

MCX (50 Ω) - Microminiature Coaxial Connectors for Frequencies up to 6 GHz

MCX - optimal connector series, provided with a snap-on connecting system like SMB connectors, are characterized by small dimensions, high reliability, long service life and easy and fast mounting for frequencies up to 6 GHz. Due to the optimized design of the outer conductor and the locking devices, the required mounting space of MCX connectors is reduced by approximately 30 %.

MCX connectors with 75-Ω characteristic impedance are available on request.

Product Features

- Interface according to IEC 60169-36, CECC 22 220
- Quality tested according to IEC 60068
- Frequency range up to 6 GHz
- VSWR (straight connector): $\leq 1,20$ typ.
- 30 % space reduction compared to SMB connectors
- High reliability
- Fast and easy mounting.

Product Range

- Cable connectors (straight and right angle) for flexible and semi-rigid cables
- PCB connectors (straight and right angle) as solder, press-fit and SMD versions
- Terminations
- Adaptors.

Further connectors also in 75 Ω version are available on request.

Application Examples

RF-cable connections for applications in fixed and wireless communications systems.

MCX (50 Ω) - Mikrominiatur-Koaxialsteckverbinder für Anwendungen bis 6 GHz

MCX - Optimale Steckverbinderreihe mit Schnappverbindung in kleiner Baugröße, die durch hohe Zuverlässigkeit, große Lebensdauer sowie einfache und schnelle Montierbarkeit im Frequenzbereich bis 6 GHz gekennzeichnet ist. Der benötigte Bauraum von MCX-Steckverbindern ist, durch günstige Gestaltung der Außenleiter und des Rastmechanismus, im Vergleich zu SMB-Steckverbindern um etwa 30% verringert.

MCX-Steckverbinder in 75-Ω-Wellenwiderstand auf Anfrage.

Produkteigenschaften

- Interface gemäß IEC 60169-36, CECC 22 220
- Qualitätsprüfung gemäß IEC 60068
- Frequenzbereich max. bis 6 GHz
- VSWR (gerader Steckverbinder): $\leq 1,20$ typ.
- 30 % kleinere Baugröße im Vergleich zur Serie SMB
- Hohe Zuverlässigkeit
- Einfache, schnelle Montage.

Produktspektrum

- Kabelsteckverbinder (gerade und gewinkelt) für flexible und Semi-Rigid-Kabel
- Leiterplatten-Steckverbinder (gerade und gewinkelt) in Löt-, Press-fit- und SMD Bauformen
- Abschlusswiderstände
- Adapter.

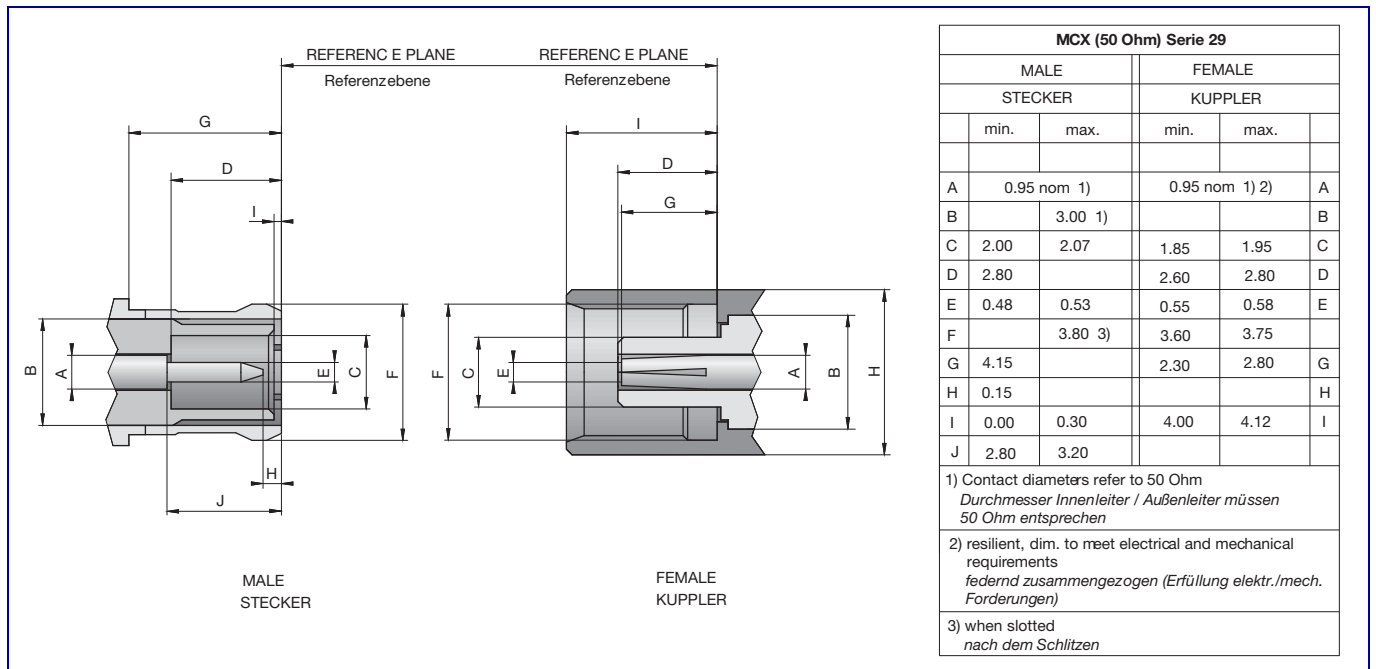
Weitere Steckverbinder, auch in 75-Ω-Ausführung, auf Anfrage erhältlich.

