19 S 122-40M L5	102524	100	blister	Limited detent, stainless steel removable plastic cap on suction area Frequency: DC to 40 GHz	
19 S 144-40M L5	135686	750	tape & reel	Catchers mitt	
	183482	100	blister		
19 S 14K-40M L5	151875	750	tape & reel	Catchers mitt removable plastic cap on suction area	
19 S 104-40M L5	102294	1500	tape & reel	Catchers mitt	
	142205	100	blister		
19 S 14L-40M L5	272608	750	tape & reel	Limited detent	
	174585	100	blister		
19 S 106-500 L5	107111	100	blister	Limited detent, pin length 0.8 mm pin-in-paste removable plastic cap on suction area	
19 S 103-500 L5	182496	100	blister	Limited detent, pin length 2.5 mm pin-in-paste	
19 S 103-400 L5	104517	750	tape & reel	Limited detent pin-in-paste	
	180770	100	blister		
19 S 10A-400 L5	146632	500	tape & reel	Limited detent pin-in-paste removable plastic cap on suction area	
	148157	100	blister		

Straight Plug, PCB, panel mount

SMD

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
19 S 10D-40M L5	183477	100	blister	Limited detent rear mount	

Right Angle Plug, PCB

SMD

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
19 S 201-40M L5	179841	1500	tape & reel	Limited detent removable sticker on suction area	
	182011	100	blister		
19 S 241-40M L5	197991	1500	tape & reel	Smooth bore removable sticker on suction area	
	189070	100	blister		
19 S 202-40M L5	167254	1500	tape & reel	Limited detent	
	167257	100	blister		
19 S 242-40M L5	171438	1500	tape & reel	Smooth bore	
	138377	100	blister		

PCB Connectors - Solder Pin

Straight Plug, PCB **Solder Pin**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
19 S 102-400 L5	182508	50	blister	Limited detent	
19 S 145-400 L5	145152	750	tape & reel	Smooth bore	
	142203	100	blister		

Right Angle Plug, PCB **Solder Pin**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
19 S 201-400 L5	102064	100	blister	Limited detent	

Adaptors

Bullets SMP female-female

Rosenberger No.	Order No.	Sales Unit	Packaging	Board-to-Board Distance[1) 3)]	Bullet Length[2)]	
19 K 101-K00 L5	180771	100	standard	9.35 mm ± 0.3 mm	6.45 mm	
19 K 102-K00 L5	167255	100	standard	9.90 mm ± 0.3 mm	7.00 mm	
19 K 110-K00 L5	183484	50	standard	11.10 mm ± 0.3 mm	8.20 mm	
19 K 106-K00 L5	203609	100	standard	11.50 mm ± 0.3 mm	8.60 mm	
19 K 109-K00 L5	183527	250	standard	12.80 mm ± 0.3 mm	9.90 mm	
19 K 108-K00 L5	183530	250	standard	14.30 mm ± 0.3 mm	11.40 mm	
19 K 114-K00 L5	183523	100	standard	15.49 mm ± 0.3 mm	12.59 mm	
19 K 119-K38 L5	254062	25	standard	17.78 mm ± 0.3 mm	14.88 mm	
19 K 104-K00 L5	192074	250	standard	19.64 mm ± 0.3 mm	16.74 mm	
19 K 119-K11 L5	185638	25	standard	20.10 mm ± 0.3 mm	17.20 mm	
19 K 115-K00 L5	162598	50	standard	22.40 mm ± 0.3 mm	19.50 mm	
19 K 119-K00 L5	151931	25	standard	23.20 mm ± 0.3 mm	20.30 mm	
19 K 117-K00 L5	145147	25	standard	25.29 mm ± 0.3 mm	22.39 mm	
19 K 107-K00 L5	148746	100	standard	26.70 mm ± 0.3 mm	23.80 mm	
19 K 116-K00 L5	145516	50	standard	27.09 mm ± 0.3 mm	24.19 mm	
19 K 119-K06 L5	201131	100	standard	40.45 mm ± 0.3 mm	37.55 mm	

1) When standard SMD-connectors are applied (e.g. 19 S 101-40M, 19 S 144-40M, ...).
2) Bullets with other lengths on request.
3) Solder paste thickness not included.