Anwendungsbeispiele

HF-Verkabelungen, unter anderem für Anwendungen in der Festnetz-Telekommunikation und im Mobilfunkanlagenbau.

Interface Dimensions

Anschlussmaße



Technical Data

Technische Daten

Applicable standards		Anwendbare Standards
Interface according to	IEC 60169- 36, CECC 22 220	Interface gemäß
Quality tested according to	IEC 60068	Qualitätsprüfung gemäß

Electrical data		Elektrische Daten
Impedance	50 Ω	Wellenwiderstand
Frequency range	0...6 GHz	Frequenzbereich
VSWR (straight contacts)	≤ 1.20 typ.	VSWR (gerader Kontakt)
Insertion loss	0.1 dB max. / 1 GHz typ.	Dämpfung
Insulation resistance	≥ 1 GΩ	Isolationswiderstand
Center contact resistance	≤ 5mΩ	Übergangswiderstand Innenleiter
Outer contact resistance	≤ 2.5mΩ	Übergangswiderstand Außenleiter
Test voltage	750 V rms	Prüfspannung
Working voltage	335 V rms	Betriebsspannung
Contact current	typ. 1.5 A DC max.	Kontakt- Strombelastbarkeit

Mechanical data		Mechanische Daten
Mating cycles	≥ 500	Steckzyklen
Engagement force	≤ 25 N	Einsteckkraft
Disengagement force	8 N - 20 N	Ausziehkraft
Center contact captivation	≥ 10 N	Innenleiter Haltekraft

Environmental data		Umweltdaten
Temperature range	- 55°C - +155°C	Temperaturbereich
Vibration	CECC 22220 Chapter 4.6.3	Vibration
Moisture resistance	CECC 22220 Chapter 4.6.6	Feuchtigkeitsbeständigkeit
Corrosion resistance	CECC 22220 Chapter 4.6.10	Korrosionsbeständigkeit
Thermal shock	CECC 22220 Chapter 4.6.7	Temperaturzyklen

Materials		Materialien
Outer contact	CuZn	Außenleiter
Spring loaded contact parts	CuBe	Federnde Kontaktteile
Dielectric	PTFE	Dielektrikum
Crimping ferrule	Soft Copper	Crimphülse
Gasket	Rubber	Dichtung
Plating outer contact	Au/white bronze	Oberfläche Außenleiter
Plating center contact	Au	Oberfläche Innenleiter

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

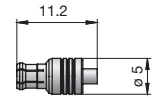
Kabel-Steckverbinder - Semi-Rigid-Kabel

Straight Plug, solder

Stecker gerade, löt

Semi-Rigid

Ordering Number	Cable Group	Assembly Instruction	Packing Unit
29 S 111-270 L5	70	29 B	100
29 S 111-271 L5	71	29 B	100

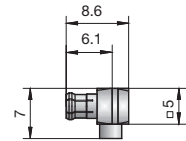


Right Angle Plug, solder

Winkelstecker, löt

Semi-Rigid

Ordering Number	Cable Group	Assembly Instruction	Packing Unit
29 S 211-270 L5	70	29 D2	100
29 S 211-271 L5	71	29 D2	100