Adaptors SMP - SMP

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
19 S 101-S20 D3	106021	1	standard	SMP male - male calibration adaptor	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	
19 S 101-K20 D3	104358	1	standard	SMP male - female calibration adaptor	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	
19 K 101-K20 D3	104599	1	standard	SMP female - female calibration adaptor	≥ 26 dB @ DC to 4 GHz ≥ 20 dB @ 4 GHz to 18 GHz	

Adaptors SMP - SMA

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
19 S 132-S00 S3	100585	1	standard	SMP male - SMA male	
19 S 132-K00 S3	101244	1	standard	SMP male - SMA female	
19 K 132-S00 D3	150878	1	standard	SMP female - SMA male	
19 K 132-K00 D3	105168	1	standard	SMP female - SMA female	

Adaptors SMP - RPC-2.92

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
02 S 119-S00 E3	106429	1	standard	RPC-2.92 male - SMP male	≥ 32 dB @ DC to 12 GHz ≥ 26 dB @ 12 GHz to 26.5 GHz ≥ 21 dB @ 26.5 GHz to 40 GHz	
02 S 119-K00 E3	104118	1	standard	RPC-2.92 male - SMP female	≥ 32 dB @ DC to 12 GHz ≥ 26 dB @ 12 GHz to 26.5 GHz ≥ 21 dB @ 26.5 GHz to 40 GHz	
02 K 119-S00 E3	101856	1	standard	RPC-2.92 female - SMP male	≥ 32 dB @ DC to 12 GHz ≥ 26 dB @ 12 GHz to 26.5 GHz ≥ 21 dB @ 26.5 GHz to 40 GHz	
02 K 119-K00 E3	106066	1	standard	RPC-2.92 female - SMP female	≥ 32 dB @ DC to 12 GHz ≥ 26 dB @ 12 GHz to 26.5 GHz ≥ 21 dB @ 26.5 GHz to 40 GHz	

Adaptors SMP - RPC-3.50

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
03 K 719-S22 S3	135504	1	standard	RPC-3.50 female - SMP male full detent 2-hole flange floating test adaptor	≥ 30 dB @ DC to 12 GHz ≥ 20 dB @ 12 GHz to 26.5 GHz	

Terminations

Termination Plug

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
19 S 15R-001 E4	135083	1	standard	1 Watt Frequency: DC to 18 GHz	≥ 28.3 dB @ DC to 1 GHz ≥ 20.1 dB @ 1 GHz to 18 GHz	

Termination Jack

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
19 K 15R-001 E4	103103	10	blister	1 Watt Frequency: DC to 18 GHz	≥ 28.3 dB @ DC to 1 GHz ≥ 20.1 dB @ 1 GHz to 18 GHz	

Special Tools

Extraction Tool

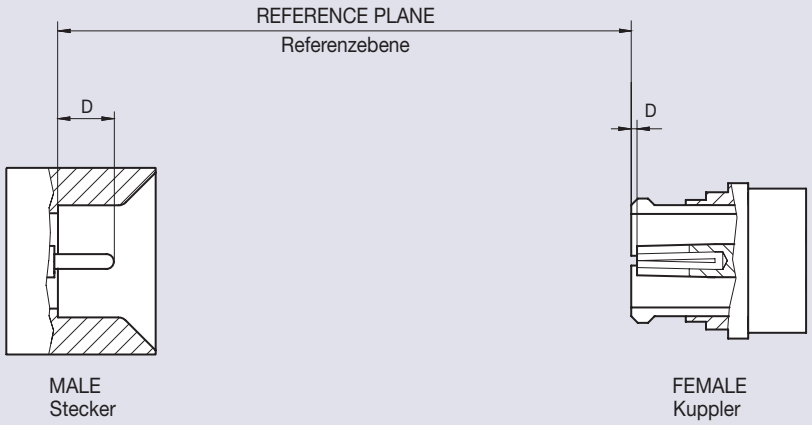
Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
19 W 002-000	104203	1	standard	extraction tool for SMP connectors	
19 W 009-000	214301	1	box	extraction tool for SMP connectors	

Distance Gauge

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
11 W 115-000	150600	1	standard	distance gauge for SMP connectors width 0.6 mm, thickness 0.5 mm	

Interface Dimensions Longwipe-SMP

Code 17



Dimensions in mm

	Male | Stecker		**Female** | Kuppler	
	min.	max.	min.	max.
D	2.10	2.30	0.00	0.20

Longwipe-SMP coaxial connectors are designed for applications up to 6 GHz and enable axial tolerance compensation of ± 0.7 mm. Limited detent as well as catchers mitt types - sliding contact with expanded guide-in range - are available.

Longwipe-SMP-Steckverbinder sind für Anwendungen bis 6 GHz konzipiert und ermöglichen einen axialen Toleranzausgleich von ± 0.7 mm. Longwipe-SMP-Stecker werden als Limited detent- und Catchers mitt-Typen - gleitender Kontakt mit erweitertem Fangbereich - angeboten.

Features

- Interface according to Rosenberger Longwipe-SMP series
- Frequency range DC to 6 GHz
- Return loss (cable connector straight) ≥ 23 dB (typ.)
- Impedance 50 Ω
- Minimum board-to-board distance ≥ 9.25 mm
- Snap-on coupling

Product Range

- PCB connectors
- Adaptors

Technical Data Longwipe-SMP

Code 17

Applicable standards | Anwendbare Normen	
Interface according to | Interface gemäß	Rosenberger Longwipe-SMP
Electrical data | Elektrische Daten	
Impedance | Wellenwiderstand	50 Ω
Frequency range | Frequenzbereich	DC to 6 GHz
Return loss (cable connector straight) | Rückflussdämpfung (Kabelsteckverbinder gerade)	≥ 23 dB (typ.)
Insertion loss | Dämpfung	≤ 0.1 x $\sqrt{f\ (GHz)}$ dB
Insulation resistance | Isolationswiderstand	≥ 5 GΩ
Center contact resistance | Übergangswiderstand Innenleiter	≤ 6 mΩ
Outer contact resistance | Übergangswiderstand Außenleiter	≤ 2 mΩ
Test voltage | Prüfspannung	500 V rms
Working voltage | Betriebsspannung	335 V rms
Power handling | Leistungsbelastbarkeit	100 W @ 2.2 GHz
Contact current | Kontaktstrombelastbarkeit	≤ 1.2 A DC
RF leakage - Interface | Schirmdämpfung	≥ 85 dB @ DC to 4 GHz
Intermodulation 3rd order | Intermodulation 3. Ordnung	≤ -150 dBc (2 x 43 dBm)
Mechanical data | Mechanische Daten	
Mating cycles | Steckzyklen	Full detent: ≥ 100 Limited detent: ≥ 500 Smooth bore, Catchers mitt: ≥ 1000
Center contact captivation | Innenleiter Haltekraft	axial: ≥ 7 N
Engagement force | Steckkraft	Full detent: ≤ 68 N Limited detent: ≤ 45 N Smooth bore, Catchers mitt: ≤ 9 N
Disengagement force | Ziehkraft	Full detent: ≥ 22 N Limited detent: ≥ 9 N Smooth bore, Catchers mitt: ≥ 2.2 N
Axial misalignment | Axialer Toleranzausgleich	± 0.7 mm
Radial misalignment | Radialer Toleranzausgleich	4° (interface)
Board-to-board distance (min.) | Board-to-board Abstand (min.)	9.25 mm (solder paste thickness not included)
Environmental data | Umweltdaten	
Temperature range | Temperaturbereich	-65 °C to +155 °C
Thermal shock | Temperaturzyklen	MIL-STD-202, Method 107, Condition B
Damp heat | Feuchte Wärme	IEC 60068-2-78 (40 °C, 93% RH, 56d)
Climatic category | Klimakategorie	IEC 61169-1, Sub-clause 9.4.5 (+155 °C, 250 hours)
Moisture resistance | Feuchtigkeitsbeständigkeit	MIL-STD-202, Method 106
Vibration | Vibration	MIL-STD-202, Method 204, Condition B
Shock | Schock	MIL-STD-202, Method 213, Condition A
Max. soldering temperature (PCB connectors) | Max. Löttemperatur (Leiterplattensteckverbinder)	IEC 61760-1, +260 °C for 10 sec.
Materials | Materialien	
Spring loaded contact parts | Federnde Kontaktteile	CuBe, Au plating
Center contact | Innenleiter	CuZn, Au plating
Outer contact | Außenleiter	CuZn, Au plating
Crimping ferrule | Crimphülse	Cu, Au plating
Dielectric | Dielektrikum	PTFE / PEEK / LCP

Rosenberger connectors generally fulfill the indicated technical data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and workmanship. Data sheets for particular products can be downloaded on our website or can be provided on request from your Rosenberger sales partner.