Cable Connectors - Flexible Cables

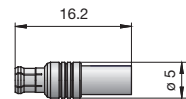
Kabel-Steckverbinder - Flexible Kabel

Straight Plug, crimp

Stecker gerade, crimp

Flexible Cables

Ordering Number	Cable Group	Assembly Instruction	Crimp Inserts	Packing Unit
29 S 111-101 L5	01	29 A	11 W 150-402	100
29 S 111-102 L5	02	29 A	11 W 150-402	100
29 S 111-103 L5	03	29 A	11 W 150-402	100
29 S 111-103 N5	03	29 A	11 W 150-402	100

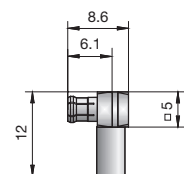


Right Angle Plug, solder-crimp

Winkelstecker, löt-crimp

Flexible Cables

Ordering Number	Cable Group	Assembly Instruction	Crimp Inserts	Packing Unit
29 S 211-301 L5	01	29 C	11 W 150-102	100
29 S 211-302 L5	02	29 C	11 W 150-102	100
29 S 211-303 L5	03	29 C	11 W 150-102	100
29 S 211-303 N5	03	29 C	11 W 150-102	100

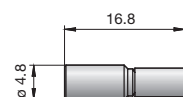


Straight Jack, crimp

Kuppler gerade, crimp

Flexible Cables

Ordering Number	Cable Group	Assembly Instruction	Crimp Inserts	Packing Unit
29 K 101-101 L5	01	29 A	11 W 150-402	1
29 K 101-102 L5	02	29 A	11 W 150-402	1
29 K 101-103 L5	03	29 A	11 W 150-402	1

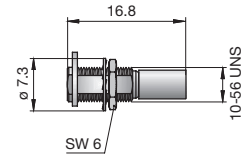


Panel Jack, crimp, round flange

Gehäusekuppler, crimp, Rundflansch

Flexible Cables

Ordering Number	Cable Group	Assembly Instruction	Panel Piercing / PCB Layout	Crimp Inserts	Packing Unit
29 K 501-103 N5	03	29 A	B 22	11 W 150-402	1



MCX

Panel Connectors - Coaxial End

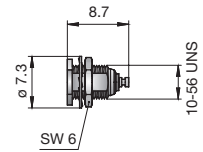
Gehäuse-Steckverbinder - Koaxiales Ende

Panel Jack; round flange

Gehäusekuppler, Rundflansch

Coaxial End

Ordering Number	Panel Piercing / PCB Layout	Packing Unit
29 K 501-500 L5	B 22	100



PCB Connectors - SMD

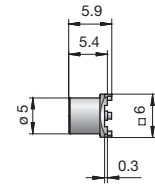
Leiterplatten-Steckverbinder - SMD

Straight Jack, PCB

Leiterplatten-Kuppler gerade

SMD

Ordering Number	Panel Piercing / PCB Layout	Packing	Packing Unit
29 K 101- 40M L5	B 30	VG 34.75000	100 blister, 750 tape & reel

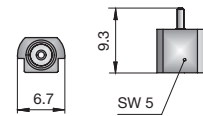


Right Angle Jack, PCB

Leiterplatten- Winkelkuppler

SMD

Ordering Number	Panel Piercing / PCB Layout	Packing Unit
29 K 203- 40M L5	B 173	100 blister

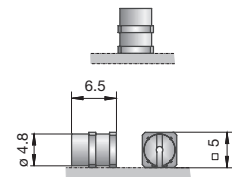


Straight/Right Angle Jack, PCB

Leiterplatten- Kuppler/Winkelkuppler gerade

SMD

Ordering Number	Remarks	Panel Piercing / PCB Layout	Packing	Packing Unit
29 K 10A- 40M L5	application as straight type removable plastic cap on suction area	B 205a	VG 04.50000	500 tape & reel
29 K 201- 40M L5	application as right angle type without removable plastic cap on suction area	B 205	VG 12.1M500	100 blister, 1500 tape & reel



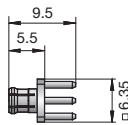
PCB Connectors - Solder Pin

Leiterplatten- Steckverbinder - Löt- Pin

Straight Plug, PCB

Leiterplatten- Stecker gerade

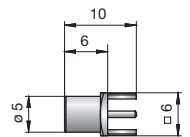
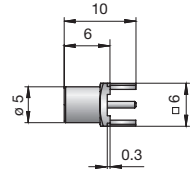
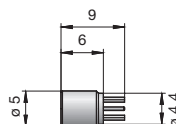
Solder Pin