Rosenberger-Steckverbinder erfüllen grundsätzlich die hier angegebenen technischen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte der Steckverbinder hiervon abweichen. Datenblätter zu einzelnen Produkten können Sie von unserer Website herunterladen oder auf Anfrage von Ihrem Rosenberger-Ansprechpartner erhalten.

PCB Connectors - SMD

Straight Plug **SMD**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
17 S 101-40M L5	222745	1500	tape & reel	Limited detent	
	210135	100	blister		
17 S 144-40M L5	257830	750	tape & reel	Catchers mitt	
	180773	100	blister		
17 S 14F-40M L5	264730	100	blister	Catchers mitt - catch diameter Ø6.8mm removable plastic cap on suction area	
17 S 145-40M L5	249405	500	tape & reel	Catchers mitt pin-in-paste removable plastic cap on suction area	
	192342	100	blister		

Right Angle Plug **SMD**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
17 S 201-40M L5	171463	100	blister	Smooth bore	
17 S 202-40M L5	238727	100	blister	Limited detent	
17 S 244-40M L5	267642	100	blister	Smooth bore	

PCB Connectors - Press fit

Straight Plug **Press fit**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
17 S 14A-40P L5	209480	100	blister	Catchers mitt	

PCB Connectors - Solder Pin

Straight Plug **Solder Pin**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
17 S 14D-400 L5	285547	100	blister	Catchers mitt pin-in-paste	

Adaptors

Bullets Longwipe-SMP female-female

Rosenberger No.	Order No.	Sales Unit	Packaging	Board-to-Board Distance[1) 3)]	Bullet Length[2)]	
17 K 117-K02 L5	207655	100	standard	9.95 mm ± 0.7mm	6.65 mm	
17 K 117-K01 L5	207654	100	standard	14.00 mm ± 0.7mm	10.70 mm	
17 K 117-K03 L5	211312	100	standard	24.30 mm ± 0.7mm	21.00 mm	
17 K 117-K04 L5	211313	100	standard	40.00 mm ± 0.7mm	36.70 mm	

1) When standard SMD-connectors are applied (e.g. 17 S 101-40M, 17 S 144-40M, ...).
2) Bullets with other lengths on request.
3) Solder paste thickness not included.

Adaptors Longwipe-SMP - SMA

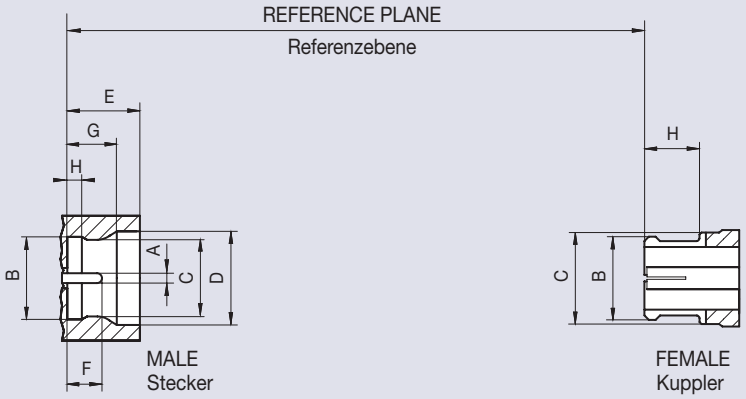
Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
17 K 732-K0A S5	243229	1	standard	Longwipe-SMP female - SMA female 2-hole flange	≥ 23 dB @ DC to 3 GHz ≥ 20 dB @ 3 GHz to 6 GHz	

Adaptors Longwipe-SMP - RPC-3.50

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
03 K 717-S22 S5	188532	1	standard	RPC-3.50 female - Long-wipe-SMP male 2-hole flange floating test adaptor	≥ 30 dB @ DC to 2.5 GHz ≥ 25 dB @ 2.5 GHz to 6 GHz	

Interface Dimensions Mini-SMP

Code 18



Dimensions in mm

	Male | Stecker				**Female** | Kuppler	
	Smooth bore		Full detent			
	min.	max.	min.	max.	min.	max.
A	Ø 0.28	Ø 0.33	Ø 0.28	Ø 0.33	–	–
B	Ø 2.18	Ø 2.24	Ø 2.18	Ø 2.24	–	Ø 2.41 [1]
C	–	–	Ø 2.11	Ø 2.16	–	Ø 2.79
D	Ø 2.82	Ø 2.92	Ø 2.82	Ø 2.92	–	–
E	2.08	2.13	2.08	2.13	–	–
F	0.76	1.14	0.76	1.14	–	–
G	–	–	1.57	1.83	–	–
H	–	–	0.53	0.58	1.73	–

[1] Resilient, dimension to meet electrical and mechanical requirements

Mini-SMP connectors are extremely small coaxial connectors - approx. 70% of SMP size - for applications up to 65 GHz, mainly high-speed signal transmission , e.g. 10 or 40 Gbit/s. Plugs are available as smooth bore-versions - for plug-in technology and back plane applications - and as vibration-resistant full detent types for highest mechanical loads, e.g. in aerospace engineering.
Mini-SMP coaxial connectors are mateable with GPPO™ (Gilbert Engineering Co., Inc.) and SSMP™ (Carlisle Interconnect Technologies) series. PCB connectors are supplied in tape & reel packaging.

Mini-SMP-Steckverbinder sind extrem kleine Koaxial-Steckverbinder - 70% Baugröße im Vergleich zu SMP - für Anwendungen bis 65 GHz. Hauptanwendung ist die Übertragung von Hochgeschwindigkeitssignalen, z. B. bei 10 oder 40 Gbit/s. Stecker werden als Smooth bore-Ausführung - für Einschubtechnik- und "Back Plane"-Anwendungen - und als vibrationsstabile Full detent-Bauformen für höchste mechanische Beanspruchungen, z.B. in Luft- und Raumfahrt, angeboten.
Mini-SMP-Koaxial-Steckverbinder sind steckkompatibel mit den Steckverbinder-Serien GPPO™ (Gilbert Engineering Co., Inc.) und SSMP™ (Carlisle Interconnect Technologies), PCB-Steckverbinder werden in Blistergurt-Verpackungen ausgeliefert.

Features

- Interface according to US MIL-STD 348A, Fig. 328
- Frequency range DC to 65 GHz
- Return loss (cable connector straight) ≥ 26 dB @ DC to 26.5 GHz
- Impedance 50 Ω
- Minimum board-to-board distance ≥ 7.94 mm
- Snap-on coupling