Ordering Number	Remarks	Panel Piercing / PCB Layout	Packing Unit	
29 S 103- 400 L5	round pins	B 30	100 blister	

Straight Jack, PCB

Leiterplatten- Kuppler gerade

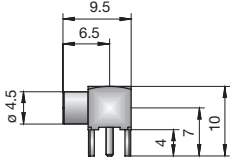
Solder Pin

Ordering Number	Remarks	Panel Piercing / PCB Layout	Packing Unit	
29 K 101- 400 L5	without stand- off	B 30	300	
29 K 102- 400 L5	stand- off version	B 30	300	
29 K 104- 400 L5		B 35	100 blister	

Right Angle Jack, PCB

Leiterplatten- Winkelkuppler

Solder Pin

Ordering Number	Panel Piercing / PCB Layout	Packing Unit	
29 K 203- 400 L5	B 30	100 blister	

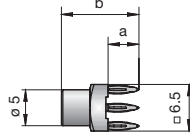
PCB Connectors - Press- fit

Leiterplatten- Steckverbinder - Press- fit

Straight Jack, PCB

Leiterplatten- Kuppler gerade

Press- fit

Ordering Number	Remarks	Panel Piercing / PCB Layout	Packing Unit	
29 K 102- 40P L5	a = 4.3 mm b = 10.8 mm	B 79	100	
29 K 105- 40P L5	a = 2.8 mm; b = 9.3 mm	B 79	100	

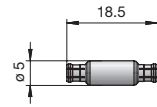
Adaptors (In- Serie)

Adapter (In- Serie)

Straight Adaptor, MCX male- male

Adapter, gerade MCX Stecker/Stecker

Ordering Number	Version	Remarks	Packing Unit
29 S 101- S00 E3	straight	MCX male - male	1



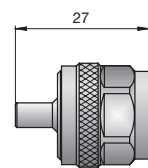
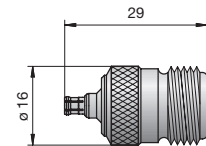
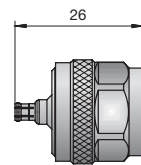
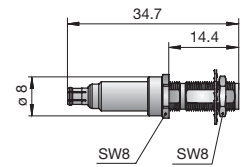
Adaptors (Inter Series)

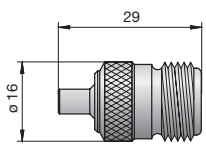
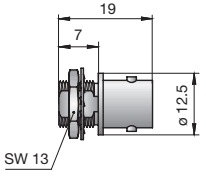
Adapter (serienübergreifend)

MCX - 50 Ω

MCX - 50 Ω

Ordering Number	Version	Remarks	Panel Piercing / PCB Layout	Packing Unit
29 S 132- K01 N5	straight	MCX male - SMA female	B 56	1
29 S 153- S00 Z5	straight	MCX male - N male		1
29 S 153- K00 Z5	straight	MCX male - N female		1
29 K 153- S00 Z5	straight	MCX female - N male		1



Ordering Number	Version	Remarks	Panel Piercing / PCB Layout	Packing Unit	
29 K 153- K00 Z5	straight	MCX female - N female		1	
29 K 551- K00 A5	straight	MCX female - BNC female; round flange	B 2	1	
29 K 571- K00 N5	straight	MCX female - BNC female 75 Ω; round flange	B 1	1	
29 K 556- K00 A5	straight	MCX female - TNC female round flange	B 2	1	

MCX

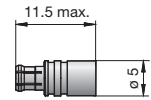
Terminations

Abschlusswiderstände

Termination Plug

Abschlusswiderstand Stecker

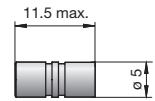
Ordering Number	Remarks	Return Loss	Packing Unit
29 S 15R- 1.0 E3	1 Watt; Frequency DC - 6 GHz	≥ 23.1 dB @ DC to 4 GHz ≥ 17.7 dB @ 4 GHz to 6 GHz	1



Termination Jack

Abschlusswiderstand Kuppler

Ordering Number	Remarks	Return Loss	Packing Unit
29 K 15R- 1.0 E3	1 Watt; Frequency DC - 6 GHz	≥ 23.1 dB @ DC to 4 GHz ≥ 17.7 dB @ 4 GHz to 6 GHz	1



MCX connectors in 75 Ω version are available on request.

MCX-Steckverbinder in 75- Ω- Ausführung auf Anfrage.