Product Range

- Cable connectors
- PCB connectors
- Panel connectors
- Adaptors
- Terminations

Technical Data Mini-SMP

Code 18

Applicable standards | Anwendbare Normen	
Interface according to | Interface gemäß	MIL-STD-348A, Fig. 328 Mateable with GPPO™ (Gilbert Engineering Co., Inc) and SSMP™ (Carlisle Interconnect Technologies)
Electrical data | Elektrische Daten	
Impedance | Wellenwiderstand	50 Ω
Frequency range | Frequenzbereich	DC to 65 GHz
Return loss (cable connector straight) | Rückflussdämpfung (Kabelsteckverbinder gerade)	≥ 26 dB @ DC to 26.5 GHz ≥ 17 dB @ 26.5 GHz to 50 GHz ≥ 14 dB @ 50 GHz to 65 GHz
Insertion loss | Dämpfung	≤ 0.1 x $\sqrt{f\ (GHz)}$ dB
Insulation resistance | Isolationswiderstand	≥ 5 GΩ
Center contact resistance | Übergangswiderstand Innenleiter	≤ 6 mΩ
Outer contact resistance | Übergangswiderstand Außenleiter	≤ 2 mΩ
Working voltage | Betriebsspannung	325 V rms
Power handling | Leistungsbelastbarkeit	50 W @ 2.2 GHz
RF leakage - Interface | Schirmdämpfung	≥ 85 dB @ DC to 4 GHz
Mechanical data | Mechanische Daten	
Mating cycles | Steckzyklen	Full detent: ≥ 100 Smooth bore: ≥ 500
Center contact captivation | Innenleiter Haltekraft	axial: ≥ 7 N
Engagement force | Steckkraft	Full detent: 19 N typical Smooth bore: 11 N typical
Disengagement force | Ziehkraft	Full detent: 29 N typical Smooth bore: 7 N typical
Axial misalignment | Axialer Toleranzausgleich	± 0.1 mm
Radial misalignment | Radialer Toleranzausgleich	4° (interface)
Board-to-board distance (min.) | Board-to-board Abstand (min.)	7.94 mm (solder paste thickness not included)
Environmental data | Umweltdaten	
Temperature range | Temperaturbereich	-55 °C to +155 °C
Thermal shock | Temperaturzyklen	MIL-STD-202, Method 107, Condition B
Climatic category | Klimakategorie	IEC 60068-2-1 55/155/21
Moisture resistance | Feuchtigkeitsbeständigkeit	MIL-STD-202, Method 106
Vibration | Vibration	MIL-STD-202, Method 204, Condition B
Shock | Schock	MIL-STD-202, Method 213, Condition A
Max. soldering temperature (PCB connectors) | Max. Löttemperatur (Leiterplattensteckverbinder)	IEC 61760-1, +260 °C for 10 sec.
Materials | Materialien	
Spring loaded contact parts | Federnde Kontaktteile	CuBe, Au plating
Center contact | Innenleiter	CuZn / CuBe, Au plating
Outer contact | Außenleiter	CuZn / CuBe, Au plating
Crimping ferrule | Crimphülse	Cu, Au plating
Dielectric | Dielektrikum	PTFE

Rosenberger connectors generally fulfill the indicated technical data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and workmanship. Data sheets for particular products can be downloaded on our website or can be provided on request from your Rosenberger sales partner.

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Cable Connectors Semi-Rigid Cables

Straight Jack **Semi-Rigid Cables**

Rosenberger No.	Order No.	Sales Unit	Packaging	Cable Group	
18 K 101-270 L5	186729	100	standard	70	
18 K 102-271 L5	186747	100	standard	71	

Right Angle Jack **Semi-Rigid Cables**

Rosenberger No.	Order No.	Sales Unit	Packaging	Cable Group	
18 K 203-270 L5	272604	100	standard	70	
18 K 202-270 L5	186761	100	standard	70	
18 K 201-271 L5	186751	100	standard	71	

Cable Connectors - Flexible Cables

Right Angle Jack, solder crimp **Flexible Cables**

Rosenberger No.	Order No.	Sales Unit	Packaging	Cable Group	
18 K 201-301 L5	186759	100	standard	01	

Panel Connectors - Coaxial End

Panel Plug **Coaxial End**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
18 S 103-500 L5	167981	100	blister	Full detent	
18 S 101-5H0 E4	142498	50	blister	Full detent hermetic sealed	

PCB Connectors - SMD

Straight Plug **SMD**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
18 S 101-40M L5	187635	1500	tape & reel	Full detent Frequency: DC to 26 GHz	
	187629	100	blister		
18 S 141-40M L5	189576	100	blister	Smooth bore Frequency: DC to 26 GHz	
18 S 102-40M L5	187657	1500	tape & reel	Full detent Frequency: DC to 65 GHz	
	184089	100	blister		
18 S 142-40M L5	189577	100	blister	Smooth bore Frequency: DC to 65 GHz	
18 S 143-40M L5	189579	1500	tape & reel	Smooth bore Frequency: DC to 65 GHz removable plastic cap on suction area	

Right Angle Plug **SMD**

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
18 S 203-40M L5	187669	2500	tape & reel	Full detent Frequency: DC to 26.5 GHz	
	187662	100	blister		
18 S 243-40M L5	189581	100	blister	Smooth bore Frequency: DC to 26.5 GHz	
18 S 20G-40M L5	183922	100	blister	Full detent 2 channel	
18 S 24G-40M L5	216533	1250	tape & reel	Smooth bore 2 channel	
	201179	100	blister		
18 S 20H-40M L5	183925	100	blister	Full detent 4 channel	
18 S 24H-40M L5	225658	1250	tape & reel	Smooth bore 4 channel	
	197929	100	blister		

Adaptors

Bullets Mini-SMP female-female

Rosenberger No.	Order No.	Sales Unit	Packaging	Board-to-Board Distance[1) 3)]	Bullet Length[2)]	
18 K 101-K00 L5	186745	100	standard	8.04 mm ± 0.1 mm	5.30 mm	
18 K 118-K04 L5	191786	250	standard	10.11 mm ± 0.1 mm	7.37 mm	
18 K 104-K00 L5	191782	500	blister	11.22 mm ± 0.1 mm	8.48 mm	
18 K 107-K00 L5	191785	200	standard	13.73 mm ± 0.1 mm	10.97 mm	

1) When standard SMD-connectors are applied (e.g. 18 S 101-40M, 18 S 141-40M).
2) Bullets with other lengths on request.
3) Solder paste thickness not included.

Adaptors Mini-SMP - RPC-1.85

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
08 S 118-S00 S3	107984	1	standard	RPC-1.85 male - Mini-SMP male	≥ 30 dB @ DC to 12 GHz ≥ 18 dB @ 12 GHz to 50 GHz ≥ 15 dB @ 50 GHz to 65 GHz	
08 S 118-K00 S3	102920	1	standard	RPC-1.85 male - Mini-SMP female	≥ 30 dB @ DC to 12 GHz ≥ 18 dB @ 12 GHz to 50 GHz ≥ 15 dB @ 50 GHz to 65 GHz	
08 K 118-S00 S3	102024	1	standard	RPC-1.85 female - Mini-SMP male	≥ 30 dB @ DC to 12 GHz ≥ 18 dB @ 12 GHz to 50 GHz ≥ 15 dB @ 50 GHz to 65 GHz	
08 K 118-K00 S3	101442	1	standard	RPC-1.85 female - Mini-SMP female	≥ 30 dB @ DC to 12 GHz ≥ 18 dB @ 12 GHz to 50 GHz ≥ 15 dB @ 50 GHz to 65 GHz	

Adaptors Mini-SMP - RPC-2.92

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
02 S 118-S00 S3	103523	1	standard	RPC-2.92 male - Mini-SMP male	≥ 30 dB @ DC to 12 GHz ≥ 26 dB @ 12 GHz to 20 GHz ≥ 18 dB @ 20 GHz to 40 GHz	
02 S 118-K00 S3	100430	1	standard	RPC-2.92 male - Mini-SMP female	≥ 30 dB @ DC to 12 GHz ≥ 26 dB @ 12 GHz to 20 GHz ≥ 18 dB @ 20 GHz to 40 GHz	
02 K 118-S00 S3	104402	1	standard	RPC-2.92 female - Mini-SMP male	≥ 30 dB @ DC to 12 GHz ≥ 26 dB @ 12 GHz to 20 GHz ≥ 18 dB @ 20 GHz to 40 GHz	
02 K 118-K00 S3	103749	1	standard	RPC-2.92 female - Mini-SMP female	≥ 30 dB @ DC to 12 GHz ≥ 26 dB @ 12 GHz to 20 GHz ≥ 18 dB @ 20 GHz to 40 GHz	

Terminations

Termination Plug

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
18 S 15R-0.5 E3	154731	1	standard	0.5 Watt Frequency: DC to 40 GHz	≥ 26.4 dB @ DC to 18 GHz ≥ 17.7 dB @ 18 GHz to 26.5 GHz ≥ 16.6 dB @ 26.5 GHz to 40 GHz	

Termination Jack

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
18 K 15R-0.5 E3	139130	1	standard	0.5 Watt Frequency: DC to 40 GHz	≥ 26.4 dB @ DC to 18 GHz ≥ 17.7 dB @ 18 GHz to 26.5 GHz ≥ 16.6 dB @ 26.5 GHz to 40 GHz	

Special Tools

Extraction Tool

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
18 W 002-000	147669	1	standard	extraction tool for Mini-SMP connectors